

Written materials relating to an item on this agenda that are distributed to the legislative bodies within 72 hours before the item is to be considered at its regularly scheduled meeting will be made available for public inspection at the City Clerk's Office, 300 West Third Street 4th Floor during customary business hours. Agenda reports are also on the City of Oxnard web site at www.oxnard.org.



AGENDA
OXNARD CITY COUNCIL
PUBLIC WORKS AND TRANSPORTATION COMMITTEE
Council Chambers, 305 West Third Street
December 28, 2021
Regular Meeting - 8:30 to 10:00 PM
(Temporary Time Change)

Zoom details to call-in for public comment during a meeting:

- 1. Dial Phone Number: (888) 475-4499**
- 2. Enter Meeting ID: 838 0080 7648**
- 3. Passcode: 925248**

If you wish to speak during public comments or a particular item on the agenda, please sign-on by following the zoom calling in steps listed above. Once the Mayor calls for public speakers, press *9 to raise your hand to inform the City Clerk you would like to speak during the public speaking section for that particular item on the agenda, while in the zoom waiting room.

This meeting is being held in accordance with Assembly Bill 361, allowing members of the City Council, members of the public and staff to participate via teleconference.

Consistent with City policies imposed to promote social distancing, the facility where the City Council regularly meets is temporarily closed to the public. The public is encouraged to view the meeting from home on Spectrum channel 10, Frontier channel 35, or YouTube at [Youtube.com/oxnardnews](https://www.youtube.com/oxnardnews). Video recordings of the meeting are typically available online following the meeting at the City's website at www.oxnard.org/city-meetings.

*Please see the link for the Measure M pre-recorded presentation video for each item listed on this agenda.

YOU MAY PARTICIPATE IN THE MEETING IN THE FOLLOWING WAYS:

1. EMAILING COMMENTS OR REQUESTING TO SIGN UP TO SPEAK BEFORE THE MEETING

- a. Submit an email to cityclerk@oxnard.org no later than 3 p.m. on the day of the meeting (Please indicate the agenda item number in the subject line). All email correspondence will be forwarded to the City Council prior to the start of the meeting and made part of the legislative record.
- b. Submit a request to speak by no later than 3 p.m. on the day of the meeting by using the form available at www.oxnard.org/city-meetings, emailing the City Clerk at cityclerk@oxnard.org, or calling the City Clerk at (805) 385-7803.

2. PROVIDING PUBLIC COMMENTS DURING THE MEETING

- a. To provide public comment without requesting to speak prior to the meeting, during the meeting dial (888) 475-4499 and enter the Meeting ID and Passcode listed above as the Zoom details for this meeting.
- b. Public comments on agenda items shall be taken following the announcement of the item. After the item is announced, members of the public shall have three minutes to register or otherwise be recognized for the purpose of providing public comment. During this three-minute time period, public comments may be taken and the City Council or staff may discuss the item being considered or briefly respond to public comments.

Detailed participation instructions can be found at www.oxnard.org/city-meetings.

In the event of a disruption which prevents a legislative body of the City of Oxnard from broadcasting a meeting using a call-in option or internet-based service option, or in the event of a disruption within the City's control which prevents members of the public from offering

In compliance with the Americans with Disabilities Act, if you require special assistance to participate in a meeting, please contact the City Clerk's Office at 385-7803. Notice at least 72 hours prior to the meeting will enable the City to reasonably arrange for your accessibility to the meeting.

Agenda Item time estimates: (Presentation / Committee Discussion / Public Comment)

public comment using the call-in option or internet-based service option, the legislative body shall take no further action on items appearing on a meeting agenda until public access to the meeting via the call-in option or internet-based service option is restored. However, if any of the broadcast options are disrupted, but any of the other broadcast options is still available to the public, the legislative body may take further action on items appearing on a meeting agenda without waiting for the disrupted broadcast option(s) to be restored.

* The City has filed pre-election and post-election lawsuits regarding the validity of Measure M.

A. ROLL CALL, POSTING OF AGENDA, FLAG SALUTE

B. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

A person may address the legislative body only on matters not appearing on the agenda and within the subject matter jurisdiction of the legislative body. Speaker requests shall be submitted as set forth on the first page of this agenda. Speakers are limited to three minutes. After 30 minutes, if all speakers have not had the opportunity to speak, the remaining speakers will be given an opportunity to speak prior to adjournment of the meeting. The legislative body cannot enter into a detailed discussion or take action on any items presented during public comments at this time. Such items may only be referred to the City Manager/Executive Director/Secretary for administrative action or scheduled on a subsequent agenda for discussion. Persons wishing to speak on public hearing items should do so at the time of the hearing.

C. CONSENT AGENDA

1. City Clerk Department

SUBJECT: Approval of Minutes.

RECOMMENDATION: That the Public Works & Transportation Committee approve the minutes of the December 14, 2021 regular meeting as presented.

Contact: Rose Chaparro, (805) 385-7805

D. REPORTS

1. Public Works Department

SUBJECT: Agreements for On-Call Professional Hydrogeological Services. (0/5/5)

RECOMMENDATION: That the Public Works and Transportation Committee recommend that the City Council approve and authorize the Mayor to execute the following on-call professional hydrogeological agreements:

1. Agreement A-8406 with Groundwater Solutions, Inc. dba GSI Water Solutions, Inc. in the amount not to exceed \$250,000 for a three-year term;
2. Agreement A-8407 with ENGEO, Inc. in the amount not to exceed \$250,000 for a three-year term; and
3. Agreement A-8408 with Hopkins Groundwater Consultants, Inc. in the amount not to exceed \$250,000 for a three-year term.

Please click the following link to view the required Measure M pre-recorded presentation video: https://youtu.be/v_cV0uMJIOk

Contact: Michael Wolfe, (805) 385-8055

2. Public Works Department

SUBJECT: City of Oxnard Tree Program Review. (10/10/10)

RECOMMENDATION: That the Public Works and Transportation Committee recommend that the City Council receive and file the City of Oxnard Tree Program Review conducted by Dudek. (Presentation will be live upon consultant's request.)

Contact: Michael Wolfe, (805) 385-8055

E. ITEMS FOR FUTURE AGENDAS

F. ADJOURNMENT



**PUBLIC WORKS AND TRANSPORTATION COMMITTEE
AGENDA REPORT**

**CONSENT AGENDA
AGENDA ITEM NO. C.1**

DATE: December 28, 2021

TO: Public Works and Transportation Committee

FROM: Rose Chaparro, City Clerk, (805) 385-7805, rose.chaparro@oxnard.org

SUBJECT: Approval of Minutes.

RECOMMENDATION

That the Public Works & Transportation Committee approve the minutes of the December 14, 2021 regular meeting as presented.

BACKGROUND

Approval of Minutes.

STRATEGIC PRIORITIES

This agenda item is a routine operational item.

FINANCIAL IMPACT

There is no financial impact.

Prepared by: Rose Chaparro, City Clerk

ATTACHMENTS

1. MINUTES 12 14 2021 Public Works & Transportation Committee

MINUTES
OXNARD CITY COUNCIL
PUBLIC WORKS & TRANSPORTATION COMMITTEE
Regular Meeting
DECEMBER 14, 2021

A. ROLL CALL, POSTING OF AGENDA, FLAG SALUTE

At 8:30 p.m., Chair Bert E. Perello called to order the regular meeting of the Oxnard City Council Public Works & Transportation Committee in the City Hall Council Chambers at 305 W. Third Street, Oxnard, California. The City Clerk called the roll and announced the posting of the agenda. Chair Perello and Member Vianey Lopez were present via videoconference. Member John C. Zaragoza was present in person.

Staff members present in person were Alexander Nguyen, City Manager; Stephen M. Fischer, City Attorney; and Rose Chaparro, City Clerk.

Staff members that participated via videoconference were Shiri Klima, Deputy City Manager; Christopher Williams, Police Commander; Michael Wolfe, Public Works Director; Brian Yanez, Assistant Public Works Director; Steve Howlett, Assistant Public Works Director; Omar Castro, Water Division Manager; Abraham Maldonado, Water Resources Manager; Jan Hauser, Wastewater Division Manager; and Todd Vasquez-Housley, Environmental Resources Division Manager.

B. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

Public comments were received from Daniel Chavez, Jr. (Concerned about crosswalks at Wooley Road and Ventura Road and Wooley Road and J Street/ ADA compliance).

C. CONSENT AGENDA

1. City Clerk Department

SUBJECT: Approval of Minutes.

RECOMMENDATION: That the Public Works & Transportation Committee approve the minutes of the November 23, 2021 regular meeting as presented.

It was moved by Member Zaragoza, seconded by Member Lopez, to approve the meeting minutes as presented. Lopez, Zaragoza, and Perello voted in favor; the motion carried 3-0.

D. REPORTS

1. Public Works Department

SUBJECT: Calleguas Water District Annexation at Garden City Acres Park.

RECOMMENDATION: That the Public Works and Transportation Committee recommend that the City Council approve and authorize the Public Works Director to sign:

1. The Landowners Request to Annex and Approval of Parcel Charge; and
2. The Indemnification Agreement A-8401 between the Calleguas Municipal Water District and the City of Oxnard for the annexation of property located at 5302 Cypress Road.

Steve Howlett, Assistant Public Works Director, presented and answered the Committee's questions. No public comments were received. Discussion ensued among the Committee and staff.

It was moved by Member Zaragoza, seconded by Chair Perello, to approve the recommended action as presented. VOTE: Perello, Zaragoza, and Lopez voted in favor; the motion carried 3-0.

2. Public Works Department

SUBJECT: H.M. Holloway Solid Waste Landfill Site Visit Report.

RECOMMENDATION: That the Public Works and Transportation Committee receive and file a report on the Wastewater staff's visit to the City of Oxnard's biosolids disposal site in Lost Hills, California.

Jan Hauser, Wastewater Division Manager, presented and answered the Committee's questions. No public comments were received. Report was received and filed, no formal action was required.

3. Public Works Department

SUBJECT: First Amendment to Purchase Order #8349 with Badger Meters, Inc. for Advanced Metering Infrastructure (AMI) Capable Water Meters.

RECOMMENDATION: That the Public Works and Transportation Committee recommend the City Council approve and authorize the Mayor to execute a First Amendment to Purchase Order #8349 with Badger Meters, Inc. in the amount of \$150,000 for a new total not to exceed value of \$250,000 for replacement water meters through September 1, 2022.

Omar Castro, Water Division Manager, presented and answered the Committee's questions. No public comments were received. Discussion ensued among the Committee and staff.

It was moved by Chair Perello, seconded by Member Lopez, to approve the recommended action as presented. VOTE: Perello, Lopez, and Zaragoza voted in favor; the motion carried 3-0.

4. Public Works Department

SUBJECT: Agreement A-8402 with Professional Security Consultants for Security Services at Various City Locations.

RECOMMENDATION: That the Public Works and Transportation Committee recommend that the City Council approve and authorize the:

1. Mayor to execute Agreement A-8402 with Professional Security Consultants, for an initial term ending June 30, 2023 and the option to extend for two consecutive periods of one year each, not to surpass June 30, 2025, and for a total contract not-to-exceed amount of \$2,660,000, for security services at various City locations; and
2. Purchasing Agent to execute amendments to Agreement A-8402 for a total term of three years and five months with a possible termination date of June 30, 2025 and a total not-to-exceed amount of \$2,660,000.

Brian Yanez, Assistant Public Works Director and Christopher Williams, Police Commander answered the Committee's questions. No public comments were received. Discussion ensued among the Committee and staff.

It was moved by Member Zaragoza, seconded by Member Lopez, to approve the recommended action as presented. VOTE: Lopez, Perello, and Zaragoza voted in favor; the motion carried 3-0.

5. Public Works Department

SUBJECT: Update to the Public Works and Transportation Committee Drought Condition Report of October 26, 2021.

RECOMMENDATION: That the Public Works and Transportation Committee:

1. Recommend that the City Council approve the City stay in a Stage 2 water shortage condition pursuant to the City Council approved Resolution No. 14,741;
2. Provide feedback on the water conservation outreach, education, and enforcement plan; and
3. Provide feedback on a potential new resolution with the appropriate water shortage stage and conservation measures should a 0% allocation be finalized in Spring 2022.

Michael Wolfe, Public Works Director, presented and answered the Committee's questions. No public comments were received. Discussion ensued among the Committee and staff.

It was moved by Chair Perello, seconded by Member Lopez, to approve the recommended action as presented. VOTE: Zaragoza, Perello, and Lopez voted in favor; the motion carried 3-0.

E. ITEMS FOR FUTURE AGENDAS

Chair Perello mentioned that there is an increase in the graffiti tagging activity throughout the City recently. He also asked that staff schedule to cut back the brush that is growing around the golf course area.

F. ADJOURNMENT

There being no further business on the agenda, and without objection, Chair Perello adjourned the meeting at 9:41 p.m.

ROSE CHAPARRO
City Clerk

BERT E. PERELLO
Chair



PUBLIC WORKS AND TRANSPORTATION COMMITTEE AGENDA REPORT

REPORTS AGENDA ITEM NO. D.1

DATE: December 28, 2021

TO: Public Works and Transportation Committee

FROM: Michael Wolfe, Public Works Director, (805) 385-8055, michael.wolfe@oxnard.org

SUBJECT: Agreements for On-Call Professional Hydrogeological Services. (0/5/5)

RECOMMENDATION

That the Public Works and Transportation Committee recommend that the City Council approve and authorize the Mayor to execute the following on-call professional hydrogeological agreements:

1. Agreement A-8406 with Groundwater Solutions, Inc. dba GSI Water Solutions, Inc. in the amount not to exceed \$250,000 for a three-year term;
2. Agreement A-8407 with ENGEO, Inc. in the amount not to exceed \$250,000 for a three-year term; and
3. Agreement A-8408 with Hopkins Groundwater Consultants, Inc. in the amount not to exceed \$250,000 for a three-year term.

Please click the following link to view the required Measure M pre-recorded presentation video: https://youtu.be/v_cV0uMJIOk

BACKGROUND

On September 28, 2021, the Public Works Department sent out a Request for Qualifications (RFQ) for multi-year on-call hydrogeological services. The RFQ solicited Statement of Qualifications (SOQ) from hydrogeological consulting firms. These services are required due to the specialized nature of well rehabilitation, well design, well pump testing, water quality sampling, hydraulic modeling, and aquifer storage & recovery. A panel that consisted of the Water Division Manager, the Water Operations Manager, and a Supervising Civil Engineer reviewed four submitted SOQs.

DISCUSSION

The Public Works Department will be bringing forward various agreements to establish on-call professional engineering services with successful consultants or firms to provide professional and technical expertise once agreements are prepared. These agreements are necessary due to the volume and nature of work within the Public Works Engineering and Transportation & Mobility Divisions and will continue to support the departmental needs for various projects. Additionally, having pre-approved on-call agreements for professional services can reduce the amount of time necessary to complete certain types of smaller CIP projects. Professional services under this agreement will be composed of task orders for each individual project assigned by the City and under the supervision of a Project Manager. The task order proposal will identify a concise description of the scope of work to be performed by the consultant, the method by which the consultant plans on completing the work, and a schedule for completion of the work. It is the consultant's responsibility to

determine the best and most cost-effective method to complete the work so that the assigned task order can be completed to the satisfaction of the City of Oxnard. Projects with special requirements (i.e. federally funded) will be publicly bid separately when required.

STRATEGIC PRIORITIES

This agenda item is a routine operational item or does not relate to the five strategic priorities adopted by City Council on March 16, 2021.

FINANCIAL IMPACT

The total amount of each agreement shall not exceed the amounts noted above over the term of three years. Funding will be charged to a given project or funding source dependent upon the services performed by task orders. The respective Department/Project Manager will ensure sufficient funding is available in the approved operating budget or CIP project budget for related tasks prior to initiating services performed.

Prepared by: Tatiana Arnaout, City Engineer

ATTACHMENTS

1. A-8406 GSI Water Solutions
2. A-8407 ENGEO Inc
3. A-8408 Hopkins Groundwater
4. Presentation

**AGREEMENT FOR PROFESSIONAL SERVICES
COVER PAGE**

- (1) Agreement Start Date: January 18, 2022
- (2) Consultant: Groundwater Solutions, Inc. dba GSI Water Solutions, Inc.
- (3) Services: On-Call Hydrogeological Services
- (4) Schedule of Services: The Services must be completed within two calendar years of the Agreement Start Date listed above
- (5) Agreement Ending Date: January 17, 2025
- (6) Total Agreement Amount: \$250,000
- (7) City's Project Manager: Tim Beaman
- (8) Consultant's Project Manager: Tim Thompson, PG, CHG
- (9) Insurance Coverage: INS-A
- (10) Addresses for Notice:

FOR CONSULTANT:

FOR CITY:

GSI Water Solutions, Inc.
Attn: Tim Thompson, PG, CHG
418 Chapala Street, Suite H
Santa Barbara, CA 93101

City of Oxnard
Attn: Tim Beaman, Supervising Civil Engineer
305 W Third Street
Oxnard, CA 93030

- (11) Contact Emails:

*CONSULTANT'S PROJECT
MANAGER:*

CITY'S PROJECT MANAGER:

tthompson@gsiws.com

Timothy.Beamen@oxnard.org

The Agreement for Professional Services is attached hereto and incorporated herein by this reference. The following exhibits are also attached hereto and incorporated herein by this reference into the Agreement:

- ☒ Scope of Services Exhibit
- ☒ Rates and Costs Exhibit
- ☒ Prevailing Wages Exhibit
- ☒ Insurance Exhibit (INS-A)

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is entered into in Ventura County, California, on the date that is written as "(1) Agreement Start Date" on the Cover Page, which is attached hereto and incorporated herein by this reference. This Agreement is entered by and between the City of Oxnard ("City") and the person or entity listed as "(2) Consultant" on the Cover Page, subject to the following terms and conditions:

1. Scope of Services. Consultant shall provide to City the services listed as "(3) Services" on the Cover Page (the "Services"). Consultant shall provide the Services during the term of this Agreement, as set forth below, according to the schedule written as "(4) Schedule of Services" on the Cover Page, and as further explained in the Scope of Services Exhibit, which is attached hereto and incorporated herein by this reference. In the event of any conflict between the terms of this Agreement and any incorporated document(s), the terms of this Agreement shall control.
2. Standard of Performance. Consultant shall undertake and complete the Services to conclusion using the standard of care, skill and diligence normally provided by a professional person in the performance of similar consulting services.
3. Correction of Errors. Consultant shall correct, at its expense, all errors which may be disclosed during review of the Services. Should Consultant fail to make such correction in a reasonably timely manner, such correction shall be made by City, and the cost thereof shall be paid by Consultant.
4. Term. This Agreement shall begin on the date that is written as "(1) Agreement Start Date" on the Cover Page and shall end on the date that is written as "(5) Agreement Ending Date" on the Cover Page. Time is of the essence in this Agreement.
5. Compensation. For the Services performed during the term of this Agreement, City shall pay Consultant an amount not to exceed the amount that is listed as "(6) Total Agreement Amount" on the Cover Page, at the rates listed in Rates and Costs Exhibit, attached hereto and incorporated herein by this reference. The rates in Rates and Costs Exhibit shall be in effect through the end of this Agreement. Except as otherwise expressly provided in this Agreement, City shall not be responsible for expenses incurred by Consultant in performing the Services.
6. Invoices. Consultant shall submit a payment request to City within ten (10) days following the end of each calendar month listing the Services provided, costs of those Services, and total amount due for the month. Each invoice must also list the current balance on the Agreement, including that invoice, as well as the months remaining on the term of the Agreement. Invoices may be emailed to: invoices@oxnard.org.
7. Acceptance of Payment. Consultant's acceptance of final payment made pursuant to this Agreement shall constitute a release of City from all claims and liabilities for compensation to Consultant for anything completed, finished or relating to the Services. City's payment shall not constitute nor be deemed a release of the responsibility and liability of Consultant for the accuracy and competency of the information provided and/or the Services performed hereunder, nor shall such payment be deemed to be an assumption of responsibility or liability by City for any defect or error in the Services performed by Consultant and its employees agents and subcontractors. Consultant shall provide City with a completed Request for Taxpayer Identification Number and Certification, as issued by the Internal Revenue Service. If any sales tax is due for the Services performed by Consultant or materials or products provided to City by Consultant, Consultant shall pay the sales tax. City shall not reimburse Consultant for sales taxes paid by Consultant.
8. Non-Appropriation of Funds. Payments to be made to Consultant by City for the Services performed within the current fiscal year are within the current fiscal budget and within an available, unexhausted and unencumbered appropriation of City. In the event City does not appropriate sufficient funds for payment of the Services beyond the current fiscal year, this Agreement shall cover payment for the Services only up to the conclusion of the last fiscal year in which City appropriated sufficient funds and shall automatically terminate at that fiscal year's conclusion.

9. Coordination of Services. The Services shall be coordinated with the person in the position listed in “(7) City’s Project Manager” on the Cover Page, subject to the direction of the City Manager and Department Director. Consultant hereby designates the person in the position listed in “(8) Consultant’s Project Manager” on the Cover Page as the person responsible for the Services who shall coordinate with City’s Project Manager in making binding decisions in line with this Agreement on behalf of Consultant.

10. Personnel. Consultant represents that it has, or shall secure at its own expense, all personnel required to perform the Services. Any person who performs engineering services pursuant to this Agreement shall be licensed as a Civil Engineer by the State of California and in good standing. Consultant shall make reasonable efforts to maintain the continuity of Consultant’s staff who are assigned to perform the Services. Consultant may associate with or employ associates or subcontractors in the performance of the Services, but at all times shall Vendor be responsible for its associates and subcontractors’ labor, advice or materials provided in furtherance of providing the Services. Should any of Consultant’s employees, assigns or subcontractors not conduct him- or herself appropriately, as determined by the City’s Project Manager, in the process of providing the Services or any portion thereof, the City’s Project Manager may notify the Consultant’s Project Manager, who shall immediately handle the problem, as determined appropriate by him or her, such that the problem does not persist.

11. Additional Work. City may request additional specified work under this Agreement. The City’s Project Manager must authorize all such work in writing before commencement. Consultant shall perform such work, and City shall pay for such additional work, in accordance with Rates and Costs Exhibit. Should the work not fall under any such listed rate or cost, Consultant shall submit a quote for all additional work, which the City’s Project Manager must approve in writing by before any such work may commence. The City shall compensate Consultant for any work that does not fall under a rate or cost listed in the Rates and Costs Exhibit, and for which Consultant did not obtain the City’s Project Manager’s written approval before work commenced, as determined by the City’s Project Manager in his or her sole discretion.

12. Audit. City shall have the option of inspecting, auditing and/or reproducing all records and other written materials used by Consultant in preparing its billings to City as a condition precedent to any payment to Consultant. Consultant will promptly furnish all documents requested by City. Additionally, if this Agreement is in excess of \$10,000, the State Auditor may examine and audit Consultant for a period of 3 years after final payment under the Agreement. Regardless of whether a State audit is permitted, Consultant shall maintain and preserve all such records for a period of at least 3 years after final payment under the Agreement. Consultant shall include a copy of this Section 12 in all contracts with its subcontractors, and Consultant shall be responsible for immediately obtaining those records or other written material from its subcontractors upon a request by the State Auditor and/or City.

13. Termination. City may terminate this Agreement at any time, with or without cause and without penalty, upon 15 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice. Consultant may terminate this Agreement at any time, with or without cause and without penalty, upon 30 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice and only if all assignments accepted by Consultant have been completed before the date of termination. In the event of termination of this Agreement by either party due to no fault or failure of performance by Consultant, City shall pay Consultant compensation for all Services satisfactorily completed in accordance with all of the terms and provisions of this Agreement, as determined by the City, before the effective date of termination; provided, in no event shall the Consultant receive an amount exceeding that which would have been paid to Consultant for the full performance of the Services.

14. Hold Harmless and Indemnity.

If Consultant provides any architectural, landscape architectural, engineering or land surveying (“design professional”) services, to the maximum extent permitted by law, Consultant shall hold harmless and indemnify City, its legislative and advisory bodies, and the City’s officials, directors, officers, and employees (collectively, “Indemnitees”) from and against any and all claims, demands, causes of action, damages, injuries, liabilities, losses,

penalties, fines, judgments, costs or expenses, including reimbursement of attorneys' fees, court costs and costs of alternative dispute resolution, including but not limited to those relating to death or injury to any person and injury to any property (collectively, "Claims"), only to the extent actually caused by the negligence, recklessness, or willful misconduct of Consultant or of any of its officers, employees, or subcontractors in the performance of the Agreement or in the failure to comply with any of the obligations contained in this Agreement.

Consultants obligation to defend any indemnified parties for claims arising from professional services shall mean Consultants legal obligation to reimburse the Indemnified Parties for their reasonable defense costs to the extent caused by Consultants negligence.

As respects its operations under this Agreement other than the performance of professional services, the Consultant shall, hold harmless, indemnify, and defend the Client from and against any and all claims, demands, actions, suits, losses, liabilities, expenses, and costs, including, without limitation, attorney's fees, arising out of injury to any persons, including death, or damage to any property arising from the non-professional activities or business operations of the Consultant.

a. The review, acceptance or approval of Consultant's work or work product by any of the Indemnitees shall not affect, relieve or reduce Consultant's indemnification or defense obligations. This Section 14 shall survive completion of the Services or termination of this Agreement. The provisions of this Section 14 shall not be restricted by and does not affect the provisions of this Agreement relating to insurance.

15. Insurance. Consultant shall obtain and maintain during the performance of any services under this Agreement the insurance coverages listed within the insurance document stated in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit, which is attached hereto and incorporated herein by this reference, unless the City's Risk Manager waives, in writing, the requirement that Consultant obtain and maintain such insurance coverages. Consultant shall, before performance of any Services, file with the City's Risk Manager evidence of insurance coverage as specified in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit. Maintenance of insurance coverages by Consultant is a material element of this Agreement. Consultant's failure to maintain or renew insurance coverages or to provide renewal evidence, and any lapse in insurance coverage, may be considered a material breach of this Agreement.

16. Documents and Materials.

a. All final computations, exhibits, files, plans, correspondence, reports, drawings, designs, data, photographs, specifications, information, images, video files, media, or other deliverables prepared, created, drawn, calculated, photographed or developed by Consultant pursuant to this Agreement ("Documents and Materials") shall be the City's property without restriction or limitation upon its use, duplication or dissemination. All Documents and Materials shall be considered "works made for hire," and all Documents and Materials and any and all intellectual property rights arising from their creation, including, but not limited to, all copyrights and other proprietary rights, shall be and remain the property of the City without restriction or limitation upon their use, duplication or dissemination by the City. Consultant shall not obtain or attempt to obtain copyright protection as to any Documents and Materials. Consultant hereby assigns to the City all ownership and any and all intellectual property rights to the Documents and Materials that are not otherwise vested in the City pursuant to this Section 16.

b. Consultant shall deliver all Documents and Materials to City's Project Manager upon completion of the Services or termination of this Agreement without additional cost or expense to the City. Additionally, anytime at City's request, City shall be entitled to possession of, and Consultant shall furnish to City's Project Manager within 10 calendar days, any or all of the Documents and Materials without additional cost or expense to the City. In both situations, if Consultant prepares Documents and Materials on a computer, Consultant shall provide City with said Documents and Materials both in a printed format and in an electronic format that is acceptable to the City. Consultant may retain copies of these Documents and Materials but must request permission from the City before use, duplication or dissemination of these Documents and Materials for any purpose other than for the Services provided to the City pursuant to this Agreement.

c. Any substantive modification of the Documents and Materials by City staff or any use of the

completed Documents and Materials for other City projects, or any use of incomplete Documents and Materials, without the written consent of Consultant, shall be at City's sole risk and without liability or legal exposure to Consultant.

d. Consultant warrants and represents that it has secured all necessary licenses, consents or approvals to use any instrumentality, thing or component as to which any intellectual property right exists, including computer software, used in the rendering of the Services and the production of all Documents and Materials, and that the City has full legal title to and the right to use, duplicate or disseminate the Documents and Materials. Consultant shall defend, indemnify and hold Indemnitees harmless from any loss, claim or liability in any way related to a claim that City's use of any of the Documents and Materials is violating federal, state or local laws, any contractual provisions, or any laws relating to trade names, licenses, franchises, copyrights, patents or other means of protecting intellectual property rights and/or interests in products or inventions. Consultant shall bear all costs arising from the use of patented, copyrighted, trade secret or trademarked documents, materials, equipment, devices or processes in connection with its provision of the services and Documents and Materials. In the event the use of any of the Documents and Materials by the City is held to constitute an infringement and the use of any of the same is enjoined, Consultant, at its own expense, shall: secure for City the right to continue using the Documents and Materials by suspension of any injunction, or by procuring a license or licenses for City; or modify the Documents and Materials so that they become non-infringing while remaining in compliance with the requirements of this Agreement.

e. This Section 16 shall survive the termination of this Agreement.

17. Confidentiality of Information.

a. For the purposes of this Agreement, "Confidential Information" means all information, in whatever form transmitted, relating to the past, present or future business affairs of the City, including without limitation, (i) technical information, including patent, copyright, trade secret, and other proprietary information, techniques, sketches, drawings, models, inventions, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulas; or (ii) non-technical information, including without limitation finances, financial and accounting data and information, suppliers, customers, customer lists, purchasing data and any other information belonging to the City or to a third party whose information is in the City's possession or control under obligations of confidentiality, and which is disclosed to Consultant or is developed by Consultant in whole or in part at the City's expense.

b. All Documents and Materials shall be considered Confidential Information and shall not be reproduced, transmitted, disclosed or used by the Consultant without the written consent of the City, except as may be necessary for Consultant to fulfill its obligations to the City.

c. Notwithstanding the above, these limitations shall not apply to information that (i) is already known to Consultant at the time of that information's disclosure or becomes publicly known through no wrongful act or omission of Consultant, (ii) is communicated to a third party with the express written consent of City and is not subject to restrictions on further use or disclosure, (iii) is independently developed by Consultant and has no relation to this Agreement, or (iv) is required by law, court order, court-issued subpoena or other legal process to be disclosed; provided, however, that before making such disclosure, Consultant shall immediately provide City with written notice and a reasonable opportunity for City to object to the disclosure or to take action to maintain the confidentiality of the information, unless such prior disclosure is legally impermissible.

d. Consultant shall use reasonable care to protect the Confidential Information. In the event of a breach or threatened breach of this Agreement, City shall be entitled to obtain an injunction prohibiting any such breach, the costs of which shall be paid by Consultant. Any relief granted shall be in addition to and not in lieu of any other legal or equitable relief, including money damages. The parties acknowledge that Confidential Information is valuable and unique and that disclosure of the Confidential Information in breach of this Agreement may result in irreparable injury to the City.

e. Other than an obligation upon the City to deal in good faith, the City makes no warranties and shall bear no liability or responsibility for errors or omissions in any Confidential Information disclosed under this Agreement or for any business decisions made by Consultant in reliance on any Confidential Information disclosed under this Agreement.

f. This Section 17 shall survive the termination of this Agreement.

18. Independent Contractor. Consultant is and shall at all times remain, as to City, a wholly independent contractor. Neither City nor any of its employees or agents shall have control over the conduct of Consultant or any of its employees, except as stated in this Agreement. Consultant has and shall retain the right to exercise full control over the employment, direction, means of performance, location, compensation and discharge of all persons assisting Consultant, and it is free to dispose of all portions of its time which it is not obligated to devote to City in such a manner and to such persons, firms, or corporations as Consultant wishes except as expressly provided in this Agreement. This Agreement shall not be interpreted to prevent or preclude Consultant from rendering any services for Consultant's own account or to any other person or entity as Consultant in its sole discretion shall determine; provided, however, that performing such services shall not materially interfere with the Services Consultant shall perform for the City. Except as City's Project Manager specifies in writing, Consultant and its employees and agents have no authority, express or implied, to act on behalf of City in any capacity, to incur any debt, obligation or liability on behalf of City, bind City in any manner, or otherwise act on behalf of City as an agent. Consultant and its employees are not employees of City. Consultant and its employees are not entitled to receive from City any of the benefits or rights afforded employees of City, including but not limited to reserve leave, sick leave, vacation leave, holiday leave, compensatory leave, Public Employees Retirement System benefits, and health, life, dental, long-term disability and workers' compensation insurance benefits. Consultant shall not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of City. Consultant agrees to pay all required taxes on amounts paid to Consultant under this Agreement, and to indemnify and hold City harmless from any and all taxes, assessments, penalties, and interest asserted against City by reason of the independent contractor relationship created by this Agreement. Consultant shall be solely responsible for, and shall save City harmless from, all matters relating to the payment of Consultant's subcontractors, material suppliers, directors, officers, employees, agents and representatives, including compliance with social security requirements, federal and State income tax withholding, and all other regulations governing employer-employee relations, as applicable. City shall have the right to offset against the amount of any compensation due to Consultant under this Agreement any amount due to City from Consultant as a result of its failure to promptly pay to City any reimbursement or indemnification arising under this Section 18.

19. Nondiscriminatory Employment. Consultant shall not unlawfully discriminate against any individual based on race, color, religion or religious creed, national origin, ancestry, ethnic group identification, primary language, physical disability, mental disability, medical condition, genetic information, marital status, gender, gender identity, gender expression, sex, sexual orientation, age, immigration status, citizenship or military and veteran status. Consultant understands and agrees that it is bound by and will comply with all legal nondiscrimination mandates. For every subcontractor who will perform Services, Consultant shall be responsible for such subcontractor's compliance with this Section 19.

20. Consultant's Representations. Consultant represents, covenants and guarantees that: a) Consultant is licensed, qualified, and capable of furnishing the labor, materials, and expertise necessary to perform the Services in accordance with the terms and conditions set forth in this Agreement; b) there are no obligations, commitments, or impediments of any kind that will limit or prevent Consultant's full performance under this Agreement; c) to the extent required by the standard of practice, Consultant has investigated and considered the scope of Services performed, has carefully considered how the Services should be performed, and understands the facilities, difficulties and restrictions attending performance of the Services under this Agreement.

21. Compliance with Laws. In performing the Services under this Agreement, Consultant shall comply with all applicable laws, ordinances and regulations. Before providing any Services under this Agreement, Consultant shall, at its own expense, obtain and maintain all required certificates, licenses and permits, including a City business tax certificate.

22. Conflict of Interest. If, in performing the Services set forth in this Agreement, Consultant makes, or participates in, a “governmental decision” as described in Title 2, Section 18701(a)(2) of the California Code of Regulations, or performs the same or substantially all the same duties for City that would otherwise be performed by a City employee holding a position specified in City's conflict of interest code, Consultant shall be subject to City's conflict of interest code, the requirements of which include the filing of one or more statements of economic interests disclosing the relevant financial interests of Consultant's personnel providing the Services set forth in this Agreement. Furthermore, Consultant shall not to accept any employment or representation during the term of this Agreement or within 12 months after completion of the Services which is or may likely make Consultant “financially interested,” as provided in California Government Code Sections 1090 and 87100, in any decisions made by City on any matter in connection with which Consultant has been retained pursuant to this Agreement.
23. Fictitious Name. If Consultant has a fictitious name, Consultant shall submit to City a new Fictitious Business Name Statement approved by any California county before Consultant’s prior Fictitious Business Name Statement expires if such expiration may occur during the term of this Agreement, including any term amendment.
24. Non-Assignability. This Agreement contemplates personal performance by Consultant and is based upon a determination of Consultant’s personnel’s unique competence, experience and specialized personal knowledge. Consultant shall not assign or transfer any interest in this Agreement or any part thereof, whether by assignment or novation, without City’s prior written consent, which may be withheld for any reason or for no reason at all. Any purported assignment without written consent shall be null, void, and of no effect, and Consultant shall hold harmless, defend and indemnify Indemnitees from and against all Claims arising from or relating to any unauthorized assignment.
25. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of Consultant.
26. Applicable Law; Venue. The validity, interpretation, and performance of this Agreement shall be controlled by and construed under the laws of the State of California, excluding California’s choice of law rules. Venue for any such action relating to the Agreement shall be in the Ventura County Superior Court.
27. Titles. The titles used in this Agreement are for convenience only and shall in no way define, limit or describe the scope or intent of this Agreement or any part of it.
28. Force Majeure. Neither City nor Consultant shall be responsible for delays or failures in performance resulting from acts beyond the control of either party. Such acts shall include but are not be limited to acts of God, riots, acts of war, epidemics, fire, earthquakes, or other disasters.
29. Authority. Any person executing this Agreement on behalf of Consultant warrants and represents that s/he has the authority to execute this Agreement on behalf of Consultant and to bind it to the performance of these obligations.
30. Binding Agreement. The parties do not intend this Agreement to be binding upon them and shall not be held liable to its terms until it is fully executed by all required signers.
31. Integration; Amendment. This Agreement, including any other documents incorporated herein by specific reference, constitutes the entire and integrated agreement of City and Consultant regarding the subject matter described herein. This Agreement supersedes all prior oral or written communications, negotiations, representations, agreements and promises. This Agreement may not be modified or amended, nor any provision or breach waived, except in a writing, signed by both parties, that expressly refers to this Agreement.
32. Construction. In the event of any asserted ambiguity in or dispute regarding the interpretation of any matter herein, the interpretation of this Agreement shall not be resolved by any rules of construction providing for interpretation against the party who causes the uncertainty to exist or who drafted the Agreement in whole or in part.

33. No Waiver. Waiver by either party of any one or more of the conditions of performance under this Agreement shall not be a waiver of any other condition of performance under this Agreement. In no event shall the making by City of any payment to Consultant constitute or be construed as a waiver by City of any breach of covenant, or any default that may then exist on the part of Consultant, and the making of any such payment by City shall in no way impair or prejudice any right or remedy available to City with regard to such breach or default.

34. Attorneys' Fees. The prevailing party shall be entitled to recover reasonable costs, attorneys' fees (including the reasonable value of the services rendered by the City Attorney's Office) and expenses, including investigation fees and expert witness fees, in addition to any other relief to which that party may be entitled, in any legal action or other proceeding, including an action for declaratory relief, for the enforcement of this Agreement or because of an alleged dispute, breach, default or misrepresentation in connection with this Agreement.

35. Notice. Except as otherwise required by law, a notice or communication authorized or required by this Agreement shall be in writing and shall be deemed received—on (a) the day of delivery if delivered by hand or overnight courier service during City's regular business hours or (b) the third business day following deposit in the United States mail, postage prepaid—to the addresses listed as "(10) Addresses for Notice" on the Cover Page or at such other address as one party may notify the other in writing.

36. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original and all of which, when taken together, shall be deemed to be one and the same agreement. A signed copy of this Agreement transmitted by email to Project Managers' emails listed in "(11) Contact Emails" on the Cover Page or by other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

37. Severability. If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

[Signatures on next page]

IN WITNESS WHEREOF, the parties hereto have executed the Agreement on the date that is written as “(1) Agreement Start Date” on the Cover Page.

CITY OF OXNARD

**GROUNDWATER SOLUTIONS, INC dba
GSI WATER SOLUTIONS, INC.**

☒ John C. Zaragoza, Mayor ¹ _____ Date
☐ Alexander Nguyen, City Manager
☐ Daniel Willhite, Purchasing Manager
☐ _____, Buyer

 _____ 12/15/2021
 John Montgomery, President² Date
 _____ 12/15/2021
 Anneliese Deck, Secretary Date

ATTEST:

 Rose Chaparro, City Clerk (only if Mayor signs) _____ Date

APPROVED AS TO FORM:

 Stephen M. Fischer, City Attorney (always required) _____ Date

¹ The City Council must authorize and the Mayor must sign any agreement over \$200,000 annually. The City Manager may authorize and sign any agreement over \$100,000 but up to \$200,000 annually. The Purchasing Manager may authorize and sign any agreement up to \$100,000 annually. A Buyer may authorize and sign any agreement up to \$25,000 annually.

² The City requires the following for any contract:

- For a corporation, the signatures of the Board President, CEO or Vice President and of the Board Secretary, Assistant Secretary, CFO or Assistant Treasurer;
- For an LLC, the signatures of at least two managers of the LLC; or
- For a partnership, the signature of a partner. If the partnership is a limited partnership, the signer must be a general partner.

If the company has a different structure, or if the above-listed persons are not the appropriate signers, please submit to the City Attorney legally-binding documentation stating who can sign and bind your company.

SCOPE OF SERVICES EXHIBIT

The scope of services for hydrogeological consulting services includes, but is not limited to, providing the necessary hydrogeological design, technical review, and hydrogeological consulting support services consistent with ongoing groundwater resource planning, development projects, and capital improvement programs. Consultation services shall include, but not be limited to, the following:

- 1) Preliminary Investigations - Review and assess existing data, reports, record documents relative to the project and conduct all necessary investigations and analyses required to identify and mitigate operational issues or impact design/construction including:
 - a) Regulatory/code and permitting requirements.
 - b) CEQA compliance.
 - c) Geotechnical investigation.
 - d) Review City well performance and groundwater water quality data.
- 2) Operations – Operational and technical support, evaluations, studies, and reporting, including, but not limited to:
 - a) Groundwater production strategy, particularly in response to Fox Canyon Groundwater Management Agency (FCGMA) changes in allocation.
 - b) Groundwater pumping and water quality.
 - c) Well production capabilities and limitations.
 - d) Groundwater recharge and indirection potable reuse.
 - e) Assessment of undocumented wells.
 - f) Urban Water Management Plan (prepared by others) and other planning documents.
 - g) FCGMA issues such as well boundaries, allocation, well abandonment procedures, conservation credits and conduct well maintenance and testing.
 - h) Aid in reviewing various City Water System Master Plan, Recycled Water Master Plan, Water Supply Assessments, Water Supply Verifications, and in commenting on groundwater related issues.
 - i) ASR Pilot Study consultation.
 - j) Well start-up and commissioning.
 - k) Develop standard operating procedures.
 - l) Develop maintenance protocol and procedures.
- 3) Permitting - Identify, coordinate, prepare, submit, and manage all required permits including, but not limited to:
 - a) California State Water Resources Control Board Division of Drinking Water
 - b) Regional Water Quality Control Board
 - c) Fox Canyon Groundwater Management Agency
 - d) Ventura County Watershed Protection District
 - e) County of Ventura
 - f) Calleguas Municipal Water District (CMWD)
 - g) United Water Conservation District (UWCD)
 - h) Environmental Protection Agency (EPA)
- 4) Design Services
 - a) Planning and conceptual design
 - b) Preliminary design and basis of design reports
 - c) Design drawings
 - d) Specifications
 - e) Bid item lists and cost estimates
- 5) Bid phase services

RATES AND COSTS EXHIBIT

GSI	
Labor Category	Hourly Rate
Technical Professionals	
Principal	
<i>Tim Thompson</i>	\$270
<i>Jeff Barry</i>	\$270
Supervising	
<i>Tim Nicely</i>	\$240
<i>Ailco Wolf</i>	\$210
Managing	
<i>Brian Franz</i>	\$170
Consulting	
	\$150
Project	
<i>Andy Lapostol</i>	\$150
Staff	
<i>John Gauthier</i>	\$130
Other Services	
GIS/Graphics	
<i>Nicole Palmer</i>	\$145
Editor/Documents	\$110
Administration	\$95

BGC*	
Labor Category	Hourly Rate
Professional Hydrogeologic Services	\$235
<i>Bryan Bondy</i>	\$235

* A markup of 5% will be applied to subconsultant labor.

GSI and BGC will evaluate billing rates on the contract signing anniversary date annually. If there is justification for an increase in rates based on the CPI-U for the West Region, as determined by the Bureau of Labor Statistics, GSI will submit an updated rate sheet to the City, to be agreed to in writing.

PREVAILING WAGES EXHIBIT

1. Vendor acknowledges that the Project defined in the Agreement between Vendor and City is a “public work” as defined in Division 2, Part 7, Chapter 1 of the California Labor Code (“Chapter 1”), and that this Agreement is subject to Chapter 1 and the rules and regulations established by the Director of Industrial Relations (“DIR”) implementing such statutes. Vendor shall perform the Project as a public work. Vendor shall comply with and be bound by all the terms, rules and regulations described in Chapter 1 and the DIR’s rules and regulations as though set forth in full herein.
2. Pursuant to Labor Code Section 1773.2, copies of the prevailing rate of per diem wages for each craft, classification, or type of worker needed to perform the Agreement are on file at City Hall and will be made available to any interested party on request. Vendor acknowledges receipt of a copy of the DIR determination of such prevailing rate of per diem wages, and Vendor shall post such rates at each job site covered by this Agreement.
3. Vendor is required to post job site notices, as prescribed by regulation. See Labor Code Section 1771.4(a)(2).
4. Vendor shall comply with and be bound by the provisions of Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages. Vendor shall, as a penalty to City, forfeit not more than \$200 for each calendar day or portion thereof for each worker paid less than the DIR’s determined prevailing rates for the work or craft in which the worker is employed pursuant to this Agreement by Vendor or any subcontractor. The Labor Commissioner shall determine the amount of the penalty as described in Section 1775.
5. Vendor shall comply with Labor Code Section 1776, which requires Vendor and each subcontractor to (1) keep accurate payroll records and verify such records in writing under penalty of perjury, (2) certify and make such payroll records available for inspection, and (3) inform City of the location of the records.
6. Vendor shall comply with Labor Code Sections 1777.5, 1777.6 and 1777.7 and California Administrative Code Title 8, Section 200 *et seq.* concerning the employment of apprentices on public works projects for all apprenticeable occupations. Before commencing work under this Agreement, Vendor shall provide City with a copy of the information submitted to any applicable apprenticeship program. Within 60 days after concluding the Project, Vendor and each of its subcontractors shall submit to City a verified statement of the journeyman and apprentice hours performed under this Agreement.
7. Vendor may not be debarred or suspended throughout the Agreement Term pursuant to Labor Code Section 1777.1 or 1777.7. If he, she or it becomes debarred or suspended in the Agreement Term, Vendor must immediately notify City.
8. Vendor is not qualified to bid on, be listed in a Bid proposal, or engage in the performance of any contract for public work, as defined in Labor Code Sections 1720 through 1861, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Vendor shall continue without interruption to stay registered and qualified to perform public work pursuant to Section 1725.5 for the duration of the term of this Agreement. This provision does not apply to construction, alteration, demolition, installation or repair work of \$25,000 or less or to maintenance work of \$15,000 or less.
9. Vendor acknowledges that 8 hours labor constitutes a legal day’s work. Vendor shall comply with and be bound by Labor Code Section 1810.
10. Vendor shall comply with and be bound by Labor Code Section 1813 concerning penalties for workers who work excess hours. Vendor shall, as a penalty to City, forfeit \$25 for each worker employed in the performance of this Agreement by Vendor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the Labor Code. Pursuant to Labor Code Section 1815, work performed by Vendor’s employees in excess of 8 hours per day and 40 hours per week shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 ½ times the basic rate of pay.
11. The Project listed in the Agreement is subject to compliance monitoring and enforcement by the DIR.
12. Vendor shall be responsible for each and every one of its subcontractors’ compliance with Chapter 1, the DIR’s rules and regulations, and Labor Code Sections 1860 and 3700. Vendor shall include in the written contract between it and each subcontractor a copy of, and a requirement that each subcontractor shall comply with, those statutory provisions. Vendor shall be required to take all actions necessary to enforce such contractual provisions and ensure subcontractors’ compliance, including without limitation, conducting a periodic review of the certified payroll records of each subcontractor, and upon becoming aware of the failure of the subcontractor to pay its workers the specified prevailing rate of wages, Vendor shall diligently take corrective action to halt or rectify any failure.
13. To the maximum extent, Vendor shall hold harmless, defend (with counsel approved by the City Attorney) and indemnify City, its legislative bodies, and its officials, officers, employees and agents from any demand or claim for damages, compensation, fines, penalties or other amounts arising out of or incidental to any acts or omissions listed above by any person or entity (including Vendor, its subcontractors, and each of their officials, officers, employees and agents) in connection with any work undertaken or in connection with the Agreement, including without limitation the payment of all attorneys’ fees and other related costs. All duties of Vendor under this Section shall survive Agreement termination.

INSURANCE EXHIBIT

Exhibit INS-A

INSURANCE REQUIREMENTS FOR CONSULTANTS (WITH ERRORS AND OMISSIONS REQUIREMENT)

1. Consultant shall obtain and maintain during the performance of any services under this Agreement the following insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of services hereunder by Consultant, its agents, representatives, employees or subconsultants.
 - a. Commercial General Liability Insurance, including Contractual Liability, in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for general liability with coverage equivalent to Insurance Services Office Commercial General Liability Coverage (Occurrence Form CG 0001). If a general aggregate limit is used, that limit shall apply separately to the project or shall be twice the occurrence amount;
 - b. Business automobile liability insurance in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for automobile liability with coverage equivalent to Insurance Services Office automobile liability coverage (Occurrence Form CA0001) covering Code No. 1, "any auto;"
 - c. Professional liability/errors and omissions insurance appropriate to Consultant's profession to a minimum coverage of \$1,000,000, with neither Consultant nor listed subconsultants having less than \$500,000 individually. The professional liability/errors and omissions insurance must be project specific with at least a one year extended reporting period, or longer upon request.
 - d. Workers' compensation insurance in compliance with the laws of the State of California, and employer's liability insurance in an amount not less than \$1,000,000 per claimant. Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City.
2. Consultant shall, prior to performance of any services, file with the Risk Manager certificates of insurance with original endorsements effecting coverage required by this Exhibit INS-A. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on the attached forms or on other forms approved by the Risk Manager. All certificates and endorsements are to be received and approved by the Risk Manager before commencement of services. City reserves the right to require complete certified copies of all required insurance policies at any time. The certificates of insurance and endorsements shall be sent via email (or fax if necessary) to the Risk Manager, addressed as follows (do not send hard copies):

City of Oxnard
Insurance Compliance
Reference No. _____
P.O. Box 100085 – OX
Duluth, GA 30096
Via Email: cityofoxnard@ebix.com
Via Fax: 678-259-1007
3. Consultant agrees that all insurance coverages shall be provided by a California admitted insurance carrier with an A.M. Best rating of A:VII or better and shall be endorsed to state that coverage may not be suspended, voided, canceled, or reduced in coverage or limits without 30 days' prior written notice to the Risk Manager. The Risk Manager shall not approve or accept any endorsement if the endorsement contains "best effort" modifiers or if the insurer is relieved from the responsibility to give such notice.
4. Consultant agrees that the commercial general liability and business automobile liability insurance policies shall be endorsed to name City, its City Council, officers, employees, agents and volunteers as additional insureds as respects: liability arising out of activities performed by or on behalf of Consultant; products and completed operations of Consultant; premises owned, occupied or used by Consultant; or automobiles owned, leased, hired or borrowed by Consultant. The coverage shall contain no special limitations on the scope of protection afforded to City, its City Council, officers, employees, agents and volunteers. **The General Liability Special Endorsement Form and Automobile Liability Special Endorsement Form attached to this Exhibit INS-A or substitute forms containing the same information and acceptable to the Risk Manager shall be used to provide the endorsements (ISO form CG 2010 11/85 or if not available, CG 2010 with an edition date prior to 01/04 and CG 2037).**
5. The coverages provided to City shall be primary and not contributing to or in excess of any existing City insurance or self-insurance coverages (**this must be endorsed**). Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its City Council, officers, employees and volunteers. The insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
6. The insurer shall declare any deductibles or self-insured retentions to and be approved by the Risk Manager. At the option of the Risk Manager, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects City, its City Council,

officers, employees and volunteers, or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

7. All insurance standards applicable to Consultant shall also be applicable to Consultant's subconsultants. Consultant agrees to maintain appropriate agreements with subconsultants and to provide proper evidence of coverage upon receipt of a written request from the Risk Manager.

12/21

INSTRUCTION FOR SUBMITTING INSURANCE CERTIFICATES AND ENDORSEMENT FORMS***Certificates of Insurance***

The sample accord form on the following page is provided to facilitate your preparation and submission of certificates of insurance. You may use this or any industry form that shows coverage as broad as that shown on the attached sample. **Please note the certificate holder address must be as shown on the attached sample accord form with the contract number and insurance exhibit identification information completed.** Improperly addressed certificates may delay the contract start-up date because the City's practice is to return unidentifiable insurance certificates to the insured for clarification as to the contract number. **Cancellation provisions must be endorsed to the policy. Modifying the certificate does not change coverage or obligate the carrier to provide notice of cancellation.**

Endorsement Forms

Original endorsements are required for commercial general liability and business automobile liability insurance policies and must be attached to the applicable certificate of insurance. City preference is that the Consultant/insurer use the endorsement forms which are attached. Substitute forms will be accepted, however, as long as they include provisions comparable to the sample accord form.

INS-A.doc

ACORD CERTIFICATE OF INSURANCE		ISSUE DATE (MM/DD/YY)			
PRODUCER		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.			
CODE SUB-CODE		COMPANIES AFFORDING INSURANCE COVERAGE			
INSURED		COMPANY LETTER A SPECIFY COMPANY NAMES IN THIS SPACE			
		COMPANY LETTER B			
COVERAGES THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☒ OCCUR. ☒ OWNER'S & CONTRACTOR'S PROT.				GENERAL AGGREGATE \$1,000,000 PRODUCTS COMP/OP AGG. \$1,000,000 PERSONAL & ADV. INJURY \$1,000,000 EACH OCCURRENCE \$1,000,000 FIRE DAMAGE (Any one fire) \$ MED. EXPENSE (Any one person) \$
A	AUTOMOBILE LIABILITY ☒ ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY				COMBINED SINGLE \$1,000,000 LIMIT BODILY INJURY \$ (Per person) BODILY INJURY \$ (Per accident) PROPERTY DAMAGE \$
A	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$ AGGREGATE \$
A	WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS EACH ACCIDENT \$1,000,000 DISEASE-POLICY LIMIT \$1,000,000 DISEASE-EACH EMPLOYEE \$1,000,000
A	OTHER Errors and omissions insurance or malpractice insurance available for the insured's profession				Minimum coverage \$1,000,000 Each consultant/ & listed sub-consultant \$500,000
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS					
CERTIFICATE HOLDER CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007			CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE		

GENERAL LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")		SUBMIT IN DUPLICATE					
		ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)				
PRODUCER Telephone: _____ NAMED INSURED	POLICY INFORMATION: Insurance Company: _____ Policy No.: _____ Policy Period: (from) _____ (to) _____ LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits ☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____ with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which) APPLICABILITY. This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered CITY AGREEMENTS/PERMITS						
TYPE OF INSURANCE		OTHER PROVISIONS					
GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ COMPREHENSIVE GENERAL LIABILITY ☐ OWNERS & CONTRACTORS PROTECTIVE		☐ Claims Made Retroactive Date _____ ☐ Occurrence					
COVERAGES	LIABILITY LIMITS IN THOUSANDS \$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; padding: 5px;">EACH OCCURRENCE</th> <th style="width: 50%; padding: 5px;">AGGREGATE</th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> </tbody> </table>		EACH OCCURRENCE	AGGREGATE			CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: (____) _____
EACH OCCURRENCE	AGGREGATE						
☐ GENERAL ☐ PRODUCTS/COMPLETED OPERATIONS ☐ PERSONAL & ADVERTISING INJURY ☐ FIRE DAMAGE ☐ _____ ☐ _____							
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows: 1. INSURED. The City, its officers, agents, employees and volunteers are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured. 2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it. 3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included. 4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City. 5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches or violations of warranties shall not affect coverage provided to the City, its officers, agents, employees or volunteers. 6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as: a. Insurance Services Office Commercial General Liability Coverage, "occurrence" form CG0001; or b. If excess, affords coverage which is at least as broad as the primary insurance form CG0001. Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.							
ENDORSEMENT HOLDER							
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007		AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ ____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ <i>(original signature required)</i> Telephone: (____) _____ Date Signed: _____					

SUBMIT IN DUPLICATE			
AUTOMOBILE LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">ENDORSEMENT NO.</td> <td style="width: 50%; text-align: center;">ISSUE DATE (MM/DD/YY)</td> </tr> </table>	ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)
ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)		
PRODUCER Telephone: _____	POLICY INFORMATION: Insurance Company: _____ Policy No.: _____ Policy Period: (from) _____ (to) _____ LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits ☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____ with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which) _____ APPLICABILITY. This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered: CITY AGREEMENTS/PERMITS _____		
NAMED INSURED _____	_____		
TYPE OF INSURANCE ☐ COMMERCIAL AUTO POLICY ☐ BUSINESS AUTO POLICY ☐ OTHER	OTHER PROVISIONS _____		
LIMIT OF LIABILITY \$ _____ per accident, for bodily injury and property damage.	CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: () _____		
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows:			
1. INSURED. The City, its officers, agents, volunteers and employees are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured. 2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it. 3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included. 4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City. 5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches or violations of warranties shall not affect coverage provided to the City, its officers, agents, employees or volunteers. 6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as: a. Insurance Services Office Automobile Liability Coverage, "occurrence" form CA0001, code ("any auto"); or b. If excess, affords coverage which is at least as broad as the primary insurance form referenced in the preceding section (1). Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.			
ENDORSEMENT HOLDER			
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007	AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ _____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ (original signature required) Telephone: () _____ Date Signed _____		

**AGREEMENT FOR PROFESSIONAL SERVICES
COVER PAGE**

- (1) Agreement Start Date: January 18, 2022
- (2) Consultant: ENGEO Incorporated
- (3) Services: On-Call Hydrogeological Services
- (4) Schedule of Services: The Services must be completed within two calendar years of the Agreement Start Date listed above
- (5) Agreement Ending Date: January 17, 2025
- (6) Total Agreement Amount: \$250,000
- (7) City's Project Manager: Tim Beaman
- (8) Consultant's Project Manager: James Thurber, CEG, CHG
- (9) Insurance Coverage: INS-A
- (10) Addresses for Notice:

FOR CONSULTANT:

ENGEO Incorporated
Attn: James Thurber, CEG, CHG
320 Goddard Way, Suite 100
Irvine, CA 92618

FOR CITY:

City of Oxnard
Attn: Tim Beaman, Supervising Civil Engineer
305 W Third Street
Oxnard, CA 93030

- (11) Contact Emails:

*CONSULTANT'S PROJECT
MANAGER:*

jthurber@engeo.com

CITY'S PROJECT MANAGER:

Timothy.Beamen@oxnard.org

The Agreement for Professional Services is attached hereto and incorporated herein by this reference. The following exhibits are also attached hereto and incorporated herein by this reference into the Agreement:

- ☒ Scope of Services Exhibit
- ☒ Rates and Costs Exhibit
- ☒ Prevailing Wages Exhibit
- ☒ Insurance Exhibit (INS-A)

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is entered into in Ventura County, California, on the date that is written as "(1) Agreement Start Date" on the Cover Page, which is attached hereto and incorporated herein by this reference. This Agreement is entered by and between the City of Oxnard ("City") and the person or entity listed as "(2) Consultant" on the Cover Page, subject to the following terms and conditions:

1. Scope of Services. Consultant shall provide to City the services listed as "(3) Services" on the Cover Page (the "Services"). Consultant shall provide the Services during the term of this Agreement, as set forth below, according to the schedule written as "(4) Schedule of Services" on the Cover Page, and as further explained in the Scope of Services Exhibit, which is attached hereto and incorporated herein by this reference. In the event of any conflict between the terms of this Agreement and any incorporated document(s), the terms of this Agreement shall control.
2. Standard of Performance. Consultant shall undertake and complete the Services to conclusion using the standard of care, skill and diligence normally provided by a professional person in the performance of similar consulting services.
3. Correction of Errors. Consultant shall correct, at its expense, all errors which may be disclosed during review of the Services. Should Consultant fail to make such correction in a reasonably timely manner, such correction shall be made by City, and the cost thereof shall be paid by Consultant.
4. Term. This Agreement shall begin on the date that is written as "(1) Agreement Start Date" on the Cover Page and shall end on the date that is written as "(5) Agreement Ending Date" on the Cover Page. Time is of the essence in this Agreement.
5. Compensation. For the Services performed during the term of this Agreement, City shall pay Consultant an amount not to exceed the amount that is listed as "(6) Total Agreement Amount" on the Cover Page, at the rates listed in Rates and Costs Exhibit, attached hereto and incorporated herein by this reference. The rates in Rates and Costs Exhibit shall be in effect through the end of this Agreement. Except as otherwise expressly provided in this Agreement, City shall not be responsible for expenses incurred by Consultant in performing the Services.
6. Invoices. Consultant shall submit a payment request to City by the end of each calendar month listing the Services provided, costs of those Services, and total amount due for the month. Each invoice must also list the current balance on the Agreement, including that invoice, as well as the months remaining on the term of the Agreement. Invoices may be emailed to: invoices@oxnard.org.
7. Acceptance of Payment. Consultant's acceptance of final payment made pursuant to this Agreement shall constitute a release of City from all claims and liabilities for compensation to Consultant for anything completed, finished or relating to the Services. City's payment shall not constitute nor be deemed a release of the responsibility and liability of Consultant for the accuracy and competency of the information provided and/or the Services performed hereunder, nor shall such payment be deemed to be an assumption of responsibility or liability by City for any defect or error in the Services performed by Consultant and its employees, agents and subcontractors. Consultant shall provide City with a completed Request for Taxpayer Identification Number and Certification, as issued by the Internal Revenue Service. If any sales tax is due for the Services performed by Consultant or materials or products provided to City by Consultant, Consultant shall pay the sales tax. City shall not reimburse Consultant for sales taxes paid by Consultant.
8. Non-Appropriation of Funds. Payments to be made to Consultant by City for the Services performed within the current fiscal year are within the current fiscal budget and within an available, unexhausted and unencumbered appropriation of City. In the event City does not appropriate sufficient funds for payment of the Services beyond the current fiscal year, this Agreement shall cover payment for the Services only up to the conclusion of the last fiscal year in which City appropriated sufficient funds and shall automatically terminate at that fiscal year's conclusion.

9. Coordination of Services. The Services shall be coordinated with the person in the position listed in “(7) City’s Project Manager” on the Cover Page, subject to the direction of the City Manager and Department Director. Consultant hereby designates the person in the position listed in “(8) Consultant’s Project Manager” on the Cover Page as the person responsible for the Services who shall coordinate with City’s Project Manager in making binding decisions in line with this Agreement on behalf of Consultant.

10. Personnel. Consultant represents that it has, or shall secure at its own expense, all personnel required to perform the Services. Any person who performs engineering services pursuant to this Agreement shall be licensed as a Civil Engineer by the State of California and in good standing. Consultant shall make reasonable efforts to maintain the continuity of Consultant’s staff who are assigned to perform the Services. Consultant may associate with or employ associates or subcontractors in the performance of the Services, but at all times shall Vendor be responsible for its associates and subcontractors’ labor, advice or materials provided in furtherance of providing the Services. Should any of Consultant’s employees, assigns or subcontractors not conduct him- or herself appropriately, as determined by the City’s Project Manager, in the process of providing the Services or any portion thereof, the City’s Project Manager may notify the Consultant’s Project Manager, who shall immediately handle the problem, as determined appropriate by him or her, such that the problem does not persist.

11. Additional Work. City may request additional specified work under this Agreement. The City’s Project Manager must authorize all such work in writing before commencement. Consultant shall perform such work, and City shall pay for such additional work, in accordance with Rates and Costs Exhibit. Should the work not fall under any such listed rate or cost, Consultant shall submit a quote for all additional work, which the City’s Project Manager must approve in writing by before any such work may commence. The City shall compensate Consultant for any work that does not fall under a rate or cost listed in the Rates and Costs Exhibit, and for which Consultant did not obtain the City’s Project Manager’s written approval before work commenced, as determined by the City’s Project Manager in his or her sole discretion.

12. Audit. City shall have the option of inspecting, auditing and/or reproducing all records and other written materials used by Consultant in preparing its billings to City as a condition precedent to any payment to Consultant. Consultant will promptly furnish all documents requested by City. Additionally, if this Agreement is in excess of \$10,000, the State Auditor may examine and audit Consultant for a period of 3 years after final payment under the Agreement. Regardless of whether a State audit is permitted, Consultant shall maintain and preserve all such records for a period of at least 3 years after final payment under the Agreement. Consultant shall include a copy of this Section 12 in all contracts with its subcontractors, and Consultant shall be responsible for immediately obtaining those records or other written material from its subcontractors upon a request by the State Auditor and/or City.

13. Termination. City may terminate this Agreement at any time, with or without cause and without penalty, upon 15 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice. Consultant may terminate this Agreement at any time, with or without cause and without penalty, upon 30 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice and only if all assignments accepted by Consultant have been completed before the date of termination. In the event of termination of this Agreement by either party due to no fault or failure of performance by Consultant, City shall pay Consultant compensation for all Services satisfactorily completed in accordance with all of the terms and provisions of this Agreement, as determined by the City, before the effective date of termination; provided, in no event shall the Consultant receive an amount exceeding that which would have been paid to Consultant for the full performance of the Services.

14. Hold Harmless, Defense and Indemnity.

If Consultant provides any architectural, landscape architectural, engineering or land surveying (“design professional”) services, to the maximum extent permitted by law, Consultant shall hold harmless, defend, and indemnify City, its legislative and advisory bodies, and the City’s officials, directors, officers, employees, and agents (collectively, “Indemnitees”) from and against any and all claims, demands, causes of action, damages, injuries, liabilities, losses, penalties, fines, judgments, costs or expenses, including reimbursement of attorneys’ fees, court costs and costs of alternative dispute resolution, including but not limited to those relating to death or injury to any

person and injury to any property (collectively, "Claims"), to the extent that the Claims arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant or of any of its officers, employees, subcontractors or agents in the performance of the Agreement or in the failure to comply with any of the obligations contained in this Agreement. Consultant's obligation to defend is a separate and distinct obligation from Consultant's duty to indemnify and applies through final judgment, including exhaustion of any appeals. Consultant shall be obligated to defend Indemnitees in all legal, equitable, administrative, or special proceedings, with counsel approved by the City Attorney, to the extent required herein immediately upon tender to Consultant of the Claim in any form or at any stage of an action or proceeding. The defense obligation includes the obligation to provide independent defense counsel if Consultant asserts that the liability is caused in whole or in part by the negligence or willful misconduct of any of the Indemnitees.

If Consultant provides no design professional services, to the maximum extent permitted by law, Consultant shall hold harmless, defend and indemnify the Indemnitees from and against any and all Claims, which arise out of, pertain to, or relate to the performance of this Agreement, or the failure to comply with any of the obligations contained in this Agreement, by Consultant or of any of its officials, directors, officers, employees, subcontractors, or agents. Consultant's obligation to defend is a separate and distinct obligation from Consultant's duty to indemnify and applies through final judgment, including exhaustion of any appeals. Consultant shall be obligated to defend Indemnitees in all legal, equitable, administrative, or special proceedings, with counsel approved by the City Attorney, immediately upon tender to Consultant of the Claim in any form or at any stage of an action or proceeding. The defense obligation includes the obligation to provide independent defense counsel if Consultant asserts that the liability is caused in whole or in part by the negligence or willful misconduct of any of the Indemnitees.

a. The review, acceptance or approval of Consultant's work or work product by any of the Indemnitees shall not affect, relieve or reduce Consultant's indemnification or defense obligations. This Section 14 shall survive completion of the Services or termination of this Agreement. The provisions of this Section 14 shall not be restricted by and does not affect the provisions of this Agreement relating to insurance.

15. Insurance. Consultant shall obtain and maintain during the performance of any services under this Agreement the insurance coverages listed within the insurance document stated in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit, which is attached hereto and incorporated herein by this reference, unless the City's Risk Manager waives, in writing, the requirement that Consultant obtain and maintain such insurance coverages. Consultant shall, before performance of any Services, file with the City's Risk Manager evidence of insurance coverage as specified in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit. Maintenance of insurance coverages by Consultant is a material element of this Agreement. Consultant's failure to maintain or renew insurance coverages or to provide renewal evidence, and any lapse in insurance coverage, may be considered a material breach of this Agreement.

16. Documents and Materials.

a. Upon full payment of monies owed, all final computations, exhibits, files, plans, correspondence, reports, drawings, designs, data, photographs, specifications, information, images, video files, media, or other deliverables prepared, created, drawn, calculated, photographed or developed by Consultant pursuant to this Agreement ("Documents and Materials") shall be the City's property without restriction or limitation upon its use, duplication or dissemination. All Documents and Materials shall be considered instruments of service and "works made for hire," and all Documents and Materials and any and all intellectual property rights arising from their creation, including, but not limited to, all copyrights and other proprietary rights, shall be and remain the property of the City without restriction or limitation upon their use, duplication or dissemination by the City. Consultant shall not obtain or attempt to obtain copyright protection as to any Documents and Materials. Consultant hereby assigns to the City all ownership and any and all intellectual property rights to the Documents and Materials that are not otherwise vested in the City pursuant to this Section 16.

b. Consultant shall deliver all Documents and Materials to City's Project Manager upon completion of the Services or termination of this Agreement without additional cost or expense to the City. Additionally, anytime at City's request, City shall be entitled to possession of, and Consultant shall furnish to City's Project Manager within 10 calendar days, any or all of the Documents and Materials without additional cost or expense to the City. In both

situations, if Consultant prepares Documents and Materials on a computer, Consultant shall provide City with said Documents and Materials both in a printed format and in an electronic format that is acceptable to the City. Consultant may retain copies of these Documents and Materials but must request permission from the City before use, duplication or dissemination of these Documents and Materials for any purpose other than for the Services provided to the City pursuant to this Agreement.

c. Any substantive modification of the Documents and Materials by City staff or any use of the completed Documents and Materials for other City projects, or any use of incomplete Documents and Materials, without the written consent of Consultant, shall be at City's sole risk and without liability or legal exposure to Consultant. City agrees to defend, indemnify, and hold harmless Consultant for any unauthorized reuse of Documents and Materials.

d. Consultant represents that it has secured all necessary licenses, consents or approvals to use any instrumentality, thing or component as to which any intellectual property right exists, including computer software, used in the rendering of the Services and the production of all Documents and Materials, and that the City has full legal title to and the right to use, duplicate or disseminate the Documents and Materials. Consultant shall defend, indemnify and hold Indemnitees harmless from any loss, claim or liability in any way related to a claim that City's use of any of the Documents and Materials is violating federal, state or local laws, any contractual provisions, or any laws relating to trade names, licenses, franchises, copyrights, patents or other means of protecting intellectual property rights and/or interests in products or inventions. Consultant shall bear all costs arising from the use of patented, copyrighted, trade secret or trademarked documents, materials, equipment, devices or processes in connection with its provision of the services and Documents and Materials. In the event the use of any of the Documents and Materials by the City is held to constitute an infringement and the use of any of the same is enjoined, Consultant, at its own expense, shall: secure for City the right to continue using the Documents and Materials by suspension of any injunction, or by procuring a license or licenses for City; or modify the Documents and Materials so that they become non-infringing while remaining in compliance with the requirements of this Agreement.

e. This Section 16 shall survive the termination of this Agreement.

17. Confidentiality of Information.

a. For the purposes of this Agreement, "Confidential Information" means all information, in whatever form transmitted, relating to the past, present or future business affairs of the City, including without limitation, (i) technical information, including patent, copyright, trade secret, and other proprietary information, techniques, sketches, drawings, models, inventions, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulas; or (ii) non-technical information, including without limitation finances, financial and accounting data and information, suppliers, customers, customer lists, purchasing data and any other information belonging to the City or to a third party whose information is in the City's possession or control under obligations of confidentiality, and which is disclosed to Consultant or is developed by Consultant in whole or in part at the City's expense.

b. All Documents and Materials shall be considered Confidential Information and shall not be reproduced, transmitted, disclosed or used by the Consultant without the written consent of the City, except as may be necessary for Consultant to fulfill its obligations to the City.

c. Notwithstanding the above, these limitations shall not apply to information that (i) is already known to Consultant at the time of that information's disclosure or becomes publicly known through no wrongful act or omission of Consultant, (ii) is communicated to a third party with the express written consent of City and is not subject to restrictions on further use or disclosure, (iii) is independently developed by Consultant and has no relation to this Agreement, or (iv) is required by law, court order, court-issued subpoena or other legal process to be disclosed; provided, however, that before making such disclosure, Consultant shall immediately provide City with written notice and a reasonable opportunity for City to object to the disclosure or to take action to maintain the confidentiality of the information, unless such prior disclosure is legally impermissible.

d. Consultant shall use reasonable care to protect the Confidential Information. In the event of a breach or threatened breach of this Agreement, City shall be entitled to obtain an injunction prohibiting any such breach, the

costs of which shall be paid by Consultant. Any relief granted shall be in addition to and not in lieu of any other legal or equitable relief, including money damages. The parties acknowledge that Confidential Information is valuable and unique and that disclosure of the Confidential Information in breach of this Agreement may result in irreparable injury to the City.

e. Other than an obligation upon the City to deal in good faith, the City makes no warranties and shall bear no liability or responsibility for errors or omissions in any Confidential Information disclosed under this Agreement or for any business decisions made by Consultant in reliance on any Confidential Information disclosed under this Agreement.

f. This Section 17 shall survive the termination of this Agreement.

18. Independent Contractor. Consultant is and shall at all times remain, as to City, a wholly independent contractor. Neither City nor any of its employees or agents shall have control over the conduct of Consultant or any of its employees, except as stated in this Agreement. Consultant has and shall retain the right to exercise full control over the employment, direction, means of performance, location, compensation and discharge of all persons assisting Consultant, and it is free to dispose of all portions of its time which it is not obligated to devote to City in such a manner and to such persons, firms, or corporations as Consultant wishes except as expressly provided in this Agreement. This Agreement shall not be interpreted to prevent or preclude Consultant from rendering any services for Consultant's own account or to any other person or entity as Consultant in its sole discretion shall determine; provided, however, that performing such services shall not materially interfere with the Services Consultant shall perform for the City. Except as City's Project Manager specifies in writing, Consultant and its employees and agents have no authority, express or implied, to act on behalf of City in any capacity, to incur any debt, obligation or liability on behalf of City, bind City in any manner, or otherwise act on behalf of City as an agent. Consultant and its employees are not employees of City. Consultant and its employees are not entitled to receive from City any of the benefits or rights afforded employees of City, including but not limited to reserve leave, sick leave, vacation leave, holiday leave, compensatory leave, Public Employees Retirement System benefits, and health, life, dental, long-term disability and workers' compensation insurance benefits. Consultant shall not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of City. Consultant agrees to pay all required taxes on amounts paid to Consultant under this Agreement, and to indemnify and hold City harmless from any and all taxes, assessments, penalties, and interest asserted against City by reason of the independent contractor relationship created by this Agreement. Consultant shall be solely responsible for, and shall save City harmless from, all matters relating to the payment of Consultant's subcontractors, material suppliers, directors, officers, employees, agents and representatives, including compliance with social security requirements, federal and State income tax withholding, and all other regulations governing employer-employee relations, as applicable. City shall have the right to offset against the amount of any compensation due to Consultant under this Agreement any amount due to City from Consultant as a result of its failure to promptly pay to City any reimbursement or indemnification arising under this Section 18.

19. Nondiscriminatory Employment. Consultant shall not unlawfully discriminate against any individual based on race, color, religion or religious creed, national origin, ancestry, ethnic group identification, primary language, physical disability, mental disability, medical condition, genetic information, marital status, gender, gender identity, gender expression, sex, sexual orientation, age, immigration status, citizenship or military and veteran status. Consultant understands and agrees that it is bound by and will comply with all legal nondiscrimination mandates. For every subcontractor who will perform Services, Consultant shall be responsible for such subcontractor's compliance with this Section 19.

20. Consultant's Representations. Consultant represents and covenants that: a) Consultant is licensed, qualified, and capable of furnishing the labor, materials, and expertise necessary to perform the Services in accordance with the terms and conditions set forth in this Agreement; b) there are no obligations, commitments, or impediments that will limit or prevent Consultant's full performance under this Agreement; c) Consultant has investigated and considered the scope of Services performed, has carefully considered how the Services should be performed, and understands the facilities, difficulties and restrictions attending performance of the Services under this Agreement.

21. Compliance with Laws. In performing the Services under this Agreement, Consultant shall comply with all applicable laws, ordinances and regulations. Before providing any Services under this Agreement, Consultant

shall, at its own expense, obtain and maintain all required certificates, licenses and permits, including a City business tax certificate.

22. Conflict of Interest. If, in performing the Services set forth in this Agreement, Consultant makes, or participates in, a “governmental decision” as described in Title 2, Section 18701(a)(2) of the California Code of Regulations, or performs the same or substantially all the same duties for City that would otherwise be performed by a City employee holding a position specified in City's conflict of interest code, Consultant shall be subject to City's conflict of interest code, the requirements of which include the filing of one or more statements of economic interests disclosing the relevant financial interests of Consultant's personnel providing the Services set forth in this Agreement. Furthermore, Consultant shall not to accept any employment or representation during the term of this Agreement or within 12 months after completion of the Services which is or may likely make Consultant “financially interested,” as provided in California Government Code Sections 1090 and 87100, in any decisions made by City on any matter in connection with which Consultant has been retained pursuant to this Agreement.

23. Fictitious Name. If Consultant has a fictitious name, Consultant shall submit to City a new Fictitious Business Name Statement approved by any California county before Consultant’s prior Fictitious Business Name Statement expires if such expiration may occur during the term of this Agreement, including any term amendment.

24. Non-Assignability. This Agreement contemplates personal performance by Consultant and is based upon a determination of Consultant’s personnel’s unique competence, experience and specialized personal knowledge. Consultant shall not assign or transfer any interest in this Agreement or any part thereof, whether by assignment or novation, without City’s prior written consent, which may be withheld for any reason or for no reason at all. Any purported assignment without written consent shall be null, void, and of no effect, and Consultant shall hold harmless, defend and indemnify Indemnitees from and against all Claims arising from or relating to any unauthorized assignment.

25. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of Consultant.

26. Applicable Law; Venue. The validity, interpretation, and performance of this Agreement shall be controlled by and construed under the laws of the State of California, excluding California’s choice of law rules. Venue for any such action relating to the Agreement shall be in the Ventura County Superior Court.

27. Titles. The titles used in this Agreement are for convenience only and shall in no way define, limit or describe the scope or intent of this Agreement or any part of it.

28. Force Majeure. Neither City nor Consultant shall be responsible for delays or failures in performance resulting from acts beyond the control of either party. Such acts shall include but are not be limited to acts of God, riots, acts of war, epidemics, fire, earthquakes, or other disasters.

29. Authority. Any person executing this Agreement on behalf of Consultant represents that s/he has the authority to execute this Agreement on behalf of Consultant and to bind it to the performance of these obligations.

30. Binding Agreement. The parties do not intend this Agreement to be binding upon them and shall not be held liable to its terms until it is fully executed by all required signers.

31. Integration; Amendment. This Agreement, including any other documents incorporated herein by specific reference, constitutes the entire and integrated agreement of City and Consultant regarding the subject matter described herein. This Agreement supersedes all prior oral or written communications, negotiations, representations, agreements and promises. This Agreement may not be modified or amended, nor any provision or breach waived, except in a writing, signed by both parties, that expressly refers to this Agreement.

32. Construction. In the event of any asserted ambiguity in or dispute regarding the interpretation of any matter herein, the interpretation of this Agreement shall not be resolved by any rules of construction providing for interpretation against the party who causes the uncertainty to exist or who drafted the Agreement in whole or in part.

33. No Waiver. Waiver by either party of any one or more of the conditions of performance under this Agreement shall not be a waiver of any other condition of performance under this Agreement. In no event shall the making by City of any payment to Consultant constitute or be construed as a waiver by City of any breach of covenant, or any default that may then exist on the part of Consultant, and the making of any such payment by City shall in no way impair or prejudice any right or remedy available to City with regard to such breach or default.

34. Attorneys' Fees. The prevailing party shall be entitled to recover reasonable costs, attorneys' fees (including the reasonable value of the services rendered by the City Attorney's Office) and expenses, including investigation fees and expert witness fees, in addition to any other relief to which that party may be entitled, in any legal action or other proceeding, including an action for declaratory relief, for the enforcement of this Agreement or because of an alleged dispute, breach, default or misrepresentation in connection with this Agreement.

35. Notice. Except as otherwise required by law, a notice or communication authorized or required by this Agreement shall be in writing and shall be deemed received—on (a) the day of delivery if delivered by hand or overnight courier service during City's regular business hours or (b) the third business day following deposit in the United States mail, postage prepaid—to the addresses listed as "(10) Addresses for Notice" on the Cover Page or at such other address as one party may notify the other in writing.

36. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original and all of which, when taken together, shall be deemed to be one and the same agreement. A signed copy of this Agreement transmitted by email to Project Managers' emails listed in "(11) Contact Emails" on the Cover Page or by other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

37. Severability. If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

[Signatures on next page]

IN WITNESS WHEREOF, the parties hereto have executed the Agreement on the date that is written as “(1) Agreement Start Date” on the Cover Page.

CITY OF OXNARD

ENGEO INCORPORATED

☒ John C. Zaragoza, Mayor¹ Date
☐ Alexander Nguyen, City Manager
☐ Daniel Willhite, Purchasing Manager
☐ , Buyer


 Uri Eliahu, President² 12/14/2021

 Date


 Lora Dominick, Treasurer 12/14/2021

 Date

ATTEST:

 Rose Chaparro, City Date
 Clerk (only if Mayor signs)

APPROVED AS TO FORM:

 Stephen M. Fischer, City Date
 Attorney (always required)

¹ The City Council must authorize and the Mayor must sign any agreement over \$200,000 annually. The City Manager may authorize and sign any agreement over \$100,000 but up to \$200,000 annually. The Purchasing Manager may authorize and sign any agreement up to \$100,000 annually. A Buyer may authorize and sign any agreement up to \$25,000 annually.

² The City requires the following for any contract:

- For a corporation, the signatures of the Board President, CEO or Vice President and of the Board Secretary, Assistant Secretary, CFO or Assistant Treasurer;
- For an LLC, the signatures of at least two managers of the LLC; or
- For a partnership, the signature of a partner. If the partnership is a limited partnership, the signer must be a general partner.

If the company has a different structure, or if the above-listed persons are not the appropriate signers, please submit to the City Attorney legally-binding documentation stating who can sign and bind your company.

SCOPE OF SERVICES EXHIBIT

The scope of services for hydrogeological consulting services includes, but is not limited to, providing the necessary hydrogeological design, technical review, and hydrogeological consulting support services consistent with ongoing groundwater resource planning, development projects, and capital improvement programs. Consultation services shall include, but not be limited to, the following:

- 1) Preliminary Investigations - Review and assess existing data, reports, record documents relative to the project and conduct all necessary investigations and analyses required to identify and mitigate operational issues or impact design/construction including:
 - a) Regulatory/code and permitting requirements.
 - b) CEQA compliance.
 - c) Geotechnical investigation.
 - d) Review City well performance and groundwater water quality data.
- 2) Operations – Operational and technical support, evaluations, studies, and reporting, including, but not limited to:
 - a) Groundwater production strategy, particularly in response to Fox Canyon Groundwater Management Agency (FCGMA) changes in allocation.
 - b) Groundwater pumping and water quality.
 - c) Well production capabilities and limitations.
 - d) Groundwater recharge and indirection potable reuse.
 - e) Assessment of undocumented wells.
 - f) Urban Water Management Plan (prepared by others) and other planning documents.
 - g) FCGMA issues such as well boundaries, allocation, well abandonment procedures, conservation credits and conduct well maintenance and testing.
 - h) Aid in reviewing various City Water System Master Plan, Recycled Water Master Plan, Water Supply Assessments, Water Supply Verifications, and in commenting on groundwater related issues.
 - i) ASR Pilot Study consultation.
 - j) Well start-up and commissioning.
 - k) Develop standard operating procedures.
 - l) Develop maintenance protocol and procedures.
- 3) Permitting - Identify, coordinate, prepare, submit, and manage all required permits including, but not limited to:
 - a) California State Water Resources Control Board Division of Drinking Water
 - b) Regional Water Quality Control Board
 - c) Fox Canyon Groundwater Management Agency
 - d) Ventura County Watershed Protection District
 - e) County of Ventura
 - f) Calleguas Municipal Water District (CMWD)
 - g) United Water Conservation District (UWCD)
 - h) Environmental Protection Agency (EPA)
- 4) Design Services
 - a) Planning and conceptual design
 - b) Preliminary design and basis of design reports
 - c) Design drawings
 - d) Specifications
 - e) Bid item lists and cost estimates
- 5) Bid phase services

RATES AND COSTS EXHIBIT

Category	Billing Rate
Principal Hydrogeologist	\$260.00
Associate Geologist	\$250.00
Senior Geologist	\$210.00
Project Geologist	\$190.00
Staff Geologist	\$150.00
Graphics/CAD Specialist	\$170.00

Billing rates effective through the first year of the agreement. Any price increases, after the first year of the agreement, must be made to the City in writing to the City 60 days prior to effective date, and must be mutually agreed upon in writing between the Consultant and the City.

PREVAILING WAGES EXHIBIT

1. Vendor acknowledges that the Project defined in the Agreement between Vendor and City is a “public work” as defined in Division 2, Part 7, Chapter 1 of the California Labor Code (“Chapter 1”), and that this Agreement is subject to Chapter 1 and the rules and regulations established by the Director of Industrial Relations (“DIR”) implementing such statutes. Vendor shall perform the Project as a public work. Vendor shall comply with and be bound by all the terms, rules and regulations described in Chapter 1 and the DIR’s rules and regulations as though set forth in full herein.
2. Pursuant to Labor Code Section 1773.2, copies of the prevailing rate of per diem wages for each craft, classification, or type of worker needed to perform the Agreement are on file at City Hall and will be made available to any interested party on request. Vendor acknowledges receipt of a copy of the DIR determination of such prevailing rate of per diem wages, and Vendor shall post such rates at each job site covered by this Agreement.
3. Vendor is required to post job site notices, as prescribed by regulation. See Labor Code Section 1771.4(a)(2).
4. Vendor shall comply with and be bound by the provisions of Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages. Vendor shall, as a penalty to City, forfeit not more than \$200 for each calendar day or portion thereof for each worker paid less than the DIR’s determined prevailing rates for the work or craft in which the worker is employed pursuant to this Agreement by Vendor or any subcontractor. The Labor Commissioner shall determine the amount of the penalty as described in Section 1775.
5. Vendor shall comply with Labor Code Section 1776, which requires Vendor and each subcontractor to (1) keep accurate payroll records and verify such records in writing under penalty of perjury, (2) certify and make such payroll records available for inspection, and (3) inform City of the location of the records.
6. Vendor shall comply with Labor Code Sections 1777.5, 1777.6 and 1777.7 and California Administrative Code Title 8, Section 200 *et seq.* concerning the employment of apprentices on public works projects for all apprenticeable occupations. Before commencing work under this Agreement, Vendor shall provide City with a copy of the information submitted to any applicable apprenticeship program. Within 60 days after concluding the Project, Vendor and each of its subcontractors shall submit to City a verified statement of the journeyman and apprentice hours performed under this Agreement.
7. Vendor may not be debarred or suspended throughout the Agreement Term pursuant to Labor Code Section 1777.1 or 1777.7. If he, she or it becomes debarred or suspended in the Agreement Term, Vendor must immediately notify City.
8. Vendor is not qualified to bid on, be listed in a Bid proposal, or engage in the performance of any contract for public work, as defined in Labor Code Sections 1720 through 1861, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Vendor shall continue without interruption to stay registered and qualified to perform public work pursuant to Section 1725.5 for the duration of the term of this Agreement. This provision does not apply to construction, alteration, demolition, installation or repair work of \$25,000 or less or to maintenance work of \$15,000 or less.
9. Vendor acknowledges that 8 hours labor constitutes a legal day’s work. Vendor shall comply with and be bound by Labor Code Section 1810.
10. Vendor shall comply with and be bound by Labor Code Section 1813 concerning penalties for workers who work excess hours. Vendor shall, as a penalty to City, forfeit \$25 for each worker employed in the performance of this Agreement by Vendor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the Labor Code. Pursuant to Labor Code Section 1815, work performed by Vendor’s employees in excess of 8 hours per day and 40 hours per week shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 ½ times the basic rate of pay.
11. The Project listed in the Agreement is subject to compliance monitoring and enforcement by the DIR.
12. Vendor shall be responsible for each and every one of its subcontractors’ compliance with Chapter 1, the DIR’s rules and regulations, and Labor Code Sections 1860 and 3700. Vendor shall include in the written contract between it and each subcontractor a copy of, and a requirement that each subcontractor shall comply with, those statutory provisions. Vendor shall be required to take all actions necessary to enforce such contractual provisions and ensure subcontractors’ compliance, including without limitation, conducting a periodic review of the certified payroll records of each subcontractor, and upon becoming aware of the failure of the subcontractor to pay its workers the specified prevailing rate of wages, Vendor shall diligently take corrective action to halt or rectify any failure.
13. To the maximum extent, Vendor shall hold harmless, defend (with counsel approved by the City Attorney) and indemnify City, its legislative bodies, and its officials, officers, employees and agents from any demand or claim for damages, compensation, fines, penalties or other amounts arising out of or incidental to any acts or omissions listed above by any person or entity (including Vendor, its subcontractors, and each of their officials, officers, employees and agents) in connection with any work undertaken or in connection with the Agreement, including without limitation the payment of all attorneys’ fees and other related costs. All duties of Vendor under this Section shall survive Agreement termination.

INSURANCE EXHIBIT

Exhibit INS-A

INSURANCE REQUIREMENTS FOR CONSULTANTS (WITH ERRORS AND OMISSIONS REQUIREMENT)

1. Consultant shall obtain and maintain during the performance of any services under this Agreement the following insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of services hereunder by Consultant, its agents, representatives, employees or subconsultants.

a. Commercial General Liability Insurance, including Contractual Liability, in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for general liability with coverage equivalent to Insurance Services Office Commercial General Liability Coverage (Occurrence Form CG 0001). If a general aggregate limit is used, that limit shall apply separately to the project or shall be twice the occurrence amount;

b. Business automobile liability insurance in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for automobile liability with coverage equivalent to Insurance Services Office automobile liability coverage (Occurrence Form CA0001) covering Code No. 1, "any auto;"

c. Professional liability/errors and omissions insurance appropriate to Consultant's profession to a minimum coverage of \$1,000,000, with neither Consultant nor listed subconsultants having less than \$500,000 individually. The professional liability/errors and omissions insurance must be project specific with at least a one year extended reporting period, or longer upon request.

d. Workers' compensation insurance in compliance with the laws of the State of California, and employer's liability insurance in an amount not less than \$1,000,000 per claimant. Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City.

2. Consultant shall, prior to performance of any services, file with the Risk Manager certificates of insurance with original endorsements effecting coverage required by this Exhibit INS-A. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on the attached forms or on other forms approved by the Risk Manager. All certificates and endorsements are to be received and approved by the Risk Manager before commencement of services. City reserves the right to require complete certified copies of all required insurance policies at any time. The certificates of insurance and endorsements shall be sent via email (or fax if necessary) to the Risk Manager, addressed as follows (do not send hard copies):

City of Oxnard
Insurance Compliance
Reference No. _____
P.O. Box 100085 – OX
Duluth, GA 30096
Via Email: cityofoxnard@ebix.com
Via Fax: 678-259-1007

3. Consultant agrees that all insurance coverages shall be provided by a California admitted insurance carrier with an A.M. Best rating of A:VII or better and shall be endorsed to state that coverage may not be suspended, voided, canceled, or reduced in coverage or limits without 30 days' prior written notice to the Risk Manager. The Risk Manager shall not approve or accept any endorsement if the endorsement contains "best effort" modifiers or if the insurer is relieved from the responsibility to give such notice.

4. Consultant agrees that the commercial general liability and business automobile liability insurance policies shall be endorsed to name City, its City Council, officers, employees, agents and volunteers as additional insureds as respects: liability arising out of activities performed by or on behalf of Consultant; products and completed operations of Consultant; premises owned, occupied or used by Consultant; or automobiles owned, leased, hired or borrowed by Consultant. The coverage shall contain no special limitations on the scope of protection afforded to City, its City Council, officers, employees, agents and volunteers. **The General Liability Special Endorsement Form and Automobile Liability Special Endorsement Form attached to this Exhibit INS-A or substitute forms containing the same information and acceptable to the Risk Manager shall be used to provide the endorsements (ISO form CG 2010 11/85 or if not available, CG 2010 with an edition date prior to 01/04 and CG 2037).**

5. The coverages provided to City shall be primary and not contributing to or in excess of any existing City insurance or self-insurance coverages (**this must be endorsed**). Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its City Council, officers, employees and volunteers. The insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

6. The insurer shall declare any deductibles or self-insured retentions to and be approved by the Risk Manager. At the option of the Risk Manager, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects City, its City Council,

officers, employees and volunteers, or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

7. All insurance standards applicable to Consultant shall also be applicable to Consultant's subconsultants. Consultant agrees to maintain appropriate agreements with subconsultants and to provide proper evidence of coverage upon receipt of a written request from the Risk Manager.

12/21

INSTRUCTION FOR SUBMITTING INSURANCE CERTIFICATES AND ENDORSEMENT FORMS***Certificates of Insurance***

The sample accord form on the following page is provided to facilitate your preparation and submission of certificates of insurance. You may use this or any industry form that shows coverage as broad as that shown on the attached sample. **Please note the certificate holder address must be as shown on the attached sample accord form with the contract number and insurance exhibit identification information completed.** Improperly addressed certificates may delay the contract start-up date because the City's practice is to return unidentifiable insurance certificates to the insured for clarification as to the contract number. **Cancellation provisions must be endorsed to the policy. Modifying the certificate does not change coverage or obligate the carrier to provide notice of cancellation.**

Endorsement Forms

Original endorsements are required for commercial general liability and business automobile liability insurance policies and must be attached to the applicable certificate of insurance. City preference is that the Consultant/insurer use the endorsement forms which are attached. Substitute forms will be accepted, however, as long as they include provisions comparable to the sample accord form.

INS-A.doc

ACORD CERTIFICATE OF INSURANCE		ISSUE DATE (MM/DD/YY)			
PRODUCER		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.			
CODE	SUB-CODE	COMPANIES AFFORDING INSURANCE COVERAGE			
INSURED		COMPANY LETTER A SPECIFY COMPANY NAMES IN THIS SPACE			
		COMPANY LETTER B			
COVERAGES THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☒ OCCUR. ☒ OWNER'S & CONTRACTOR'S PROT.				GENERAL AGGREGATE \$1,000,000 PRODUCTS COMP/OP AGG. \$1,000,000 PERSONAL & ADV. INJURY \$1,000,000 EACH OCCURRENCE \$1,000,000 FIRE DAMAGE (Any one fire) \$ MED. EXPENSE (Any one person) \$
A	AUTOMOBILE LIABILITY ☒ ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY				COMBINED SINGLE LIMIT \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE \$
A	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$ AGGREGATE \$
A	WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS EACH ACCIDENT \$1,000,000 DISEASE-POLICY LIMIT \$1,000,000 DISEASE-EACH EMPLOYEE \$1,000,000
A	OTHER Errors and omissions insurance or malpractice insurance available for the insured's profession				Minimum coverage \$1,000,000 Each consultant/ & listed sub-consultant \$500,000
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS					
CERTIFICATE HOLDER CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007			CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE		

GENERAL LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")		SUBMIT IN DUPLICATE					
		ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)				
PRODUCER Telephone: _____ NAMED INSURED	POLICY INFORMATION: Insurance Company: _____ Policy No.: _____ Policy Period: (from) _____ (to) _____ LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits ☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____ with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which) _____ APPLICABILITY: This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered CITY AGREEMENTS/PERMITS						
TYPE OF INSURANCE	OTHER PROVISIONS						
GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ Claims Made ☐ COMPREHENSIVE GENERAL LIABILITY Retroactive Date _____ ☐ OWNERS & CONTRACTORS PROTECTIVE ☐ Occurrence		LIABILITY LIMITS IN THOUSANDS \$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; padding: 5px;">EACH OCCURRENCE</th> <th style="width: 50%; padding: 5px;">AGGREGATE</th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> </tbody> </table>		EACH OCCURRENCE	AGGREGATE		
EACH OCCURRENCE	AGGREGATE						
COVERAGES ☐ GENERAL ☐ PRODUCTS/COMPLETED OPERATIONS ☐ PERSONAL & ADVERTISING INJURY ☐ FIRE DAMAGE ☐ _____ ☐ _____	CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: (____) _____						
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows:							
1. INSURED. The City, its officers, agents, employees and volunteers are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured. 2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it. 3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included. 4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City. 5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches shall not affect coverage provided to the City, its officers, agents, employees or volunteers. 6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as: a. Insurance Services Office Commercial General Liability Coverage, "occurrence" form CG0001; or b. If excess, affords coverage which is at least as broad as the primary insurance form CG0001. Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.							
ENDORSEMENT HOLDER							
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007		AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ _____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ (original signature required) Telephone: (____) _____ Date Signed: _____					

AUTOMOBILE LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")		SUBMIT IN DUPLICATE	
		ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)
PRODUCER		POLICY INFORMATION: Insurance Company: Policy No.: Policy Period: (from) (to) LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits	
Telephone:		☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____ with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which)	
NAMED INSURED		APPLICABILITY. This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered: CITY AGREEMENTS/PERMITS	
TYPE OF INSURANCE		OTHER PROVISIONS	
☐ COMMERCIAL AUTO POLICY ☐ BUSINESS AUTO POLICY ☐ OTHER			
LIMIT OF LIABILITY		CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: (____) _____	
\$ _____ per accident, for bodily injury and property damage.			
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows:			
1. INSURED. The City, its officers, agents, volunteers and employees are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured.			
2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it.			
3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included.			
4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City.			
5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches shall not affect coverage provided to the City, its officers, agents, employees or volunteers.			
6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as: a. Insurance Services Office Automobile Liability Coverage, "occurrence" form CA0001, code ("any auto"); or b. If excess, affords coverage which is at least as broad as the primary insurance form referenced in the preceding section (1).			
Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached			
ENDORSEMENT HOLDER		AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ _____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ (original signature required) Telephone: (____) _____ Date Signed _____	
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007			

Rev. 12/21

INS-A.doc

**AGREEMENT FOR PROFESSIONAL SERVICES
COVER PAGE**

- (1) Agreement Start Date: January 18, 2022
- (2) Consultant: Hopkins Groundwater Consultants, Inc.
- (3) Services: On-Call Hydrogeological Services
- (4) Schedule of Services: The Services must be completed within three calendar years of the Agreement Start Date listed above
- (5) Agreement Ending Date: January 17, 2025
- (6) Total Agreement Amount: \$250,000
- (7) City's Project Manager: Omar Castro
- (8) Consultant's Project Manager: Curtis Hopkins
- (9) Insurance Coverage: INS-A
- (10) Addresses for Notice:

FOR CONSULTANT:

FOR CITY:

Hopkins Groundwater Consultants, Inc.
Attn: Curtis Hopkins
PO Box 3596
Ventura, CA 93006

City of Oxnard
Attn: Omar Castro, Water Division Manager
305 W Third Street
Oxnard, CA 93030

- (11) Contact Emails:

*CONSULTANT'S PROJECT
MANAGER:*

Chop4@earthlink.net

CITY'S PROJECT MANAGER:

Omar.Castro@oxnard.org

The Agreement for Professional Services is attached hereto and incorporated herein by this reference. The following exhibits are also attached hereto and incorporated herein by this reference into the Agreement:

- ☒ Scope of Services Exhibit
- ☒ Rates and Costs Exhibit
- ☒ Prevailing Wages Exhibit
- ☒ Insurance Exhibit (INS-A)

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is entered into in Ventura County, California, on the date that is written as "(1) Agreement Start Date" on the Cover Page, which is attached hereto and incorporated herein by this reference. This Agreement is entered by and between the City of Oxnard ("City") and the person or entity listed as "(2) Consultant" on the Cover Page, subject to the following terms and conditions:

1. Scope of Services. Consultant shall provide to City the services listed as "(3) Services" on the Cover Page (the "Services"). Consultant shall provide the Services during the term of this Agreement, as set forth below, according to the schedule written as "(4) Schedule of Services" on the Cover Page, and as further explained in the Scope of Services Exhibit, which is attached hereto and incorporated herein by this reference. In the event of any conflict between the terms of this Agreement and any incorporated document(s), the terms of this Agreement shall control.
2. Standard of Performance. Consultant shall undertake and complete the Services to conclusion using the standard of care, skill and diligence normally provided by a professional person in the performance of similar consulting services.
3. Correction of Errors. Consultant shall correct, at its expense, all errors which may be disclosed during review of the Services. Should Consultant fail to make such correction in a reasonably timely manner, such correction shall be made by City, and the cost thereof shall be paid by Consultant.
4. Term. This Agreement shall begin on the date that is written as "(1) Agreement Start Date" on the Cover Page and shall end on the date that is written as "(5) Agreement Ending Date" on the Cover Page. Time is of the essence in this Agreement.
5. Compensation. For the Services performed during the term of this Agreement, City shall pay Consultant an amount not to exceed the amount that is listed as "(6) Total Agreement Amount" on the Cover Page, at the rates listed in Rates and Costs Exhibit, attached hereto and incorporated herein by this reference. The rates in Rates and Costs Exhibit shall be in effect through the end of this Agreement. Except as otherwise expressly provided in this Agreement, City shall not be responsible for expenses incurred by Consultant in performing the Services.
6. Invoices. Consultant shall submit a payment request to City by the end of each calendar month listing the Services provided, costs of those Services, and total amount due for the month. Each invoice must also list the current balance on the Agreement, including that invoice, as well as the months remaining on the term of the Agreement. Invoices may be emailed to: invoices@oxnard.org.
7. Acceptance of Payment. Consultant's acceptance of final payment made pursuant to this Agreement shall constitute a release of City from all claims and liabilities for compensation to Consultant for anything completed, finished or relating to the Services. City's payment shall not constitute nor be deemed a release of the responsibility and liability of Consultant for the accuracy and competency of the information provided and/or the Services performed hereunder, nor shall such payment be deemed to be an assumption of responsibility or liability by City for any defect or error in the Services performed by Consultant and its employees, agents and subcontractors. Consultant shall provide City with a completed Request for Taxpayer Identification Number and Certification, as issued by the Internal Revenue Service. If any sales tax is due for the Services performed by Consultant or materials or products provided to City by Consultant, Consultant shall pay the sales tax. City shall not reimburse Consultant for sales taxes paid by Consultant.
8. Non-Appropriation of Funds. Payments to be made to Consultant by City for the Services performed within the current fiscal year are within the current fiscal budget and within an available, unexhausted and unencumbered appropriation of City. In the event City does not appropriate sufficient funds for payment of the Services beyond the current fiscal year, this Agreement shall cover payment for the Services only up to the conclusion of the last fiscal year in which City appropriated sufficient funds and shall automatically terminate at that fiscal year's conclusion.

9. Coordination of Services. The Services shall be coordinated with the person in the position listed in “(7) City’s Project Manager” on the Cover Page, subject to the direction of the City Manager and Department Director. Consultant hereby designates the person in the position listed in “(8) Consultant’s Project Manager” on the Cover Page as the person responsible for the Services who shall coordinate with City’s Project Manager in making binding decisions in line with this Agreement on behalf of Consultant.

10. Personnel. Consultant represents that it has, or shall secure at its own expense, all personnel required to perform the Services. Any person who performs engineering services pursuant to this Agreement shall be licensed as a Civil Engineer by the State of California and in good standing. Consultant shall make reasonable efforts to maintain the continuity of Consultant’s staff who are assigned to perform the Services. Consultant may associate with or employ associates or subcontractors in the performance of the Services, but at all times shall Vendor be responsible for its associates and subcontractors’ labor, advice or materials provided in furtherance of providing the Services. Should any of Consultant’s employees, assigns or subcontractors not conduct him- or herself appropriately, as determined by the City’s Project Manager, in the process of providing the Services or any portion thereof, the City’s Project Manager may notify the Consultant’s Project Manager, who shall immediately handle the problem, as determined appropriate by him or her, such that the problem does not persist.

11. Additional Work. City may request additional specified work under this Agreement. The City’s Project Manager must authorize all such work in writing before commencement. Consultant shall perform such work, and City shall pay for such additional work, in accordance with Rates and Costs Exhibit. Should the work not fall under any such listed rate or cost, Consultant shall submit a quote for all additional work, which the City’s Project Manager must approve in writing by before any such work may commence. The City shall compensate Consultant for any work that does not fall under a rate or cost listed in the Rates and Costs Exhibit, and for which Consultant did not obtain the City’s Project Manager’s written approval before work commenced, as determined by the City’s Project Manager in his or her sole discretion.

12. Audit. City shall have the option of inspecting, auditing and/or reproducing all records and other written materials used by Consultant in preparing its billings to City as a condition precedent to any payment to Consultant. Consultant will promptly furnish all documents requested by City. Additionally, if this Agreement is in excess of \$10,000, the State Auditor may examine and audit Consultant for a period of 3 years after final payment under the Agreement. Regardless of whether a State audit is permitted, Consultant shall maintain and preserve all such records for a period of at least 3 years after final payment under the Agreement. Consultant shall include a copy of this Section 12 in all contracts with its subcontractors, and Consultant shall be responsible for immediately obtaining those records or other written material from its subcontractors upon a request by the State Auditor and/or City.

13. Termination. City may terminate this Agreement at any time, with or without cause and without penalty, upon 15 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice. Consultant may terminate this Agreement at any time, with or without cause and without penalty, upon 30 days prior written notice. Such termination shall be effective on the date specified in the notice, or if no date is specified, then 10 calendar days from the date of delivery or mailing of such notice and only if all assignments accepted by Consultant have been completed before the date of termination. In the event of termination of this Agreement by either party due to no fault or failure of performance by Consultant, City shall pay Consultant compensation for all Services satisfactorily completed in accordance with all of the terms and provisions of this Agreement, as determined by the City, before the effective date of termination; provided, in no event shall the Consultant receive an amount exceeding that which would have been paid to Consultant for the full performance of the Services.

14. Hold Harmless, Defense and Indemnity.

If Consultant provides any architectural, landscape architectural, engineering or land surveying (“design professional”) services, to the maximum extent permitted by law, Consultant shall hold harmless, defend, and indemnify City, its legislative and advisory bodies, and the City’s officials, directors, officers, employees, and agents (collectively, “Indemnitees”) from and against any and all claims, demands, causes of action, damages,

injuries, liabilities, losses, penalties, fines, judgments, costs or expenses, including reimbursement of attorneys' fees, court costs and costs of alternative dispute resolution, including but not limited to those relating to death or injury to any person and injury to any property (collectively, "Claims"), to the extent that the Claims arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant or of any of its officers, employees, subcontractors or agents in the performance of the Agreement or in the failure to comply with any of the obligations contained in this Agreement. Consultant's obligation to defend is a separate and distinct obligation from Consultant's duty to indemnify and applies through final judgment, including exhaustion of any appeals. Consultant shall be obligated to defend Indemnitees in all legal, equitable, administrative, or special proceedings, with counsel approved by the City Attorney, to the extent required herein immediately upon tender to Consultant of the Claim in any form or at any stage of an action or proceeding. The defense obligation includes the obligation to provide independent defense counsel if Consultant asserts that the liability is caused in whole or in part by the negligence or willful misconduct of any of the Indemnitees.

If Consultant provides no design professional services, to the maximum extent permitted by law, Consultant shall hold harmless, defend and indemnify the Indemnitees from and against any and all Claims, which arise out of, pertain to, or relate to the performance of this Agreement, or the failure to comply with any of the obligations contained in this Agreement, by Consultant or of any of its officials, directors, officers, employees, subcontractors, or agents. Consultant's obligation to defend is a separate and distinct obligation from Consultant's duty to indemnify and applies through final judgment, including exhaustion of any appeals. Consultant shall be obligated to defend Indemnitees in all legal, equitable, administrative, or special proceedings, with counsel approved by the City Attorney, immediately upon tender to Consultant of the Claim in any form or at any stage of an action or proceeding. The defense obligation includes the obligation to provide independent defense counsel if Consultant asserts that the liability is caused in whole or in part by the negligence or willful misconduct of any of the Indemnitees.

a. The review, acceptance or approval of Consultant's work or work product by any of the Indemnitees shall not affect, relieve or reduce Consultant's indemnification or defense obligations. This Section 14 shall survive completion of the Services or termination of this Agreement. The provisions of this Section 14 shall not be restricted by and does not affect the provisions of this Agreement relating to insurance.

15. Insurance. Consultant shall obtain and maintain during the performance of any services under this Agreement the insurance coverages listed within the insurance document stated in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit, which is attached hereto and incorporated herein by this reference, unless the City's Risk Manager waives, in writing, the requirement that Consultant obtain and maintain such insurance coverages. Consultant shall, before performance of any Services, file with the City's Risk Manager evidence of insurance coverage as specified in "(9) Insurance Coverage" on the Cover Page and in the Insurance Exhibit. Maintenance of insurance coverages by Consultant is a material element of this Agreement. Consultant's failure to maintain or renew insurance coverages or to provide renewal evidence, and any lapse in insurance coverage, may be considered a material breach of this Agreement.

16. Documents and Materials.

a. All final computations, exhibits, files, plans, correspondence, reports, drawings, designs, data, photographs, specifications, information, images, video files, media, or other deliverables prepared, created, drawn, calculated, photographed or developed by Consultant pursuant to this Agreement ("Documents and Materials") shall be the City's property without restriction or limitation upon its use, duplication or dissemination. All Documents and Materials shall be considered "works made for hire," and all Documents and Materials and any and all intellectual property rights arising from their creation, including, but not limited to, all copyrights and other proprietary rights, shall be and remain the property of the City without restriction or limitation upon their use, duplication or dissemination by the City. Consultant shall not obtain or attempt to obtain copyright protection as to any Documents and Materials. Consultant hereby assigns to the City all ownership and any and all intellectual property rights to the Documents and Materials that are not otherwise vested in the City pursuant to this Section 16.

b. Consultant shall deliver all Documents and Materials to City's Project Manager upon completion of the Services or termination of this Agreement without additional cost or expense to the City. Additionally,

anytime at City's request, City shall be entitled to possession of, and Consultant shall furnish to City's Project Manager within 10 calendar days, any or all of the Documents and Materials without additional cost or expense to the City. In both situations, if Consultant prepares Documents and Materials on a computer, Consultant shall provide City with said Documents and Materials both in a printed format and in an electronic format that is acceptable to the City. Consultant may retain copies of these Documents and Materials but must request permission from the City before use, duplication or dissemination of these Documents and Materials for any purpose other than for the Services provided to the City pursuant to this Agreement.

c. Any substantive modification of the Documents and Materials by City staff or any use of the completed Documents and Materials for other City projects, or any use of incomplete Documents and Materials, without the written consent of Consultant, shall be at City's sole risk and without liability or legal exposure to Consultant.

d. Consultant warrants and represents that it has secured all necessary licenses, consents or approvals to use any instrumentality, thing or component as to which any intellectual property right exists, including computer software, used in the rendering of the Services and the production of all Documents and Materials, and that the City has full legal title to and the right to use, duplicate or disseminate the Documents and Materials. Consultant shall defend, indemnify and hold Indemnitees harmless from any loss, claim or liability in any way related to a claim that City's use of any of the Documents and Materials is violating federal, state or local laws, any contractual provisions, or any laws relating to trade names, licenses, franchises, copyrights, patents or other means of protecting intellectual property rights and/or interests in products or inventions. Consultant shall bear all costs arising from the use of patented, copyrighted, trade secret or trademarked documents, materials, equipment, devices or processes in connection with its provision of the services and Documents and Materials. In the event the use of any of the Documents and Materials by the City is held to constitute an infringement and the use of any of the same is enjoined, Consultant, at its own expense, shall: secure for City the right to continue using the Documents and Materials by suspension of any injunction, or by procuring a license or licenses for City; or modify the Documents and Materials so that they become non-infringing while remaining in compliance with the requirements of this Agreement.

e. This Section 16 shall survive the termination of this Agreement.

17. Confidentiality of Information.

a. For the purposes of this Agreement, "Confidential Information" means all information, in whatever form transmitted, relating to the past, present or future business affairs of the City, including without limitation, (i) technical information, including patent, copyright, trade secret, and other proprietary information, techniques, sketches, drawings, models, inventions, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulas; or (ii) non-technical information, including without limitation finances, financial and accounting data and information, suppliers, customers, customer lists, purchasing data and any other information belonging to the City or to a third party whose information is in the City's possession or control under obligations of confidentiality, and which is disclosed to Consultant or is developed by Consultant in whole or in part at the City's expense.

b. All Documents and Materials shall be considered Confidential Information and shall not be reproduced, transmitted, disclosed or used by the Consultant without the written consent of the City, except as may be necessary for Consultant to fulfill its obligations to the City.

c. Notwithstanding the above, these limitations shall not apply to information that (i) is already known to Consultant at the time of that information's disclosure or becomes publicly known through no wrongful act or omission of Consultant, (ii) is communicated to a third party with the express written consent of City and is not subject to restrictions on further use or disclosure, (iii) is independently developed by Consultant and has no relation to this Agreement, or (iv) is required by law, court order, court-issued subpoena or other legal process to be disclosed; provided, however, that before making such disclosure, Consultant shall immediately provide City with written notice and a reasonable opportunity for City to object to the disclosure or to take action to maintain the confidentiality of the information, unless such prior disclosure is legally impermissible.

d. Consultant shall use reasonable care to protect the Confidential Information. In the event of a breach or threatened breach of this Agreement, City shall be entitled to obtain an injunction prohibiting any such breach, the costs of which shall be paid by Consultant. Any relief granted shall be in addition to and not in lieu of any other legal or equitable relief, including money damages. The parties acknowledge that Confidential Information is valuable and unique and that disclosure of the Confidential Information in breach of this Agreement may result in irreparable injury to the City.

e. Other than an obligation upon the City to deal in good faith, the City makes no warranties and shall bear no liability or responsibility for errors or omissions in any Confidential Information disclosed under this Agreement or for any business decisions made by Consultant in reliance on any Confidential Information disclosed under this Agreement.

f. This Section 17 shall survive the termination of this Agreement.

18. Independent Contractor. Consultant is and shall at all times remain, as to City, a wholly independent contractor. Neither City nor any of its employees or agents shall have control over the conduct of Consultant or any of its employees, except as stated in this Agreement. Consultant has and shall retain the right to exercise full control over the employment, direction, means of performance, location, compensation and discharge of all persons assisting Consultant, and it is free to dispose of all portions of its time which it is not obligated to devote to City in such a manner and to such persons, firms, or corporations as Consultant wishes except as expressly provided in this Agreement. This Agreement shall not be interpreted to prevent or preclude Consultant from rendering any services for Consultant's own account or to any other person or entity as Consultant in its sole discretion shall determine; provided, however, that performing such services shall not materially interfere with the Services Consultant shall perform for the City. Except as City's Project Manager specifies in writing, Consultant and its employees and agents have no authority, express or implied, to act on behalf of City in any capacity, to incur any debt, obligation or liability on behalf of City, bind City in any manner, or otherwise act on behalf of City as an agent. Consultant and its employees are not employees of City. Consultant and its employees are not entitled to receive from City any of the benefits or rights afforded employees of City, including but not limited to reserve leave, sick leave, vacation leave, holiday leave, compensatory leave, Public Employees Retirement System benefits, and health, life, dental, long-term disability and workers' compensation insurance benefits. Consultant shall not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of City. Consultant agrees to pay all required taxes on amounts paid to Consultant under this Agreement, and to indemnify and hold City harmless from any and all taxes, assessments, penalties, and interest asserted against City by reason of the independent contractor relationship created by this Agreement. Consultant shall be solely responsible for, and shall save City harmless from, all matters relating to the payment of Consultant's subcontractors, material suppliers, directors, officers, employees, agents and representatives, including compliance with social security requirements, federal and State income tax withholding, and all other regulations governing employer-employee relations, as applicable. City shall have the right to offset against the amount of any compensation due to Consultant under this Agreement any amount due to City from Consultant as a result of its failure to promptly pay to City any reimbursement or indemnification arising under this Section 18.

19. Nondiscriminatory Employment. Consultant shall not unlawfully discriminate against any individual based on race, color, religion or religious creed, national origin, ancestry, ethnic group identification, primary language, physical disability, mental disability, medical condition, genetic information, marital status, gender, gender identity, gender expression, sex, sexual orientation, age, immigration status, citizenship or military and veteran status. Consultant understands and agrees that it is bound by and will comply with all legal nondiscrimination mandates. For every subcontractor who will perform Services, Consultant shall be responsible for such subcontractor's compliance with this Section 19.

20. Consultant's Representations. Consultant represents, covenants and guarantees that: a) Consultant is licensed, qualified, and capable of furnishing the labor, materials, and expertise necessary to perform the Services in accordance with the terms and conditions set forth in this Agreement; b) there are no obligations, commitments, or impediments of any kind that will limit or prevent Consultant's full performance under this Agreement; c) to the extent required by the standard of practice, Consultant has investigated and considered the scope of Services

performed, has carefully considered how the Services should be performed, and understands the facilities, difficulties and restrictions attending performance of the Services under this Agreement.

21. Compliance with Laws. In performing the Services under this Agreement, Consultant shall comply with all applicable laws, ordinances and regulations. Before providing any Services under this Agreement, Consultant shall, at its own expense, obtain and maintain all required certificates, licenses and permits, including a City business tax certificate.

22. Conflict of Interest. If, in performing the Services set forth in this Agreement, Consultant makes, or participates in, a “governmental decision” as described in Title 2, Section 18701(a)(2) of the California Code of Regulations, or performs the same or substantially all the same duties for City that would otherwise be performed by a City employee holding a position specified in City's conflict of interest code, Consultant shall be subject to City's conflict of interest code, the requirements of which include the filing of one or more statements of economic interests disclosing the relevant financial interests of Consultant's personnel providing the Services set forth in this Agreement. Furthermore, Consultant shall not to accept any employment or representation during the term of this Agreement or within 12 months after completion of the Services which is or may likely make Consultant “financially interested,” as provided in California Government Code Sections 1090 and 87100, in any decisions made by City on any matter in connection with which Consultant has been retained pursuant to this Agreement.

23. Fictitious Name. If Consultant has a fictitious name, Consultant shall submit to City a new Fictitious Business Name Statement approved by any California county before Consultant's prior Fictitious Business Name Statement expires if such expiration may occur during the term of this Agreement, including any term amendment.

24. Non-Assignability. This Agreement contemplates personal performance by Consultant and is based upon a determination of Consultant's personnel's unique competence, experience and specialized personal knowledge. Consultant shall not assign or transfer any interest in this Agreement or any part thereof, whether by assignment or novation, without City's prior written consent, which may be withheld for any reason or for no reason at all. Any purported assignment without written consent shall be null, void, and of no effect, and Consultant shall hold harmless, defend and indemnify Indemnitees from and against all Claims arising from or relating to any unauthorized assignment.

25. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of Consultant.

26. Applicable Law; Venue. The validity, interpretation, and performance of this Agreement shall be controlled by and construed under the laws of the State of California, excluding California's choice of law rules. Venue for any such action relating to the Agreement shall be in the Ventura County Superior Court.

27. Titles. The titles used in this Agreement are for convenience only and shall in no way define, limit or describe the scope or intent of this Agreement or any part of it.

28. Force Majeure. Neither City nor Consultant shall be responsible for delays or failures in performance resulting from acts beyond the control of either party. Such acts shall include but are not be limited to acts of God, riots, acts of war, epidemics, fire, earthquakes, or other disasters.

29. Authority. Any person executing this Agreement on behalf of Consultant warrants and represents that s/he has the authority to execute this Agreement on behalf of Consultant and to bind it to the performance of these obligations.

30. Binding Agreement. The parties do not intend this Agreement to be binding upon them and shall not be held liable to its terms until it is fully executed by all required signers.

31. Integration; Amendment. This Agreement, including any other documents incorporated herein by specific reference, constitutes the entire and integrated agreement of City and Consultant regarding the subject matter described herein. This Agreement supersedes all prior oral or written communications, negotiations,

representations, agreements and promises. This Agreement may not be modified or amended, nor any provision or breach waived, except in a writing, signed by both parties, that expressly refers to this Agreement.

32. Construction. In the event of any asserted ambiguity in or dispute regarding the interpretation of any matter herein, the interpretation of this Agreement shall not be resolved by any rules of construction providing for interpretation against the party who causes the uncertainty to exist or who drafted the Agreement in whole or in part.

33. No Waiver. Waiver by either party of any one or more of the conditions of performance under this Agreement shall not be a waiver of any other condition of performance under this Agreement. In no event shall the making by City of any payment to Consultant constitute or be construed as a waiver by City of any breach of covenant, or any default that may then exist on the part of Consultant, and the making of any such payment by City shall in no way impair or prejudice any right or remedy available to City with regard to such breach or default.

34. Attorneys' Fees. The prevailing party shall be entitled to recover reasonable costs, attorneys' fees (including the reasonable value of the services rendered by the City Attorney's Office) and expenses, including investigation fees and expert witness fees, in addition to any other relief to which that party may be entitled, in any legal action or other proceeding, including an action for declaratory relief, for the enforcement of this Agreement or because of an alleged dispute, breach, default or misrepresentation in connection with this Agreement.

35. Notice. Except as otherwise required by law, a notice or communication authorized or required by this Agreement shall be in writing and shall be deemed received—on (a) the day of delivery if delivered by hand or overnight courier service during City's regular business hours or (b) the third business day following deposit in the United States mail, postage prepaid—to the addresses listed as "(10) Addresses for Notice" on the Cover Page or at such other address as one party may notify the other in writing.

36. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original and all of which, when taken together, shall be deemed to be one and the same agreement. A signed copy of this Agreement transmitted by email to Project Managers' emails listed in "(11) Contact Emails" on the Cover Page or by other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

37. Severability. If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

[Signatures on next page]

IN WITNESS WHEREOF, the parties hereto have executed the Agreement on the date that is written as “(1) Agreement Start Date” on the Cover Page.

CITY OF OXNARD

HOPKINS GROUNDWATER CONSULTANTS, INC.

☐ John C. Zaragoza, Mayor¹ Date
☐ Alexander Nguyen, City Manager
☐ Daniel Willhite, Purchasing Manager
☐ , Buyer

Curtis Hopkins, President & Secretary² Date

Cheryl Hopkins, Vice President Date

ATTEST:

Rose Chaparro, City Date
Clerk (only if Mayor signs)

APPROVED AS TO FORM:

Stephen M. Fischer, City Date
Attorney (always required)

¹ The City Council must authorize and the Mayor must sign any agreement over \$200,000 annually. The City Manager may authorize and sign any agreement over \$100,000 but up to \$200,000 annually. The Purchasing Manager may authorize and sign any agreement up to \$100,000 annually. A Buyer may authorize and sign any agreement up to \$25,000 annually.

² The City requires the following for any contract:

- For a corporation, the signatures of the Board President, CEO or Vice President and of the Board Secretary, Assistant Secretary, CFO or Assistant Treasurer;
- For an LLC, the signatures of at least two managers of the LLC; or
- For a partnership, the signature of a partner. If the partnership is a limited partnership, the signer must be a general partner.

If the company has a different structure, or if the above-listed persons are not the appropriate signers, please submit to the City Attorney legally-binding documentation stating who can sign and bind your company.

SCOPE OF SERVICES EXHIBIT

The scope of services for hydrogeological consulting services includes, but is not limited to, providing the necessary hydrogeological design, technical review, and hydrogeological consulting support services consistent with ongoing groundwater resource planning, development projects, and capital improvement programs. Consultation services shall include, but not be limited to, the following:

- 1) Preliminary Investigations - Review and assess existing data, reports, record documents relative to the project and conduct all necessary investigations and analyses required to identify and mitigate operational issues or impact design/construction including:
 - a) Regulatory/code and permitting requirements.
 - b) CEQA compliance.
 - c) Geotechnical investigation.
 - d) Review City well performance and groundwater water quality data.
- 2) Operations – Operational and technical support, evaluations, studies, and reporting, including, but not limited to:
 - a) Groundwater production strategy, particularly in response to Fox Canyon Groundwater Management Agency (FCGMA) changes in allocation.
 - b) Groundwater pumping and water quality.
 - c) Well production capabilities and limitations.
 - d) Groundwater recharge and indirection potable reuse.
 - e) Assessment of undocumented wells.
 - f) Urban Water Management Plan (prepared by others) and other planning documents.
 - g) FCGMA issues such as well boundaries, allocation, well abandonment procedures, conservation credits and conduct well maintenance and testing.
 - h) Aid in reviewing various City Water System Master Plan, Recycled Water Master Plan, Water Supply Assessments, Water Supply Verifications, and in commenting on groundwater related issues.
 - i) ASR Pilot Study consultation.
 - j) Well start-up and commissioning.
 - k) Develop standard operating procedures.
 - l) Develop maintenance protocol and procedures.
- 3) Permitting - Identify, coordinate, prepare, submit, and manage all required permits including, but not limited to:
 - a) California State Water Resources Control Board Division of Drinking Water
 - b) Regional Water Quality Control Board
 - c) Fox Canyon Groundwater Management Agency
 - d) Ventura County Watershed Protection District
 - e) County of Ventura
 - f) Calleguas Municipal Water District (CMWD)
 - g) United Water Conservation District (UWCD)
 - h) Environmental Protection Agency (EPA)
- 4) Design Services
 - a) Planning and conceptual design
 - b) Preliminary design and basis of design reports
 - c) Design drawings
 - d) Specifications
 - e) Bid item lists and cost estimates
- 5) Bid phase services

RATES AND COSTS EXHIBIT

Project Fee Schedule

Labor Category

Expert Witness	\$ 590
Principal Professional	\$ 295
Associate Professional	\$ 240
Senior Professional	\$ 220
Project Professional	\$ 200
Staff Professional	\$ 165
Technician	\$ 140
(Prevailing Wage Projects Requiring Technician Labor 1.5 times normal rate)	
Draftsman/Illustrator	\$ 130
Word Processor	\$ 115

Other Expenses

Travel Expenses	Cost plus 15 percent
Reproduction Expenses	Cost plus 15 percent
Outside services and materials	Cost plus 15 percent
Vehicle Mileage	IRS Rate

Equipment Rental

	<u>Daily Rate</u>	<u>Weekly Rate</u>	<u>Monthly Rate</u>
MiniTROLL (data logger < 100 FT)	\$100	\$310	\$ 925
HERMIT 3000 (data logger)	\$125	\$400	\$1,200
Pressure Transducer (< 400 FT)	\$ 65	\$190	\$ 575
Pressure Transducer (< 1,000 FT)	\$ 95	\$300	\$ 900
Water Level Sounder or nitrogen tank	\$ 40	\$140	\$ 420
Stream Flow Meter	\$ 40	\$140	\$ 420
Grundfos RediFlo 2 Sample Pump	\$150	\$450	\$1,350
Trash Pump (3-inch dia. discharge)	\$ 65	\$260	\$ 780
HyDAC/Hanna (Ec, pH, temp. meter)	\$ 45	\$140	\$ 420
Horiba U-10 Water Quality Probe	\$ 75	\$260	\$ 780
YSI 556MPS Water Quality Probe	\$ 65	\$220	\$ 660
Rossum Sand Tester	\$ 30	\$ 75	\$ 225
Mud Parameter Test Kit	\$ 35	\$140	\$ 420
Drilling Fluid/Mud Press	\$ 45	\$180	\$ 540
MFI/SDI Test Kit	\$ 25	\$ 75	\$ 225
Truck Rental (3/4 ton)	\$100	\$600	\$2,400
Field Computer	\$ 50	-----	-----
Digital Camera	\$ 15	-----	-----
GA-52Cx Magnetometer	\$ 50	\$140	-----
Field Handheld GPS Unit	\$ 25	-----	-----
Water Quality Bailer (2")	\$ 45	-----	-----
Tedlar Gas Sample Bags	\$ 40	-----	-----
Nitrate or Chloride Field Test Kits	\$ 40	-----	-----
Electric Generator (220/110 W) (8 hr/day)	\$ 85	\$200	\$ 600
Electric Power Inverter (8 hr/day)	\$ 25	\$ 75	\$ 180
Downhole Video Camera (hand operated)	\$400	-----	-----
Metal Sample Sleeves (6-inch) per Sleeve	\$ 15	-----	-----

Billing rates effective through the first year of the agreement. Any price increases, after the first year of the agreement, must be made to the City in writing to the City 60 days prior to effective date. Any price increases must be mutually agreed upon in writing between the Consultant and the City.

PREVAILING WAGES EXHIBIT

1. Vendor acknowledges that the Project defined in the Agreement between Vendor and City is a “public work” as defined in Division 2, Part 7, Chapter 1 of the California Labor Code (“Chapter 1”), and that this Agreement is subject to Chapter 1 and the rules and regulations established by the Director of Industrial Relations (“DIR”) implementing such statutes. Vendor shall perform the Project as a public work. Vendor shall comply with and be bound by all the terms, rules and regulations described in Chapter 1 and the DIR’s rules and regulations as though set forth in full herein.
2. Pursuant to Labor Code Section 1773.2, copies of the prevailing rate of per diem wages for each craft, classification, or type of worker needed to perform the Agreement are on file at City Hall and will be made available to any interested party on request. Vendor acknowledges receipt of a copy of the DIR determination of such prevailing rate of per diem wages, and Vendor shall post such rates at each job site covered by this Agreement.
3. Vendor is required to post job site notices, as prescribed by regulation. See Labor Code Section 1771.4(a)(2).
4. Vendor shall comply with and be bound by the provisions of Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages. Vendor shall, as a penalty to City, forfeit not more than \$200 for each calendar day or portion thereof for each worker paid less than the DIR’s determined prevailing rates for the work or craft in which the worker is employed pursuant to this Agreement by Vendor or any subcontractor. The Labor Commissioner shall determine the amount of the penalty as described in Section 1775.
5. Vendor shall comply with Labor Code Section 1776, which requires Vendor and each subcontractor to (1) keep accurate payroll records and verify such records in writing under penalty of perjury, (2) certify and make such payroll records available for inspection, and (3) inform City of the location of the records.
6. Vendor shall comply with Labor Code Sections 1777.5, 1777.6 and 1777.7 and California Administrative Code Title 8, Section 200 *et seq.* concerning the employment of apprentices on public works projects for all apprenticeable occupations. Before commencing work under this Agreement, Vendor shall provide City with a copy of the information submitted to any applicable apprenticeship program. Within 60 days after concluding the Project, Vendor and each of its subcontractors shall submit to City a verified statement of the journeyman and apprentice hours performed under this Agreement.
7. Vendor may not be debarred or suspended throughout the Agreement Term pursuant to Labor Code Section 1777.1 or 1777.7. If he, she or it becomes debarred or suspended in the Agreement Term, Vendor must immediately notify City.
8. Vendor is not qualified to bid on, be listed in a Bid proposal, or engage in the performance of any contract for public work, as defined in Labor Code Sections 1720 through 1861, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Vendor shall continue without interruption to stay registered and qualified to perform public work pursuant to Section 1725.5 for the duration of the term of this Agreement. This provision does not apply to construction, alteration, demolition, installation or repair work of \$25,000 or less or to maintenance work of \$15,000 or less.
9. Vendor acknowledges that 8 hours labor constitutes a legal day’s work. Vendor shall comply with and be bound by Labor Code Section 1810.
10. Vendor shall comply with and be bound by Labor Code Section 1813 concerning penalties for workers who work excess hours. Vendor shall, as a penalty to City, forfeit \$25 for each worker employed in the performance of this Agreement by Vendor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the Labor Code. Pursuant to Labor Code Section 1815, work performed by Vendor’s employees in excess of 8 hours per day and 40 hours per week shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 ½ times the basic rate of pay.
11. The Project listed in the Agreement is subject to compliance monitoring and enforcement by the DIR.
12. Vendor shall be responsible for each and every one of its subcontractors’ compliance with Chapter 1, the DIR’s rules and regulations, and Labor Code Sections 1860 and 3700. Vendor shall include in the written contract between it and each subcontractor a copy of, and a requirement that each subcontractor shall comply with, those statutory provisions. Vendor shall be required to take all actions necessary to enforce such contractual provisions and ensure subcontractors’ compliance, including without limitation, conducting a periodic review of the certified payroll records of each subcontractor, and upon becoming aware of the failure of the subcontractor to pay its workers the specified prevailing rate of wages, Vendor shall diligently take corrective action to halt or rectify any failure.
13. To the maximum extent, Vendor shall hold harmless, defend (with counsel approved by the City Attorney) and indemnify City, its legislative bodies, and its officials, officers, employees and agents from any demand or claim for damages, compensation, fines, penalties or other amounts arising out of or incidental to any acts or omissions listed above by any person or entity (including Vendor, its subcontractors, and each of their officials, officers, employees and agents) in connection with any work undertaken or in connection with the Agreement, including without limitation the payment of all attorneys’ fees and other related costs. All duties of Vendor under this Section shall survive Agreement termination.

INSURANCE EXHIBIT

Exhibit INS-A

INSURANCE REQUIREMENTS FOR CONSULTANTS (WITH ERRORS AND OMISSIONS REQUIREMENT)

1. Consultant shall obtain and maintain during the performance of any services under this Agreement the following insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of services hereunder by Consultant, its agents, representatives, employees or subconsultants.
 - a. Commercial General Liability Insurance, including Contractual Liability, in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for general liability with coverage equivalent to Insurance Services Office Commercial General Liability Coverage (Occurrence Form CG 0001). If a general aggregate limit is used, that limit shall apply separately to the project or shall be twice the occurrence amount;
 - b. Business automobile liability insurance in an amount not less than \$1,000,000 combined single limit for bodily injury and property damage for each claimant for automobile liability with coverage equivalent to Insurance Services Office automobile liability coverage (Occurrence Form CA0001) covering Code No. 1, "any auto;"
 - c. Professional liability/errors and omissions insurance appropriate to Consultant's profession to a minimum coverage of \$1,000,000, with neither Consultant nor listed subconsultants having less than \$500,000 individually. The professional liability/errors and omissions insurance must be project specific with at least a one year extended reporting period, or longer upon request.
 - d. Workers' compensation insurance in compliance with the laws of the State of California, and employer's liability insurance in an amount not less than \$1,000,000 per claimant. Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City.
2. Consultant shall, prior to performance of any services, file with the Risk Manager certificates of insurance with original endorsements effecting coverage required by this Exhibit INS-A. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on the attached forms or on other forms approved by the Risk Manager. All certificates and endorsements are to be received and approved by the Risk Manager before commencement of services. City reserves the right to require complete certified copies of all required insurance policies at any time. The certificates of insurance and endorsements shall be sent via email (or fax if necessary) to the Risk Manager, addressed as follows (do not send hard copies):

City of Oxnard
Insurance Compliance
Reference No. _____
P.O. Box 100085 – OX
Duluth, GA 30096
Via Email: cityofoxnard@ebix.com
Via Fax: 678-259-1007
3. Consultant agrees that all insurance coverages shall be provided by a California admitted insurance carrier with an A.M. Best rating of A:VII or better and shall be endorsed to state that coverage may not be suspended, voided, canceled, or reduced in coverage or limits without 30 days' prior written notice to the Risk Manager. The Risk Manager shall not approve or accept any endorsement if the endorsement contains "best effort" modifiers or if the insurer is relieved from the responsibility to give such notice.
4. Consultant agrees that the commercial general liability and business automobile liability insurance policies shall be endorsed to name City, its City Council, officers, employees, agents and volunteers as additional insureds as respects: liability arising out of activities performed by or on behalf of Consultant; products and completed operations of Consultant; premises owned, occupied or used by Consultant; or automobiles owned, leased, hired or borrowed by Consultant. The coverage shall contain no special limitations on the scope of protection afforded to City, its City Council, officers, employees, agents and volunteers. **The General Liability Special Endorsement Form and Automobile Liability Special Endorsement Form attached to this Exhibit INS-A or substitute forms containing the same information and acceptable to the Risk Manager shall be used to provide the endorsements (ISO form CG 2010 11/85 or if not available, CG 2010 with an edition date prior to 01/04 and CG 2037).**
5. The coverages provided to City shall be primary and not contributing to or in excess of any existing City insurance or self-insurance coverages (**this must be endorsed**). Additionally, the workers' compensation policy shall include a waiver of all rights of subrogation which the insurer may have against the City. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its City Council, officers, employees and volunteers. The insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
6. The insurer shall declare any deductibles or self-insured retentions to and be approved by the Risk Manager. At the option of the Risk Manager, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects City, its City Council,

officers, employees and volunteers, or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

7. All insurance standards applicable to Consultant shall also be applicable to Consultant's subconsultants. Consultant agrees to maintain appropriate agreements with subconsultants and to provide proper evidence of coverage upon receipt of a written request from the Risk Manager.

12/21

INSTRUCTION FOR SUBMITTING INSURANCE CERTIFICATES AND ENDORSEMENT FORMS***Certificates of Insurance***

The sample accord form on the following page is provided to facilitate your preparation and submission of certificates of insurance. You may use this or any industry form that shows coverage as broad as that shown on the attached sample. **Please note the certificate holder address must be as shown on the attached sample accord form with the contract number and insurance exhibit identification information completed.** Improperly addressed certificates may delay the contract start-up date because the City's practice is to return unidentifiable insurance certificates to the insured for clarification as to the contract number. **Cancellation provisions must be endorsed to the policy. Modifying the certificate does not change coverage or obligate the carrier to provide notice of cancellation.**

Endorsement Forms

Original endorsements are required for commercial general liability and business automobile liability insurance policies and must be attached to the applicable certificate of insurance. City preference is that the Consultant/insurer use the endorsement forms which are attached. Substitute forms will be accepted, however, as long as they include provisions comparable to the sample accord form.

INS-A.doc

ACORD CERTIFICATE OF INSURANCE		ISSUE DATE (MM/DD/YY)			
PRODUCER		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.			
CODE SUB-CODE		COMPANIES AFFORDING INSURANCE COVERAGE			
INSURED		COMPANY LETTER A SPECIFY COMPANY NAMES IN THIS SPACE			
		COMPANY LETTER B			
COVERAGES THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☒ OCCUR. ☒ OWNER'S & CONTRACTOR'S PROT.				GENERAL AGGREGATE \$1,000,000 PRODUCTS COMP/OP AGG. \$1,000,000 PERSONAL & ADV. INJURY \$1,000,000 EACH OCCURRENCE \$1,000,000 FIRE DAMAGE (Any one fire) \$ MED. EXPENSE (Any one person) \$
A	AUTOMOBILE LIABILITY ☒ ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY				COMBINED SINGLE \$1,000,000 LIMIT BODILY INJURY \$ (Per person) BODILY INJURY \$ (Per accident) PROPERTY DAMAGE \$
A	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$ AGGREGATE \$
A	WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS EACH ACCIDENT \$1,000,000 DISEASE-POLICY LIMIT \$1,000,000 DISEASE-EACH EMPLOYEE \$1,000,000
A	OTHER Errors and omissions insurance or malpractice insurance available for the insured's profession				Minimum coverage \$1,000,000 Each consultant/ & listed sub-consultant \$500,000
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS					
CERTIFICATE HOLDER CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007			CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE		

GENERAL LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")		SUBMIT IN DUPLICATE			
		ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)		
PRODUCER Telephone: _____ NAMED INSURED	POLICY INFORMATION: Insurance Company: _____ Policy No.: _____ Policy Period: (from) _____ (to) _____ LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits ☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____ with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which) _____ APPLICABILITY: This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered CITY AGREEMENTS/PERMITS _____				
TYPE OF INSURANCE		OTHER PROVISIONS			
GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ COMPREHENSIVE GENERAL LIABILITY ☐ OWNERS & CONTRACTORS PROTECTIVE		☐ Claims Made Retroactive Date _____ ☐ Occurrence			
COVERAGES	LIABILITY LIMITS IN THOUSANDS \$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; padding: 5px;">EACH OCCURRENCE</th> <th style="width: 50%; padding: 5px;">AGGREGATE</th> </tr> </table>		EACH OCCURRENCE	AGGREGATE	CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: (____) _____
EACH OCCURRENCE	AGGREGATE				
☐ GENERAL ☐ PRODUCTS/COMPLETED OPERATIONS ☐ PERSONAL & ADVERTISING INJURY ☐ FIRE DAMAGE ☐ _____ ☐ _____					
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows:					
1. INSURED. The City, its officers, agents, employees and volunteers are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured. 2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it. 3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included. 4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City. 5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches or violations of warranties shall not affect coverage provided to the City, its officers, agents, employees or volunteers. 6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as: a. Insurance Services Office Commercial General Liability Coverage, "occurrence" form CG0001; or b. If excess, affords coverage which is at least as broad as the primary insurance form CG0001. Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.					
ENDORSEMENT HOLDER					
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007		AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ _____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ (original signature required) Telephone: (____) _____ Date Signed: _____			

AUTOMOBILE LIABILITY SPECIAL ENDORSEMENT FOR THE CITY OF OXNARD (the "City")		SUBMIT IN DUPLICATE	
		ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)
PRODUCER		POLICY INFORMATION: Insurance Company: Policy No.: Policy Period: (from) (to) LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits	
Telephone:		☐ Deductible ☐ Self-Insured Retention (check which) of \$ _____	
NAMED INSURED		with an Aggregate of \$ _____ applies to _____ coverage. ☐ Per Occurrence ☐ Per Claim (which)	
		APPLICABILITY. This insurance pertains to the operations, products and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here ☐ in which case only the following specific agreements and permits with the City are covered:	
		CITY AGREEMENTS/PERMITS	
TYPE OF INSURANCE		OTHER PROVISIONS	
☐ COMMERCIAL AUTO POLICY ☐ BUSINESS AUTO POLICY ☐ OTHER			
LIMIT OF LIABILITY		CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: () _____	
\$ _____ per accident, for bodily injury and property damage.			
In consideration of the premium charged and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, insurance company agrees as follows:			
1. INSURED. The City, its officers, agents, volunteers and employees are included as insureds with regard to liability and defense of suits arising from the operations, products and activities performed by or on behalf of the named insured.			
2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the named insured for or on behalf of the City; or (b) products sold by the named insured to the City; or (c) premises leased by the named insured from the City, the insurance afforded by this policy shall be primary insurance as respects the City, its officers, agents, employees or volunteers; or stand in an unbroken chain of coverage excess of the named insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the City, its officers, agents, employees or volunteers shall be in excess of this insurance and shall not contribute with it.			
3. SEVERABILITY OF INTEREST. This insurance applies separately to each insured against whom claim is made or suit is brought except with respect to the company's limits of liability. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included.			
4. CANCELLATION NOTICE. With respect to the interests of the City, this insurance shall not be canceled, or materially reduced in coverage or limits except after thirty (30) days prior written notice by receipted delivery has been given to the City.			
5. PROVISIONS REGARDING THE INSURED'S DUTIES. Any failure to comply with reporting provisions of the policy or breaches or violations of warranties shall not affect coverage provided to the City, its officers, agents, employees or volunteers.			
6. SCOPE OF COVERAGE. This policy, if primary, affords coverage at least as broad as:			
a. Insurance Services Office Automobile Liability Coverage, "occurrence" form CA0001, code ("any auto"); or			
b. If excess, affords coverage which is at least as broad as the primary insurance form referenced in the preceding section (1).			
Except as stated above nothing herein shall be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.			
ENDORSEMENT HOLDER			
CITY OF OXNARD Attn: Insurance Compliance Reference No. _____ P.O. Box 100085 – OX Duluth, GA 30096 Via Email: cityofoxnard@ebix.com Via Fax: 678-259-1007		AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ ____ I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement. Signature _____ (original signature required) Telephone: () _____ Date Signed _____	

AGREEMENTS FOR ON-CALL PROFESSIONAL HYDROGEOLOGICAL SERVICES

Public Works and Transportation Committee
December 28, 2021

Tatiana Arnaout, PE
City Engineer

That the Public Works and Transportation Committee recommend that the City Council approve and authorize the Mayor to execute the following on-call professional hydrogeological agreements:

1. Agreement A-8406 with Groundwater Solutions, Inc. dba GSI Water Solutions, Inc. in the amount not to exceed \$250,000 for a three-year term;
2. Agreement A-8407 with ENGEO, Inc. in the amount not to exceed \$250,000 for a three-year term; and
3. Agreement A-8408 with Hopkins Groundwater Consultants, Inc. in the amount not to exceed \$250,000 for a three-year term.



- Hydrogeological Services include highly specialized work associated with wells and groundwater aquifers including:
 - Well Rehabilitation
 - Well Design
 - Well Pump Testing
 - Aquifer Storage and Recovery
 - Water Quality Sampling
 - Water Quality Analysis



- Request for Qualifications was released on September 28, 2021
- Statements of Qualifications were due on October 28, 2021
- Four SOQs were submitted
- Consultants were evaluated based upon:
 - Project experience
 - Strength of team
 - Local experience
 - Range of proposed skills



- The total amount of each agreement shall not exceed the amounts noted in each agreement over the term of three years
- Funding will be charged to a given project or funding source dependent upon the services performed by task orders and budget availability

Agreement A-8406 with GSI Water Solutions, Inc.	\$250,000
Agreement A-8407 with ENGEO, Inc.	\$250,000
Agreement A-8408 with Hopkins Groundwater Consultants, Inc.	\$250,000



QUESTIONS



PUBLIC WORKS AND TRANSPORTATION COMMITTEE AGENDA REPORT

REPORTS AGENDA ITEM NO. D.2

DATE: December 28, 2021

TO: Public Works and Transportation Committee

FROM: Michael Wolfe, Public Works Director, (805) 385-8055, michael.wolfe@oxnard.org

SUBJECT: City of Oxnard Tree Program Review. (10/10/10)

RECOMMENDATION

That the Public Works and Transportation Committee recommend that the City Council receive and file the City of Oxnard Tree Program Review conducted by Dudek.
(Presentation will be live upon consultant's request.)

BACKGROUND

In 2021, the Public Works Department bid and selected the consultant team, Dudek, to conduct a comprehensive review of the City's tree program. Dudek was provided with key insights into City practices, datasets for analysis, and contact information to coordinate with internal and external stakeholders. Dudek analyzed the 1988 Landscape Standards and City Code Tree Ordinance to determine specific areas that could be improved. These recommendations are contained in the Tree Program Review. Additionally, Dudek did an analysis of the City tree inventory, operating budget, and staffing levels, then compared this information to other cities of similar size.

It should be noted that in 2020, City staff made several presentations regarding the restoration of tree and landscape maintenance throughout the City. In these presentations, the tree estimate was 56,000. This number was based on an older estimate from a 2013 tree inventory by West Coast Arborists (WCA). This year, staff reviewed the 2013 WCA inventory and compared that information with current GIS data. The result is a current estimate of 48,806 trees, composed of 137 genera and 261 species. These trees are in sites such as parks, streets, medians, parkways, front/side yards within the public rights-of-way, and open space areas.

This Review does not provide recommendations for individual trees that are planted throughout the City, but rather guidelines to use with dominant species, site conditions to prioritize, and summaries of current practices and tree assets.

DISCUSSION

The intent of the Tree Program Review (Review) is to provide the information necessary to make informed decisions about the future management of citywide trees and the creation of a City Urban Forest Management Plan.

The Review has three recommendations:

1. The City Must Provide Funds to Support Urban Forest Maintenance.

At its current staffing levels, the City does not have enough staff members to complete maintenance requests in a timely manner, nor establish a routine maintenance cycle for City-owned trees. The City employs 7.23 fewer FTEs than the average municipal tree program when compared to cities with population sizes similar to Oxnard. Investing in the management and maintenance of the City's tree inventory will contribute to mitigating defects before failures occur, and potentially decrease the costs incurred from liability claims filed against the City.

2. The City Should Complete a Financing Study of the Tree Program.

Further information is needed to fully understand the budget and financing implications of increased tree maintenance and management activities of the Tree Program. A detailed understanding of what the City will need to sustainably manage the tree population will provide decision makers with a clear picture of the per-tree costs to plant and water new trees, maintain an industry standard pruning cycle (e.g. 3-5 years), remove dead trees, and other management actions.

3. The City Should Complete an Urban Forest Management Plan (UFMP) to Guide Long-Term Budget and Management Decisions.

In conjunction with, or immediately following a financing study, the City should begin the process to develop an UFMP. The UFMP would establish a vision and goals for the Tree Program based on the priorities and values of staff, elected officials, residents, business owners, and other stakeholders. The goals would not only provide the basis for annual totals of trees to plant, prune, and remove, but also strategies to increase community participation, determine City-wide canopy cover, and prioritize where resources would be most effectively used.

The key findings of the Tree Program Review include:

Current funding and staffing levels are below what is needed to manage the City tree inventory.

Current funding levels allow for one tree trimmer and one groundsworker to conduct various tree maintenance services including pruning, establishment care, pest management, and watering of the trees within the City's tree inventory. As a result, City tree maintenance is largely conducted in reaction to resident requests, with little active maintenance of the City's 33,654 General Fund trees. Cities with populations comparable to Oxnard (100,000–249,000) have an average of 11.8 Full-Time Equivalent (FTE) positions for the management of the City tree population whereas the City currently only has 2 dedicated FTEs. Additionally, other cities with populations comparable in size to Oxnard have annual tree maintenance budgets of \$1.3 to \$1.9 million. This variation in maintenance budgets depends largely on the number of trees in each city. The FY 2021-22 Oxnard budget has \$920,741 for General Fund tree maintenance. However, \$354,641 is for staff and administration and \$566,100 is for the one-time-only Measure E grid pruning of 6,660 trees within the arterial streets. The Special Districts Division is responsible for 15,152 trees within the City tree inventory and has spent \$134,586, mostly in Riverpark CFD, for contracted tree maintenance services since July 1, 2021.

The City needs to complete an updated tree inventory.

An inventory of City managed trees was last completed in 2013 by West Coast Arborists. This inventory was reviewed by staff in 2021 using the City GIS system and found the current number to be approximately 48,806. The City tree inventory should be updated every 3-5 years so City leadership can base decisions on current and

accurate data. . Maintaining the inventory can be accomplished if the City can actively maintain all trees in its inventory.

The City-managed tree inventory is not prepared for climate change.

Climate change is predicted to cause substantial negative impacts to commonly planted street tree species in California. Based on available research and data, up to 34% of Oxnard's tree inventory contains species that are predicted to be heat- or water-sensitive in the next 30–100 years.

The 1988 Landscape Standards must be updated.

The 1988 Landscape Standards document is used by multiple City departments to make tree management decisions. Updating the Landscape Standards is an opportunity to strengthen tree protection policies, implement a new tree species palette for City Departments and developers, and improve tree planting standard details. In addition, the Landscape Standards document is the basis for establishing the City as the responsible party for maintaining trees in areas that other comparable cities are typically not responsible to maintain, such as front yards, walls and fences, and residential tract entries.

The City would benefit from an Urban Forest Management Plan.

The findings presented in this Review describe the current state of the City's Tree Program. This Review should be the first step of a comprehensive urban forest management plan (UFMP) process that provides a roadmap for tangible actions the City can take towards sustainable funding and management of its urban forest program. A UFMP will provide the framework for the management practices and policies that will help guide the City toward a resilient urban forest.

Future considerations that will be brought to the City Council include:

Tree Inventory.

Staff and consultants are working together to analyze the tree inventory to validate the estimated count, while also identifying areas where replacement, new planting, and removal are necessary based on the criteria provided in this Tree Program Review. A key question will be, "Should the City continue to be responsible for maintaining trees that are on private property, but within the public right-of-way?". This accounts for nearly 50% of the total City tree inventory and therefore has long-term budget implications for a sustainable program.

Tree maintenance budget and staff size.

Staff and consultants will analyze the maintenance and services that are required for a 3 - 5 year pruning cycle. Based on a future policy-level decision to continue maintaining the residential trees within the public right-of-way, the costs, staff size, and contractor options will be presented to the City Council for future budget consideration.

Revise 1988 Landscape Standard and City Code

Both the Public Works and the Community Development Departments will work together to provide recommendations to the City Council for revisions of the Landscape Standards and City Code that meet the needs of the community, increase efficiency, and address issues of climate change and water reduction.

STRATEGIC PRIORITIES

This agenda item supports the Infrastructure and Natural Resources strategy. The purpose of the Infrastructure and Natural Resources strategy is to preserve and improve our roads, utilities, parks, trees, water supply and

natural resources through effective planning, prioritization, and an equitable and efficient use of available funding.

FINANCIAL IMPACT

There is no fiscal impact for the recommended action. The cost for the professional services agreement with Dudek was \$40,000. Any future Financing Studies or the development of an Urban Forest Management Plan will require additional funding, which staff will recommend in future operating budgets for the Council's consideration.

Prepared by: Steve Howlett, Assistant Public Works Director

ATTACHMENTS

1. Oxnard Tree Program Review Report
2. Consultant Presentation Tree Program 12 28 2021



TREE PROGRAM REVIEW

**CITY OF
OXNARD**

December 2021

38 North Marengo Avenue / Pasadena, CA 91101 / 626.204.9800

DUDEK

DRAFT

City of Oxnard

Tree Program Review

DECEMBER 2021

Prepared for:

CITY OF OXNARD
300 West 3rd St.
Oxnard, California 93030
Contact: Steve Howlett

Prepared by:

DUDEK
38 N Marengo Ave
Pasadena, California 99101
Contact: Ryan Allen


Ryan Allen
Urban Forester
ISA Certified Arborist #WE10316-A
ISA Tree Risk Assessment Qualified
ISA Municipal Specialist

Table of Contents

SECTION	PAGE NO.
Acronyms and Abbreviations.....	v
1 Introduction.....	1
1.1 City Context.....	1
1.2 Developing the Tree Program Review	1
1.2.1 Analysis of City Documents.....	1
1.2.2 City Interviews	1
1.2.3 Analysis of City Tree Inventory	2
1.2.4 Analysis of Budget and Staffing Levels	2
1.2.5 Site Visit.....	2
1.3 Key Findings	2
1.3.1 Current Staffing and Funding Levels Are Below What Is Needed to Manage the City Tree Inventory.....	2
1.3.2 The City Needs to Complete an Updated Tree Inventory.....	3
1.3.3 The City-Managed Tree Inventory Is Not Prepared for Climate Change	3
1.3.4 Landscape Standards Must Be Updated	3
1.3.5 The City Would Benefit from an Urban Forest Management Plan	3
2 City Inventory Review	5
2.1 Environmental Services and Economic Benefits.....	5
2.1.1 Environmental Benefits	5
2.1.2 Economic Value	6
2.2 Species Diversity Summary	7
2.2.1 Top 10 Species and Genera.....	7
2.2.2 Palms versus Shade Tree Comparison.....	10
2.2.3 Climate Resiliency.....	11
2.3 Age Distribution Summary	13
2.4 Recommended Species Palette	13
3 Staffing and Budget Review	17
3.1 Staffing.....	17
3.2 Budget.....	18
3.3 Comparison to other Cities	19
3.4 Tree Liability Claims	20
3.5 Recommendations	23
3.5.1 The City Must Provide Funds to Support Urban Forest Maintenance	23
3.5.2 The City Should Complete a Financing Study of the Tree Program	23

TREE PROGRAM REVIEW / CITY OF OXNARD

3.5.3	The City Should Complete an Urban Forest Management Plan to Guide Long-Term Budget and Management Decisions.....	23
4	City Document Review	25
4.1	1988 Landscape Standards.....	25
4.1.1	1988 Landscape Standards Recommendations.....	33
4.2	Municipal Code and Ordinance Review	34
5	Maintenance Policy Recommendations	37
5.1	Tree Removal Guidelines	37
5.1.1	Infrastructure Conflict.....	37
5.1.2	Pests and Disease	42
5.2	Root Pruning Guidelines	43
5.3	Tree Plans of Action.....	50
5.4	Tree Ownership and Maintenance of Trees in Front Yards.....	50
6	References	53

TABLES

1	Annual Environmental Services and Benefits Provided by City-Managed Trees.....	6
2	Financial Value of City-Managed Trees.....	6
3	Top 10 Genera in Oxnard's Tree Inventory	7
4	Top 10 Species in Oxnard's Tree Inventory	10
5	Shade Tree Comparison Species	10
6	Differences in Environmental and Economic Benefits between Shade and Palm Trees	11
7	Tree Species Oxnard's Inventory Predicted to be Heat- or Water-Sensitive	12
8	Age Distribution of Oxnard's Tree Inventory	13
9	Criteria for Recommended Tree Species Palette.....	14
10	Recommended Species Palette.....	15
11	City of Oxnard Tree-Related Staff Positions.....	17
12	Emergency Tree Calls between 2019 and 2021	17
13	Mean Number of Urban Forest-Related Full-Time Equivalents at Municipalities Throughout the United States.....	18
14	Estimated Annual Costs per Tree Crew	19
15	Costs and Annual Tree Maintenance Responsibilities of Each Tree Crew	19
16	Comparison of Municipal Urban Forest Management Funding	20
17	Damage Associated with Tree Liability Claims filed against the City of Oxnard between 2018–2021	22
18	Tree Health and Safety Factors to Consider	48
19	Long-Term Objectives to Consider	49
20	Location of Trees in the City-Managed Inventory.....	51

EXHIBITS

1	Tipu (<i>Tipuana tipu</i>) planted in a 4.5-foot parkway displacing a sidewalk.	38
2	Tree root conflict with a water meter box as a result of improper spacing.	39
3	Tree removal as a result of infrastructure conflict and improper spacing.	40
4	Cajeput (<i>Melaleuca quinquenervia</i>) conflicting with a driveway apron.	41
5	American sweetgum (<i>Liquidambar styraciflua</i>) showing signs of internal decay, suspected to be caused by <i>Ganoderma</i> spp.	42
6	Campbor (<i>Cinnamomum camphor</i>) trees on Fuchsia Street that have been repetitively root pruned.	44
7	Campbor (<i>Cinnamomum camphor</i>) tree on Fuchsia Street that has had large structural roots repetitively pruned.	45
8	Large structural root pruning of a campbor (<i>Cinnamomum camphor</i>) tree on Fuchsia Street.	46
9	Root pruning of a campbor (<i>Cinnamomum camphor</i>) tree on Fuchsia Street that may have affected the tree's stability and safety.	47
10	Declining deodar cedar (<i>Cedrus deodara</i>) in a residential front yard in the public right-of-way.	52

APPENDICES

A	Example Tree Protection Language
B	Sidewalk Solutions
C	Root Pruning Considerations

INTENTIONALLY LEFT BLANK

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ANSI	American National Standards Institute
DSH	diameter at standard height
FTE	full-time equivalent
ISA	International Society of Arboriculture
UFMP	urban forest management plan
WCA	West Coast Arborists

INTENTIONALLY LEFT BLANK

1 Introduction

1.1 City Context

Originally inhabited by the Chumash tribe of Native Americans, the area now known as the City of Oxnard (City) was colonized by Spanish explorers and later settled by immigrants from the American East Coast and Europe. The City is located on the Oxnard Plain, a fertile area where diverse agricultural products are grown. Native plant communities in Oxnard include coastal sage scrub, California Annual Grassland, and Coastal Dune Scrub species. However, due to its agricultural history, much of Oxnard's native plant communities have been cleared to make way for agricultural fields and industrial and commercial development. The City was incorporated in 1903, and today is the most populous City in Ventura County. As of 2021, the City owns and manages an estimated 48,806 trees, composed of 137 genera and 261 species. These trees are in sites such as parks, streets, medians, parkways, front/side yards in the public rights-of-way, and open space areas. These trees, and the staff and departments that manage them, form the basis for this Tree Program Review.

1.2 Developing the Tree Program Review

In 2021, the Department of Public Works and the consultant team (Dudek) began conducting a comprehensive review of the City's tree program. The Department of Public Works provided Dudek with key insights into City practices, data sets for analysis, and contact information and coordination with internal and external stakeholders. The following sections detail the analyses and processes that Dudek took when developing the Tree Program Review.

The Review does not provide recommendations for individual trees that are planted throughout the City, but rather guidelines to use with dominant species, site conditions to prioritize, summaries current practices and tree assets, and recommendations for suggested changes to policies and programs. The following steps comprise the components of the Review.

1.2.1 Analysis of City Documents

This review analyzed the 1988 Landscape Standards and City Tree Ordinance to determine specific areas that could be improved to progress the City towards a sustainable urban forest. The documents were reviewed using International Society of Arboriculture (ISA) best practices for tree preservation and protection, as well as current research, and experience of the consultant team municipal codes and ordinances. Multiple areas of the documents will require review and updating by the City to align with current management standards and best practices. The areas requiring updating are noted within the document and provided context for how the individual sections can be improved.

1.2.2 City Interviews

Understanding the functions of the City's Tree Program and the departments that execute decisions related to trees was informed by interviews with City staff, elected officials, and external stakeholders. The interviews explored the role each stakeholder had in influencing City tree management, clarified internal City procedures, and informed

TREE PROGRAM REVIEW / CITY OF OXNARD

areas where the City could improve management of the urban forest. The list of City staff and stakeholders who participated in the Tree Program Review interview process included the following individuals:

- Joe Perez, City Arborist
- LeAnne Daley, City Paralegal
- Bert Perello, City Councilmember
- Juan Martinez, City Planner
- Philip Schwieder, Streets Manager
- Jesse Cervantes, Tree Trimmer
- Jessica Hill and Yolanda Gravlioni, George Hill Associates
- Alexander Nguyen, City Manager
- Michael Mercurio, Community member

1.2.3 Analysis of City Tree Inventory

West Coast Arborists (WCA) completed the City's tree inventory in 2013. The scope of the inventory included collecting tree location and arboricultural attribute information of City-owned trees within the City limits, including public sidewalks, parkway strips, street medians, public rights-of-way, parks, and other accessible City-owned property. The inventory was analyzed using sustainability metrics to understand the management practices that are used and may need to be improved to have the most meaningful impact on tree health and safety.

1.2.4 Analysis of Budget and Staffing Levels

Based on information generated during project team meetings and City staff interviews, an analysis of the City's current staffing levels was conducted and compared to municipalities with tree programs and populations similar to Oxnard. Recommended Tree Program budgets were generated using current City of Oxnard salary, benefit, and equipment rates.

1.2.5 Site Visit

On September 16, 2021, Dudek conducted a site visit with City Arborist Joe Perez to tour areas of the City that were demonstrative of the types of issues its trees face. Photographs and notes were taken during the site visit, and insights and recommendations made during the site visit were incorporated into this Review.

1.3 Key Findings

1.3.1 Current Staffing and Funding Levels Are Below What Is Needed to Manage the City Tree Inventory

Current funding levels allow for one tree trimmer and one groundworker to conduct all tree pruning, maintenance, establishment care, pest management, and watering of an estimated 48,806 trees in the City tree inventory. As a result, City tree pruning and maintenance is largely conducted in reaction to resident requests, with little active maintenance of

trees. The City will need to consider if it is willing to increase funding to manage all trees in the City inventory, or amend language in the 1988 Landscape Standards that would redefine which trees are considered the responsibility of the City. Amending language in the Landscape Standards has the potential to transfer the responsibility of 22,356 trees from the City back to property owners, and greatly reduce the level of funding needed to manage the tree inventory.

1.3.2 The City Needs to Complete an Updated Tree Inventory

An inventory of City managed trees was last completed in 2013 and should be updated so City leadership can base decisions on current and accurate data. The City should complete a new inventory and establish a mechanism to ensure data for each tree is no more than 3–5 years old at any given time. Maintaining the inventory can be accomplished if the City can actively maintain all trees in its inventory.

1.3.3 The City-Managed Tree Inventory Is Not Prepared for Climate Change

Climate change is predicted to cause substantial negative impacts to commonly planted street tree species in California. Based on available research and data, up to 34% of Oxnard's tree inventory contains species that are predicted to be heat- or water-sensitive in the next 30–100 years. Because the City has the potential to lose approximately one-third of its tree species, City leadership will need to critically examine its tree inventory and street tree planting palette to understand which species are poorly performing, whether these species should be removed or phased out, and which species should be used for replacement.

1.3.4 Landscape Standards Must Be Updated

The 1988 Landscape Standards document is used by multiple City departments to make tree management decisions. The document is out-of-date and provides guidance that is no longer consistent with current state or arboricultural industry best management practices. Updating the Landscape Standards is an opportunity to strengthen tree protection policies, implement a new tree species palette for City Departments and developers, and improve tree planting standard details.

In addition, the Landscape Standards document is the basis for establishing the City as the responsible party for maintaining trees in areas that other comparable cities are typically not responsible to maintain, such as front yards, walls and fences, and residential tract entries. It does not seem reasonable to expect City staff to have this level of responsibility without a robust budget to fund additional positions.

1.3.5 The City Would Benefit from an Urban Forest Management Plan

The findings presented in this Review describe the current state of the City's Tree Program. This Review should be the first step of a comprehensive urban forest management plan (UFMP) process that provides a roadmap for tangible actions the City can take towards sustainable funding and management of its urban forest program. A UFMP will provide the framework for the management practices and policies that will help guide the City toward a resilient urban forest. A UFMP will set the ideal state of the urban forest over a 40-year planning horizon, establish a vision and guiding principles that prioritize how the City will approach its ideal progress, and generate a strategic plan for City staff to keep track of implementation and monitoring of the actions stated in the plan.

INTENTIONALLY LEFT BLANK

2 City Inventory Review

The City's most recent tree inventory was completed in 2013 by West Coast Arborists (WCA). The City has maintained a contract with WCA since 2000, and each time WCA is contracted to trim and maintain a specific tree, they update the tree's inventory records. Because WCA is not contracted to maintain all trees, the age of the records ranges from 2010–2021, with most records not updated since the 2013 inventory.

A comprehensive review of the tree inventory data was conducted to quantify the environmental services and economic benefits that the City-owned trees provide and to analyze several sustainability indicators. Because of the age of the inventory, it is most likely that the tree conditions have changed since they were first inventoried. However, it is not anticipated that an updated inventory would have a significant impact on the analysis of environmental services, species diversity, age diversity, and climate resiliency. Dudek recommends that the City should update its inventory and ensure all tree data is no more than 3–5 years old by updating records during regular maintenance visits.

2.1 Environmental Services and Economic Benefits

2.1.1 Environmental Benefits

Trees provide a significant number of environmental services and benefits that hold real economic value for the City. To help quantify how valuable trees are to communities, the U.S. Forest Service developed the software i-Tree Eco (USFS 2020). The program uses individual tree inventory records to determine environmental benefits of a city's street trees, both in terms of quantity and economic value.¹ The estimated environmental services provided by trees in the inventory are presented in Table 1. Carbon sequestration is the amount of carbon the City's inventoried trees remove from air. Avoided runoff represents how much rainfall is being diverted from the stormwater management system by the canopy of trees, and air pollution removal includes removing particulate matter and surface level ozone.

¹ i-Tree Eco quantifies the economic value of environmental benefits by considering local, state, and federal prices.

Table 1. Annual Environmental Services and Benefits Provided by City-Managed Trees

Service	Annual Environmental Benefit	Annual Environmental Impact	Annual Economic Value
Carbon Sequestration (carbon removed from air)	552.3 tons removed	The carbon removed from the air by the City's tree inventory is equivalent to the carbon emissions from 400 cars driven for 1 year.	\$94,500
Avoided Runoff	2,391,522 gallons stored	The water that is absorbed by the City's tree inventory is equivalent to 59,788 bathtubs.	\$21,400
Pollution Removal	14.55 tons removed	The pollution that is removed by the City's tree inventory is equivalent to 14,589 pounds of burned coal.	\$208,000

Sources: City of Oxnard Tree Inventory (West Coast Arborists 2013); i-Tree Analysis (USFS 2020).

In addition to these environmental benefits, Oxnard's tree inventory provides additional value to the community. The environmental benefits of trees are felt on a local, street-by-street or home-by-home basis, where tree canopies increase property values and provide shade, cooling, stormwater reduction, and increased public health outcomes. The services that Oxnard's trees provide contribute directly to the quality of life in the City and can be used as opportunities to encourage residents and business owners to participate in urban forest programs.

2.1.2 Economic Value

The structural value of the City's tree inventory represents what it would cost to replace all trees with the same species, size, and condition (Table 2). The functional value represents the annual value of the environmental services that the trees provide.

Table 2. Financial Value of City-Managed Trees

Value	Description	Asset Amount	Per-Tree Value
	Number of City managed trees	48,806	
Structural	Tree replacement cost	\$176,000,000	\$3,606
Functional	Value based on the services trees perform	\$323,600	\$6.63
Carbon Storage (carbon held in tree)	18,550 tons stored	\$3,160,000	\$64.75

Sources: City of Oxnard Tree Inventory (West Coast Arborists 2013); i-Tree Analysis (USFS 2020).

Each tree in Oxnard's inventory has an average City asset value of \$3,606. The functional value represents the annual value of the environmental services that the trees provide (\$323,600/year). Each tree delivers approximately \$71.38 in ecosystem services based on the combined functional value and carbon storage each

year. This value is lower than the average value of the ecosystem services street trees in California perform (\$110.63) (McPherson et al. 2016). However, the decreased value could be in part due to the immature and young composition of the City's trees (see Section 2.3, Age Distribution).

2.2 Species Diversity Summary

The species diversity of a city's tree inventory informs its overall ability to be resilient to threats. Cities with uniform tree species are more susceptible to catastrophic loss from pests, diseases, and weather events. One suggested urban forest sustainability metric is that a city's tree inventory should contain no more than 10% of any one species, 20% of any one genus, or 30% of any one family (Miller and Miller 1991; Richards 1983; Ball et al. 2007). Though these recommendations are not definitive, they provide useful guidelines to measure the vulnerability of the City's tree population. To further ensure the City's trees are resilient to threats, Dudek refined the analysis to recommend the inventory contains not more than 5% of any one species, 10% of any one genus, or 20% of any one family.

2.2.1 Top 10 Species and Genera

Oxnard's City-managed tree inventory consists of 48,806 trees, composed of 137 genera and 261 species. The top 10 tree genera make up 55% of City-owned trees (Table 3). All genera fall within the 10% recommendation, indicating a sustainable level of genus diversity. The top 10 species found in the City comprise 54% of the inventory, with southern magnolia (*Magnolia grandiflora*), queen palm (*Syagrus romanzoffiana*), carrotwood (*Cupaniopsis anacardioides*), and sweetgum (*Liquidambar styraciflua*) in excess of the 5% recommendation (Table 4). The species diversity of the City's inventory could be improved by planting fewer magnolias, queen palms, carrotwoods, and sweetgums. This topic will be discussed further in Section 2.4, Recommended Species Palette.

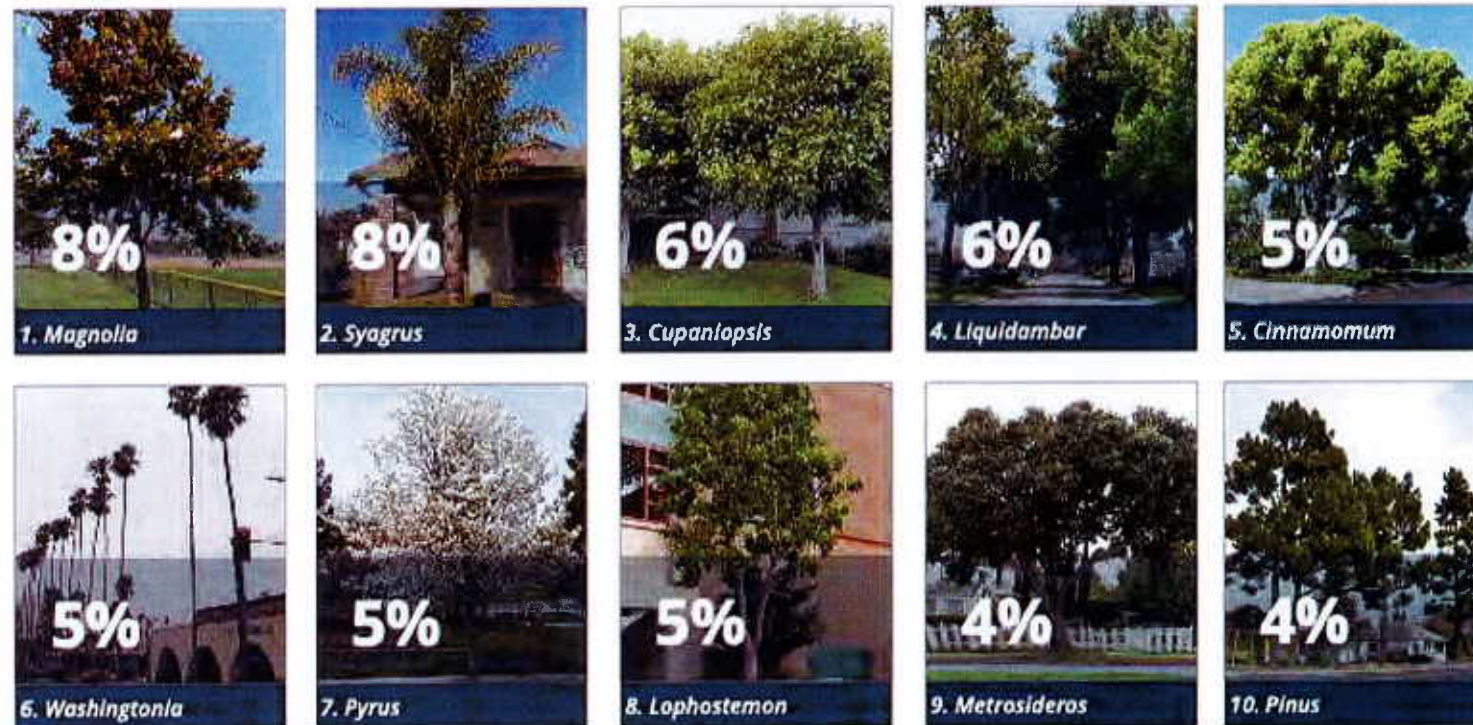
Table 3. Top 10 Genera in Oxnard's Tree Inventory

Genus Diversity Sustainability Goal: No Genus Greater than 10% of Inventory			
Rank	Genus	Number of trees	% of Inventory
1	Magnolia	4,066	8%
2	Syagrus	3,888	8%
3	Cupaniopsis	2,904	6%
4	Liquidambar	2,837	6%
5	Cinnamomum	2,530	5%
6	Washingtonia	2,471	5%
7	Pyrus	2,285	5%
8	Lophostemon	2,237	5%
9	Metrosideros	2,014	4%
10	Pinus	1,979	4%
Total		27,211	55%

Source: City of Oxnard Tree Inventory (West Coast Arborists 2013).

Oxnard's TOP 10 Genera

Oxnard's tree inventory consists of **48,806 trees**, composed of **137 genera**, and **261 species**.



Sustainability Goal: No species greater than 10% of the inventory ☒ Meets Goal

Oxnard's TOP 10 Species



Sustainability Goal: No species greater than 5% of the inventory

Meets Goal

Does Not Meet Goal

Table 4. Top 10 Species in Oxnard’s Tree Inventory

Species Diversity Sustainability Goal: No Species Greater than 5% of Inventory				
Rank	Botanical Name	Common Name	Number of trees	% of Inventory
1	Magnolia grandiflora	Southern magnolia	3,996	8%
2	Syagrus romanzoffiana	Queen palm	3,888	8%
3	Cupaniopsis anacardioides	Carrotwood	2,904	6%
4	Liquidambar styraciflua	Sweetgum	2,741	6%
5	Cinnamomum camphora	Camphor	2,530	5%
6	Washingtonia robusta	Mexican fan palm	2,450	5%
7	Lophostemon confertus	Brisbane box	2,237	4%
8	Metrosideros excelsus	New Zealand Christmas tree	2,014	4%
9	Tipuana tipu	Tipu	1,827	4%
10	Pyrus kawakamii	Evergreen pear	1,567	3%
Total			26,154	54%

Source: City of Oxnard Tree Inventory (West Coast Arborists 2013).

2.2.2 Palms versus Shade Tree Comparison

i-Tree Eco was used to quantify the differences in environmental and economic benefits between palms and shade trees. The City of Oxnard owns 19 palm species, which collectively makeup 15% of the inventory. To make an even comparison, shade tree species were selected from the City inventory to provide a mix of tree sizes that mimic the City’s overall tree distribution. An equal number of palms and shade trees were selected (7,525) (Table 5). The results of the comparison are provided in Table 6.

Table 5. Shade Tree Comparison Species

Botanical name	Common Name	Number	Size	% of Study Group
Tipuana tipu	Tipuana	1,827	Large	70%
Pinus canariensis	Canary island pine	1,163	Large	
Platanus x hispanica	London planetree	1,046	Large	
Ficus microcarpa	Indian laurel fig	571	Large	
Platanus racemosa	California sycamore	406	Large	
Pinus eldarica	Mondell pine	232	Large	11%
Podocarpus macrophyllus	Yew pine	249	Medium	
Pittosporum undulatum	Victorian box	239	Medium	
Salix lasiolepis	Arroyo willow	170	Medium	
Fraxinus velutina 'Modesto'	Modesto ash	135	Medium	
Ceratonia siliqua	Carob	25	Medium	19%
Pyrus calleryana 'Aristocrat'	Aristocrat callery pear	413	Small	
Prunus cerasifera 'Krauter Vesuvius'	Krauter Vesuvius plum	373	Small	
Callistemon citrinus	Crimson bottlebrush	347	Small	
Lagerstroemia indica	Crape myrtle	329	Small	

Table 6. Differences in Environmental and Economic Benefits between Shade and Palm Trees

	Total Carbon Storage (Tons)	Avoided Water Runoff (Gallons)	Structural Value
Shade Trees	3,976	453,506	\$33,329,658.09
Palms	548	195,800	\$6,532,924
Percent difference	725%	220%	510%

In this comparison, shade trees store 725% more carbon, absorb 220% more storm water runoff, and provide 510% more economic benefits in the form of city asset value. The City should consider developing a strategy to reduce the number of palms in the inventory in favor of shade trees to increase tree canopy, environmental services, and economic benefit of the City managed tree inventory.

The maintenance needs and costs are an important factor to consider when comparing shade trees and palms. Palm maintenance is typically conducted on an annual basis, while the optimal pruning cycle for shade trees is 5-7 years. The per unit maintenance costs of palms are less costly than shade trees, despite having greater frequency with which it needs to be conducted.

In the life span of an urban tree, shade trees and palms will reach a point of maturity in size that slows down the annual growth of leaf area and woody biomass. Palms have a fast growth rate, providing a limited short-term benefit of sequestering carbon, and a longer period of life at a mature size. Once they are mature, their environmental services stagnate. Maintenance costs on palms continue at the same annual rate to maintain aesthetic appeal and safety from falling fronds, but the environmental services and economic value remain static and low. With shade trees, there is a resulting equivalent increase in environmental services and value during this same mature stage, and this increase continues over a longer period. As such, the long-term maintenance costs of shade trees have a higher rate of return. If the number of palms in the City was reduced, funding that currently is spent for the annual palm pruning could be reallocated for planting and maintaining higher environmental service producing shade trees, and other urban forest program activities.

2.2.3 Climate Resiliency

Climate change is predicted to cause substantial negative impacts to commonly planted street tree species in California (McBride and Lacan 2018). Over the past century, average maximum temperatures in California have increased between 1.6 ° F to 2.5 ° F, and these temperatures are expected to continue to rise over the coming years. In coastal areas of Ventura County, temperatures are predicted to increase by 2°F–3°F by 2040 (Oakley et al. 2019). Longer, more intense periods of drought and more variable periods of precipitation with increased flooding (Swain et al. 2018), will make finding additional irrigation water or funding for irrigation improvements for street trees a challenge (McBride and Lacan 2018).

The City will need to critically examine its street tree palette to understand if it is prepared for these predicted weather and climate changes. Recent research by McBride and Lacan (2018) provides helpful findings that can help guide the City as it plans for its hotter, dryer future. The study selected 16 cities to represent the range of climate and weather conditions throughout California. It compared each cooler climate city with a warmer city counterpart, each having a climate that approximates what the cooler City will experience in the year 2099. The

TREE PROGRAM REVIEW / CITY OF OXNARD

City-managed tree inventory of each city was then compared to understand if there were any species that were absent from the warmer city's inventory.

The results of the study helped generate a list of 82 tree species that are likely to be unsuitable in future climate conditions. Table 7 presents the species in the Oxnard's tree inventory that appear on the study's list, which totals 34% of the City's inventory.

Table 7. Tree Species Oxnard's Inventory Predicted to be Heat- or Water-Sensitive

Botanical Name	Common Name	Number of Trees
<i>Magnolia grandiflora</i>	Southern magnolia	3,996
<i>Liquidambar styraciflua</i>	American sweetgum	2,741
<i>Lophostemon confertus</i>	Brisbane box	2,237
<i>Afrocarpus gracilior</i>	Fern pine	1,257
<i>Ulmus parvifolia</i>	Chinese elm	1,158
<i>Platanus X hispanica</i>	London plane	1,044
<i>Brachychiton populneus</i>	Bottle tree	925
<i>Ficus microcarpa</i> 'Nitida'	Indian laurel fig	571
<i>Platanus racemosa</i>	California sycamore	406
<i>Jacaranda mimosifolia</i>	Jacaranda	391
<i>Lagerstroemia indica</i>	Crape myrtle	329
<i>Pittosporum undulatum</i>	Victorian box	239
<i>Corymbia citrodora</i>	Lemon-scented gum	236
<i>Fraxinus uhdei</i>	Raywood ash	151
<i>Prunus cerasifera</i>	Purple-leaf plum	149
<i>Trachycarpus fortunei</i>	Windmill palm	128
<i>Betula pendula</i>	European white birch	107
<i>Cedrus deodara</i>	Deodar cedar	95
<i>Ginkgo biloba</i>	Maidenhair tree	94
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	64
<i>Populus fremontii</i>	Fremont cottonwood	48
<i>Thuja occidentalis</i>	Arborvitae	33
<i>Cercis canadensis</i>	Eastern redbud	21
<i>Liriodendron tulipifera</i>	Tulip tree	18
<i>Morus alba</i>	White mulberry	14
<i>Acer saccharinum</i>	Red maple	11
<i>Tristaniopsis laurina</i>	Water gum	9
<i>Koelreuteria paniculata</i>	Goldenrain tree	6
<i>Quercus rubra</i>	Red oak	4
<i>Broussonetia papyrifera</i>	Paper mulberry	1
<i>Juglans californica</i>	California walnut	1
Total		16,484
% of inventory		34%

Source: City of Oxnard Tree Inventory (West Coast Arborists 2013).

2.3 Age Distribution Summary

For most trees, a year’s worth of growth is reflected as a ring inside the tree’s trunk. When a tree is removed, the growth rings can be counted to accurately determine its age. The most common and least invasive method to approximate the age of the tree is by measuring the trunk diameter at 4.5 feet above the ground (diameter at standard height [DSH]). Since trees vary in size and growth patterns, using DSH to determine age can only be considered an estimate.

Richards (1983) established ideal DSH distributions for street trees analyzing age classes of urban forests. The rationale behind Richards’ distributions ensures that an urban forest has a population of immature trees (40%) to replace failing or aging ones, young (30%) and middle-aged (20%) trees to provide the bulk of economic and environmental benefits, and relatively fewer mature trees (10%) that have most of their life behind them but provided significant environmental benefits for many years.

Table 8 shows the age distribution of all trees in the City inventory compared to Richards’ recommended DSH distributions. The age distribution reflects a period of new tree plantings in the early 2000s as evident by the 2011 tree inventory data that shows 50% of the inventory is classified as young. There are fewer immature trees and middle-aged trees than recommended, and at a minimum, the City will need to replace trees as they are removed to ensure a continuation of environmental services. If the age trends continue as is without increased tree planting, the City can expect the tree’s environmental services to increase as trees grow from young to mature. This will also result in increased maintenance costs as mature trees are more expensive to prune. Because a large tree planting effort happened within a short timeframe, it is expected that these trees would become senescent and require removal on a similar timeframe. If the City does not have a tree planting strategy to plant new trees to maintain the recommended age distribution it could experience a sudden and significant loss of canopy cover and environmental services as that will take years to recover.

Table 8. Age Distribution of Oxnard’s Tree Inventory

Age Category	DSH (inches)	Number of Trees	Recommended Percentage of Tree Inventory	% of Inventory
Immature	0-6	12,696	40%	26%
Young	7-18	24,589	30%	50%
Middle-aged	19-24	6,399	20%	13%
Mature	25+	5121	10%	10%

Sources: City of Oxnard Tree Inventory (West Coast Arborists 2013); Richards 1983.

2.4 Recommended Species Palette

A vital component of developing and maintaining the City’s urban forest is the ability of the City to preserve tree health and vigor for multiple decades. This process begins when the tree species are selected for a particular location. Proper tree species selection will help develop an urban forest that is resilient and adapted to climate change. The criteria to include a tree species in the palette is based on Table 9:

Table 9. Criteria for Recommended Tree Species Palette

Criteria	Indicator	Reference
Climate adaptability	Tree species that are expected to be adapted to Oxnard's predicted climate conditions over the next 100 years.	McBride and Lacan 2018
Drought Tolerance	Tree species with low or very-low water use requirements. Tree species with medium water use requirements should be limited. No high water use species were selected.	Water Use Classification of Landscape Species (WUCOLS) ratings (Costello and Jones 2014)
Species Diversity	Planting palette includes enough species to maintain species diversity goals	City Inventory Data
Spacing Requirements	Tree species can maximize canopy spread without interfering with infrastructure	SelectTree, presented by the Urban Forest Ecosystems Institute at Cal Poly (UFEI 2021)

The recommended tree species palette contains 41 tree species that are expected to thrive over the next 100 years. This list provides enough species to maintain diversity levels, and a variety of sizes to meet spacing restrictions. The recommended species list will need periodic review to ensure the selected species are still appropriate for the environmental conditions within the City.

Table 10. Recommended Species Palette

Genus	Species	Common Name	Evergreen (E) Deciduous (D) Conifer (C)	Size Classification	Height (Feet)	Crown Spread (Feet)	Spacing between trees (Feet)	Minimum Planter Space (Feet)	Utility Friendly	WUCOLS rating	Regionally Native
<i>Afrocarpus</i>	<i>falcatus</i>	Fern pine	E.	Large	40+	20-40	30-35	8	No	Moderate/Medium	No
<i>Angophora</i>	<i>costata</i>	Sydney red gum	E.	Large	65	30-50	30-35	8	No	Low	No
<i>Arbutus</i>	<i>marina</i>	Marina madrone	E.	Medium	40-50	40	30-35	6	No	Low	No
<i>Bauhinia</i>	<i>variegata</i>	Purple orchid tree	D.	Medium	35	20-35	15-20	4	No	Moderate/Medium	No
<i>Callistemon</i>	<i>citrinus</i>	Lemon bottlebrush	E.	Medium	25	25	15-25	4	No	Low	No
<i>Cassia</i>	<i>leptophylla</i>	Gold medallion tree	D.	Small	25	30	20-25	4	No	Moderate/Medium	No
<i>Casuarina</i>	<i>cunninghamiana</i>	River she-oak	E.	Large	70	30	20-30	8	No	Low	No
<i>Cedrus</i>	<i>deodara</i>	Deodor cedar	C.	Medium	40+	40+	35-40	10	No	Low	No
<i>Cercis</i>	<i>candensis</i>	Eastern redbud	D.	Small	-20	-20	20-25	4	Yes	Moderate/Medium	No
<i>Cercis</i>	<i>occidentalis</i>	Western redbud	D.	Small	-20	-20	20-25	4	Yes	Low	Yes
<i>Celtis</i>	<i>laevigata</i> var. <i>reticulata</i>	Netleaf hackberry	D.	Medium	35	25-30	15-20	6	No	Low	No
<i>Chilopsis</i>	<i>linearis</i>	Desert willow	D.	Medium	20-40	20-40	20-25	4	No	Very Low	Yes
<i>Chionanthus</i>	<i>retusus</i>	Chinese fringe tree	D.	Small	20	6-12	10-15	4	Yes	Moderate/Medium	No
<i>Chitalpa</i>	<i>tashkentensis</i>	Chitalpa	D.	Medium	20-40	20-40	30-35	4	Low	Yes	Yes
<i>Cordia</i>	<i>boissieri</i>	Texas olive	E.	Small	20	10-15	10-15	4	Yes	Low	No
<i>Corymbia</i>	<i>papuana</i>	Ghost gum	E.	Medium	30-50	20-35	30-35	6	No	Low	No
<i>Dalbergia</i>	<i>sissoo</i>	Indian rosewood	D.	Large	60	30-40	25-30	8	No	Low	No
<i>Ebenopsis</i>	<i>ebano</i>	Texas ebony	E.	Medium	40	30-40	15-40	8	No	Low	No
<i>Gelera</i>	<i>parviflora</i>	Australian willow	E.	Medium	35	20	15-20	6	No	Low	No
<i>Handroanthus</i>	<i>avellanedae</i>	Pink trumpet	D.	Medium	20-40	20-40	30-35	4	Yes	Moderate/Medium	No
<i>Koelreuteria</i>	<i>bipinnata</i>	Chinese flame tree	D.	Medium	20-40	20-40	20-25	6	No	Moderate/Medium	No
<i>Laurus</i>	<i>nobilis</i>	Sweet bay	E.	Medium	15-40	15-30	20-25	6	No	Low	Yes
<i>Lophostemon</i>	<i>confertus</i>	Brisbane box	E.	Medium	50	10-30	30-35	10	No	Moderate/Medium	No
<i>Lyonothamnus</i>	<i>f. var. asplenifolius</i>	Catalina Ironwood	E.	Medium	40	15-20	15-20	6	No	Low	Yes
<i>Melaleuca</i>	<i>linariifolia</i>	Flatleaf paperbark	E.	Medium	30	20-25	15-20	6	No	Low	No
<i>Melaleuca</i>	<i>stypelioides</i>	Prickly melaleuca	E.	Medium	40	10-20	15-20	6	No	Low	No

Table 10. Recommended Species Palette

Genus	Species	Common Name	Evergreen (E) Deciduous (D) Conifer (C)	Size Classification	Height (Feet)	Crown Spread (Feet)	Spacing between trees (Feet)	Minimum Planter Space (Feet)	Utility Friendly	WUCOLS rating	Regionally Native
Parkinsonia	praecox	Sonoran palo verde	D.	Small	20	20	15-20	4	Yes	Low	No
Parkinsonia	x 'Desert Museum'	Desert museum palo verde	D.	Small	20	20-25	15-20	6	Yes	Very Low	No
Pinus	eldarica	Afghan pine	C.	Medium	40+	20-40	30-35	8	No	Very low	No
Pistacia	chinensis	Chinese pistache	D.	Medium	40+	40+	30-35	6	No	Low	No
Prosopis	glandulosa 'Maverick'	Thornless honey mesquite	D.	Medium	35	25-35	15-25	6	No	Low	No
Prunus	ilicifolia	Hollyleaf cherry	E.	Small	30	10-25	15-20	4	Yes	Very Low	Yes
Quercus	agrifolia	Coast live oak	E.	Large	40+	40+	30-35	10	No	Very Low	Yes
Quercus	engelmannii	Engelmann oak	D.	Large	65	80-120	15-65	10	No	Very Low	Yes
Quercus	ilex	Holly oak	E.	Medium	30-60	30-60	30-35	8	No	Low	No
Quercus	suber	Cork oak	E.	Medium	20-40	20-40	20-25	8	No	Low	No
Quercus	tomentella	Island oak	E.	Large	50	25-40	20-25	8	No	Low	Yes
Searsia	lancea	African sumac	E.	Medium	30	20-35	20-25	6	No	Low	No
Stenocarpus	sinuatus	Firewheel tree	E.	Medium	30	15	10-15	6	No	Moderate/Medium	No
Tipuana	tipu	Tipu	D./E.	Large	40+	40+	35-40	10	No	Low	No
Tristaniaopsis	laurina	Water gum	E.	Medium	20-35	15-30	20-25	4	Yes	Moderate/Medium	No
Vachellia	farnesiana	Sweet acacia	D.	Medium	25	15-25	15-25	6	Yes	Very Low	No

Note: WUCOLS = Water Use Classification of Landscape Species

3 Staffing and Budget Review

3.1 Staffing

The number of staff available to perform tree management and maintenance tasks is a critical element of a sustainable forest. The Department of Public Works conducts the City's tree-related maintenance. The current full-time equivalent (FTE) split of positions dedicated to the City's tree program are presented in Table 11.

Table 11. City of Oxnard Tree-Related Staff Positions

Positions	FTE	Salary Funding
Parks Maintenance Supervisor	0.6	\$76,340.30
Parks Manager	0.12	\$15,865.44
Senior Tree Trimmer	0.9	\$66,886.72
Tree Trimmer I	0.9	\$64,280.41
Senior Groundsworker	0.4	\$29,536.00
Groundsworker I	0.9	\$62,020.62
Office Assistant II	0.75	\$39,711.96
Total FTEs	4.57	
Budget Allocation		\$354,641

Note: FTE = full-time equivalent.

Due to issues with staffing and capacity, the majority of the City's tree maintenance is conducted only when residents submit a 311-request for City tree service. During City staff interviews, several interviewees mentioned that there is a consistent backlog of maintenance requests, and given the number of trees that the City owns and the number of staff who are able to conduct the work, it is not possible to respond to the requests in a timely manner. The City retains an annual \$20,000 on-call contract with WCA to maintain certain trees as emergent issues arise. Table 12 describes the quantity of emergency calls WCA and City staff have responded to since 2019.

Table 12. Emergency Tree Calls between 2019 and 2021

Year	Number of Emergency Tree Calls
2019	29
2020	62
2021	111
	Total
	202
	Average
	67

In 2016, an urban and community forestry census was published that detailed the activities of 667 municipal tree management programs throughout the county (Hauer and Peterson 2016a). Of the respondents, 87 cities had populations comparable to Oxnard (100,000-249,000), and an average of 11.8 FTEs were involved in the management of the City tree population (Table 13). These FTEs held positions such as arborists, tree trimmers, clerical support/office staff, equipment operators, laborers, managers, contracted nonprofits, seasonal employees, truck

drivers, working foreman, and other (Hauer and Peterson 2016b). Oxnard's tree maintenance staffing is lower than the study average, and the City is not able to sustainably manage the urban forest at its current staffing level. The City should allocate more resources to the tree program to increase the number of staff positions, and fill those that are currently vacant.

Table 13. Mean Number of Urban Forest-Related Full-Time Equivalents at Municipalities Throughout the United States

Municipal Population	Number of Cities Surveyed	Mean Number of FTEs
2,500-4,999	47	3.3
5,000-9,999	35	3.1
10,000-24,999	41	4.7
25,000-49,999	121	5.3
50,000-99,99,9	146	6.3
100,000-249,999	87	11.8
250,000-499,999	20	18.3
500,000-1,000,000	9	18.2
1,000,000+	2	38.0

Source: Table adapted from Hauer and Peterson 2016a.
Note: FTE = full=time equivalent.

3.2 Budget

Based on the tree-related positions discussed in Table 11, and the WCA on-call contract, the tree program's labor budget is \$374,641. The lack of funds available for preventative maintenance has resulted in a largely reactive tree maintenance strategy. This type of maintenance is often more expensive than proactive tree pruning and has the potential to elevate the risk associated with a tree by not mitigating a defect in a timely manner.

Given the number of trees for which the City is currently responsible, the site of the City, and its history of emergency and routine maintenance requests, Dudek recommends the City should staff the tree program with four tree crews, each consisting of two tree trimmers, one groundsworker, and equipment and supplies. These 12.0 FTE positions would more closely align with the reported average of other comparable US municipalities. Three crews would be responsible for routine maintenance of the City's trees, which would allow the city to aim for the industry standard of a 5-7 year pruning cycle, and one crew would exclusively respond to emergency requests. The costs associated with each crew are presented in Table 14, and the number of trees each crew would be responsible for is presented in Table 15.

Table 14. Estimated Annual Costs per Tree Crew

		Annual Cost Per Crew
Staff		
Tree Trimmer I		\$72,500
Tree Trimmer II		\$79,750
Groundsworker I		\$73,500
Equipment & Supplies		
Chipper truck		\$10,350
Bucket truck		\$12,650
Pickup truck		\$9,000
Chipper		\$12,075
Chainsaws		\$958
Stump grinder		\$5,750
Fuel costs		\$19,380
Annual equipment maintenance		\$12,736
Miscellaneous annual supplies		\$15,000
Total		\$323,649

Table 15. Costs and Annual Tree Maintenance Responsibilities of Each Tree Crew

Crew	Number of trees needed to maintain a 5-7 year pruning cycle	Annual Costs
Routine Crew 1	2,711	\$323,649
Routine Crew 2	2,711	\$323,649
Routine Crew 3	2,711	\$323,649
Emergency Crew	67-100*	\$323,649
Total		\$1,294,596

*Note: The number of emergency requests will vary annually. This number is based on the 2019-2021 average presented in Table 12.

3.3 Comparison to other Cities

This Review can help the City determine appropriate funding levels by comparing the tree program budgets of other municipalities in similar size and population. Table 16 provides the budgets of various urban forest management programs throughout cities in California, and from survey respondents to the Hauer and Peterson study. Comparison cities were selected based on the amount of verifiable information for each city to provide an accurate baseline for funds needed to carry out management activities.

Table 16. Comparison of Municipal Urban Forest Management Funding

City	Population ^b	Tree Budget	Approximate Number of Publicly Managed Trees	Tree Budget Allocation per Tree
Oxnard	208,154	\$374,641	48,806	\$7.67
Survey respondents (n=78) ^a	100,00–249,999	\$1,368,607	73,723	\$44.85
Burbank	103,695	\$1,900,000	33,000	\$57.57
Irvine	281,707	\$1,500,000	65,000	\$23.07
San Francisco	874,961	\$19,000,000	236,000	\$80.51

Notes:
^a Hauer and Peterson 2016
^b United States Census Bureau 2019.

Oxnard spends less per tree than all cities highlighted in Table 16. Oxnard can only expect a certain level of tree maintenance and stewardship from the program's current funding levels. Of the 78 cities in the Hauer and Peterson survey, approximately 5% conduct maintenance on a similar time frame to Oxnard (only as-needed and/or on an emergency basis), and the higher average per-tree spending of these cities helps show a target for which the City could aim. If the City implemented the four tree crews mentioned above, the City's per-tree spending would increase to \$26.52.

The City of San Francisco has substantially more publicly managed trees and funding than Oxnard and understanding San Francisco's funding priorities and maintenance tasks may inform Oxnard's plans for the future of its urban forest. Internal program audits in 2012 and 2014 resulted in a 2016 ballot measure that requires the San Francisco to budget \$19 million per year on urban forest management. The funding supports City management of all trees in the public space (streets and parks), provides three years of establishment care to newly planted trees, and funded San Francisco's urban forest management plan and planting plan to increase canopy cover. In addition, San Francisco takes full responsibility for tree pruning and repairing sidewalk damage caused by trees.

3.4 Tree Liability Claims

The City retains a third-party administrator, George Hill Associates, to manage all liability claims the City receives. The third-party administrator analyzes claims and conducts any discovery necessary to make a liability decision. When a liability claim involves a City-owned tree, this process often includes investigating weather, tree species, maintenance records, and interviews with relevant City staff.

The City received 81 general loss property damage liability claims that involved trees between January 2018 and June 2021. At the time of this review, the City processed and closed 67 of these claims and 14 remain open. All open claims are expected to settle with the City incurring a cost. As such, these claims were included in the analysis. Of the 81 claims, the City was deemed liable for 46, totaling \$83,347 in incurred costs. Table 17 breaks down the type of damage submitted for a claim, the number of claims for which the City was deemed liable, and the total costs incurred for each type of damage.

Damage from branch failures was the most frequently filed claim and the City was deemed liable for 63% of the claims that were filed. Damage from whole tree failures was the next most numerous, and the City was deemed liable for 60% of the claims that were filed. Based on conversations with the third-party administrator, if the tree

TREE PROGRAM REVIEW / CITY OF OXNARD

had a known issue from a previous maintenance visit, or if work order requests were submitted by a resident but not addressed by the City, these factors made it more likely for the City to be deemed liable for the claim.

Damage caused by tree roots resulted in 24 claims filed, 10 claims liable, and \$30,686 in costs to the City. Damage caused by tree roots is usually the result of inappropriate tree species selected for the site. Species that are planted in an area that is too small for their size and stature are more likely to cause conflicts. These issues can be minimized if the correct species is planted in the area. The most expensive claims came from damage made to sewer systems, resulting in \$25,015 in costs to the City for one claim. City trees that caused damage to utility lines resulted in \$21,332 in costs to the City for two claims.

Table 17. Damage Associated with Tree Liability Claims filed against the City of Oxnard between 2018-2021

Type of Claim Damage								
	Branch Failure	Whole Tree Failure	Root Damage					Utility Damage
			Water pipes	Sewer	Driveway	Sidewalk	Foundations and Walls	
Number of claims filed against the city	30	25	10	3	7	1	3	2
Number of claims the City was deemed liable	19	15	4	1	3	1	1	2
Claim costs incurred by the City	\$13,771	\$14,678	\$2,878	\$25,015	\$4,205	\$510	\$956	\$21,332
Total	\$83,347							

3.5 Recommendations

3.5.1 The City Must Provide Funds to Support Urban Forest Maintenance

At its current staffing levels, the City does not have enough staff members to complete maintenance requests in a timely manner, nor establish a routine maintenance cycle for City-owned trees. The City employs 7.23 fewer FTEs than the average municipal tree program when compared to cities with population sizes similar to Oxnard. One result of the deferred maintenance has been a steady level of liability claims filed against the City from damages caused by City-owned trees with branch or whole tree failures. While many factors contribute to tree failures, a lack of routine maintenance and/or reactionary maintenance can prolong the time before a defect is identified and mitigated. Deferred mitigation of a defect can increase the potential for failure and risk associated with a tree. Investing in the management and maintenance of the City's tree inventory will contribute to mitigating defects before failures occur, and potentially decrease the costs incurred from liability claims filed against the City. The savings from a lower frequency of liability claims and associated payments can be used to support tree maintenance and other management activities.

3.5.2 The City Should Complete a Financing Study of the Tree Program

Further information is needed to fully understand the budget and financing implications of increased tree maintenance and management activities of the Tree Program. A detailed understanding of what the City will need to sustainably manage the tree population will provide elected officials with a clear picture of the per-tree costs to plant and water new trees, maintain a 5-7 year pruning cycle, remove dead trees, and other management actions. The study would also help to identify potential funding sources for these activities, and which would be most appropriate for the City to initiate.

3.5.3 The City Should Complete an Urban Forest Management Plan to Guide Long-Term Budget and Management Decisions

In conjunction with, or immediately following the financing study, the City should begin the process to develop an UFMF. The UFMF would establish a vision and goals for the Tree Program based on the priorities and values of City staff, elected officials, residents, business owners, and other stakeholders. The goals would not only provide the basis for annual totals of trees to plant, prune, and remove, but also strategies to increase community participation, determine City-wide canopy cover, and prioritize where resources would be most effectively used. The combination of the financing study and UFMF would help give Oxnard the necessary data and analytics to make decisions that would progress the City towards a sustainable urban forest.

INTENTIONALLY LEFT BLANK

4 City Document Review

4.1 1988 Landscape Standards

The 1988 Landscape Standards document is used by several City departments to make tree-related decisions. Because the document is more than 30 years old, much of the language is out of date and not reflective of current industry practices. The following table provides a line-by-line review of the 1988 Landscape Standards, and provides suggestions for standards to create, update, or remove. Section 4.1.1 provides a summary of the recommendations.

Section/Page	Comment
Pg. 3	The language of the City Council Resolution should be updated to reflect sustainability principles and the need to have a resilient City due to changing climate conditions.
Pg. 4	Introduction The 'ideal coastal climate' is shifting and will continue to become hotter and drier. Language should be updated to reflect current and future climate conditions in the City. Criteria 1. The phrase "High Level of Landscape Quality" should be clarified for specificity. 2. This criterion should be directed towards environmental services of trees/landscapes, rather than attractiveness and color. 3. Ok. 4. Ok.
Landscape Development	
General Requirements	
Pg. 7 Landscaping Required	The responsibility for all required landscaping to residential, commercial, and industrial properties is placed on the Parks and Recreation Department ² , including: street trees, open areas, parking lots, front yards, walls and fences, residential tract entries, parkways, parks, and medians. It does not seem reasonable to expect the Parks and Recreation Department to have this level of responsibility without a robust budget.
Pg. 7-8 Landscape Plans Required	Dudek recommends that the City should not take landscaping responsibility for front yards, walls, fences, and parking lots. This section should be updated to include Water Efficient Landscaping Standards language. There should also be specificity added to the standards that are applied at the time of site inspection. c.6. Specificity should be added to indicate that an arborist review should be conducted for tree selection and placement. d.2. A City arborist should be added to the requirements to ensure accuracy of the inspection.

² The 1988 Landscape Standards refers to the Parks and Recreation Department. In present day, this department has been renamed the Parks Division. Throughout this section, the Parks and Recreation Department name was used to reflect what was written in the Landscape Standards.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
Pg. 9 Landscape Plan and Construction Review Process	d.5. Specificity should be added to include that the Parks and Recreation Department review should be completed by a City arborist. More information is needed to determine if the discussed steps are sufficient. Dudek recommends that a Certified arborist should be added to the review process.
Pg. 9 – 10 Preservation of Existing Trees	Much of this section includes language that will promote tree preservation and protection, and it could be strengthened to meet best management practices for the preservation of existing trees. 4.a. Specificity should be added to what is meant by “healthy condition.” As written, the trees in a “healthy condition” clause could allow for the removal of trees that are in decline from a treatable stress factor. 4.b. Setting a 6-foot height limit for trees that need Parks and Recreation Department approval to be removed may be overly burdensome and not necessarily in line with best management practices for tree preservation. Dudek recommends setting species specific height limits or diameter at standard height (DSH; formally DBH) limits instead. 4.c. This section requires a report from a certified arborist to be included in a request for windbreak removal. Specificity should be added that a City arborist should review the report, and further detail should be added to the definition of “healthy condition.” 4.d. This section requires a report from a qualified botanist, arborist, horticulturist, or landscape architect stating that fruit or nut trees are no longer in a healthy condition. Specificity should be added that a City arborist should review the report, and further detail should be added to the definition “healthy condition.” 4.e. This section does not include adequate tree protection standards. Fences or barricades should be 5 feet from the drip line of the tree or 15 feet from the trunk of the tree, whichever is greater. If there are specific tree protection standards that are required by developers to follow, these should be added. If there are not, these should be developed and included in the updated Landscape Standards. 4.f. This section discusses grade changes around existing trees. Specificity should be added to designate the timing during the construction when grade changes are permitted to occur. An arborist should be on-site to monitor grade changes, tree protection, and oversee construction crews in any root pruning that is required. 4.g. The standard for tunneling is aligned with industry standards is acceptable as written. The general 20-foot standard for root trenching is to general to be applicable to all trees. This language should be revised to state that any root trenching that occurs within the tree protection zone (five feet from the dripline or 15 feet from the trunk, whichever is greater), should require approval. It should further call for an arborist to be on-site to monitor root trenching as stated in the comment for 4f. 4.h. The “dripline” language in this section should be better aligned with best management practices to state that the chemical poisoning and run-off from the named products shall be prohibited “within the tree protection zone, which would extend five feet past the dripline or fifteen feet from the trunk, whichever is greater.”

Section/Page	Comment
Multi-Unit Residential, Commercial, and Industrial Landscape Standards	
Pg. 10-11 Street Trees	1.a. This section stipulates general guidelines for nursery stock selection, but these do not meet best management practices. The City should draft and adopt nursery stock specification guidelines, to further specify standards for street tree selection. 1.b. The street trees species selected are to be designated by the Parks Division. This list should be updated to reflect the most current recommended species list. From conversations during departmental interviews, 24-inch box size trees are not typically planted. If a 24-inch box tree is the standard for street trees it should be consistently enforced. 1.c. Specificity should be added to this standard to stipulate what would occur if the trees to be planted do not meet the City standards. If trees do not meet City standards they should be refused, and the developer should purchase new trees for the project. 1.d. This standard mentions a 1-year bond period. Trees typically need at least 3 years to establish. The City should consider increasing its bond period to at least 3 years. This standard should also stipulate the process that occurs once the bond period is over and what penalties a developer would incur if they fail to meet the standards of the performance bond. 1.e. The City should consider increasing its bond period to at least 3 years. 1.f. OK. 1.g. This section mentions construction joints that should be installed. Clarity should be added to define "construction joint." 1.h. It is likely that planting trees 5 feet behind a monolithic sidewalk that is less than 7 feet, 6 inches wide is not always possible. More details should be added to specify the standard in cases when trees are not able to be planted 5 feet behind the sidewalk. 1.i. This standard lacks specify in its first sentence. The standard should read that the minimum tree quantity requirement is to plant trees to provide canopy cover over entire length of property: ▪ i.e. a 50-foot length of property could have: - 1 tree that is 50 feet wide, or - 2 trees that are 25 feet wide 1.j. This standard specifies a maximum planting spacing of 75 feet between groups. The maximum spacing should be rephrased to state spacing between groups of trees should follow the individual tree species spacing recommendations provided in the recommended street tree species list. Update tree species list and include spacing recommendations for individual trees. 1.k. This standard stipulates a 50-foot clearance is required for trees and street corner curb lines. Some Cities set their requirement to 30–40 feet. The City could consider decreasing its clearance requirements if this standard has caused issues in past situations. 1.l. OK. 2.a. This section could be improved by stating a minimum percentage of canopy cover that is required. Currently it only mentions that lawns should not exceed 40% of the open area.
Pg. 12-13 Open Areas	

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
	2.b. This standard focuses on aesthetics of a planting, but the language could be improved to address factors of a resilient community, such as: cooling sitting/eating/playground areas, supporting local wildlife, and following Water Efficient guidelines. 2.c. This section stipulates general guidelines for nursery stock selection, but these do not meet best management practices. The City should draft and adopt nursery stock specification guidelines to further specify standards for street tree selection. 2.d. This section mentions that trees should be planted at a minimum 24-inch box size. From conversations during departmental interviews, 24-inch box size trees are not typically planted. This section to be updated to reflect the actual size that is planted. 2.e. This section requires two 36-inch box size trees to be planted at entry points. Further clarification should be added to provide rationale for this requirement. 2.f. Ok. 2.g. Ok. 2.h. Palms provide relatively few environmental services in comparison to shade trees. Dudek recommends removing the allowance for palms in this standard. 2.i. This section states that an automatic irrigation system shall be provided. Clarification should be added to state the party responsible for providing the irrigation system, as it could be interpreted that the City would provide it. 2.j.-2.m. Ok.
Pg. 13-14 Parking Lots	3.a. Ok. 3.b. These standards designate minimum trees requirements in perpendicular planters. Other cities have canopy cover goals for parking lots, such as requiring a 50% canopy cover. A similar approach could be appropriate here as well. 3.c. This standard could be updated to plant trees to provide canopy cover over entire length of property: ▪ i.e. a 40-foot length of property could have: - 1 tree that is 40 feet wide, or - 2 trees that are 20 feet wide 3.d.-3.j. Ok.
Pg. 14 Wall and Fence Landscaping	Ok.
Pg. 14 Curb Around Open Landscape Areas	Ok.
Residential Landscape Standards	
Pg. 14-15 Residential Parkways	1.a. It is good that street trees are included, but the standard for water use considerations should be updated to remove the "lawn only" designation. It should be replaced with a drought tolerant landscape.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
	1.b. This standard mentions the requirement for an approved irrigation system. The City should develop and adopt standards to stipulate what constitutes an approved irrigation system. 1.c. This section stipulates general guidelines for nursery stock selection, but these do not meet industry standards. The City should draft and adopt nursery stock specification guidelines, to further specify standards for street tree selection. 1.d. This standard mentions species and size requirements for developers. Clarity should be added to state that the City designates the species that must be planted, and the developer provides the plant material to be planted. 1.e. OK. 1.f. This standard mentions a 1-year bond period. Trees typically need at least 3 years to establish. The City should consider increasing its bond period to at least 3 years. This standard should also stipulate the process that occurs once the bond period is over. 1.g. This standard mentions a 1-year bond period. Trees typically need at least 3 years to establish. The City should consider increasing its bond period to at least 3 years. This standard should also stipulate the process that occurs once the bond period is over. 1.h. OK. 1.i. This standard should be updated to reflect a larger contribution to the City's overall canopy cover goals. The number of trees is not as important as increasing canopy cover. 1.j. OK.
Pg. 15 Front Yards	2.a. This standard should be updated to include state mandated water use standards. 2.b. This section stipulates general guidelines for nursery stock selection, but these do not meet industry standards. The City should draft and adopt nursery stock specification guidelines, to further specify standards for street tree selection. 2.c. This standard could allow for a minimum of a 15-gallon size tree if the resident is required to plant the tree, as the amount of labor to plant a tree significantly increases from 15-gallon container tree to a 24-inch box tree. This change could reduce the need and associated costs for a resident to hire a contractor to plant the tree. Planting location should be taken into consideration, as 24-inch box trees have thicker trunks that are better suited for high traffic areas. 2.d-2.e. Ok. 2.f. This standard mentions the requirement for an approved irrigation system. The City should develop and adopt standards to stipulate what constitutes an approved irrigation system. 2.g.-2.i. Ok.
Pg. 16 Wall or Fence Landscaping at Corner Lot Condition	3.a. This standard should include spacing guidelines by which trees would be planted from corners, streetlights, water lines, fire hydrants, etc. 3.b. Ok.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
	3.c. This section states that an automatic irrigation system shall be provided. Clarification should be added to state the party responsible for providing the irrigation system, as it could be interpreted that the City would provide it.
Street Median and Non-Residential Parkway Landscape Standards	
Pg. 16	
Medians (Trees)	1.a.1. This section stipulates general guidelines for nursery stock selection, but these do not meet best management practices. The City should draft and adopt nursery stock specification guidelines, to further specify standards for street tree selection. 1.a.1./1.a.2. Designates coral trees and palms to be used in City medians. Coral trees are typically not readily available at California nurseries, and palms provide comparably fewer environmental benefits. Minimize the use of palms and coral trees. Given the width of medians, the City can plant large stature shade trees in medians. 1.a.3. Ok. 1.a.4. This standard mentions a 1-year bond period. Trees typically need at least 3 years to establish in Southern California. The City should consider increasing its bond period to at least 3 years. This standard should also stipulate the process that occurs once the bond period is over. 1.a.5. This standard mentions a 1-year bond period. Trees typically need at least 3 years to establish in Southern California. The City should consider increasing its bond period to at least 3 years. This standard should also stipulate the process that occurs once the bond period is over. 1.a.6. This standard specifies a maximum planting spacing of 75 feet between groups. The maximum spacing should be rephrased to state spacing between groups of trees should follow the individual tree species spacing recommendations provided in the recommended street tree species list. Update tree species list and include spacing recommendations for individual trees. 1.a.7. This standard stipulates a minimum quantity of trees per median, but the standard should be directed toward increasing canopy cover. This update could include language stating that medians will have a minimum level of canopy cover. The City should determine all minimum canopy cover levels through the process of developing an urban forest management plan. 1.a.8. Develop spacing guidelines by which trees should be planted from corners, streetlights, water lines, fire hydrants, etc. 1.a.9. Ok. 1.b.-1.c. Shrubs and ground cover standards are not in the scope of this review. 1.d. Ok. 1.e. Many soil fumigants have been phased out since the writing of these landscape standards, and not available for use by City pesticide applicators without being granted exemption status. Dudek recommends removing this standard. 1.f. This standard stipulates soil amendments that must be added to medians. If amendments are used and effective, the standard should be updated to reflect the actual standards for soil amendments and required to maintain plant health.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
	1.g. This standard specifies requirements for hardscape. It could be updated to include plants instead of hardscape in medians.
	1.h. Ok.
Pg. 19	2. a. Outside of the scope of this review.
Non-Residential Parkways	2.b. This standard could be updated to reflect a City canopy cover goal.
	2.c.1.a/2.c.1.b. These standards should be updated to reflect a larger contribution to the City's overall canopy cover goals. The number of trees is not as important as increasing canopy cover.
	2.c.3. This standard specifies a maximum planting spacing of 75 feet between groups. The maximum spacing should be rephrased to state spacing between groups of trees should follow the individual tree species spacing recommendations provided in the recommended street tree species list. Update tree species list and include spacing recommendations for individual trees.
	2.c.4. This standard mentions needing conspicuous trees. Clarity should be added.
	2.c.5. Comments on Street Tree in Parkway, Tree Planting Detail are located at end of document.
	2.c.6. A City arborist should be added to the requirements to ensure accuracy of the inspection.
	2.c.7. Ok.
	2.c.8. It is likely that planting trees five feet behind a monolithic sidewalk that is less than 7 feet, 6 inches wide is not always possible. More details should be added to specify the standard in cases when trees are not able to be planted 5 feet behind the sidewalk.
	2.c.9. Several spacing guidelines appear in this standard. These guidelines should be compiled with others mentioned throughout this document to create a standard for tree spacing.
	2.d.1. Ok.
Pg. 16	2.d.2. This distance requirement does should be clarified. It does not seem logical.
	2.d.3. A City arborist should be added to the requirements to ensure accuracy of the inspection.
	2.e.-2.k. Outside of the scope of this review.
	3.a. Ok.
Residential Tract Entries	3.b. This section requires two 36-inch box size trees to be planted at entry points. Further clarification should be added to provide rationale for this requirement.
	3.c-3.e. Outside of the scope of this review.
Landscape Maintenance	
Page 22	This statement gives the City the ability to enforce penalties if landscaping is not maintained properly. Trees should be specifically mentioned in this statement to ensure the penalty can be enforced for trees.
Page 22	This section does not specifically discuss trees. Dudek recommends that they should be included.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
Residential, Commercial, and Industrial Landscaping	
Page 23 Parks, Medians, and Non-Residential Parkways	This section specifically calls out trees in City parks, street medians, non-residential parks, and street tree wells to be maintained by the City. It does not, however, call out residential yards, which is out of alignment with the standard in the landscaping required in the General Requirements of the Landscape Development Section of this document.
Page 23-27 Residential Parkways	1. Ok. 2. Outside of the scope of this review. 3.a. This section appears to include the condition that includes that trees in front yards but in the public-right-of-way be maintained now and here after by the City. If this is correct, this is the standard that could be updated to transfer maintenance responsibility. The content of this section includes language that is fairly well aligned with industry standards, but it could be improved to strengthen its meaning and clarity. 3.b. This standard should be based on the International Society of Arboriculture (ISA) and American National Standards Institute (ANSI). The entire pruning section needs to be revised and updated to reflect current practice and research. All language referencing thinning trees as it does not comply with ISA or ANSI standards. 3.c. This section should be updated to include an arborist review before removals take place. For Stump Removal, the standard should be updated so that the entire stump is removed (not just to a 3-inch depth) so another tree can be planted in place. For Planting Condition and Unauthorized Removals, these standards should be updated so that a replacement tree recovers lost canopy from a removal, rather than a 1:1 replacement.
Standards Details	
Pg. 28 Street Tree in Parkway Planting Detail	Stakes and ties Galvanized wire should no longer be used. Updated this standard to use a rubberized tie. A second lodge pole should be used and added to the drawing. The lodge pole should be drawn outside of the root ball, rather than inside of it. Trunk guard Consider not specifying a brand of trunk guard for use. Dudek recommends creating a new version of this planting detail that is based on current ISA standards and presents a clearer picture of how to install the tree.
Pg. 29 Street Tree in Sidewalk Planting Detail	Stakes and ties Galvanized wire should no longer be used. Updated this standard to use a rubberized tie. A second lodge pole should be used and added to the drawing. The lodge pole should be drawn outside of the root ball, rather than inside of it. Planting Space A planting area of 3 feet by 3 feet does not provide enough growing space for street trees. Update this standard to provide larger options. Dudek recommends creating a new version of this planting detail that is based on current ISA standards and presents a clearer picture of how to install the tree.

Section/Page	Comment
Pg. 30 Vines Attached to Walls Planting Detail	Outside of the scope of this review.
Pg. 32 Stamped Concrete Median Paving Detail	Outside of the scope of this review.

4.1.1 1988 Landscape Standards Recommendations

In addition to the recommendations provided in the Landscape Standards Review table in Section 4.1, the following subsections are a general summary of recommendations/key findings of the review. These recommendations were prioritized based on the number of times the standard appeared and needed to be updated in the document.

4.1.1.1 Create and/or Update Standard Details

Several areas of the landscape standards call out for a standard to follow but it is either not clear, or not specific enough to be enforced.

- Specific standards that should be created include:
 - a. Nursery stock specifications
 - b. Spacing guidelines for street trees
 - c. Tree protection during construction
 - d. Approved irrigation systems
 - e. Tree watering and establishment care
 - f. Root pruning
- Specific standards to update include:
 - a. Street Tree Planting for Parkway/Sidewalk details need to be updated to reflect current ISA standards.

4.1.1.2 Create a City-Recommended Tree Species List

Several references are made to selecting specific species for planting, but guidance is not provided on the species that are appropriate for Oxnard or the standards the City uses to select tree species. Species selection should be based on the following minimum standards:

1. Trees known to be adapted to the expected changes to Oxnard's climate, which will be hotter and drier.
2. Prioritize trees categorized as very-low or low water use trees by the Water Use Classification of Landscape Species.
 - a. Minimize use of trees categorized as medium water use.
 - b. Do not allow high water use trees.
3. Species with fewer ecological benefits (such as palms) should only be used in areas where heat mitigation and shade are not a concern.

4.1.1.3 Add Language Requiring Reviews by a Certified Arborist

Multiple areas of the Landscape Standards require that a review of a project with tree-related issues must be conducted by the Parks Department or another City staff member. However, except for the case of agricultural and windrow trees, a review conducted by a City arborist or third-party arborist is not required. All decisions regarding tree maintenance, removal, safety, health, and preservation should only be made by a certified arborist who is qualified to work with the City. Without an arborist's review, the City can place an undue burden on staff members who lack the expertise to make decisions about trees, and potentially increase the City's risk liability.

4.1.1.4 Extend the Bond Performance Period Beyond 1 Year

The Bond Performance Period of 1 year is mentioned several times throughout the Landscape Standards. In the Southern California landscape, it takes 3 to 5 years for a tree to successfully establish. The 1-year performance period is not sufficient time to determine if a newly planted tree has been adequately provided establishment care, including watering, weeding, formative pruning, and general maintenance. Extending the performance period to 3 to 5 years will ensure trees are cared for long enough to be given a reasonable chance to survive and thrive if supplemental watering and care is stopped.

4.1.1.5 Tree Preservation Language Should be Strengthened

Being intentional and specific about tree preservation can improve outcomes for trees in the City. Strengthening the language about the preservation of trees (Landscape development, Section 4, Preservation of Existing Trees). Currently, the tree preservation language is vague and could allow for a liberal implementation of the standards based on the description of "decision makers". Clearly defined parameters and standards for tree preservation would remove ambiguity in how to apply the standards and allow for a consistent approach to tree preservation.

4.2 Municipal Code and Ordinance Review

The following table outlines a review of the City municipal code that provides the standards for the management of public trees in the City. Many aspects of the municipal code should be updated and expounded upon to provide clarity on the specific roles the City has in managing trees in the public space, prohibited actions, and definitions. The City would benefit from drafting a new municipal code with more in-depth information to ensure the proper maintenance and preservation of trees in the City.

Section/Page	Comment
Sec. 20-1 Duties of Parks and Facilities Superintendent	The duties outlined in this section include many typical management activities required for a municipal tree program. The list of duties could be further updated with more detail to include: ▪ Preserve and grow the city's canopy cover by protecting city trees and expanding the protection of city trees on public property. ▪ Safeguard the city's urban forest by providing for the regulation of the protection, planting, maintenance, and removal of trees in the city. ▪ Protect the visual and aesthetic character of the city. ▪ Improve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of the many areas of the city. ▪ Improve the quality of life for residents, visitors, and wildlife.

TREE PROGRAM REVIEW / CITY OF OXNARD

Section/Page	Comment
	▪ Maintain and enhance the general health, safety and welfare of the city and its residents by assisting in counteracting air pollution and in minimizing soil erosion and other related environmental damage. ▪ Protect and maintain healthy trees in the land use planning processes as set forth in this Ordinance. ▪ Establish procedures and practices for fulfilling the purposes of this city tree and tree protection ordinance. ▪ Supplement the city's policies and administrative procedures.
Sec. 20-2 Prohibited Actions	(a) Further detail should be provided on what constitutes 'injure or destroy'. Clearly defined actions could include: a. excessive pruning, cutting, topping, trenching, excavating, altering the grade, paving or compaction within the tree protection zone, including deliberate damage such as vandalism. (b) The process for "prior" written consent is vague and should be accompanied with a procedure for obtaining a permit from the City, standards for performing tree work, and any associated fees.
Sec. 20-3 Unlawful To Interfere With Superintendent	Ok.
Sec. 20-4 Protection During Construction	The City should include what it considers appropriate tree protection during construction activities. Appendix A is included as an example of language that can be used to develop tree protection during construction standards.
Sec. 20-5 Removal of Trees	The City should also include language that an ISA Certified Arborist has made the determination that the tree is dead, liable to fall, dangerous or obstructing the public right-of-way.
Sec. 20-6 Notice of Removal	Ok.
Sec. 20-7 Appeal of Notice	Ok.
Sec. 20-8 Hearing Officer	Ok.
Sec. 20-9 Scheduling Hearings; Notice	The hearing fee should be added to this section.
Sec. 20-10 Conduct of Hearings	Ok.
Sec. 20-11 Decision	Ok.

INTENTIONALLY LEFT BLANK

Maintenance Policy Recommendations

5.1 Tree Removal Guidelines

Tree removal is one aspect of managing a municipal tree inventory that requires a thoughtful approach to assess each individual tree and determine the appropriate course of action. Every option should be explored to preserve a tree in the urban landscape to maintain their environmental services and economic benefit to the City. However, not all trees can or should be preserved in every instance. Common reasons for removal include trees that pose an unacceptable level of risk to public safety, are damaging to infrastructure, are dead or declining in health, or are infested with pests or pathogens that are likely to spread to other trees in the area. When then there are no options to mitigate the defect and correct the issue and there is an elevated level of risk, removal may be warranted.

On September 16, 2021, Dudek ISA Certified Arborist Ryan Allen conducted a site visit with Oxnard City staff to observe common street tree issues. The following streets and tree species are selected to represent tree conflict and removal decisions that are common throughout the City. The recommendations for these situations can be used as a guideline for other tree management and removal decisions, with the recognition that each tree and situation is unique, and requires an assessment of the tree's health, safety, and mitigation options before a removal determination can be made.

5.1.1 Infrastructure Conflict

Sidewalks

Olga Street, Tipuana tipu, tipu tree

Sidewalk damage is the most common infrastructure conflict observed during the site visit of Oxnard street trees. Exhibit 1 shows the base of a tipu tree that is planted in a 4.5-foot parkway and displacing the sidewalk. The tipu trees on this street were planted approximately 10-15 years ago, and because they are large fast-growing trees, have already started to displace the sidewalk. The tipu trees on Olga Street are still young and measure approximately 25-30 feet in height and 20-25 feet in width. When they reach maturity, the trees can measure up to 50-60 feet in height and 50-60 feet in width. It is more than likely that the tipu trees will continue to disrupt the sidewalk and require repairs.

Exhibit 1. Tipu (*Tipuana tipu*) planted in a 4.5-foot parkway displacing a sidewalk.



Source: Ryan Allen

Utilities

Azalea Street, *Afrocarpus falcatus*, fern pine

Oxnard has several instances where trees have been planted too close to existing utilities as shown in Exhibit 2. As seen in the exhibit, the tree is beginning to completely cover the water meter box and will potentially make the box inaccessible. As reported by City staff, in other situations tree roots have accessed water lines and required expensive repairs to clear the lines. As shown in Exhibit 3, in some locations, trees have already been removed for their proximity to utilities. This situation can be avoided if proper spacing guidelines are uniformly applied when new trees are planted. Recommended spacing guidelines for individual trees are provided in Section 5.3, Tree Plans of Action.

Exhibit 2. Tree root conflict with a water meter box as a result of improper spacing.



Source: Ryan Allen

Exhibit 3. Tree removal as a result of infrastructure conflict and improper spacing.



Source: Ryan Allen

Driveways

Twin Oaks Street, *Melaleuca quinquenervia*, cajepout (paperbark) tree

Another spacing issue with street trees is the proximity with which they are planted next to driveway aprons. Exhibit 4 shows a cajepout tree that was planted within 2 feet of the existing driveway apron and creates distinct issues. Damage to the driveway from the tree roots and trunk is one issue. The issue may temporarily be resolved by root pruning and repairing the driveway, but most likely the roots will again displace the driveway and require further repairs and root pruning. Another issue is the visual impairment for the resident pulling out of the driveway that has the potential to lead to a vehicle or pedestrian accident. This issue can only be resolved by removing the tree.

Exhibit 4. Cajeput (*Melaleuca quinquenervia*) conflicting with a driveway apron.



Source: Ryan Allen

What to consider before removal: Constant sidewalk and driveway repair is costly and usually requires root pruning of the tree. It may not be considered the most viable long-term option to manage street trees that are too large for the space provided. If it is not, Dudek recommends first considering if other options exist to preserve the tree and repair the sidewalk and driveway. Appendix B presents a detailed outline of alternative sidewalk designs, materials, and estimated costs that can be explored for these situations. The alternative sidewalk designs and materials detail various methods that are intended to create additional space for root growth, reinforce sidewalks, or limit sidewalk and root interaction. Because trees are living, it is not possible to guarantee a tree will not impact a sidewalk or driveway under any circumstance. However, these alternatives will increase the likelihood that there will be low or minimal impact. If these options are not viable, then tree removal may be warranted as a long-term solution.

The situation is somewhat similar for utility and tree conflicts. It is not realistic in most cases to relocate a water meter/line, streetlight, or fire hydrant. It may be that the only other alternative to preserve the piece of infrastructure is to remove the tree. Section 5.3, Tree Plans of Action outlines an approach to removing multiple trees on a given block.

5.1.2 Pests and Disease

Lawnwood Way – *Liquidambar styraciflua*, American sweetgum

Oxnard has implemented a routine root pruning program to repair sidewalks that have been damaged by tree roots. Root pruning has the benefit of preserving trees in the landscape while sidewalks are repaired. However, repetitive root pruning stresses trees and the wound that are left increase trees susceptibility to pathogen or pest entry. Exhibit 5 shows an American sweetgum that has been root pruned multiple times. The fungal fruiting body on its trunk, suspected to be caused by *Ganoderma* spp., is a sign that the tree is experiencing decay of its hardwood. Trees with weakened hardwood are more susceptible to whole tree failure. The potential for failure of this tree is also impacted by root pruning activities that appear to have removed structural support roots. A tree in this condition would be a potential candidate for removal.

Exhibit 5. American sweetgum (*Liquidambar styraciflua*) showing signs of internal decay, suspected to be caused by *Ganoderma* spp.



Source: Ryan Allen

What to consider before removal: Prior to tree removal, the tree should be assessed for visible signs and symptoms of pathogens, tree disease, insect infestation, or other outwardly observable signs of tree health issues. Experienced arborists may be able to diagnose tree issues through a visual assessment of the tree, but collection of soils and/or tissue samples of branches, leaves, and bark for submission to a plant diagnostic laboratory for identification of biotic or abiotic causes is recommended. Accurate identification of pest or pathogens will help determine if any treatment options are available, or if removal is the best course of action.

If the tree has the potential for preservation, then it would be prudent to conduct a Level 2 ISA Tree Risk Assessment to determine what tree part may fail, any target that would be impacted by the part failure, the likelihood it would impact the target, and the severity of damage should failure and impact occur. If decay is suspected or observed in the tree, a Level 3 ISA Tree Risk Assessment using sonic tomography would be recommended. Sonic tomography uses sound waves to measure wood density, and the procedure generates a picture that displays the extent of decay based on the density of wood that is detected. Level 2 and 3 risk assessments can help provide the City with a thorough analysis that will help determine tree removal is warranted or preservation is possible.

5.2 Root Pruning Guidelines

Discussion

As detailed in Section 5.1, street trees planted in urban environments at times will come into conflict with adjacent sidewalks, tree wells, curbs, and other infrastructure that will need to be repaired to maintain the location in a safe condition. Root pruning is an often-used practice in Oxnard in these circumstances to repair the damage and preserve the tree. Oxnard does not have a codified set of guidelines or standards to determine when a tree is a candidate for root pruning, if root pruning will compromise tree safety, or how to perform root pruning. Instead, the City relies on the experience of Public Works staff to make these determinations and perform the work. Public Works staff reported that they have not experienced any tree failures in recent years that can be attributed to root pruning. However, as presented in Exhibits 6 through 9, the lack of guidelines has led to instances of extensive root pruning that may compromise the safety of the tree.

Exhibit 6. Camphor (*Cinnamomum camphor*) trees on Fuchsia Street that have been repetitively root pruned.



Source: Ryan Allen

Exhibit 7. Camphor (*Cinnamomum camphor*) tree on Fuchsia Street that has had large structural roots repetitively pruned.



Source: Ryan Allen

Exhibit 8. Large structural root pruning of a camphor (*Cinnamomum camphor*) tree on Fuchsia Street.



Source: Ryan Allen

Exhibit 9. Root pruning of a camphor (*Cinnamomum camphor*) tree on Fuchsia Street that may have affected the tree's stability and safety.



Source: Ryan Allen

The Exhibits represent one of several examples of extensive root pruning observed during the September 2021 field visit. The photographs are of a camphor (*Cinnamomum camphor*) tree on Fuchsia Street that has had large structural roots pruned on both sides of the tree. The extent of root pruning is not documented and therefore difficult to ascertain the extent to which the stability of the tree is comprised. From what can be observed, the root pruning was not done to ISA or American National Standards Institute (ANSI) standards. This situation should be avoided in future root pruning practices and a Level 2 tree risk assessment of trees with extensive root pruning should be completed to begin to understand the risk associated with the trees in the landscape.

Guidelines

Every effort should be made to preserve trees to repair damaged infrastructure. Prior to root pruning activities, alternative designs and materials should be evaluated that will minimize impacts to tree health and safety. When impacts to trees and tree roots cannot be avoided, careful consideration must be given to determine if root pruning and tree preservation is feasible. Appendix C: Root Pruning Considerations provides additional details.

TREE PROGRAM REVIEW / CITY OF OXNARD

Improper root pruning and unnecessary damage from construction related activities can significantly damage trees, resulting in health decline and/or structural instability. If root pruning is necessary to preserve the tree(s), the following guidelines may be used to inform the decision-making process and decrease the likelihood of tree health decline and/or structural stability prior to and following root pruning.

Minimization of root damage is best accomplished by minimizing overall root pruning and maximizing the distance from the tree's trunk that roots are cut. Each tree and situation is unique and requires a decision making process. As such, the City should consider requiring the following qualifications of any individual who will make recommendations for trees that require root pruning:

- International Society of Arboriculture (ISA) Certified Arborist
- ISA Tree Risk Assessment Qualified
- Experience with root pruning

In addition, Oxnard should further recognize the most current editions of the following pruning standards as a basis for root pruning:

1. ANSI A300 Pruning Standards
2. ANSI Z133.1 Safety Standards
3. ISA Best Management Practices: Tree Pruning

Step #1 – Tree and Site Assessment

To minimize root-pruning impacts, a tree assessment should be conducted by a City qualified arborist prior to pruning. During the evaluation, the arborist would evaluate tree and site conditions to determine the potential for injury and loss of structural stability. Tables 18 and 19 provide guidelines to determine if the tree is a suitable candidate for root pruning. If the assessment finds the tree is a suitable candidate for root pruning construction related activities can commence under the supervision of a City qualified arborist.

Table 18. Tree Health and Safety Factors to Consider

Factor	Description
Tree Species	Some species tolerate root pruning/damage better than others.
Tree Health	Trees in poor or declining health should not be root pruned.
Tree Age	Older trees are more likely to decline following root pruning and/or damage.
Tree Lean	Leaning trees should not be root pruned.
Root Pruning Damage Proximity	The closer that the root cut is to the tree, the greater the chance of tree decline and loss of stability.
Percentage of Anticipated Root Loss	More loss increases the likelihood of decline.
Structural root damage	Increased likelihood of structural failure and increased risk to the community.
Prior root pruning	Trees that have had prior root pruning should be documented to minimize additional decline.
Soil Volume	Roots in shallow soils require additional distancing from the trunk of the tree to minimize the likelihood of root damage.

Table 19. Long-Term Objectives to Consider

Factor	Description
Future site development	The tree will require removal due to a pending project.
Sustainability	The tree species does not meet the City standards for water use, drought tolerance, and adaptability to changing climate conditions.
Increasing canopy cover	An alternative species in the same location would provide increased canopy coverage to meet the goals of the City.

Step #2 Root Pruning

A City-qualified arborist should be on site during construction related activities to monitor impacts to the tree and roots. If root pruning is required, root pruning will be minimized to the extent possible. The following guidelines are examples of potential root pruning approval conditions that will help guide the decision-making process prior to root pruning.

Conditions to Determine Possible Tree Candidates:

1. The tree appears to be in good health and a safe condition as determined by a City-qualified ISA certified arborist.
2. The tree species meets the City standards for water use, drought tolerance, and adaptability to changing climate conditions.
3. The tree species provides a maximum level of canopy cover for the growing space provided in the ground and air.

Condition that Require a Determination by a City Arborist:

1. Any disturbance within the dripline of the tree.
2. Any root cutting within five times the diameter of the trunk of the tree.

Tree Removal:

Candidates for Removal:

1. Root removal, as found by a City-qualified ISA certified arborist, that will cause tree health decline and/or structural instability.
2. Root pruning is required at a distance less than five times the trunk diameter and will result in greater than 30% root damage or is required on three or more sides of the tree.

Removals of More than One Tree:

1. If tree removals are required for an entire block, removals will be staggered on a schedule as detailed in Section 5.3, Tree Plans of Action.

5.3 Tree Plans of Action

As discussed in Sections 5.1 and 5.2, several streets have tree and infrastructure conflicts that may require the removal of multiple trees on a given block. Options for tree preservation should first be explored, with a determination if alternative sidewalk designs or materials could be instituted. If alternative methods are not practical, and tree does not meet the standards for preservation under the recommended root pruning guidelines, then tree removal would be warranted. A long-term removal and replacement plan should be implemented for each block to ensure a continuation of tree canopy and environmental services to the surrounding community. A phased approach for removal and replacement will help maintain canopy cover for existing residents, while also considering the needs of future residents.

The following steps should be implemented to complete a tree removal and replacement plan for individual blocks:

1. An ISA Certified Arborist with Tree Risk Assessment Qualification should conduct an inventory and Level 2 risk assessment of all trees within the given block that are expected to require removal. Trees should be prioritized for removal based on the following conditions:
 - a. Trees that have an elevated level risk and pose a public safety concern.
 - b. Trees that are dead.
 - c. Trees that are senescent and declining in health.
 - d. Trees with a pest or disease that cannot be treated.
2. Develop the timeframe for which the phased removal and replacement would occur based on the level of risk determined during the risk assessment. At a minimum, tree removal should occur over a 5-year period.
3. Identify which trees will be removed and schedule the removals so no two consecutive tree locations are removed in a single year.
4. Develop a tree planting palette based on the recommended tree species and spacing guidelines.
5. Conduct outreach to the impacted block to notify them of tree removals and receive input on species selection.

Refer to the recommended tree species list for spacing guidelines in Section 2.4.

5.4 Tree Ownership and Maintenance of Trees in Front Yards

The City 1988 Landscape Standards outline the general requirements for landscape development, which includes the following:

- Landscaping shall be required of all residential, commercial, and industrial properties. It shall be the responsibility of the Parks and Recreation Department to regulate and control the scope, quantity, and quality of all landscape development within the City, including, but not limited to, that pertaining to street trees, open areas, parking lots, front yards, walls and fences, residential tract entries, parkways, parks, and medians.

This and other language within the Landscape Standards have made trees planted in residential front yards (Exhibit 10), that are also in the City right-of-way, the responsibility of the City to manage. There are 22,356 trees in the City inventory that are planted in residential front yards, accounting for 46% of the total inventory (Table 20). The

responsibility for the maintenance of these trees falls on the City including pruning and removal, which property owners can request through the 311 City service system. As discussed in Section 3, the City does not have the financial or staff resources to actively manage the tree inventory and needs to decide if the responsibility of management of residential yard trees should be transferred to property owners or stay with the City.

Table 20. Location of Trees in the City-Managed Inventory.

Category	Location	No. of Trees	Total Trees
Residential Trees	Front yards in the public rights-of-way	22,356	22,356
	Parkway and Medians	6,660	
	General Fund Parks Trees	4,638	
City trees	Landscape Management Districts	15,152	26,450
Total Trees in the City-Managed Inventory			48,806

The first scenario is for the City to continue as is and commit to increasing its tree program funding to be able to actively manage the 48,806 trees in the inventory. The City would benefit from being able to ensure the trees are pruned correctly, only removed when approved, and continue to contribute to City-wide canopy cover. This scenario would provide the best option for urban forest sustainability but would also require resources well beyond what is currently provided the Tree Program.

The second scenario is to transfer the responsibility of residential yard trees back to property owners. If this occurs, the City will lose the ability to actively manage the trees as a City asset. It is possible the condition of the trees may decline if property owners do not have the knowledge or resources to properly maintain a tree. In addition, property owners with a residential yard tree in the City inventory have been able to receive free tree maintenance and removal services for many years. For property owners with mature trees like the one pictured in Exhibit 10, pruning and removal costs could be several thousands of dollars. Property owners may be highly resistant to the transfer of responsibility if they are expecting the City to provide a free tree service and then suddenly expected to incur the maintenance costs.

Exhibit 10. Declining deodar cedar (*Cedrus deodara*) in a residential front yard in the public right-of-way.



Source: Ryan Allen

Recommendation: The ideal scenario would be for the City to increase its Tree Program funding to actively maintain all trees currently in its inventory. Based on the current resources allocated to the City Tree Program, it is unrealistic that this recommendation will be a viable option for the City. As such, if the City elects to transfer ownership of residential yard trees back to property owners, then it should do so over at least a 3-5 year time frame so property owners have the opportunity to have a final service request completed by the City. The City should also complete all open service requests that they received before the ownership is transferred. This transition time would help contribute to alleviating concerns over encumbering the costs by property owners. The City should also support property owners with education resources, so they have a better understanding of how to maintain and care for trees. Finally, the City can continue to provide protection for the trees with code and ordinance policies that require approved permits before a residential yard tree can be removed. This would provide the City a measure to maintain existing canopy cover levels, neighborhood character, and that trees are planted to replace ones that are removed.

6 References

Ball, J., S. Mason, A. Kiesz, D. McCormick, and C. Brown. 2007. "Assessing the Hazard of Emerald Ash Borer and Other Exotic Stressors to Community Forests." *Arboriculture & Urban Forestry* 33(5): 350–359.

City of Oxnard. 1988. Landscape Standards. https://www.oxnard.org/wp-content/uploads/2016/04/Landscape_Standards.pdf.

Hauer, R. and W. Peterson. 2016a. *Municipal Tree Care and Management in the United States: A 2014 Urban & Community Forestry Census of Tree Activities*. Special Publication 16-1, College of Natural Resources, University of Wisconsin – Stevens Point. Accessed March 3, 2021. <https://www.uwsp.edu/cnr/Documents/MTCUS%20-%20Forestry/Municipal%202014%20Final%20Report.pdf>.

Hauer, R. and W. Peterson. 2016b. *Municipal Tree Care and Management in the United States: A 2014 Urban & Community Forestry Census of Tree Activities*. Appendix. Special Publication 16-1, College of Natural Resources, University of Wisconsin – Stevens Point. Accessed March 3, 2021. <https://www.uwsp.edu/cnr/Documents/MTCUS%20-%20Forestry/Municipal%202014%20Report%20Appendix.pdf>.

McBride, J.R., and I. Lacan. 2018. "The Impact of Climate-Change Induced Temperature Increases on the Suitability of Street Tree Species in California (USA) Cities." *Urban Forestry & Urban Greening* 34: 348–356.

McPherson, E.G., N. van Doorn, and J. de Goede. 2016. "Structure, Function and Value of Street Trees in California, USA." *Urban Forestry & Urban Greening* 17: 104–115.

Miller, R.H., and R.W. Miller. 1991. "Planting Survival of Selected Tree Taxa." *Journal of Arboriculture* 17(7): 185–191.

Oakley, N.S., B.J. Hatchett, D. McEvoy, and L. Rodriguez. 2019. "Projected Changes in Ventura County, California, Climate." June 2019. Western Regional Climate Center, Desert Research Institute, Reno, Nevada. <http://wrcc.dri.edu/Climate/reports.php>.

Richards, N.A. 1983. "Reasonable Guidelines for Street Tree Diversity." *Journal of Arboriculture* 19(6): 344–350.

UFEL (Urban Forest Ecosystems Institute). 2021. "SelectTree: A Tree Selection Guide." Online Database. <https://selecttree.calpoly.edu>.

USFS (United States Forest Service). 2020. i-Tree Eco [online software]. <https://www.itreetools.org/tools/i-tree-eco>.

West Coast Arborists. 2011. City of Oxnard Tree Inventory.

TREE PROGRAM REVIEW / CITY OF OXNARD

INTENTIONALLY LEFT BLANK



The following sections are included as general guidelines for tree protection from construction impacts. The measures presented should be monitored by arborists and enforced by contractors and developers for maximum benefit to the trees.

Appendix D – Tree Protection Measures

Tree Protection Measures Prior to Construction

Fencing: All remaining trees that will not be relocated or removed should be preserved and protected in place. Trees within approximately 15 feet of proposed construction activity should be temporarily fenced with chain link or other material satisfactory to City planning staff throughout grading and construction activities. The fencing should be installed 3 feet outside of the dripline of each tree (or edge of canopy for cluster of trees), be 4 feet tall, and staked every 6 feet. The fenced area should be considered the tree protection zone (TPZ) unless proximate construction required temporary removal.

Pre-Construction Meeting: A pre-construction meeting should be held between all contractors (including grading, tree removal/pruning, builders, etc.) and the arborist. The arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, should provide written acknowledgement of their receiving tree protection training. This training should include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance During Construction

Once construction activities have begun the following measures should be adhered to:

Equipment Operation and Storage: Avoid heavy equipment operation around the trees. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles should, at minimum, stay out of the fenced TPZ, unless where specifically approved in writing and under the supervision of a Certified Arborist or as provided by the approved landscape plan.

Storage and Disposal: Do not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within the protection zone. Remove all foreign debris within the protection zone; it is important to leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrients. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Keep equipment parked at least 50 feet away from retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could lead to decline and death.

Grade Changes: Grade changes, including adding fill, are not permitted within the TPZ without special written authorization and under the supervision of a Certified Arborist or as provided by the approved landscape plan. Lowering the grade within this area will necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots.

Moving Construction Materials: Care will be taken when moving equipment or supplies near the trees, especially overhead. Avoid damaging the tree(s) when transporting or moving construction materials and working around the tree (even outside of the fenced tree protection zone). Above ground tree parts that could be damaged (e.g., low limbs, trunks) should be flagged with red ribbon. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using International Society of Arboriculture (ISA) standards.

Root Pruning: Except where specifically approved in writing or as provided in Attachment 3, all trenching should be outside of the fenced protection zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain tree roots, prune the roots using a Dosko root pruner or equivalent. All cuts should be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. The trench should be made no deeper than necessary.

Irrigation: Trees that have been substantially root pruned (30% or more of their root zone) will require irrigation for the first 12 months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every 2 to 4 weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary above ground micro-spray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced protection zone *but never soaking the area located within 6 feet of the tree trunk, especially during warmer months.*

Pruning: Do not prune any of the trees until all construction is completed. This will help protect the tree canopies from damage. All pruning should be completed under the direction of an ISA Certified Arborist and using ISA guidelines. Only dead wood should be removed from tree canopies.

Washing: During construction in summer and autumn months, wash foliage of trees adjacent to the construction sites with a strong water stream every two weeks in early hours before 10:00 a.m. to control mite and insect populations.

Inspection: An ISA Certified Arborist should inspect the impacted preserved trees on a monthly basis during construction. A report comparing tree health and condition to the original, pre-construction baseline should be submitted following each inspection. Photographs of representative trees are to be included in the report on a minimum annual basis.

Maintenance After Construction

Once construction is complete the fencing may be removed and the following measures performed to sustain and enhance the vigor of the preserved trees.

Mulch: Provide a 4-inch mulch layer under the canopy of trees. Mulch should include clean, organic mulch that will provide long-term soil conditioning, soil moisture retention, and soil temperature control.

Pruning: The trees will not require regular pruning. Pruning should *only* be done to maintain clearance and remove broken, dead or diseased branches. Pruning should only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 20% of the canopy should be removed at any one time. All pruning should conform to ISA standards.

Watering: The natural trees that are not disturbed should not require regular irrigation, other than the 12 months following substantial root pruning. However, soil probing will be necessary to accurately monitor moisture levels. Especially in years with low winter rainfall, supplemental irrigation for the trees that sustained root pruning and any newly planted trees may be necessary. The trees should be irrigated *only* during the winter and spring months.

Watering Adjacent Plant Material: All plants near the trees should be compatible with water requirements of said trees. The surrounding plants should be watered infrequently with deep soaks and allowed to dry out in-between, rather than frequent light irrigation. The soil should not be allowed to become saturated or stay continually wet. Irrigation spray should not hit the trunk of any tree. A 60-inch dry-zone should be maintained around all tree trunks. An aboveground micro-spray irrigation system is recommended over typical underground pop-up sprays.

Washing: Periodic washing of the foliage is recommended during construction but no more than once every 2 weeks. Washing should include the upper and lower leaf surfaces and the tree bark. This should continue beyond the construction period at a less frequent rate with a high-powered hose only in the early morning hours. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Spraying: If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.

Inspection: All trees that were impacted during construction within the TPZ should be monitored by an ISA Certified Arborist for the first 5 years after construction completion. The Arborist should submit an annual report, photograph each tree and compare tree health and condition to the original, pre-construction baseline.

Tree and Sidewalk Conflict Solutions

Trees and sidewalks are both key pieces of urban infrastructure that contribute to the pedestrian environment. Both contribute to the character and sense of place in a community as well as provide health and economic benefits while offering a means for comfortable active transportation. However, these two elements of the public streetscape are often in conflict with one another. Sidewalks and other hardscapes can preclude healthy tree growth and canopy development by limiting available soil volume, while tree roots often cause damage to sidewalks resulting in uplift and fall and trip hazards which can be costly to repair. These conflicts and the associated costs often overshadow the benefits provided by trees in the urban landscape, resulting in the removal of trees or the decision to avoid planting trees altogether. In reality, tree and infrastructure conflicts are due to inadequate site design and exacerbated by planting the wrong tree species for the allotted space. The cost of sidewalk repairs or removing and replacing trees is a significant investment that can be avoided with proper site design and species selection. There are a number of strategies for minimizing, avoiding or eliminating tree and sidewalk conflicts that can be employed by local or regional governments. Table 1 outlines tree and sidewalk conflict resolution tactics and design solutions that can be employed when replacing damaged sidewalks or installing new sidewalks. Employing these strategies is dependent upon policies, standards and design requirements, clear processes for implementation, and funding.

Local jurisdictions are required to abide by federal and state policies governing sidewalk design, such as the US Access Board Public Right-of-Way Accessibility Guidelines (PROWAG), Americans with Disabilities Act (ADA), and the California Building Code (CBC). Additionally, local jurisdictions can adopt local policies, standards, and plans that guide the management of trees and sidewalks. Examples include tree protection ordinances, street tree and sidewalk design requirements, tree planting standards and specifications, street tree lists, and long-range plans, such as urban forest management plans, bicycle and pedestrian plans/active transportation plans, the General Plan, and specific plans.

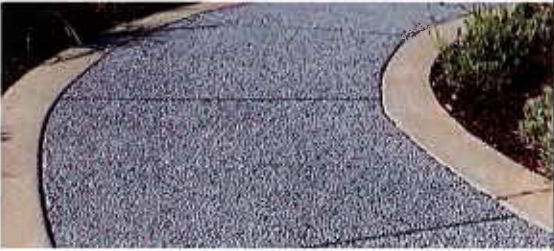
In order to successfully implement tree and sidewalk policies and standards, cities must have processes in place for implementation and maintenance, including review of development plans and strict code enforcement. If not managed within the same department, city departments managing street trees and sidewalks must maintain clear lines of communication and collaborate regularly. Approaching management of street trees and sidewalks within the same department can prove successful, as collaboration is easily facilitated. Forestry staff and engineers can jointly inspect conflicts or conduct plan review and work together to identify solutions. A formalized process will help guide these actions, such as outlined in the City of Seattle's; many of the solutions provided in Table 1 are based on the Toolkit included in Trees and Sidewalks Operations.

Cities must have reliable funding for management and oversight of its tree and sidewalk programs in order to successfully resolve or avoid conflicts. This includes funding for staff, tree planting, plan review, inspection and code enforcement, and maintenance and repairs. Examples of possible revenue streams to fund forestry and sidewalk programs include allocations from the general fund, partnering with nonprofit organizations, or allocations from taxes or fees, such as a gas tax, utility tax or development impact fees. Additional funding may also come from less traditional approaches, such as establishing a City nursery or composting program and offering these products for sale.

Table 1. Tree and Sidewalk Conflict Solutions

Solution Type	Pros	Cons	Estimated Cost (\$-\$\$\$\$)	Useful Life (Years-Decades-Centurles)	Example Image
<i>Materials</i>					
<i>The following sidewalk solutions present various materials for replacement/repair of a damaged sidewalk that may be used instead of concrete.</i>					
Asphalt	• Short-term to medium-term solution • Low initial cost • More flexible than concrete • May be used as a repair/replacement or for new sidewalks • Easily repaired	• Not widely used, creating conflicts with appearance and visual character • Useful life can vary greatly • Useful life shorter than that concrete	\$\$ (\$22 per linear foot)	Decades	 Image Source: Seattle Department of Transportation

SIDEWALK SOLUTIONS

Pavers	• Many types, materials, and colors available • More flexible than concrete, providing room for continued tree root growth • May be used as temporary repair or replacement, or when installing new sidewalk at the same time as trees	• Requires cutting to fit around other infrastructure (e.g., utilities, etc.) • Not all available types and materials are suitable for all locations, as required depth of excavation may vary • Durability varies by type	\$\$-\$\$\$ (\$10 to \$50 per square foot)	Decades	 Image Source: Carroll's Building Materials n.d.
Pervious Concrete	• Allows air and water to reach soil • May encourage deeper root growth and deter shallow root growth, reducing root damage to sidewalks • Provides better growing conditions	• Requires deeper excavation for installation of subbase layers • Requires more maintenance than standard concrete	\$\$\$-\$\$\$\$ (\$35 per linear foot)	Decades	 Image Source: Bay Area Pervious Concrete

SIDEWALK SOLUTIONS

Porous Asphalt	• Allows water to pass through to soil • May be used for replacement of large segments of sidewalk or installation of new sidewalks where infiltration is desirable (e.g., adjacent to bioretention)	• Cannot be produced in small quantities and should only be used when long sidewalk segments are being installed (e.g., multiple blocks)	\$-\$\$\$ (\$30 per linear foot)	Decades	
Decomposed Granite	• May be used as a pathway or walkway surface, or as a finished surface on top of planting soil in tree pits rather than mulch • Provides flexible but walkable surface near tree roots • Best used in parks on walking and cycling paths, or similar settings • May be used as a temporary repair near root zones or for installation of new pathways or walkways	• Not recommended for busy pedestrian routes (best in residential areas) • Requires more maintenance than asphalt or concrete, as uneven settling can occur • Americans with Disabilities Act compliance may require binders and regular maintenance	\$-\$\$ (\$12 per linear foot)	Years	

Image Source: Porous Pave

Image Source: Bike Orlando

Alternative Sidewalk Design Construction Methods					
The following sidewalk solutions present alternative sidewalk design and construction methods to better accommodate trees and resist damage to sidewalks.					
Reinforced or Thicker Slab	- Reinforcing concrete with steel rebar or wire mesh and/or using a thicker slab helps resist uplift of tree roots - May be used to correct uplift after other corrective actions have been taken	- May not be compatible with future utility installation - Should not be used where additional root growth is anticipated (i.e., sufficient soil volume should be provided)	\$\$-\$\$\$ (\$60 per linear foot for reinforced slab and \$40 per linear foot for 4-inch thickness)	Decades	 Image Source: E. F. Gilman
Expansion Joints	- Allow for some movement of concrete - Used to control the location of cracking - May be used as repair or replacement or for new sidewalks near existing trees (where roots may be pruned prior to installation and substantial root growth is not anticipated)	- Should not be used where significant additional root growth is anticipated (i.e., sufficient soil volume should be provided) - Short term solution	\$ (varies)	Decades	 Image Source: S. Kubiak and V. Kubiak

SIDEWALK SOLUTIONS

Monolithic Sidewalk	• The continuous installation of concrete with no grade change between sidewalk and street has greater weight (mass) to resist tree root uplift • Reduces potential for future weakness in pavement infrastructure • May be used in new development and in redevelopment	• Consideration must be given to impacts related to stormwater runoff and drainage patterns • Not ideal for areas where new root growth is expected (new plantings or continued growth)	\$\$\$ (\$60 per linear foot)	Century	 Image Source: Seattle Department of Transportation
Tree Pits/Expanded Tree Pits	• Alternative to planting strips where maintaining sidewalk width is important (e.g., business districts) • May be used in new development where tree pit sizing and tree selection are coordinated (“right tree, right place”) or in existing development where sufficient space is available to expand existing tree pits	• Must establish minimum sizing requirements to ensure adequate soil volume • Continuous planter strips are preferred where feasible	\$ (\$15 per square yard for widening existing tree pits. No additional cost if implemented in new development design)	Decades	 Image Source: Morristown Shade Commission

SIDEWALK SOLUTIONS

Bridging	• Provides grade separation between tree root zone and sidewalk • Does not require compacted subgrade allowing tree roots to grow in soil • Variety of materials can be used such as concrete or steel panels • May be used as repair or replacement of damaged sidewalk or to preserve a high value tree	• Site specific grading requirements may prevent use of this technique • A nonslip surface treatment is required for metal/steel materials • Additional Americans with Disabilities Act requirements related to grade differentials greater than 18 inches	\$\$\$\$ (\$225 per linear foot)	Decades	 Image Source: E. Gilman
Curb Extensions (Bulb-Outs)	• Increases pedestrian safety through traffic calming and shortening the crossing distance for pedestrians • Provides additional root growth area reducing likelihood of root damage to sidewalks • Provides flexibility for tree species selection • May be used in new development or as expansion of sidewalks and planting space in redevelopment	• Must consider impacts to drainage and existing utilities • Must consider site specific transportation conditions or impacts, including driver sight lines as well as bicycle and pedestrian facilities	\$\$\$-\$\$\$\$ (\$50 per linear foot excluding drainage and ramps)	Century	 Image Source: Dylan Passmore

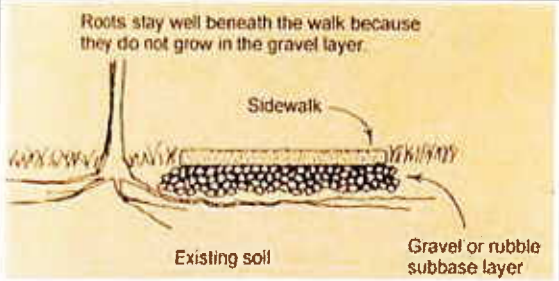
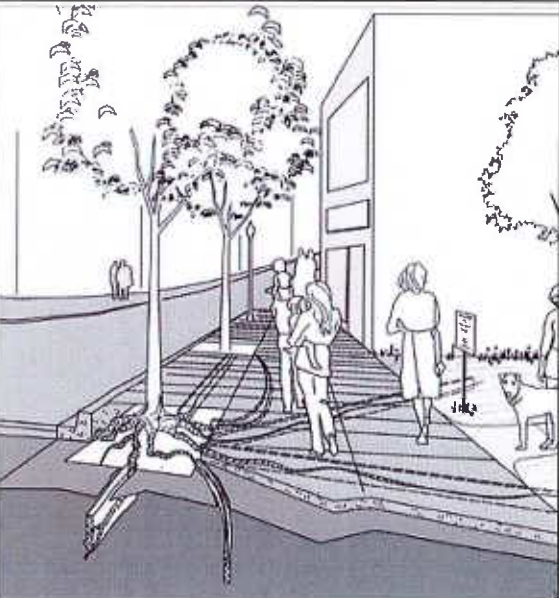
Curb Realignment	• Shifts curb location to widen the planting strip • May be used for new development or redevelopment to provide additional space for new or existing trees	• Requires sufficient street widths • Must consider impacts to other infrastructure and utilities • Must consider site specific transportation conditions or impacts	\$\$\$-\$\$\$\$ (\$50 per linear foot excluding drainage modification and ramps) Minimal additional cost if part of new development design)	Century	
Curving or Offset Sidewalk	• Allows for walkways that meander around planting areas, allowing trees more grow space • Increases pedestrian safety by separating sidewalks from vehicular traffic • May be used in new development or redevelopment to preserve existing trees or to provide sufficient grow space for new plantings	• Requires adequate space in the right of way • May require easement for use of private property	\$\$-\$\$\$ (\$38 per linear foot)		

Image Source: Seattle Department of Transportation

Image Source: Bartlett Tree Care

Easement	• May allow for use of private property where additional space is needed • Provides larger planting area for new or existing trees	• Requires coordination with property owner	\$-\$\$\$ (Varies based on market value or dedication from property owner)	Century	 Image Source: Seattle Department of Transportation
Suspended Pavement Systems	• Provides space and soil volume for new tree plantings in areas that could not have supported tree root growth • Prevents root damage to pavement if implemented at the correct time	• Involves removing and repaving sidewalks if they already exist in the areas • Site specific grading requirements need to be taken into consideration	\$\$\$-\$\$\$\$ (15-\$25/cubic foot)	Decades	 Image Source: DeepRoot

Lowered Tree Sites	• Can help prevent soil compaction due to pedestrian traffic • Can bring trees to streets with limited planting space and few underground infrastructure conflicts	• Can conflict with underground infrastructure; can only be implemented in areas that have limited potential for conflict • Lowered sites tend to accumulate trash and other debris, presenting a maintenance issue • Design must include a drainage plan because soil can be easily oversaturated	\$\$\$-\$\$\$\$	Decades	 Image Source: Storm Tree
Root					
<i>The following sidewalk solutions present design solutions that specifically address tree roots.</i>					
Root Barriers	• Deters root growth to limit damage to pavement • May be added after tree planting to retrofit or address root issues	• Will not address all issues from tree roots, but will help deter	\$ (\$8 per linear foot)	Decades	 Image Source: Green Tech

Modified Gravel Layer	• Suppressed root growth • More longevity than foam underlay and serves the same purpose • Thickness of gravel around roots can be adjusted to accommodate size	• Could wound tree roots making the trees more susceptible to soilborne pathogens • 4 inches of gravel is needed, if excavation would damage critical existing roots • Modified Gravel Layer may not be an option	\$ (\$0.70 per square foot at depth of 4 inches)	Decades	 Roots stay well beneath the walk because they do not grow in the gravel layer. Sidewalk Existing soil Gravel or rubble subbase layer Image Source: E. Gilman
Root Paths	• Can proactively direct paths for roots to grow, when designed at the beginning of planting • Help direct roots around utilities when planting space is limited	• Drainage away from or out of root path will need to be considered	\$-\$\$ (\$600 to \$800 per tree)	Decades	 Image Source: Seattle Department of Transportation

SIDEWALK SOLUTIONS

Steel Plates	• Can be used as an alternative to root pruning • Can be used to help mitigate issues with roots that have already developed (reactionary)	• Can conflict with underground utilities • Requires sidewalk to be removed and replaced for installation	\$\$-\$\$\$ (\$500 to \$1,000 per site)	Decades	
--------------	--	---	--	---------	---

Image Source: Gordan Mann

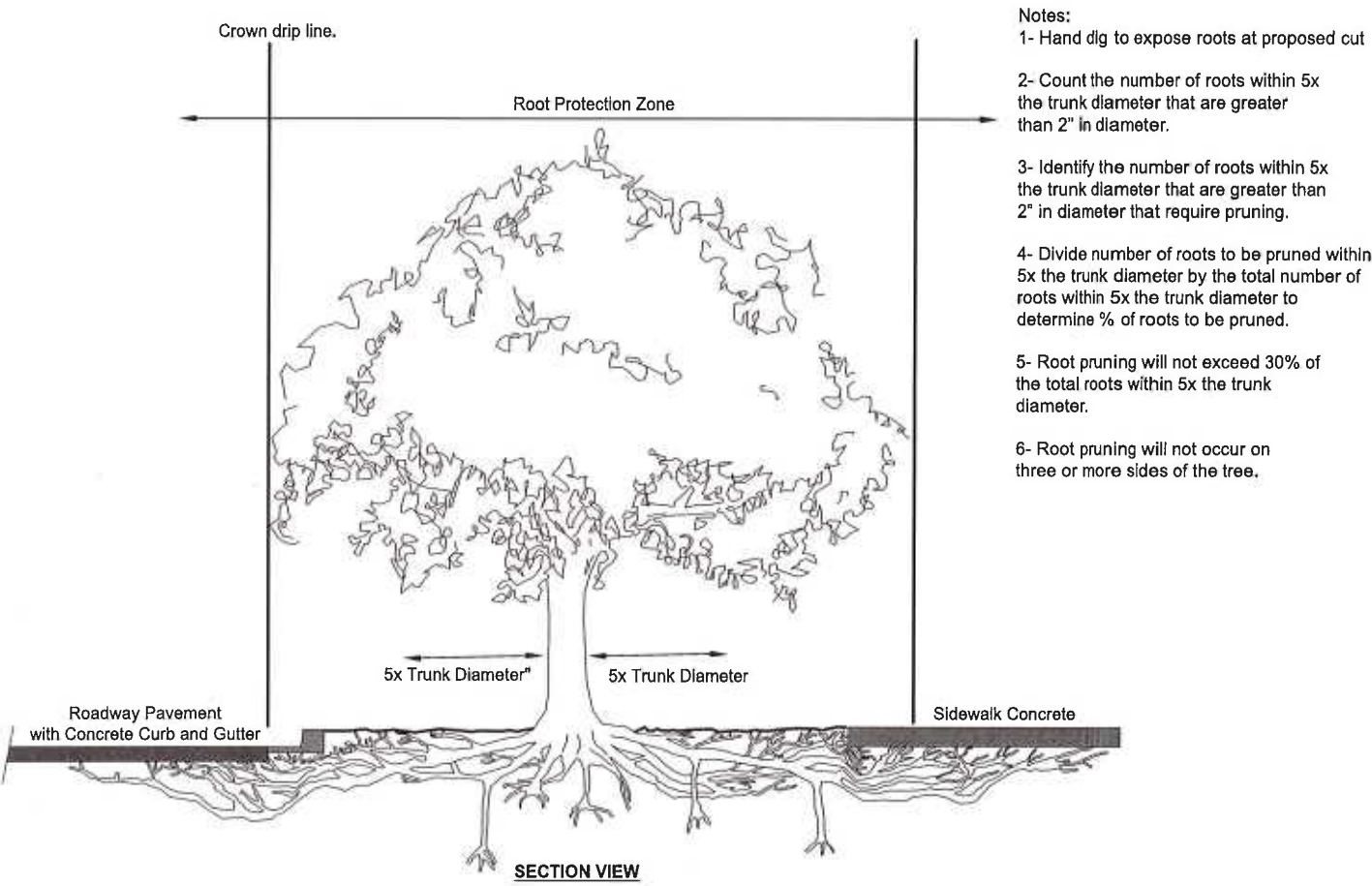
Sources:

- American Planning Association. 2009. Planning the Urban Forest: Ecology, Economy, and Community Development. Planning Advisory Service Report Number 555.
- Bassuk et al. 2015; Bike Orlando 2020; Casey Trees 2008; Costello and Jones 2003; Elmendorf 2008; City of New York Parks & Recreation 2014; City of Seattle 2011; City of Seattle Department of Transportation 2014, 2015; City of Seattle Public Utilities 2015; Mann n.d.; Smiley 2008
- Bassuk, N., Denig, B., Haffner, T. Grabosky, J., and Trowbridge, P. 2015. CU-Structural Soil @: A Comprehensive Guide. Urban Horticulture Institute, Cornell University.
<http://www.hort.cornell.edu/uhi/outreach/pdfs/CU-Structural%20Soil%20-%20A%20Comprehensive%20Guide.pdf>.
- Bike Orlando. 2020. Ward Park, Winter Park, FL Biking, Hiking. E-Z Map, 35+ Photos. Accessed May 2021. <https://www.bikeorlando.net/ward-park-winter-park.htm>.
- Casey Trees. 2008. *Tree Space Design: Growing the Tree Out of The Box*. Accessed May 2021. <http://caseytrees.org/resources/publications/treespacedesign/>.
- Carroll's Building Materials. n.d. "Classic Hexagon Pavers." Accessed May 2021. <https://carrollsbulldingmaterials.com/landscape-products/pavers-profiles-finishes/classic-hexagon-pavers/>.
- Costello, L. R. and K. S. Jones. 2003. *Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies*. Western Chapter of the International Society of Arboriculture.
- City of New York Parks & Recreation. February 2014. Tree Planting Standards. Accessed May 2021. <http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf>.
- City of Seattle. 2011. *Seattle Right-of-Way Improvements Manual*. <https://www.seattle.gov/rowmanual/manual/>.
- City of Seattle Department of Transportation. 2014. *Street Tree Manual*. Accessed May 2021. <http://www.seattle.gov/documents/departments/sdot/about/documentlibrary/streettreemanualweb.pdf>.
- City of Seattle Department of Transportation. 2015. *Tree Sidewalks Operations Plan*. City of Seattle Public Utilities. 2015. Standard Specifications of Municipal Construction. Plans 100a, 421, 424, 425, 430.
- Elmendorf, W. 2008. Planting and Aftercare of Community Trees. Penn State University Extension.
- Green Tech. 2021. Ribbed Root Barrier Panels. <https://www.green-tech.co.uk/hard-landscaping/tree-pit-root-barriers/ribbed-root-barrier-panels>
- Mann, Gordon. N.d. Sidewalk and Root Conflicts: Mitigating the Conflict - An Overview. Accessed May 2021, on Municipal Research and Services Center (MRSC) website at:
<http://mrsc.org/getmedia/4DD1A628-BD5A-49E3-B1EE-3D09525F63BE/m58mannmade.asp>.
- Martin, Justin. 2017. Trees and Sidewalks: A Strategic Approach to Conflicts. Green Infrastructure for Your Community. <https://www.deeproot.com/blog/blog-entries/trees-and-sidewalks-a-strategic-approach-to-conflicts>
- Smiley, E. Thomas. 2008. "Comparison of Methods to Reduce Sidewalk Damage from Tree Roots," in *Arboriculture & Urban Forestry* 34(3):179-183.

Appendix C

Root Pruning Considerations

Root Pruning Detail



ROOT PRUNING GUIDELINES

DUDEK

800.450.1818 | HELLO@DUDEK.COM
DUDEK.COM



DUDEK

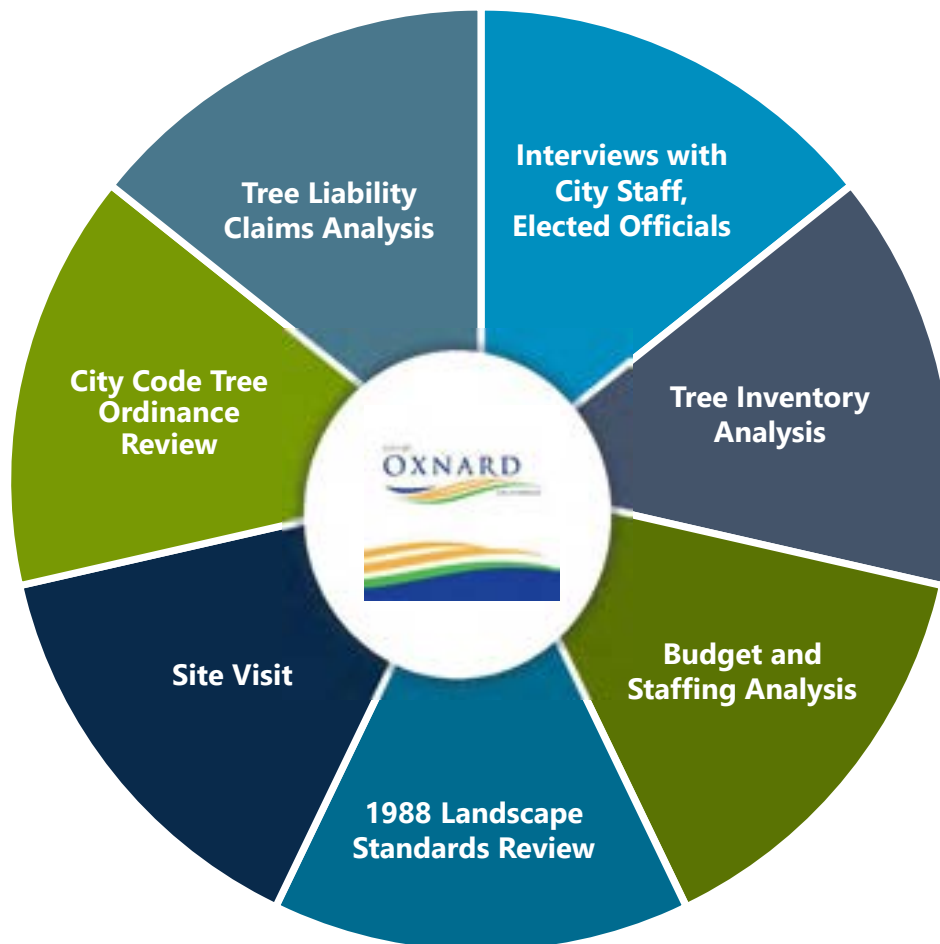


Tree Program Review

Oxnard, CA

PRESENTED BY ABBY BEISSINGER & RYAN ALLEN
DECEMBER 28, 2021

Developing the Tree Program Review



- Recommendations for policy and program changes
- Site conditions to prioritize
- Summary of current tree assets

Oxnard's Top 10 Species

48,806 trees
137 genera, 261 species



8%

1. Southern magnolia



8%

2. Queen palm



6%

3. Carrotwood



6%

4. Sweetgum



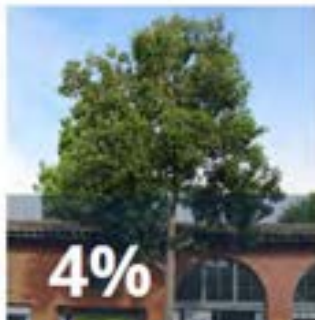
5%

5. Camphor



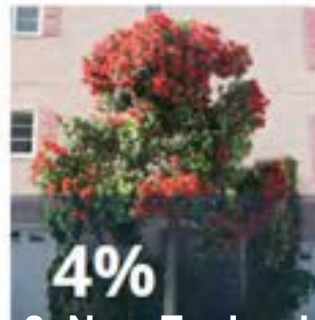
5%

6. Fan palm



4%

7. Brisbane box



4%

8. New Zealand Christmas Tree



4%

9. Tipu



3%

10. Evergreen Pear

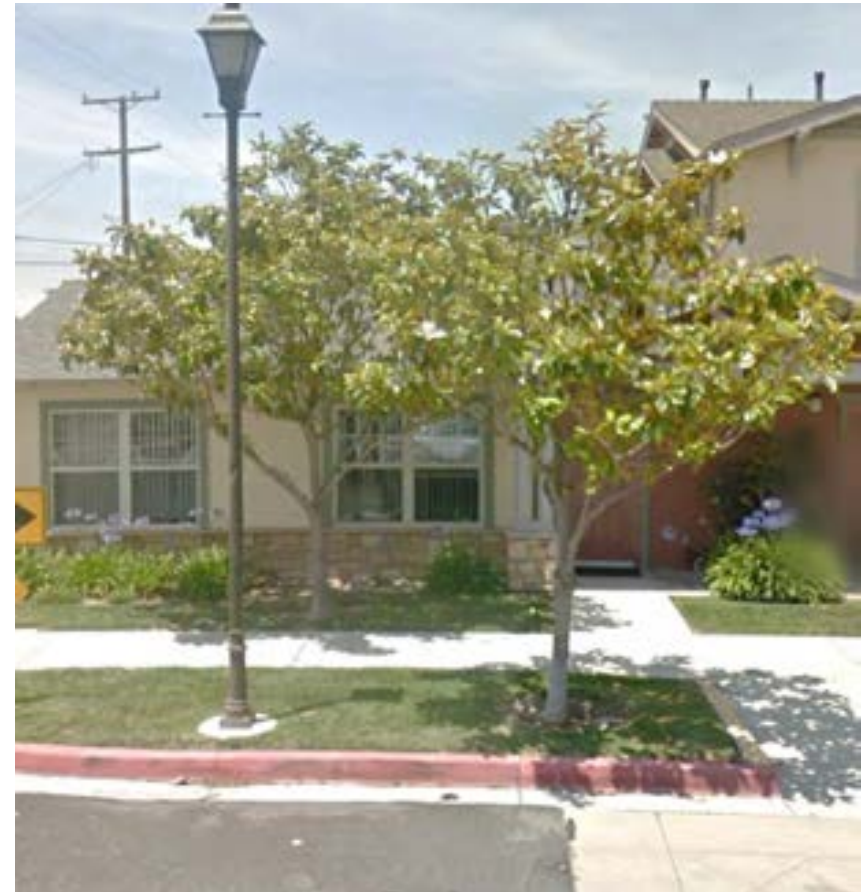
Sustainability Goal: No species greater than 5% of the inventory

Meets Goal

Does Not Meet Goal

Climate-ready tree inventory

- 34% of the tree inventory is predicted to be heat or water sensitive
 - Estimated 16,484 trees
 - Magnolias, sweetgums, London plane, sycamores, and many other species
- It will be critical to select climate-ready species for future plantings



Southern magnolia

Recommended Species Palette

41 species, well suited for Oxnard's climate and conditions

Criteria	Indicator
Climate adaptability	Tree species that are expected to be adapted to Oxnard's predicted climate conditions over the next 100 years.
Drought Tolerance	Tree species that require very-low, low, or medium water needs, based on the Water Use Classification of Landscape Standards designations.
Species Diversity	Planting palette includes enough species to maintain species diversity goals
Spacing Requirements	Tree species that maximize canopy spread without interfering with infrastructure



African fern pine

Location of Trees in the City inventory

Category	Location	Number of trees	Total trees	% of inventory
Residential Trees	Front yards in the public rights-of-way	22,356	22,356	46%
City trees	Parkway and Medians	6,660	26,450	54%
	General Fund Parks Trees	4,638		
	Landscape Management Districts	15,152		

Site Visit

- Infrastructure conflicts
 - Size and spacing issues in planting locations
 - “Wrong tree, wrong place”



Site Visit

- Repetitive root pruning
 - decreases structural stability
 - Increases susceptibility to disease and pest infestation



Budget Comparison

City	Population	Tree Budget	Approx. No. City-Managed Trees	Per Tree Budget Allocation
Oxnard	208,154	\$374,641	48,806	\$7.67
Survey respondents (n=78) ^a	100,00–249,999	\$1,368,607	73,723	\$44.85
Burbank	103,695	\$1,900,000	33,000	\$57.57
Irvine	281,707	\$1,500,000	65,000	\$23.07
San Francisco	874,961	\$19,000,000	236,000	\$80.51

Notes:

^a Hauer and Peterson 2016

^b United States Census Bureau 2019.

Staffing Comparison

Oxnard's Tree Positions	FTE
Parks Maintenance Supervisor	0.6
Parks Manager	0.12
Senior Tree Trimmer	0.9
Tree Trimmer I	0.9
Senior Groundswoker	0.4
Groundswoker I	0.9
Office Assistant II	0.75
Total FTEs	4.57

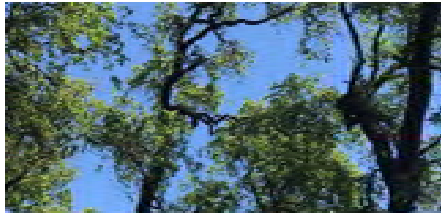
Oxnard employs 7.23 fewer FTEs than the average municipal tree program of similar size

Municipal Population	Number of Cities Surveyed ^a	Mean Number of FTEs
2,500–4,999	47	3.3
5,000–9,999	35	3.1
10,000–24,999	41	4.7
25,000–49,999	121	5.3
50,000–99,999	146	6.3
100,000–249,999	87	11.8
250,000–499,999	20	18.3
500,000–1,000,000	9	18.2
1,000,000+	2	38.0



^a Hauer and Peterson 2016

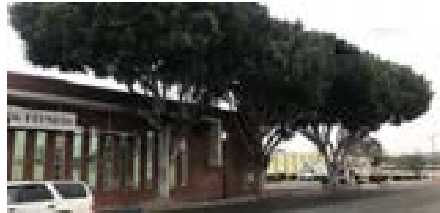
Key Findings



CURRENT FUNDING AND STAFFING IS BELOW AVERAGE LEVELS

The City's current budget and staffing levels do not provide sufficient resources to care for its tree assets.

As a result, tree maintenance is largely reactionary, and tree health has suffered.



THE CITY NEEDS AN UPDATED TREE INVENTORY

The inventory was last completed in 2013.

Inventories should be updated every 3-5 years to ensure maintenance decisions are made on current asset data.



THE TREE INVENTORY IS NOT PREPARED FOR CLIMATE CHANGE

Approximately 34% of Oxnard's tree inventory may be at risk over the next 30-100 years.

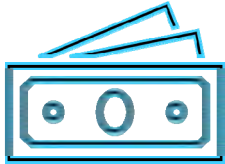


1988 LANDSCAPE STANDARDS MUST BE UPDATED

The standards are not in line with current industry BMPs.

An updated document would strengthen tree protection policies, codify a new species pallet, and clarify tree maintenance responsibilities.

Recommendations



The City must provide funds to support urban forest maintenance

Investing in the City's tree inventory will contribute to mitigating defects before failures occur.



The city should complete a financing study of the Tree Program

The results will provide decision makers with a clear picture of the per-tree costs and staff time needed to achieve sustainable management of the City's trees.



The city should complete a UFMP

A UFMP would establish a vision and goals for the Tree Program, based on the priorities and values of staff, elected officials, residents, business owners, and other stakeholders.

THANK YOU
FOR YOUR TIME