

**REVISED DRAFT ENVIRONMENTAL INITIAL STUDY
MITIGATED NEGATIVE DECLARATION**



TENTATIVE TRACT MAP NO. 250, KINGSTON SUBDIVISION

LEAD AGENCY:

City of Bishop
377 West Line Street
Bishop, CA 93514

Contact: Gary Schley (760) 873-8458

Summary

In accordance with the California Environmental Quality Act the City of Bishop has conducted an Initial Study to determine whether Tentative Tract Map No. 250, Kingston Subdivision may have a significant adverse effect on the environment. On the basis of that study, the City of Bishop hereby finds:

- ◆ The proposed project could not have a significant effect on the environment with adherence to the mitigation measures listed in the Initial Study. A Mitigated Negative Declaration will be prepared.

Project: The project title and project proponent are identified below. .

Title: Tentative Tract Map No. 250, Kingston Subdivision
APN 008-090-02
789 Home Street, Bishop, CA

Proponent: Bob Kingston
P.O. Box 50644
Santa Barbara, CA 93150

Notice:

This document is provided for review by the general public. This is an informational document about the potential environmental effects associated with approval and implementation of Tentative Tract Map 250, Kingston Subdivision. Pursuant to City

procedures, the Bishop City Council will review and certify this document for adequacy prior to consideration of the project by the Planning Commission. If you have comments on the adequacy of this document or the finding that this project will not have a significant adverse impact on the environment, please send your comments by mail or email to:

City of Bishop
P.O. Box 1236
Bishop, CA 93515
publicworks@ca-bishop.us
Contact: Gary Schley (760) 873-8458

Comments will be received for a 30-day period, through **December 14, 2015**, and public input will be encouraged throughout the public hearing process as well. Final action on this environmental determination will occur after the public hearing process.

Revised Initial Study

On July 15, 2015, the City of Bishop submitted to the State Clearinghouse an Initial Study on Tentative Tract Map 250, Kingston (State Clearinghouse Number 2015071041). The public review period began on July 15, 2015 and ended on August 13, 2015. On August 10, 2015 the City of Bishop held a public hearing to take testimony on the adequacy of Initial Study. In total, the City received comments, either orally or in writing, from 34 individuals and one agency.

As a result of the comments and information received, more detailed soils and biological studies were conducted. The biological study found two new potentially significant effects. While those effects can be mitigated to less than significant with the measures identified in the biological study and revised Initial Study, the presence of new potentially significant effects necessitates recirculation (CEQA Guidelines 15073.5 (b)(1)). Information contained in the Initial Study has been expanded to further document the findings of No Significant Effect.

Included in the comments on the original Initial Study were numerous comments on the project design, density, and use. In accordance with CEQA, these comments were addressed in terms of the extent to which the issues raised may cause or contribute to changes in the baseline environmental conditions. All comments received along with responses prepared to address the comments, will be included in the Planning Commission Use Permit and Tentative Tract Map approval packet and will be discussed at the public hearing(s) on those approvals.

Initial Study Contents

Summary
Environmental Checklist Form
Discussion of Environmental Effects
Attachment 1, Location Map

TTM 250 IS draft 11/3/15

- Attachment 2, Tentative Map, Grading Plan
- Attachment 3, Site Photos
- Attachment 4, Biological Resource Assessment
- Attachment 5, Greenhouse Gas Impact Analysis
- Attachment 6, Regional Water Quality Control Board Analytical Results, Inyo County Remediation Memorandum and Remediation Closure Letter.
- Attachment 7, Drainage and Wastewater Report
- Attachment 8, Roadway Safety Analysis
- Attachment 9, Trip Generation Table

Project Description

This Initial Study/Mitigated Negative Declaration evaluates the potential environmental impacts anticipated to result from implementation and construction of Tentative and Final Tract Map No. 250, proposed by Bob Kingston.

The proposed project would include removal of the existing Bishop Nursery, followed by infrastructure improvements (including a main access roadway, drainage improvements, and extension of utilities to serve the individual parcels), site grading and preparation, and construction and sale of 15 single family dwellings. Implementation of the project would require a subdivision map to create the individual parcels and the roadway, and a conditional use permit approval that would provide for several modifications to the development standards of the Bishop Municipal Code, Title 16, Subdivisions, Design requirements. The Bishop Nursery plans to relocate its facilities to another site in Bishop; formal plans have not yet been finalized.

Proposed parcels would generally be rectangular in shape and would range in size from 5,104 square feet to 8,232 square feet. Each parcel's individual building pad would cover approximately sixty to sixty-five percent of the parcel area.

Vehicle access to the project site would be provided by a private roadway accessed from Home Street that would terminate in a hammer head dead-end configuration. The 36 ft. roadway would consist of two 10 ft. traffic lanes and two 8 ft. parking lanes with curb and gutter at the roadway edges. The proposed right of way allows for a pedestrian sidewalk along the lot frontages as depicted on the tentative map (Attachment 2). Driveway approaches would be provided to each parcel. Utilities and grading proposed for the project consist of underground water, sewer, electrical power and related infrastructure improvements.

Project Location

The proposed project is a 2.75 acre parcel proposed to be subdivided into 15 residential parcels. The property located at 789 Home Street within the City of Bishop (Assessor's Parcel No. 008-090-02). The General Plan Land Use designation for the site is Medium Density Residential (5.1 – 9.9 DU/AC) and it is zoned R-1, Single Family Residential District. The irregularly shaped parcel is generally level and

is located in an urbanized area and is currently developed with a legal nonconforming retail nursery. The project site is surrounded by residential uses to the south and northeast, a church facility to the north and vacant parcels (open space) to the east and west.

Subsequent Actions

The proposed project would require a series of subsequent actions, including a Use Permit, a Tentative Tract Map, and a Final Tract Map. These actions are described below.

- a. **Use Permit.** The project would require a use permit to modify several Bishop Municipal Code (BMC) and Mobility Element (ME) design standards. Modification of design standards is permissible pursuant to BMC 16.44.010 subject to approval by the Planning Commission. Proposed modifications are listed and described below:
1. BMC Section 16.28.050 Local streets—Widths. The Municipal Code requires a street right of way width of 60 ft. The project is proposing a street right of way width of 42 ft.
 2. BMC Section 16.28.060 Dead end streets—turnaround and street length. The Municipal Code requires a dead end street to have a turn around with a minimum radius of 50 ft. (cul-de-sac). The project is proposing a hammer head turn around in place of a cul-de-sac.
 3. BMC Section 16.28.070 (B) Private streets. The Municipal Code requires that private streets shall meet the requirements for public streets. The project street design does not meet all of the prescribed requirements for a public street as listed in modification 1, 2, 4 and 7.
 4. BMC Section 16.28.230 Lot size and lot frontage (lots 6 and 9). The Municipal Code requires a minimum lot size of 7000 sq. ft. with a minimum 50 ft. lot front. The project is proposing 10 parcel with less than 7000 sq. ft. of area and 2 parcels with less than a 50 ft. street front.
 5. ME Local Street Residential Area - Planter strip. The Mobility Element Residential Local Street cross-section shows a 10 ft. combined sidewalk and planter strip at each edge of the roadway. The project is proposing no planter strips. The Mobility Element states when the standard (i.e., less than 60 ft. minimum) right of way is not available, consideration is given to reducing lane, shoulder, sidewalk and planter strip widths.
 6. ME Local Street Residential Area - Placement of sidewalk at each edge of roadway. The Mobility Element Residential Local Street cross-section shows a sidewalk and planter strip at each edge of the roadway. The project is proposing a 4 ft. sidewalk along one side of the roadway along its eastern half where there is driveway access only on one side and both sides of the roadway where there is driveway access on both sides. The Mobility Element states when the standard (i.e., less than 60 ft. minimum) right of way is not available, consideration is given to reducing lane, shoulder, sidewalk and planter strip widths.

- b. Tentative Tract Map.** A tentative tract map is required to subdivide the 2.75 acre property into 15 single family parcels, ranging from 5,104 to 8,232 square feet with a 42 feet private street right of way.
- c. Final Tract Map.** The City Council shall review the Final Map for conformance with all the requirements of the Subdivision Map Act, Municipal Code Title 16 and any ruling made thereunder, and conformance with the approved Tentative Map and all conditions thereof. Should the Final Map be in conformance, the Council shall approve the map. At the time of approval, the council shall also accept or reject any or all offers of dedication.

Project Mitigation Measures

Mitigation Measure AES-1: One replacement tree shall be provided for each tree removed. A minimum of 4 trees will be planted along the easterly property line of Lot 15 adjacent to Home Street and other replacement trees shall be placed adjacent to the new street where feasible. This measure is in furtherance of the street tree policy of the Conservation Element. Other trees will be planted along the southerly portions of lots 1 through six as mitigation for biological impacts (see BIO 1).

Mitigation Measure AIR-1: The applicant shall obtain a Permit to Construct from the Great Basin Unified Air Pollution Control District and shall adhere to its conditions.

Mitigation Measure BIO-1: All stormwater runoff from the project site shall be directed to the city stormwater system. This shall include solid fencing, wall, swale, or other feature that will divert surface runoff from lots 1-6 away from Bishop Creek and to the stormwater system. Final design of stormwater management shall be approved by the Public Works Department of the City of Bishop to assure compliance with this measure.

Mitigation Measure BIO-2: To limit the effects of light, sound, and domestic pets on the riparian corridor, the project shall:

- 1) Construct a six foot high solid fence at the southerly property line of lots 1 through 6.
- 2) plant new trees along the southern edge of lots 1 through 6 at a ratio of four new trees for each tree removed with native trees along the southern edge of those lots. The replacement trees shall be native willows (*Salix laevigata*, *exigua gooddingii*) and poplars (*Populus fremontii*). The newly planted trees shall be watered for a minimum of 2 years to assure successful establishment.
- 3) Require that all exterior lighting within the subdivision be shielded and downward directed.

Mitigation Measure BIO-3: Pursuant to the recommendations of the California Department of Fish and Wildlife, during the bird breeding season (January 1 through

August 31) preconstruction surveys shall be conducted no more than three days prior to onset of construction or ground disturbing activities. The surveys shall include closely adjacent areas that could be disturbed by construction activities as identified in the Paulus Report as well as existing buildings and infrastructure that could provide suitable bird nesting/roosting habitat. Should active nests be located, an appropriate construction activity buffer as identified by a qualified biologist shall be established and maintained and until fledging has occurred.

Mitigation Measure CUL-1: The project shall comply with Public Resources Code Section 5097.98, California Government Code Section 27491 and Health & Safety Code Section 7050.5 provide for provisions for archeological resources discovered during construction and mandate the processes to be followed in the event of discovery of any cultural resources or human remains in a project location. The project is subject to required tribal consultation pursuant to California Government Code Section 65352.3, 65352.4. A Bishop Paiute Tribe designee will be contacted in the event of accidental discovery of archeological resources.

Mitigation Measure HYD-1: The project shall comply with all requirements of the City of Bishop for best management practices for prevention of stormwater pollution. The project shall also comply with the requirements of the Lahontan Regional Water Quality Control board for filing of a Stormwater Pollution Prevention Plan and Report of Waste Discharge and implementation of best management practices as outlined in the New Development & Redevelopment BMP Handbook.

Mitigation Measure HYD-2: The project drainage system shall include detention of peak flows or other means so that conveyance capacity of city stormwater system is not exceeded and shall include oil water separation or similar treatment so that treatment capacity of city storm water system is not exceeded.

Mitigation Measure Noise -1: Construction activities shall comply with the Noise Regulations of the City of Bishop.

Mitigation Measure TRANS-1 The proposed street shall be posted with a speed limit of 15 mph.

Environmental Checklist

Appendix G

Environmental Checklist Form

NOTE: The following is a sample form and may be tailored to satisfy individual agencies' needs and project circumstances. It may be used to meet the requirements for an initial study when the criteria set forth in CEQA Guidelines have been met. Substantial evidence of potential impacts that are not listed on this form must also be considered. The sample questions in this form are intended to encourage thoughtful assessment of impacts, and do not necessarily represent thresholds of significance.

1. Project title: Tentative Tract Map 250, Kingston Subdivision
2. Lead agency name and address:
City of Bishop
377 West Line Street
Bishop, CA 93514
3. Contact person and phone number: Gary Schley, (760) 873-8548
4. Project location: 789 Home Street, Bishop, CA
5. Project sponsor's name and address:
Bob Kingston
P.O. Box 50644
Santa Barbara, CA 93150
6. General plan designation: Medium Density Residential 7. Zoning: R-1, Single-Family Res.
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)
The proposed development is a 15 lot residential subdivision on 2.75 acres. The proposal is to develop lots for sale with future residence construction to be by the individual lot owners.
9. Surrounding land uses and setting: Briefly describe the project's surroundings:
The parcel is abutted by single-family homes to the south, a church to the north, an undeveloped parcel to the west, and Home Street to the east. Directly across Home Street is an undeveloped parcel and to the northeast are single-family homes.
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
Great Basin Unified Air Pollution Control District
Lahontan Regional Water Quality Control Board

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology /Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities / Service Systems | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

 _____ Signature	November 10, 2015 _____ Date
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_____ Signature	_____ Date
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EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

SAMPLE QUESTION

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

II. AGRICULTURE AND FOREST

RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
de) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. GREENHOUSE GAS EMISSIONS --				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VIII. HAZARDS AND HAZARDOUS MATERIALS -				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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IX. HYDROLOGY AND WATER QUALITY --
Would the project:

a) Violate any water quality standards or waste discharge requirements?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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f) Otherwise substantially degrade water quality?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING -- Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

XV. RECREATION --

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. TRANSPORTATION/TRAFFIC -- Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

XVII. UTILITIES AND SERVICE SYSTEMS -- Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE --

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: Authority cited: Sections 21083, 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080, 21083.05, 21095, Pub. Resources Code; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

DISCUSSION OF ENVIRONMENTAL EFFECTS

DISCUSSION OF AESTHETICS:

a) The Conservation and Open Space Element of the General Plan states "Panoramic views of the surrounding Sierra Nevada and White Mountains along with the surrounding ranch and open space lands are the dominant scenic features in the Bishop area. Spectacular views of the mountains are available from many vantage points within the city." It also says that "Another similar scenic aspect of the community involves the tree lined roads and lanes of the city." "Preservation and or replacement of the trees that line these roads would contribute greatly to the preservation of the scenic qualities of the City's environmental character." The project site is located in an urbanized and developed area within the city and does not impact the "panoramic views." No existing street trees are to be removed and any impact to street trees is less than significant. Nonetheless, Mitigation Measure AES-1 is proposed to further the objectives of the Conservation and Open Space Element.

b) The proposed project is not located within nor readily visible from a scenic highway corridor. Therefore, no adverse effect is expected.

c) The project has potential of degrading the existing visual character of the site by removing several mature trees. There are approximately 85 trees on or adjacent to the site along with landscape shrubs. 30 of the trees are proposed to be removed. With the exception of the trees lining the south side of the existing driveway, the trees on the perimeter of the site will remain, substantially screening the interior of the site from the residential neighborhood to the south. To further mitigate the visual effects of the project and in conformance with the street tree direction of the Conservation Element, trees will be replaced on a 1:1 ratio with some being planted along the easterly boundary of Lot 15 adjacent to Home Street to provide street trees consistent with the policies of the Conservation and Open Space Element of the general plan. Because of the retention of perimeter trees, the impacts to aesthetics from tree loss are less than significant. One mitigation measure is included to further reduce that impact.

The project site is largely unlit at night. There are lights on the side of the existing nursery building that stay on all night, but the remainder of the site is unlit. Light also spills onto the northern side of the project site from the church property to the north. No street lights are proposed for the project. Exterior illumination of individual residences is expected to be comparable to exterior lighting in nearby residential neighborhoods and will be somewhat screened from off-site by retained perimeter trees and shrubs. Therefore, a less than significant aesthetic effect from lighting is expected. To further reduce the effect of night lighting and to mitigate possible effects on wildlife, all exterior lighting shall be shielded and downward directed (BIO 2)

Mitigation Measure AES-1: One replacement tree shall be provided for each tree removed. A minimum of 4 trees will be planted along the easterly property line of Lot 15 adjacent to Home Street and other replacement trees shall be placed adjacent to the new street where feasible. This measure is in furtherance of the street tree policy of the Conservation Element. Other trees will be planted along the southerly portions of lots 1 through six as mitigation for biological impacts (see BIO 1).

DISCUSSION OF AGRICULTURAL AND FOREST RECOURCES:

a), b), c), d) & e) Although agricultural activities are found throughout the Owens Valley, including areas adjacent to Bishop, The City's General Plan does not incorporate agriculture into the adopted Land Use Plan. Approval of TTM No. 250 would not have the potential to impact existing farming activities, nor would it conflict with policy concerning conservation of agricultural lands. The subject property and its uses do not meet the definitions of Agricultural Land, Prime Agricultural Land or timberland contained in the California Government and Public Resources Codes and there are no Williamson Act contracts on the property. Therefore, there will be no effect to agricultural and forest resources.

DISCUSSION OF AIR QUALITY:

Air quality in the City of Bishop is generally good. The city is not designated non-attainment for any criteria pollutant and is not projected to violate any air quality standard. Air pollution emissions are overseen by the Great Basin Unified Air Pollution Control District. The District will be requiring a Permit to Construct prior to the onset of grading (GBUAPCD letter, September 3, 2015)

a) No implementation plan exists for Bishop or its immediate vicinity that would be affected by the proposed subdivision.

b) The proposed project would not generate long term impacts to air quality. Potential short term air quality impacts associated with the construction are expected to be below any state or federal criteria. Therefore, impacts to air quality would be less than significant.

c) The project could generate some dust from construction excavation and grading. Emissions during construction would be controlled through the implementation of Best Management Practices such as regular use of a water truck to keep potential dust producing surfaces controlled. A Secondary Source Permit will be required for construction activities by the Great Basin Unified Air Pollution Control District to control emissions during construction and all mitigation required by said permit shall be followed (see Mitigation Measure AIR-1). All new wood burning appliances must meet EPA phase II requirements for particulate emissions and are not

considered a significant source of emissions. Therefore, the impact to air quality is considered less than significant with mitigation.

d) The project would not expose sensitive receptors to substantial pollutant concentrations. Construction of the project would result in temporary and relative small amount of air emissions, these pollutant concentrations would not be emitted at substantial levels and would be limited through adherence to Mitigation Measure AIR-1. Therefore the impact to sensitive receptors is expected to be less than significant

e) The proposed project is not expected to produce odors unusual to residential neighborhoods. No Impact is expected

Mitigation Measure AIR-1 The applicant shall obtain a Permit to Construct from the Great Basin Unified Air Pollution Control District and shall adhere to its conditions.

DISCUSSION OF BIOLOGICAL RESOURCES:

A biological survey of the project site and its immediate surroundings was conducted in August of 2015. This survey looked at potential impacts to both flora and fauna. The results of that survey are described in the Assessment of Biological Resources for Tentative Tract Map No. 250, Kingston Subdivision, Bishop Jim Paulus, Ph.D. dated September 28, 2015 (Paulus Report, Attachment 4). The report's findings and recommendations are summarized below.

The proposed project is located in an urbanized area and the site is currently developed with several buildings, walkways, an outdoor commercial nursery sales area, and parking lot. Existing vegetation on the site consists of mature trees and various shrubs. Redevelopment of the site would result in removal of a portion of the existing vegetation.

Non-native vegetation on the project site includes black locust and Siberian elm. Both species are known to be invasive. The Paulus Report recommends removal of all black locusts, but retention of the largest Siberian Elms. This is consistent with the tree removal plan for the project and no additional mitigation is required.

a) No species identified as candidate, sensitive, or special status was identified on the project site. One state species of concern, the Owens sucker, *Catostomus fumeiventris*, was found in the creek adjacent to the project site. Runoff from the project site has the potential during construction and long-term to adversely affect water quality in the creek. Therefore, mitigation is proposed to divert surface runoff away from the creek and into the city storm water system (Mitigation Measure BIO-1). With mitigation, this effect is less than significant.

b) The project site is located in close proximity to the South Fork of Bishop Creek.

While riparian vegetation along the creek is limited as a result of development of the Rome subdivision through which the creek flows, the proposed project has the potential to further affect the riparian corridor through runoff and light intrusion. Mitigation measures BIO-1 and BIO-2 reduce this impact to less than significant.

c) There are no wetlands on the project site and no off-site disturbance affecting protected wetlands. Therefore, there will be no effect to federally protected wetlands.

d) The project site is largely disturbed as a result of its ongoing use as a commercial nursery. Other than along the project edges, there is little native vegetation and the nursery activities do not allow for reestablishment of native vegetation. Portions of the site are used by nesting birds and mainly transient, relatively mobile animals that also use the adjacent riparian corridor. The site is fairly active during the day with nursery customers and ongoing maintenance activities. The site is relatively quiet at night when the business is closed. There are approximately 85 trees with trunk diameters greater than 6" and numerous smaller trees on or adjacent to the site along with landscape shrubs. 35 of the larger trees along with a few of the smaller trees and shrubs are proposed to be removed. The existing vegetation, especially that closest to the creek, provides cover that supports movement of mammals and birds along the riparian corridor. Bird nesting, including raptor nesting has been reported in the project vicinity. Removal of trees and other vegetation and increased night lighting, and possible additional human activity along the southerly property boundary has the potential to further decrease use of the area by local wildlife. Grading and clearing has the potential to adversely affect nesting birds. Domestic pets from the new lots have the potential to adversely affect wildlife through harassment and/or predation.

To mitigate impacts to the riparian corridor, the Paulus Report recommends constructing a solid 6 foot fence along the southern boundary of lots 1 through 6, replacing all trees removed from lots 1-6 at a ratio of 4:1 with native trees, and shielding of any new outdoor lighting.

All native birds and their nests are protected under the Migratory Bird Treaty Act and California Fish and Wildlife Code. TO reduce potential impacts to nesting birds to less than significant the project shall comply with Mitigation Measure BIO-3 requiring a pre-construction survey, avoidance, and monitoring unless all construction can be completed during the non-breeding season, identified as September 1 through December 31 by the Bishop office of the California Department of Fish and Wildlife.

With mitigation, these effects are less than significant.

e) The project is consistent with the goals and policies of the Conservation and Open Space Element of the general plan and there are no local tree preservation policies or ordinances. Therefore, no impact.

f) The project site is not located within an area covered by any adopted Habitat Conservation plan, Natural Community Conservation Plan, or any other approved local, regional, or state habitat conservation plan. Therefore, no impact is expected.

Mitigation Measure BIO-1: All stormwater runoff from the project site shall be directed to the city stormwater system. This shall include solid fencing, wall, swale, or other feature that will divert surface runoff from lots 1-6 away from Bishop Creek and to the stormwater system. Final design of stormwater management shall be approved by the Public Works Department of the City of Bishop to assure compliance with this measure.

Mitigation Measure BIO-2: To limit the effects of light, sound, and domestic pets on the riparian corridor, the project shall:

- 1) Construct a six foot high solid fence at the southerly property line of lots 1 through 6.
- 2) Plant new trees along the southern edge of lots 1 through 6 at a ratio of four new trees for each tree removed with native trees along the southern edge of those lots. The replacement trees shall be native willows (*Salix laevigata, exigua gooddingii*) and poplars (*Populus fremontii*). The newly planted trees shall be watered for a minimum of 2 years to assure successful establishment.
- 3) Require that all exterior lighting within the subdivision be shielded and downward directed.

Mitigation Measure BIO-3: Pursuant to the recommendations of the California Department of Fish and Wildlife, during the bird breeding season (January 1 through August 31) preconstruction surveys shall be conducted no more than three days prior to onset of construction or ground disturbing activities. The surveys shall include closely adjacent areas that could be disturbed by construction activities as identified in the Paulus Report as well as existing buildings and infrastructure that could provide suitable bird nesting/roosting habitat. Should active nests be located, an appropriate construction activity buffer as identified by a qualified biologist shall be established and maintained and until fledging has occurred.

V. DISCUSSION OF CULTURAL RESOURCES:

a) Since the existing nursery is not considered a historic resource, no impacts are anticipated with respect to this topic.

b) The project site is heavily disturbed and there is no surface evidence of archaeological resources. There is a possibility of unearthing undiscovered cultural resources. Based on recommendations obtained through consultation with the Bishop Paiute Tribe, the following mitigation measure would result in a finding of less than significant impact to cultural resources.

Mitigation Measure CUL-1: The project shall comply with Public Resources Code Section 5097.98, California Government Code Section 27491 and Health & Safety Code Section 7050.5 provide for provisions for archeological resources discovered during construction and mandate the processes to be followed in the event of discovery of any cultural resources or human remains in a project location. The project is subject to required tribal consultation pursuant to California Government Code Section 65352.3, 65352.4. A Bishop Paiute Tribe designee will be contacted in the event of accidental discovery of archeological resources.

- c) The project area does not contain any unique geologic features. No paleontological resources have been identified within the Bishop city limits and none are anticipated on the project site based upon soil type and age.
- d) No known burial sites are located within the project area. If human remains are unearthed, the county coroner would be contacted and the remains will be handled in accordance with state requirements, including any possible historical or archaeological significance..

VI. DISCUSSION OF GEOLOGY AND SOILS:

The proposed project site topography is generally flat and sloping to the east and contains no unique rock outcroppings. The project is located at the north end of the Owens Valley between the Sierra Nevada and White Mountains. The valley is a seismically active region of eastern California. There are no faults identified within the site area and the site is not within an Alquist-Priolo designated zone; thus, the risk of seismically induced ground rupture is low to moderate.

- a) i)-iv) With adherence to the California Building Code and other applicable standards, less than significant seismic impacts to humans or structures are anticipated. As part of the tentative map process the City will require submittal of a soils and geotechnical report prepared by an engineering professional to insure that impacts related to seismic ground shaking, liquefaction and related hazards will be less than significant. No landslide hazard exists since the site has minimal slope and is not close to any significant slopes.
- b) Project construction could cause sedimentation into storm drains that eventually drain to Bishop Creek and the canal system. Straw wattles shall be placed around existing gutter and storm drains during construction in areas adjacent to the storm drains in order to minimize potential for sedimentation. Therefore, impacts would be less than significant.
- c) The project is not located on an unstable geologic unit. Landslide, lateral spreading, subsidence, liquefaction or collapse would not occur as a result of the project (Bishop Building Department).
- d) A Natural Resources Conservation Service soil survey for soils in the project vicinity indicate the soils consist of Dehy loam 0 to 2 percent slope and

xerofluvents 0 to 5 percent slope. These soils are not considered to be expansive soils. Therefore the project has no impact. (Bishop Building Department)

e) The proposed project will be connected to the City sanitary sewer system. There would be no impact with regard to septic tanks.

VII DISCUSSION OF GREENHOUSE GAS (GHG) EMISSIONS

a) As discussed in detail in Attachment 5, the project impacts are limited in magnitude and projected to be well below any guideline threshold for direct or cumulative effects on GHG emissions. This impact is less than significant.

b) There are no local plans for GHG reductions. As discussed in Attachment X, the project impacts are projected to be below any threshold that would conflict with state plans and programs for GHG reductions. Therefore this impact is less than significant.

VIII. DISCUSSION OF HAZARDS AND HAZARDOUS MATERIALS:

The current land owner, the City of Los Angeles, conducted Phase 1 and Phase II Environmental Assessments in 2009. These assessments found no significant contamination from site activities. High levels of heavy metals in the soil requiring further investigation were noted. Following notification by a neighbor of possible recent soil contamination, the Lahontan Regional Water Quality Control Board conducted a site visit on August 19, 2015. Soil samples were taken and tested for contamination. The findings of the Water Board as noted in a letter to the City of Bishop dated September 17, 2015 (Attachment 6) were that the site posed little threat to water quality and no further investigation by that body was warranted. Any final determination of need for remediation was left to the Inyo County Department of Environmental Health. In a message dated October 1, 2015 (Attachment 6), the Inyo County Department of Environmental Health outlined a plan for remediation. Subsequently, the recommended remediation measures were completed and the case was closed by Inyo County (Attachment 6). No further mitigation is required; therefore, no significant effect is anticipated.

a) Other than typical household waste, no routine transport, use, or disposal of hazardous wastes is anticipated in association with the proposed projects. Household wastes would be handled in accordance with applicable federal, state, and local laws. Potential effects would be less than significant.

b) The risk of exposure of people to construction related hazardous materials would be reduced to less than significant levels with the implementation of Best Management Practices and approved containment and spill control practices for construction and materials on site (see mitigation measure HYD-1).

c) The project is less than a quarter mile from Bishop Elementary and High School and Seventh Day Adventist Elementary School. Because the project is a residential

development not involving any unusual use of hazardous materials, no impact is anticipated with regard to emitting acutely hazardous materials near a school site. This impact is; therefore, considered to be less than significant.

d) The site is not included on the Cortese list of hazardous materials sites (GC 65962.5). Therefore no impact is foreseen.

e) This project is within one mile of the Bishop airport and is close to the normal traffic pattern for Runway 30. The project conforms to FAA standards for use and density within the Traffic Pattern Zone (California Airport Land Use Planning Handbook, Caltrans, 2011). Therefore, any impact is less than significant.

f) The project is not located near a private airstrip.

g) The proposed project is not designed in such a manner as to block vehicular traffic along Home Street, which provides normal and emergency access to and from the site. Therefore, no impacts are anticipated with regard to interference with emergency evacuation plans.

h) The project site is located in an urban area, with residential land uses on all sides. No impacts are anticipated with respect to significant risk of the proposed project to wildland fire. (Bishop Fire Department)

Mitigation Measure HAZ-1: Prior to the commencement of ground disturbing activities, the minor soil contamination identified by the Inyo County Department of Environmental Health shall be remediated as directed by that agency and outlined in communication with the City of Bishop dated October 1, 2015 (Attachment 6).

IX. DISCUSSION OF HYDROLOGY AND WATER QUALITY:

a) The project would dispose of wastewater through City of Bishop wastewater treatment facilities, which have capacity to accommodate the additional amount of wastewater generated by the proposed project. The project development will be required to comply with City of Bishop Public Works Department requirements for best management practices (BMP's), Federal surface water quality standards and the requirements of the Lahontan Regional Water Quality Control Board (LRWCB) including filing of a Stormwater Pollution Prevention Plan and Report of Waste Discharge and use of BMP's per the New Development & Redevelopment BMP Handbook (California Stormwater Quality Association) as required by the LRWCB (Mitigation Measure HYD-1). Therefore, there will be no violation of water quality standards or waste discharge requirements and the project impact will be less than significant with mitigation.

b) The project does not propose private wells and would not deplete groundwater supplies. Given the large groundwater recharge area in the vicinity and the small amount of additional impervious surface created by the project, it will not interfere with groundwater recharge and, therefore, the project will have no significant

impact on groundwater supply. (Bishop PW Dept.)

c) & d) The project does not propose to substantially alter drainage patterns. Runoff from the project site that could flow directly into the South Fork of Bishop Creek would be diverted into a new storm drain system and oil/water separator before being returned to the creek. Construction of the proposed project will increase the amount of impervious surfaces on the site. Stormwater runoff from site, treated for peak flow and for contaminants, will be directed to the city stormwater management system and all project collection and transport facilities will be sized to contain the design storm, thereby mitigating any risk of flooding. The proposed project directs all drainage toward a street gutter system where the stormwaters flow to an oil/water separator. Any effects would be less than significant.

e) The City uses a stormwater collection system, in conjunction with the natural creek drainage system, to manage run-off. During construction Best Management Practices shall be implemented managing erosion and siltation, this includes post-construction stabilization of disturbed areas. The proposed project is required to provide a stormwater run-off report and calculations to verify the subdivision stormwater will not exceed the existing system capacity in both terms of runoff volume and contaminant load. Runoff calculations in the Drainage & Wastewater Report for the Kingston Subdivision TTM No. 250 (Triad Engineering 2015, Attachment 7) show that the current peak flows exceed the capacity of the existing gutters on Home Street and the existing city oil/water separator. The Report recommends that the Kingston Subdivision provide its own oil/water separator. (Mitigation Measure HYD-1). In addition to treatment, project shall provide on-site stormwater detention to reduce peak flows from project to city stormwater system to less than system capacity. With the proposed mitigations, this impact is less than significant. (Mitigation Measure HYD-1).

f) The project would not otherwise substantially degrade water quality. Currently, untreated runoff can flow directly from disturbed soils on site to Bishop Creek. The project includes the installation of water/oil separation as part of the storm drain, and diversion of surface water to that separator. The separator will be sized and maintained by project proponent in accordance with the requirements of the Lahontan Regional Water Quality Control Board. Any effects would be less than significant.

g) For Bishop, the only area that FEMA has identified as being within the 100-year flood plain are areas along the south fork of Bishop Creek and the Bishop Creek Canal which is located along the northeast and east City limit. The proposed project is adjacent to the South Fork of Bishop Creek which is considered a floodway and within a special flood hazard area as delineated in Flood Insurance Rate Map (FIRM) No. 06027C0332D. The project tentative map shows that all building pads are designed at or above the FIRM Map base flood elevations. Therefore, the project will have a less than significant impact on the placement of housing adjacent to 100 year flood hazard area.

h) The proposed project is adjacent to but outside the Bishop Creek floodway boundary. Placing structures that would impede or redirect flood flows within the floodway is considered less than significant.

i) Flooding due to a dam failure at this project site is a possibility according to the inundation maps prepared by Southern California Edison Co. With an existing emergency plan along with existing canal diversion system the possibility of the proposed project flooding due dam failure is considered a less than significant impact.

j) The project location is not located within the vicinity of any body of water capable of producing a seiche or tsunami and is not located in proximity to any slope or waterway capable of producing a mudflow.

Mitigation Measure HYD-1: The project shall comply with all requirements of the City of Bishop for best management practices for prevention of stormwater pollution. The project shall also comply with the requirements of the Lahontan Regional Water Quality Control board for filing of a Stormwater Pollution Prevention Plan and Report of Waste Discharge and implementation of best management practices as outlined in the New Development & Redevelopment BMP Handbook.

Mitigation Measure HYD-2: The project drainage system shall include detention of peak flows or other means so that conveyance capacity of city stormwater system is not exceeded and shall include oil water separation or similar treatment so that treatment capacity of city storm water system is not exceeded.

X. DISCUSSION OF LAND USE AND PLANNING:

a) The project is an infill development abutting a church, vacant land, and residential neighborhoods. As such, it is complementary with and does not physically divide an established community. Therefore, the project will not have a significant impact.

b) The General Plan Designation for the site is Medium Density Residential and the zoning is R-1, Single Family Residential. The current land use, a retail nursery is a non-conforming commercial use in a residential zone. The proposed use, a single-family residential development is consistent with both the General Plan and Zoning with regard to use and density and does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed subdivision does propose modifications to certain development standards as discussed elsewhere and as permissible subject to review and approval by the Planning Commission. As noted, those modifications do not result in any significant adverse impacts to the physical environment. Therefore, there would be a less than significant impact.

c) There are no Habitat Conservation Plans or Natural Community Conservation Plans covering the project area.

DISCUSSION OF MINERAL RESOURCES:

a-b) No mineral resources are known to exist in the proposed project area nor is the site geology, Quaternary alluvium (USGS), expected to include significant mineral resources. Therefore, the project will not result in a negative impact to mineral resources.

DISCUSSION OF NOISE:

a) As a residential development in a residential zone abutting other residential uses, the proposed development is considered to be a compatible land use. Concerns would normally be about impacts to the development from abutting uses as residences are considered noise sensitive receptors, not noise generators. Sound generation from the proposed subdivision would be comparable to that from other nearby subdivisions as the uses are identical. As identified in Figures 2 and 3 of the Guidelines for the Preparation and Content of the Noise Element of the General Plan, the normal exterior noise levels in small town and suburban neighborhoods (Figure 3) are within the range generally considered acceptable for those same uses. None of the activities proposed in the development or use of the site violate any of the provisions of Bishop Municipal Code Chapter 8.12. This impact is anticipated to be less than significant.

b) Groundborne vibration may be created as part of project construction. Construction hours are controlled by Municipal Code Chapter 8.12. As a result, impacts related to groundborne vibration are expected to be less than significant.

c) Ambient noise in the project vicinity is largely a result of street noise from Home Street, the church abutting the parcel on the north, nursery operations, and residences on Rome Drive. Existing sensitive receptors are the church and Rome Street residences. The proposed subdivision would be considered a sensitive receptor as well. Because most of the noise sensitive activities of the church take place within or north of the buildings, noise from the project site is largely attenuated and there will not be a substantial increase in ambient noise levels. For properties on Rome Drive, the principle existing sources of noise would be the existing abutting houses. These homes are separated from each other by only minimal setbacks so noise attenuation is limited. The proposed new homes would be separated from the Rome Drive homes by a solid fence, existing and proposed vegetation, a 20 foot strip of land, and the creek. Noise generation from the proposed subdivision is expected to be comparable to other residential uses and the noise environment on the Rome Drive properties will likely continue to be

dominated by the existing neighboring residential uses. Therefore, no substantial change from the ambient noise levels at sensitive receptors in the vicinity is anticipated. Less than significant effect.

d) Temporary and variable increases of ambient noise level would be caused by construction activities. Construction activities shall be limited to daylight hours between 7:00 AM to 7:00 PM as required by the City of Bishop Noise regulations (mitigation measure Noise-1). Therefore, this impact will be less than significant.

E) & f) The project is within one mile of the Bishop airport and is close to the normal traffic pattern for Runway 30. As noted in the Noise Element of the Bishop General Plan, the 65 noise CNEL contour from airport operations is primarily contained within the airport property and does not extend over the project site. With the location of the proposed project and the distance from the airport, the project will not expose residents to excessive levels of noise.

Mitigation Measure Noise -1: Construction activities shall comply with the Noise Regulations of the City of Bishop.

DISCUSSION OF POPULATION AND HOUSING:

a) The proposed project is consistent with the Bishop General Plan in terms of use and density and would not substantially affect population growth or exceed regional or local population projections. The project does not include infrastructure that would indirectly facilitate development of other parcels. Therefore, would have less than significant impact on population in the area.

b) & c) The project site contains a retail nursery. No dwellings or residents would be displaced to accommodate the proposed project, therefore, have no impact.

XIV. DISCUSSION OF PUBLIC SERVICES:

a-b) Existing fire and police services are sufficient to accommodate the service needs of this project. Impacts to fire and police services would be less than significant. (City of Bishop)

c) Because of its small size, the proposed project will cause a limited increase in demand for new school facilities. Based on the existing ratio of dwellings to students in the Bishop Unified School District, the proposed development would increase the student enrolment by approximately 4 students (0.2%). Payment of mandated school impact fees to the district will off-set potential higher student enrollment generated by the proposed project. The low number of students generated combined with the payment of the mandated mitigation fees reduces the impact to Bishop Unified School District to less than significant.

d) The Bishop City Park has adequate area and facilities to provide recreational

services for the proposed project; therefore, there will be a less than significant impact to recreational facilities. (Bishop Parks and Recreation Element)

e) There would be no impact to other governmental maintenance services provided by the City since the project involves private improvements on private property. On-site roads and facilities would be privately maintained.

XV. DISCUSSION OF RECREATION:

a) The existing public parks have adequate capacity to accommodate any additional use resulting from this project without causing accelerated physical deterioration of the facilities. Therefore, no impact. (Bishop Parks and Recreation Element)

b) The proposed project does not require the construction of new parks or recreation facilities. As noted above, the existing parks have adequate capacity. Therefore, no impact is foreseen.

DISCUSSION OF TRANSPORTATION/TRAFFIC:

a) The project design includes a request for six modifications to the roadway standards contained in the city development regulations. These include:

1. BMC Section 16.28.050 Local streets—Widths. The Municipal Code requires a street right of way width of 60 ft. The project is proposing a street right of way width of 42 ft.
2. BMC Section 16.28.060 Dead end streets—turnaround and street length. The Municipal Code requires a dead end street to have a turn around with a minimum radius of 50 ft. (cul-de-sac). The project is proposing a hammer head turn around in place of a cul-de-sac.
3. BMC Section 16.28.070 (B) Private streets. The Municipal Code requires that private streets shall meet the requirements for public streets. The project street design does not meet all of the prescribed requirements for a public street as listed in modification 1, 2, 4 and 7.
4. BMC Section 16.28.230 Lot size and lot frontage (lots 6 and 9). The Municipal Code requires a minimum lot size of 7000 sq. ft. with a minimum 50 ft. lot front. The project is proposing 10 parcel with less than 7000 sq. ft. of area and 2 parcels with less than a 50 ft. street front.
5. ME Local Street Residential Area - Planter strip. The Mobility Element Residential Local Street cross-section shows a 10 ft. combined sidewalk and planter strip at each edge of the roadway. The project is proposing no planter strips. The Mobility Element states when the standard (i.e., less than 60 ft. minimum) right of way is not available, consideration is given to reducing lane, shoulder, sidewalk and planter strip widths.
6. ME Local Street Residential Area - Placement of sidewalk at each edge of roadway. The Mobility Element Residential Local Street cross-section

shows a sidewalk and planter strip at each edge of the roadway. The project is proposing a 4 ft. sidewalk along one side of the roadway along its eastern half where there is driveway access only on one side and both sides of the roadway where there is driveway access on both sides. The Mobility Element states when the standard (i.e., less than 60 ft. minimum) right of way is not available, consideration is given to reducing lane, shoulder, sidewalk and planter strip widths.

The Mobility Element provides that "When the standard (i.e., less than the 60 foot minimum) ROW is not available, consideration is given to reducing lane, shoulder, sidewalk, and planter widths." This consideration is subject to land use review and approval by the Planning Commission in accordance with requirements of the Municipal Code. A review of the proposed standard modifications was conducted by Triad Engineering (Attachment 8). Based on the Mobility Element provisions, and given the low traffic volume on the proposed new street, the analysis concluded that the proposed modifications will still provide adequate lane width and turn radii (subject to speed controls) and will not cause a substantial decrease in the performance of the circulation system. Therefore, the impact of the standards modifications on the applicable plan and ordinance is less than significant.

b) A review of the project based on the ITE Trip Generation Manual by the Public Works Department (Attachment 9) determined that the projected peak hour and average daily traffic from the proposed subdivision would be less than the current commercial nursery use. Therefore, no impact is anticipated.

c) The project will not alter existing air traffic patterns or create additional air traffic. No impact is anticipated.

d) The proposed project right of way and roadway design is not fully consistent with the City of Bishop Mobility Element and the Subdivision Article of the Municipal Code. The non-compliant design features consist of right of way width, roadway width, dead-end roadway turn-around configuration, and pedestrian facilities design and placement edge of roadway.

An analysis of the proposed roadway design was conducted by Triad Engineering (Attachment 8). The analysis concluded that, based on the low projected traffic volumes and with a reduced speed limit, the proposed design met minimum AASHTO (American Association of State Highway and Transportation Officials) design standards. To assure a safe condition, the roadway shall be posted with a maximum speed limit of 15 MPH (Mitigation Measure TRANS-1) With the low traffic volumes on the proposed street and the approval of the revised design by the Bishop Fire Department, the non-compliant right of way features do not substantially increase hazards. Therefore, there is a less than significant impact with mitigation.

e) Emergency access to the project site will be provided via Home Street. The Bishop Fire Department has reviewed the access points and on site circulation and

has determined that the access to the site will be adequate for emergency vehicles.

f) Applicable policies, plans, and programs regarding public transit, bicycle, or pedestrian facilities are found in the Mobility Element of the General Plan. The design of the proposed subdivision is consistent with the policies for said facilities with the exception of the proposal to have a sidewalk on only one side of the street. As noted above, the Mobility Element contains a provision for reduction of sidewalk requirements on streets with substandard right of way widths. Therefore, this is a less than significant effect.

Mitigation Measure TRANS-1 The proposed street shall be posted with a speed limit of 15 mph.

XVII. DISCUSSION OF UTILITIES AND SERVICE SYSTEMS:

a) The City of Bishop Public Works Department provides wastewater services to residents of the City. The Bishop Public Works Department has indicated that the treatment plant has the capacity to handle the anticipated wastewater generated by the new homes proposed as part of the project without affecting the quality of the treated effluent. No impact is anticipated with regard to exceeding Regional Water Board discharge requirements.

b) The City of Bishop Public Works Department provides water and wastewater services to residents of the City. The City relies on ground water aquifers to supply water to the residents. No upgrades or expansion of existing water or wastewater treatment facilities are necessitated by this project therefore there would be no impact from expansion of existing facilities.

c) As noted in the Hydrology and Water Quality section of this Initial Study, no changes to the existing stormwater system are proposed. The impacts of the construction of the on-site facilities are addressed in this report. As a result, there would be no significant effects from the construction of new drainage facilities.

d) The Public Works staff has indicated that water supplies from existing entitlements are available to serve the proposed small subdivision and no new entitlements are needed. No impact from new entitlements or new resources are expected.

e) The Public Works staff has indicated that adequate wastewater capacity exists to serve the proposed project; therefore, the project would have a less than significant impact to wastewater capacity.

f) & g) The proposed project would generate solid waste based on residential use. Residents are encouraged to participate in recycling programs to reduce the projects contribution to the waste stream as required by AB 939. Impacts related to solid waste generation are anticipated to be less than significant.

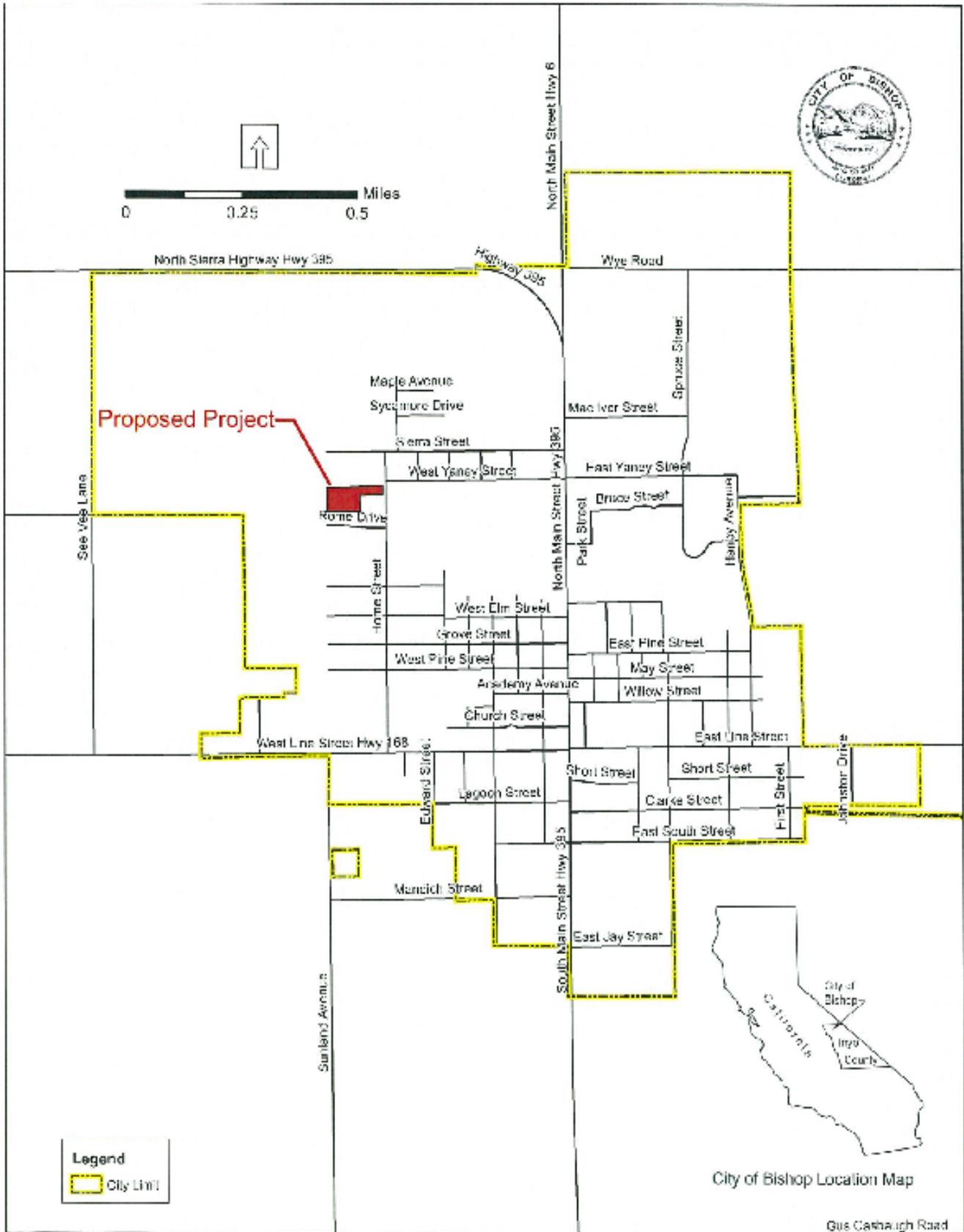
XVIII. DISCUSSION OF MANDATORY FINDINGS OF SIGNIFICANCE:

As described in detail above:

- a) The project does have the potential to degrade the quality of the environment and reduce the habitat of a fish or wildlife species. With the mitigation measures included in this Initial Study, that potential is reduced to less than significant.
- b) The project does not have impacts that are individually limited, but cumulatively considerable.
- c) The entire record of information provided in this Initial Study indicates that there would be no significant cumulative impacts, or substantial adverse impacts on human beings, or substantial adverse impacts on fish or wildlife or sensitive species or cultural resources with adherence to the mitigation measures contained in this Initial Study.

Attachment 1

Location Map



Tentative Tract Map 250, Kingston Subdivision Location Map
 City of Bishop



Tentative Tract Map 250, Kingston Subdivision Setting Map

City of Bishop

Attachment 2

Tentative Map Grading Plan

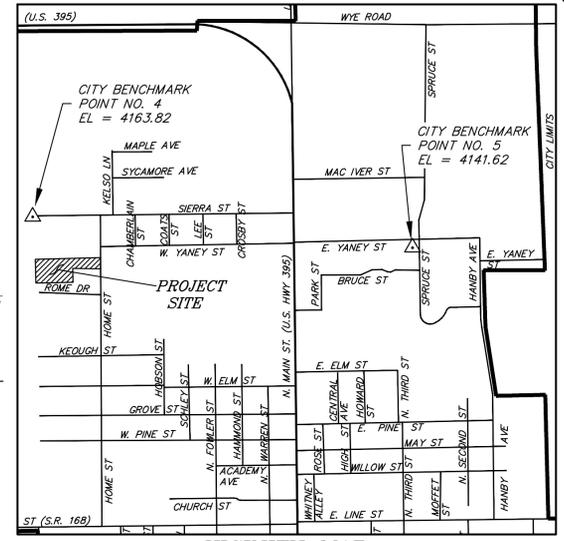
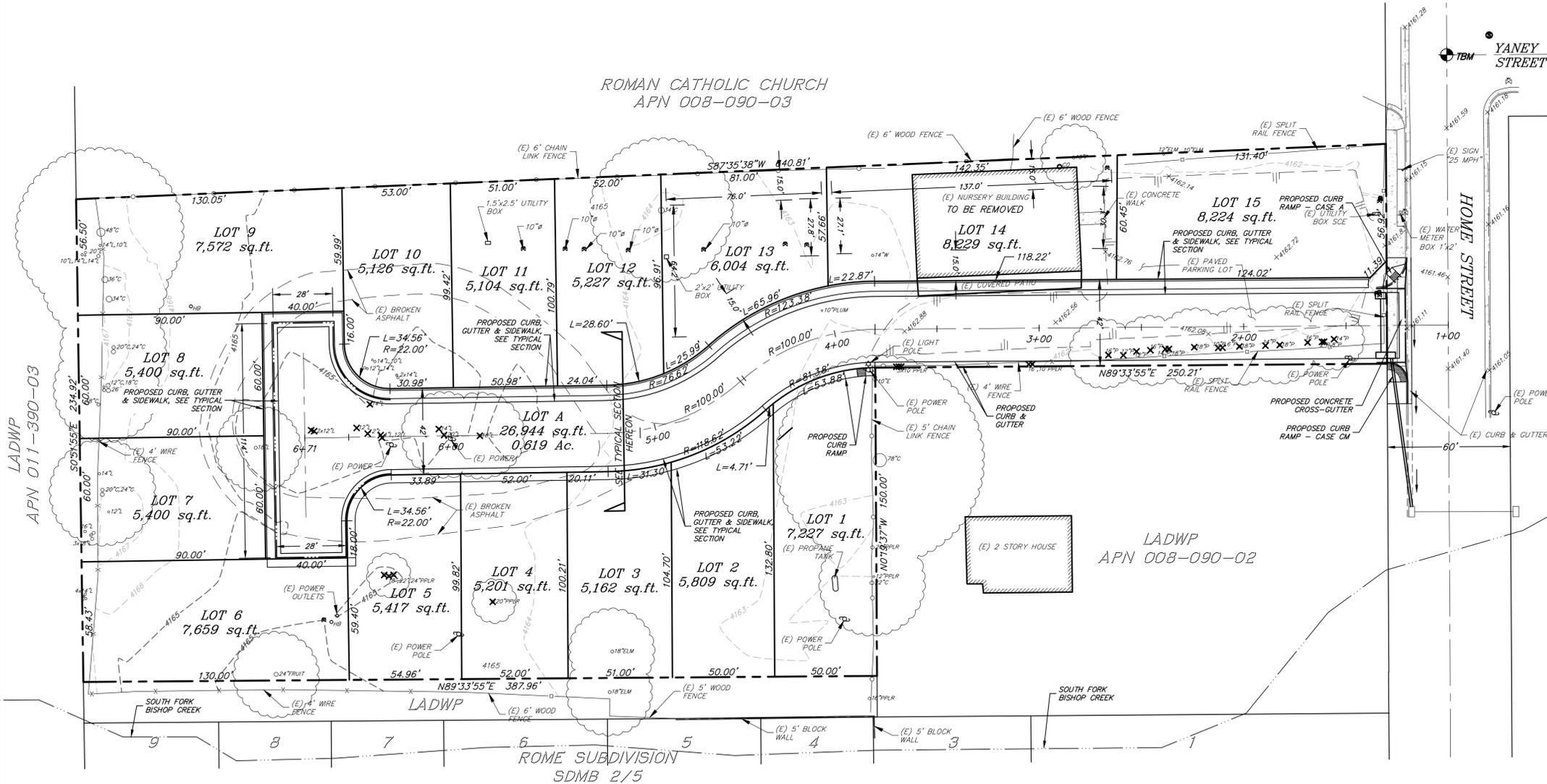
TENTATIVE TRACT MAP NO. 250

KINGSTON SUBDIVISION

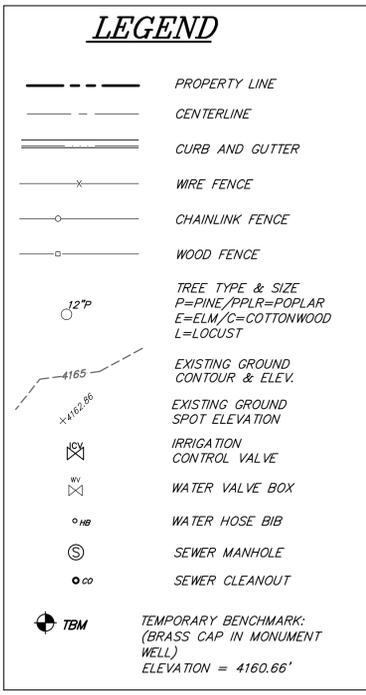
A PRIVATE SINGLE FAMILY SUBDIVISION

CONSISTING OF 15 SINGLE FAMILY LOTS AND LOT A FOR ROAD PURPOSES
CITY OF BISHOP, CALIFORNIA

ROMAN CATHOLIC CHURCH
APN 008-090-03

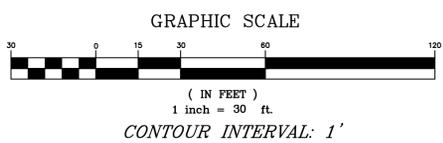


VICINITY MAP
NOT TO SCALE



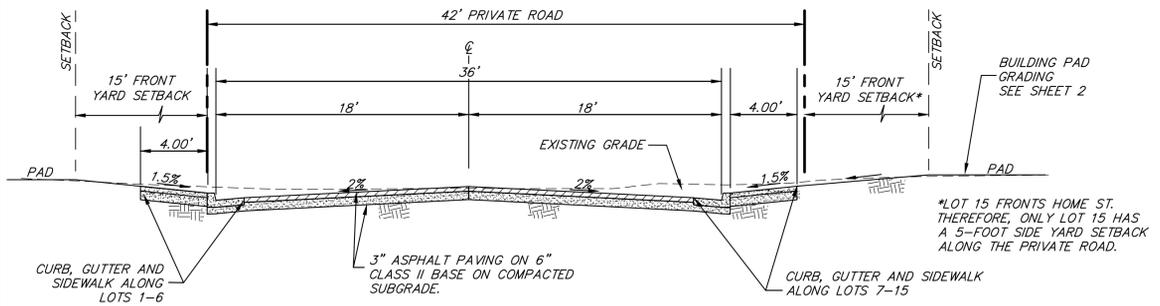
EXISTING TOPOGRAPHY & PROPOSED LOT CONFIGURATION

DESIGN NOTES:
 ASSESSOR'S PARCEL NUMBER : 008-090-02
 ADDRESS: 789 HOME STREET, BISHOP CA
 PROJECT AREA : 2.75 ACRES
 ZONING : R1 SINGLE FAMILY
 GENERAL PLAN LAND USE DESIGNATION : MEDIUM DENSITY RESIDENTIAL
 FRONT YARD SETBACK: 15 FEET
 SIDE YARD SETBACK: 5 FEET
 REAR YARD SETBACK: 15 FEET
 SMALLEST LOT SIZE: 5,126 S.F.
 WATER SUPPLY: CITY OF BISHOP
 SEWAGE DISPOSAL: CITY OF BISHOP
 ELECTRICITY: SOUTHERN CALIFORNIA EDISON
 TELEPHONE: VERIZON
 FIRE PROTECTION: BISHOP FIRE PROTECTION DISTRICT



LEGAL DESCRIPTION

THAT PORTION OF LOT 25 OF THE SIERRA TRACT, IN THE NORTHWEST QUARTER OF SECTION 6, TOWNSHIP 7 SOUTH, RANGE 33 EAST, MT. DIABLO MERIDIAN, IN THE CITY OF BISHOP, COUNTY OF INYO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN MAP BOOK 1 PAGE 52-2, ON FILE IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:
 BEGINNING AT THE SOUTH-WESTERLY CORNER OF SAID LOT 25; THENCE NORTH 00°51'53" WEST, 254.92 FEET, ALONG THE WESTERLY LINE OF SAID LOT 25, TO THE SOUTH-WESTERLY CORNER OF THAT REAL PROPERTY DESCRIBED IN DEED TO THE ROMAN CATHOLIC BISHOP OF FRESNO, A CORPORATION SOLE, RECORDED IN DOCUMENT NO. 87-4038, OF OFFICIAL RECORDS, IN SAID RECORDER'S OFFICE; THENCE NORTH 87°35'38" EAST, 870.81 FEET ALONG THE SOUTHERLY LINE OF SAID REAL PROPERTY TO THE EASTERLY LINE OF SAID LOT 25; THENCE SOUTH 00°19'37" EAST, 277.98 FEET TO THE SOUTHEASTERLY CORNER OF SAID LOT 25; THENCE SOUTH 89°33'55" WEST, 667.77 FEET TO THE POINT OF BEGINNING.
 EXCEPTING THEREFROM "PORTION A"; THE SOUTHERLY 170.00 FEET, OF THE EASTERLY 280.00 FEET, OF SAID LOT 25, AND "PORTION B"; THE SOUTHERLY 20.00 FEET OF SAID LOT 25.



TYPICAL ROAD SECTION
N.T.S.

RECORD OWNER

LOS ANGELES DEPARTMENT OF
WATER AND POWER
300 MANDICH STREET
BISHOP, CA 93514
(760) 873-0208

APPLICANT/FUTURE OWNER

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(805) 331-3358

SURVEYOR/ ENGINEER:

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(760) 873-4273
ANDREW K. HOLMES L.S.4428

SOILS ENGINEER

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(760) 937-4608
THOMAS A. PLATZ, PE C41039
JOE ADLER, CEG 2198

TENTATIVE TRACT MAP NO. 250
789 HOME STREET, APN 008-090-02
CITY OF BISHOP, INYO COUNTY, STATE OF CALIFORNIA

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REVISIONS	BY
REVISED 5-29-15	JSP
REVISED 10-27-15	MSS
REVISED 11-05-15	SMF

DATE: 04-07-15
 SCALE: SHOWN
 DRAWN: AKH/JSP
 JOB NO.: 04.0570
 DWG: 4-0570 TTM.dwg
 SHEET: 1
 OF 2 SHEETS

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TENTATIVE TRACT MAP NO. 250

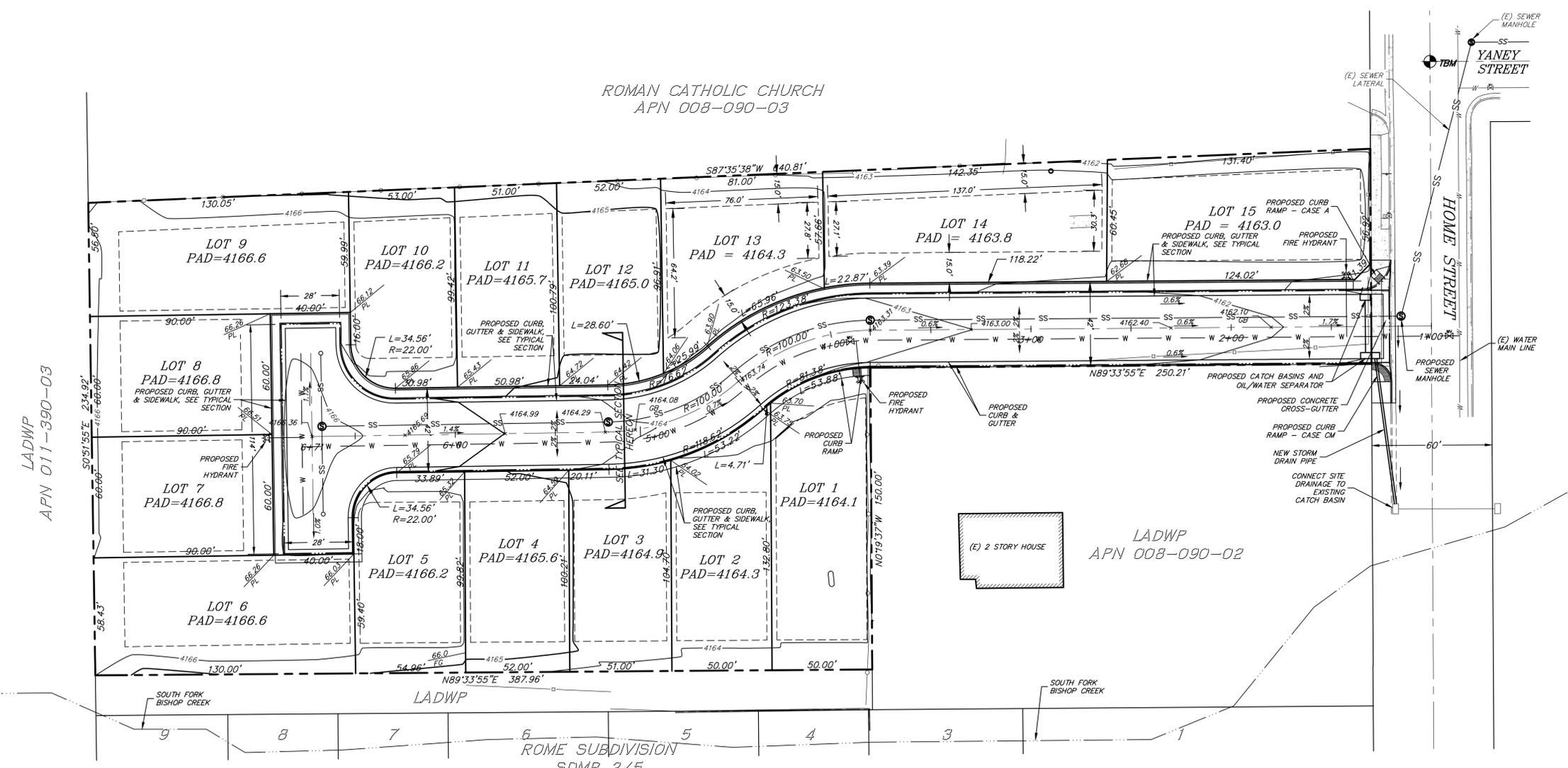
KINGSTON SUBDIVISION

A PRIVATE SINGLE FAMILY SUBDIVISION

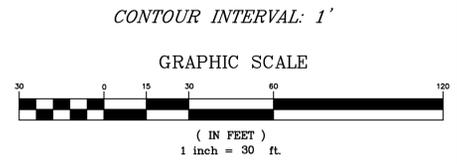
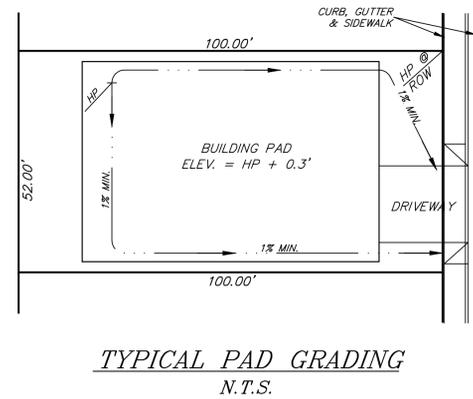
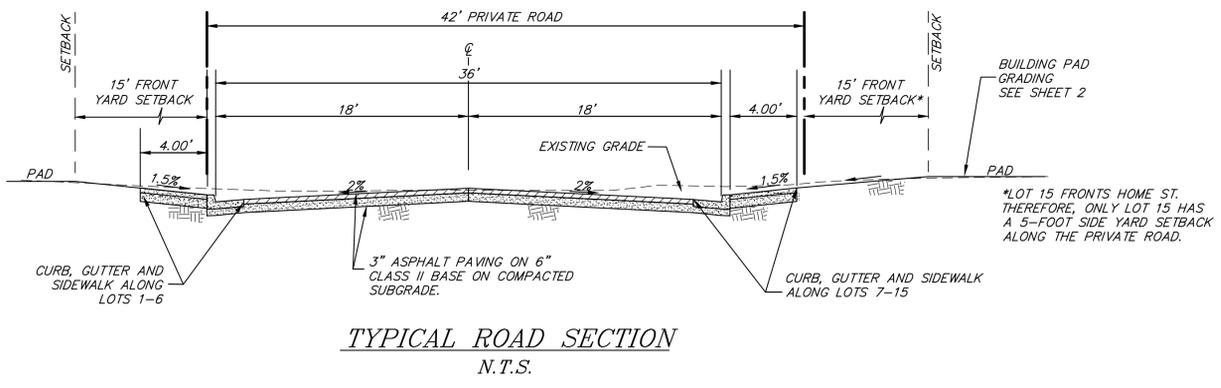
CONSISTING OF 15 SINGLE FAMILY LOTS AND LOT A FOR ROAD PURPOSES
CITY OF BISHOP, CALIFORNIA

LEGEND

- PROPERTY LINE
- DESIGN GRADE ELEVATION AT PROPERTY LINE
- PROPOSED WATER VALVE
- PROPOSED SEWER MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER LINE
- PROPOSED SEWER LINE
- PROPOSED CONTOUR & ELEV.
- PAD GRADING LINE



PROPOSED GRADING & UTILITY PLAN



TENTATIVE TRACT MAP NO. 250
789 HOME STREET, APN 008-090-02
CITY OF BISHOP, INYO COUNTY, STATE OF CALIFORNIA

trid/holmes assoc.
civil engineering
land surveying

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fax (760) 934-2619
e-mail triad@thainc.com

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phone (760) 872-4213
fax (760) 873-8024
e-mail blishop@thainc.com

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fax (650) 366-0288
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phone (805) 544-8908
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e-mail sl@thainc.com

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REVISED 5-29-15	JSP
REVISED 10-27-15	MSS
REVISED 11-05-15	SMF

DATE 4-07-15

SCALE SHOWN

DRAWN AKH/JSP

JOB NO. 04.0570

DWG 4-0570 TTM.dwg

SHEET 2

OF 2 SHEETS

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Attachment 3

Site Photos









Attachment 4

Biological Resource Assessment

Assessment of Biological Resources for Tentative Tract Map No. 250, Kingston Subdivision, Bishop

Jim Paulus, Ph.D.
October 16, 2015

Introduction

A review of biological resources that occur or may potentially occur at the proposed subdivision of 2.75 acres at 785 Home Street, Bishop, APN 008-090-02 (“Kingston Parcel”) for the purpose of constructing single family housing was conducted in August 2015. Completion of this project would require devegetation and soil disturbance over the entire site. It would result in the conversion of relatively open nursery grounds that are contiguous with or at most narrowly removed from the northern bank of South Fork of Bishop Creek (Figure 1). Current uses occur mainly during nursery operating hours. Once constructed, the proposed housing and residential uses will be associated with new impervious surfaces, noise, lighting, fences, domestic pets, and increased human activities. All areas of the Kingston Parcel that could be potentially affected by construction (2.75 acres), tree removal (Triad, 2015) and proposed ongoing uses (City of Bishop, 2015) were included in the assessment of biological resources.

The City of Bishop is situated in the Owens Valley, near the base of the steeply sloping eastern flank of the central Sierra Nevada Range. The average elevation of the project area is 4270 ft (1300 m). The site has a long history of urban business use, dating back to at least 1918 (Tetratich, 2009). Plant and animal populations that once may have used this area as undisturbed valley bottomlands would find little habitat similarity in the current situation of the Kingston Parcel, other than it is a relatively open space abutting the S. Fork Bishop Creek riparian corridor that becomes dark and quiet at night. The soils have become drained and compacted, and native vegetation cover has been lost, as consequences of the long regime of industrial and nursery grounds disturbance. At present, given the annual summer drought that is inherent to this high desert climate, and the routine maintenance practices of the nursery, it is not surprising that plants able to re-colonize the site are limited to early seral annuals. Similarly, it would be expected that use by wildlife would include mainly transient, relatively mobile animals that also use the adjacent riparian corridor, rather than permanent nursery grounds residents.

The local climate is relatively xeric, due to a rain shadow effect of the Sierra Nevada. Snowfall can occur in September, but is likely to accumulate only briefly in this area during the period December – April. The average winter low temperature is 25° F, and high temperatures average 60° F. The frost-free growing season (April-October) is about 210 days, with a 50° F average low, and highs averaging about 90° F, but summer air temperature can often top 100° F (The Weather Company, 2015). The growing season is characterized by low humidity and cloudless days, but this pattern can be interrupted irregularly by thunderstorms in late summer.



Figure 1. Area of current nursery grounds that will be converted to single family housing (15 units) at the proposed Kingston TTM 250 project (white outline). The entire area of 2.75 acres that will be directly disturbed was searched on August 15-16 in order to inventory botanical resources. The search for rare plant populations was extended slightly westward and southward onto LADWP lands (white dashed). The base image date is September 2013.

Sensitive Plant Communities and Species

A list of sensitive plant species that could have some potential to occur within habitats of the Kingston Parcel, which are disturbed, was compiled after reviewing regional data (Halford and Fatooh, 1994, Bureau of Land Management, 2012, California Native Plant Society (CNPS) 2001, 2015, California Department of Fish and Wildlife, 2015a, 2015b, Consortium of California Herbaria, 2015, CalFlora, 2015), regional floras (Baldwin, *et al.*, 2012, Jepson Herbarium, 2015), local botanical surveys that have been performed in the preparation of environmental documents (Paulus, 2005, 2008, Meridian Consultants, 2014), interviews with local California Department of Fish and Wildlife (CDFW) biologists, and an August 2015 search of the California Natural Diversity Database (CNDDDB) records for USGS Bishop, Fish Slough, Rovana, Tungsten Hills, Mt. Thompson, Coyote Flat, Big Pine, Poleta Canyon, and Laws quadrangles (CDFW, 2015c, Appendix A). Potentially occurring plant species were considered to be “Sensitive” if they have state or federal status as rare, threatened or endangered (CDFW, 2015a), or are listed in the CNDDDB list of special plants (CDFW, 2015b), or are listed by CNPS in their inventory of sensitive California plants (CNPS 2001, 2015), or are included in the most recent sensitive plant or watch lists prepared by U.S. Forest Service - Inyo National Forest (USFS, 2013) or Bureau of Land Management, Bishop (BLM, 2012).

The CNDDDB records and literature search results indicate that three sensitive plant species and three sensitive plant community types (Transmontane Alkaline Marsh, Alkaline Meadow, and Water Birch Riparian Scrub) occur within 15 miles of the project and in settings that bear some resemblance to disturbed habitats available within or immediately adjacent to the Kingston Parcel. The potentially occurring sensitive species (Table 1) exhibit adaptations that impart some likelihood for occurrence as a relic population in a long-disturbed environment. These traits include annual habit (Booth’s hairy evening primrose, Parish’s popcornflower), or cryptic bulbiferous growth habit (Great Basin onion). The expected phenologies of these species in August would be maturing fruit or dispersing seed. In the case of Great Basin onion, above-ground parts likely would be senesced.

Table 1. Sensitive plant species that potentially could occur at proposed TTM No. 250 Kingston Subdivision in Bishop. Flowering period data is from CNPS (2001). A key to the rank or status symbols follows the table. NL = not listed.

Scientific Name Common Name Life Form	Rank or Status				Habitat	Flowering Period
	USFS	CDFG	CNPS	NDDB		
<i>Allium atrorubens</i> var. <i>atrorubens</i> Great Basin onion bulbiferous herb	NL	NL	2B.3	S2	sandy or rocky upland fans, washes, granitic or volcanic soils, scrub or woodland	June-July

Scientific Name Common Name Life Form	Rank or Status				Habitat	Flowering Period
	USFS	CDFG	CNPS	NDDB		
<i>Eremothera boothii</i> ssp. <i>intermedia</i> Booth's hairy evening primrose annual herb	NL	NL	2B.3	S2	sagebrush scrub, pinyon-juniper woodland, saltbush scrub, sandy	June- August
<i>Plagiobothrys parishii</i> Parish's popcornflower annual herb	S	NL	1B.1	S1	seasonally moist to wet soils near seeps, alkaline meadows	June- August

Rank or status, by agency:

USFS = US Forest Service, Inyo National Forest, Bishop Office:

S = Sensitive List (USFS, 2013).

CNPS = California Native Plant Society listings (CNPS, 2001, 2015):

1B = rare and endangered in California and elsewhere,

2B = rare, threatened or endangered in California, but more common elsewhere.

Threat Code extensions:

.1 is Seriously endangered in California

(over 80% of occurrences threatened / high degree and immediacy of threat),

.2 is Fairly endangered in California

(20-80% of occurrences threatened),

.3 is Not very endangered in California

(< 20% of occurrences threatened or no current threats known).

CNDDDB = California Natural Diversity Data Base rankings (CDFW, 2015b):

S1 is Critically Imperiled: often 5 or fewer populations, or steep rate of decline,

S2 is Imperiled: often 20 or fewer populations, steep decline, or very restricted range.

No previously documented on-site occurrences of sensitive plant species appear within CNDDDB records (Appendix A). This information, however, must be interpreted in the general context that the absence of CNDDDB records concerning the parcel does not signify that sensitive plants are absent, rather that none have been reported.

Sensitive plant species known to occur in nearby, relatively moist alkaline meadow or scrub habitats (*Astragalus lentiginosus* var. *piscinensis*, *A. argophyllus* var. *argophyllus*, *Atriplex gardneri* var. *falcata*, *Calochortus excavatus*, *Crepis runcinata* ssp. *hallii*, *Fimbristylis thermalis*, *Ivesia kingii* var. *kingii*, *Phacelia inyoensis*, and *Sidalcea covillei*), are excluded as very unlikely to occur, because the relatively moist and alkaline or saline soil habitats they require are not present within the Kingston Parcel. Similarly, species of drier, upland alkaline soils (*Loeflingia squarrosa* var. *artemisiarum*, *Lupinus pusillus* var. *intermontanus*, *Mentzelia torreyi*, *Oryctes nevadensis*, and *Thelypodium integrifolium* ssp. *complanatum*) may be excluded as very unlikely to occur, because the soil habitats they require are not present. No episodic deposits were detected within the site. The only occurring plants that could signal a remnant saline-alkaline trait in the

exclusively upland, disturbed habitats of the parcel were found at the western fenceline, where sparse saltgrass (*Distichlis spicata*) has encroached from the grazed meadow to the west.

Potentially occurring sensitive plants that locally would be restricted to freshwater streamside or seep habitats (*Botrichium crenulatum*, *Parnassia parviflora*, *Potamogeton robbinsii*, *Ranunculus hydrocharoides*, *Sphenopholis obtusata*, and *Sidalcea covillei*) may be excluded because there are no aquatic habitats within the site boundaries. The Kingston Parcel is essentially flat, with no relic stream course or swale depressions. However, suitably wet habitat for these species does occur very nearby at the immediate channel and banks of S. Fork Bishop Creek, a perennial stream that passes near the entire southern boundary of the proposed TTM subdivision (Figure 1). The linear distance that would remain between proposed lots 1-6 and the bank top at S. Fork Bishop Creek after project construction ranges between 15 and 25 ft. If the project will foreseeably create new runoff-induced or use-related disturbance to the downslope (nearby offsite) riparian and aquatic habitats associated with S. Fork Bishop Creek, then the analysis of environmental impacts for the project must be extended to include consideration of potential effects upon *Botrichium crenulatum*, *Parnassia parviflora*, *Potamogeton robbinsii*, *Ranunculus hydrocharoides*, *Sphenopholis obtusata*, and *Sidalcea covillei*.

Searches for sensitive plant populations were conducted (per CDFG, 2009) on August 15, 16 and 28, 2015. Annual plants that were growing outside the influence of nursery irrigation were generally senescing or dried on these dates, and appeared to have germinated only sparsely in 2015. All species encountered were identified. Any species that were not recognized at once were keyed by the consulting botanist using The Jepson Manual (Baldwin, *et al.*, 2012) to a level of taxa that was sufficient to determine sensitive species presence or absence. The search area for sensitive plants included a buffer of 100 ft westward beyond the western edge of the Kingston Parcel, and also portions of the channel and northern bank of S. Fork Bishop Creek where the riparian zone abuts the Kingman Parcel (Figure 1). These buffers are representative of the long-standing land uses to the west and south, grazed open space and domesticated residential back yards, that are either privately owned or are administered by the City of Los Angeles Department of Water and Power (LADWP).

Sensitive plant populations were not found during the field survey. Only common plant species occur in the area that would be disturbed by construction (Appendix B). No members of the genus *Allium*, *Eremothera*, or *Plagiobothrys* occur in the area. No populations of senescing or dried annuals bearing glandular-hairy flower stems or sessile dehiscent fruits were found, as would be expected if *Camissonia boothii* were present. No nutlet-bearing annual plants such as *Plagiobothrys* spp. were found. There is a single small, isolated patch within the Kingston Parcel where the habitat includes leaf litter accumulation and where sparse native vegetation was found. This is at the southwest corner and along adjacent fencelines, areas that apparently have been disturbed less routinely or less thoroughly by nursery operations. These were searched carefully for any senesced grass-like leaves attributable to *Allium*, finding none. Based upon the botanical survey results, it is unlikely the proposed project will affect any sensitive plant populations.

Aquatic habitats that would support emergent communities such as Transmontane Alkaline Marsh are not present. Alkaline Meadow plant community elements that appear to be widely present offsite to the west (LADWP, managed as grazed pasturelands) do not enter within the project area, except as a sparse saltgrass patch along the western boundary. Native riparian

plant species associated with S. Fork Bishop Creek do not enter the Kingston Parcel, although tree and shrub dominants (along with many introduced trees and shrubs) do occur immediately beyond the southern parcel boundary. The LADWP maintains a narrow strip (20 ft wide) of land to the north of the water's edge, as open space that provides some qualities associated with riparian habitat. Terrestrial movements have been to some degree blocked by existing fencing in this corridor, but qualities such as nocturnal darkness, shielding by tall and patchily dense trees, and shading of the aquatic habitat appear to currently support the ecological function at S. Fork Bishop Creek. The tree canopy there never includes water birch (*Betula occidentalis*) as would be expected of the sensitive community Water Birch Riparian Scrub. Vegetation removal at the southern edges of proposed Lots 3-6 includes four larger trees (Triad, 2015), and clearing of tree growth of shrubby non-native species that together now contribute to ecological function at S. Fork Bishop Creek. Based upon these findings, the proposed project will not directly affect any sensitive plant communities, but will affect nocturnal darkness, shielding by vegetation, and shading of the aquatic habitat at the adjacent reach of S. Fork Bishop Creek.

Non-Native Plants

Non-native plants clearly dominate the current vegetation. The long disturbance history, which has affected native vegetation since at least 1918 (Tetratich, 2009), has firmly converted the species assemblage, culminating in nursery landscaping and weed introductions that have been ongoing here since 1974. Of the 37 common plant species that were identified within the parcel boundaries (aside from horticultural displays), 24 are non-native (Appendix B). Most of the annual herbs, and nearly all of the occurring trees, are species that typically are introduced as garden weeds, or specimens that have been planted for shade (elms, cypress, locust, and poplars) and fruit (apples).

None of the occurring non-natives are federally listed as noxious (USDA, 2015). The annual herb Russian thistle (*Salsola tragus*) and the perennial vine field bindweed (*Convolvulus arvensis*) are considered noxious weeds by the California Department of Food and Agriculture (CDFA, 2015). Russian thistle also occurs densely in the adjoining LADWP lands to the east and west. The spread of field bindweed may be encouraged by the proposed grading of the project, as fragmented pieces of the plant can serve as propagules. Both are invasive, able to spread from disturbed introduction sites into relatively undisturbed habitats of the Owens Valley region.

The trees Siberian elm (*Ulmus pumila*) and black locust (*Robinia pseudoacacia*) are clearly invasive into Owens Valley meadows, riparian zones, and other areas of supplemental irrigation or seasonal shallow groundwater availability. They make up more than half the mature trees within or bordering the site. Both currently challenge nursery maintenance with the task of volunteer seedling removal (L. Merrill, personal communication 8/16/15). Characteristics that include release of allelopathic exudate, thorny habit, and rapid growth allow them to displace the native riparian trees, eventually degrading habitats by reducing access and understory diversity. Meanwhile, other non-native trees, such as the Arizona cypress (*Cupressus arizonicus*) of nearby windrows, appear to have no tendency to reproduce in this setting. Because elm and locust trees pose a threat to nearby stream and canal habitats that harbor sensitive plant and wildlife species, the replacement of all Siberian elm and black locust with native willows (*Salix laevigata*, *exigua gooddingii*) and poplars (*Populus fremontii*) would be a desirable outcome of the project.

Habitat for Wildlife

A review of wildlife that may potentially occupy or use the disturbed habitat available at the Kingston Parcel was conducted in August 2015. Emplacement of 15 single family residences is proposed to occur in partly developed and historically long-disturbed, near-riparian uplands at the outer fringe of the central Bishop urbanized zone. Conversion that would follow the proposed subdivision of the 2.75 acre parcel would introduce permanent, substantial, and mostly negative changes in the Kingston Parcel’s currently limited suitability for use by wildlife. The current facilities and uses of this site allow for dark and deserted, corridor-like route along the north edge of S. Fork Bishop Creek at night. Domestic cats from surrounding houses are the main introduced impediment to nightly use that was identified at this site. Furthermore, trees including some that are large and aged are situated densely, especially at the parcel edges, where they provide habitat structure and dense foliage for foraging, concealment and refuge.

Special Status Wildlife Species

Based upon a review of available regional data (CDFG, 2015d, 2015e.), and an August 2015 search of the California Natural Diversity Database (CNDDDB) records for the USGS Bishop, Fish Slough, Rovana, Tungsten Hills, Mt. Thompson, Coyote Flat, Big Pine, Poleta Canyon, and Laws quadrangles (CDFG, 2015c), the sensitive wildlife species Swainson’s hawk was identified as having some potential to occur at the project site (Table 2), and two sensitive fish, Owens sucker and Owens speckled dace, were identified as having some potential to occur immediately adjacent to the project in the perennial flow of S. Fork Bishop Creek (Appendix A). “Sensitive wildlife species”, as used in this report, meet the definitions of rare or endangered under the California Environmental Quality Act (Section 15380 CEQA Guidelines), or are considered candidates for state or federal listing as threatened or endangered, or are listed by local agencies as locally rare.

Table 2. Sensitive wildlife species that potentially could occur at proposed TTM No. 250 Kingston Subdivision in Bishop. NL = not listed.

species	status		habitat
	CDFW	USFWS	
birds			
<i>Buteo swainsoni</i> (nesting) Swainson’s hawk	Threatened	NL	nesting in grasslands with scattered trees, riparian forest

CDFW - listing under the California Endangered Species Act
 USFWS – listing under the federal Endangered Species Act

The CNDDDB records indicate no known sensitive wildlife occurrence on the site. The channel of S. Fork Bishop Creek has been known to sustain Owens sucker and Owens speckled dace until at least 1989, when the channel ran dry and the populations were presumed to be likely

extirpated (CDFW, 2015c). During the sensitive plant surveys, it was noted that Swainson's hawk and other raptors could choose to nest in the suitable habitat that occurs within extensive LADWP lands adjacent to the west of the Kingston Parcel. Nests could occur in offsite trees there that are within the normal buffer distance that would be applied to avoid nest abandonment during project construction, so the search area for raptor nests was enlarged to include all trees within 500 ft of the western and eastern project boundaries, also the cypress windrows on church property to the north, and tall trees along W. Fork Bishop Creek where it parallels the southern Kingston Parcel boundary, and all trees at the LADWP property located adjacent to the southeast (Figure 2). Raptors that would have some likelihood to nest at the open space LADWP lands to the west include the sensitive species Cooper's hawk (Appendix A), which has been documented nesting at similar elevation along the Sierra Nevada base to the south at Baker Creek (CDFW, 2015c).

Birds

Searches for large stick nests attributable to raptors, and habitats that that could be used by cavity or burrow nesting species, were conducted on August 16 and 28, 2015. It was assumed that evidence in the form of nest structures, nest detritus on the ground below, and whitewash, would be present at a raptor or owl nest site even though the normal breeding period is coming to a close in late August. Every tree within the Kingston Parcel and nest survey buffer (Figure 2) was searched with binoculars from several aspects. Searching of the trees and grounds on-site and within adjacent church and LADWP lands was facilitated by the distribution of trees, which were either widely spaced or arrayed in windrows. Residents of Rome Street freely gave access for searches of riparian corridor trees at W. Fork Bishop Creek. Evidence in support of suspected nearby or on-site multi-year nesting by red-shouldered hawks (*Buteo lineatus*) imparted by residents during the riparian corridor visit included photographs of young juvenile, older juvenile and adult birds perched on back yard fixtures (T. Tye, S. Woodin, personal communications 8/28/15). The adults reportedly take small rodents and trout from the stream. This species and others including Cooper's hawk have been notably adaptive to human environments (Curtis, *et al.*, 2006), and potentially would be attracted to this location by the large population of Eurasian collared doves (*Streptopelia decaocto*) that roost in the local cypress windrow trees.

Two large stick nests were located. Both were unoccupied and largely intact at the time of survey. Nest 1 was found in a recently topped Fremont cottonwood at the western fenceline (Figure 2). This nest is 40 ft up and is approximately 30 inches in diameter. Nest 1 is currently inactive, but was reportedly used by either American crow (*Corvus brachyrhynchos*) or common raven (*Corvus corax*) during spring months. This nest was active in 2015 (L. Merrill, personal communication 8/16/15), despite tree topping performed by LADWP in April. Nest 2 is located in a cypress tree on church property, within 20 ft of the Kingston Parcel northern boundary. No other nests that could be assigned to raptors were found. A perched and calling red-shouldered hawk was observed on LADWP land 150 ft to the west during the morning survey on August 17, and answering calls were heard from two directions. American kestrels were also regularly seen in this offsite area. No burrows or tree cavities exhibiting raptor or owl whitewash were observed in the nest search area. Burrows of a size that could be occupied by burrowing owl (*Athene cunicularia*) do not occur within the Kingston Parcel, and were not seen within the buffer areas while searching for sensitive plants and nests.

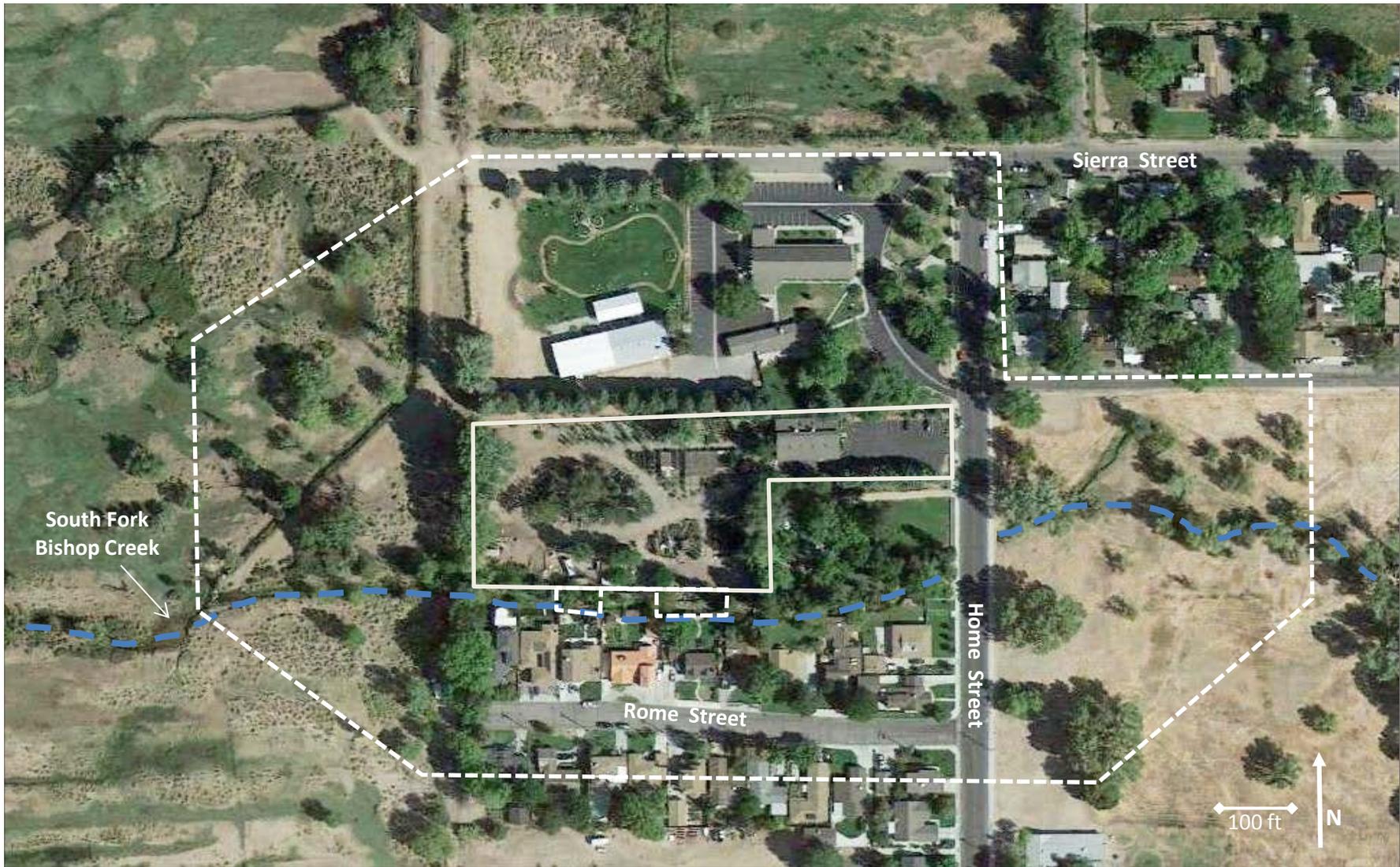


Figure 2. Expanded search area for nests attributable to raptors (dashed white outline). All tall trees within approximately 500 ft of the Kingston TTM 250 property boundary (solid white line) were checked in August 2015. The two Rome Street residential yards where the S. Fork Bishop Creek was searched for evidence of wildlife use including use by rare fish are also shown.

Given the prominent and diverse bird presence that was observed in August (Appendix C), there is some likelihood that trees and buildings located within and very near where removal would occur may also be chosen for nesting by birds other than raptors and owls. Construction-related noise, lighting and activity could even affect nesting success at nearby trees and buildings that are not scheduled for removal. Birds that could be affected include those listed in Migratory Bird Treaty Act regulations and species encoded for protection in (CDFW) Fish and Game Code sections 3503, 3503.5, and 3513. All of these areas (Figure 3) should be checked by a qualified biologist to determine if a nest will be adversely affected. Survey work that occurs immediately prior to new disturbance would provide the best evidence that no impact will occur. If any are found, nest buffer (avoidance) measures should be implemented and maintained until fledging occurs and the nest thus becomes inactive. Alternatively, if construction and tree and building removal can be performed outside the accepted nesting period for all birds, which has been defined as January 1 through August 31 (CDFW Bishop Office, 2015), then checking for active nests would be unnecessary.

Mammals

Bats were observed overflying the site during the evening surveys of August 15 and 28. An additional search for bats exiting the attic space of the main nursery building on September 10, 2015 did not detect any use. Flights were common above the nursery grounds and above the adjacent S. Fork Bishop Creek channel. Searches of the existing nursery buildings on subsequent dates, both inside and outside, uncovered no evidence of roosting bats. No guano accumulations were found to indicate the buildings on the site are currently used by roosting bats. The facility's out structures are unlikely to harbor bats because they are too open and busy during day roosting period; no abandoned structures are present. The main building has been constructed in a manner that appears to effectively exclude bat entry, and no droppings that would suggest crevices are available for day roosting were found after careful searching. Finally, within the bounds of the Kingston Parcel, no tree hollows or large crevices that could be occupied by bats were detected during the sensitive plant and bird nest surveys.

Other mammalian uses (aside from domestic and feral cats, which are clearly present in this area) were inferred from tracks, or were reported by long-time residents of nearby Rome St. Coyote (*Canis latrans*) scat was observed within the nursery grounds on every sample date. Raccoon (*Procyon lotor*) tracks and tracks attributable to smaller canines (most likely, nursery customers with dogs on leash) were present across the site. Raccoon tracks indicate access to the Kingston Parcel is gained through the western fenceline, and night use is focused on Lots 1-6 adjacent to S. Fork Bishop Creek. Other reported recent mammalian wildlife visits to the riparian habitat include mink (*Neovison vison*), and bobcat (*Lynx rufus*) (T. Tye, S. Woodin, personal communications 8/28/15). For animals adapted to move within the urbanized environment, the nursery grounds provide a nocturnal passageway that is protected by fencing and darkness from the humans and pets at the adjacent residential yards. This route allows for bypassing the portion of S. Fork Bishop Creek where it traverses the Rome Street residential series of fenced yards. The proposed project will cause partial closure of the available passageway due to new fencing, lighting, domestic pets and activity that will be relatively continuous. As such, the project could substantially further isolate the S. Fork Bishop Creek riparian corridor as it passes eastward into and through the historically settled portion of the City of Bishop.

Wildlife of Aquatic Habitats

Aquatic habitats do not occur within the boundaries of the Kingston Parcel. There are no springs or swales that could provide seasonal ponding. At most, water ephemeraly collects in buckets and plant containers associated with nursery operations. Residential properties and LADWP non-release land adjacent to the Kingston Parcel's south edge, in contrast, include the perennial S. Fork of Bishop Creek (Figure 1). Given the proximity of the proposed project, it is reasonable to conclude that any associated new lighting, domestic pets, human activity, and runoff from impervious surfaces could affect the environment for aquatic wildlife within this portion of the S. Fork Bishop Creek riparian corridor. Furthermore, these project elements could have some potential to directly impact wildlife that now occurs there. In addition to four mature, tall trees that are scheduled for removal as shown on the project's current tree removal map (Triad, 2015), construction will cause removal of 4 large apple trees (20-25 ft height), one black locust tree, and 12 shrubby elm trees (average 10-12 ft height) at the northern riparian corridor edge in proposed Lots 3-6. Removal of trees in Lots 3-6 will negatively affect the riparian and aquatic habitats by removing cover and shade.

Animals that to some degree depend upon the aquatic environment provided by S. Fork Bishop Creek were observed on August 15, 16, and 28. Mallard ducks (*Anas platyrhincos*) were seen flying low to the water, passing beneath fences dividing the Rome Street residential yards. Quail (*Callipepla californica*) forage under trees growing atop the banks. The water appears to be densely populated by introduced crayfish (*Procambarus clarki*), with abundant larval recruits seen among the submerged portions of emergent streamside vegetation. One Owens sucker (*Catostomus fumeiventris*), which is a Species of Special Concern (CDFW, 2015d) was observed upon disturbance of an emergent willow clump. Submerged cover habitat is generally sparse to absent for crayfish, Owens sucker, and other aquatic species in this stretch of W. Fork Bishop Creek, as home owners have been tasked with the regular removal of channel flow obstructions.

The only amphibians seen at or near the Kingston Parcel during August and September 2015, including evening surveys on August 15, August 28, and September 10, were Pacific chorus frogs (*Pseudacris regilla*). Calls of other anurans were not heard. It is possible that the current riparian habitat also supports toads (e.g., *Bufo boreas*) and true frogs (*Lithobates pipiens* and introduced *Rana catesbeiana*). The Northern leopard frog (a.k.a. "meadow frog" *L. pipiens*) is considered native in the Owens Valley. Nearby known populations are regarded as qualifying for Species of Special Concern status (CDFW, 2015c). Pacific chorus frogs were observed in concealed, moist habitat of open sheds as far as 125 ft from the channel of S. Fork Bishop Creek. The other toad and true frog species that potentially could occur in this region typically would be restricted to habitats that feature perennial surface waters (i.e., S. Fork Bishop Creek).

CNDDDB speculations regarding an extirpation of Owens sucker in the local habitat at S. Fork Bishop Creek appear to no longer hold true. At this location it is expected that loss of the local resident fish due to channel drying would be followed shortly by recolonization from the Owens River. Recolonization of in this general area has also been documented by CDFW (N. Buckmaster, personal communication 8/31/15). Owens speckled dace (*Rhinichthys osculus* ssp. 2), was present with Owens sucker on previous sample dates reported in CNDDDB records, It is reasonable to assume that this species is also present now. Removal of cover vegetation and the presence of predatory brown trout (*Salmo trutta*), and channel drying, are current threats to the

sustained presence of occurring sensitive fish. If the project will foreseeably create new runoff-induced or use-related disturbance to the downslope (nearby offsite) aquatic habitat, then the analysis of environmental impacts must be extended to include consideration of potential effects upon sensitive fish. Removal of trees in proposed Lots 3-6 that currently contribute to riparian corridor concealment cover and stream shading could have a substantial impact upon the quality of intermittent habitat patches within a 288 ft reach of S. Fork Bishop Creek.

Conclusions

The nursery area is historically long-disturbed and nearly all vegetation that is now present is non-native. No rare plant species or sensitive vegetation communities occur within the Kingston Parcel, so none will be directly affected by implementation of the proposed project. Two of the most abundant tree species, Siberian elm and black locust, have proven to be highly invasive into sensitive wetland and riparian habitats of the Owens Valley. Replacement of these trees with native trees would help to reverse a regional trend for permanent riparian habitat conversion. However, some of the Siberian elm trees are very large and aged, thus they now provide vertical structure and shade that would take many decades to replace. Preserving very tall trees including Siberian elm would retain vertical habitat structure that is somewhat buffered from project-related disturbance and introduced barriers such as pets and fencing. In the balance, all black locust should be removed and the largest Siberian elms left in place as proposed (Triad, 2015), in order to minimize the project's impact upon stream shading and local habitat utility for wildlife to continue foraging, roosting, and moving through the area.

Disturbance of the vegetation, including especially the removal of trees, has potential to impact nesting birds throughout the breeding season, which has been defined for this project as January through August (CDFW Bishop Office, 2015). Hollows in large trees and other cavities that would be suitable for bat rookery establishment or day roosting do not occur within the trees and buildings that will be removed. No raptor nests currently occur within the set of trees that is scheduled to be pruned or removed by the proposed project. But tall trees of adjacent properties to the north and west currently hold two nests that cannot at this time be distinguished from nests that are constructed by raptors, including the potentially occurring sensitive species Swainson's hawk. Overall bird use of the site was prominent at the time of survey, and this suggests that neotropical migratory species and other birds may choose to nest in buildings and trees within the site and at its edges. Pre-construction nesting bird surveys are warranted during the breeding season, and surveys of the Kingston Parcel and nearby landscape that are scheduled in order to avoid impacts such as nest abandonment (all species, including raptors) should include trees growing on the property, along each fence line, in the adjacent LADWP lands to the west and south, and all nearby trees at church grounds to the north (Figure 3). Active nests should be buffered until fledging occurs (CDFW Bishop Office, 2015), and species-specific nest buffer distances established under consultation with Bishop CDFW staff.

Another potentially significant impact of the proposed project arises from its proximity to the incised channel bed and northern bank of S. Fork Bishop Creek. The disturbed yet relatively unobstructed and quiet riparian movement corridor along the northern channel edge will become blocked almost completely with completion of the project. Removal of concealing tree cover will

occur in concert with the establishment of new barriers that include night lighting, noise, pets, and human activity in very close proximity. Loss of the remaining passageway for wildlife to access riparian habitats of S. Fork Bishop Creek at the point where the stream enters Bishop's urbanized landscape would be a substantial negative impact, due to cumulative fragmenting and isolation of a riparian corridor. The affected riparian corridor is important for dispersal and population maintenance of aquatic wildlife that includes sensitive species (*e.g.*, Owens sucker). It provides for movements and foraging by existing populations of native amphibians, birds, bats, and other mammals. The best available strategy for minimization of impact to these functions would be to preserve as much as possible of the extant unobstructed and quiet quality of the riparian corridor at the southern edges of Lots 1-6.

Minimizing new lighting, fencing, domestic pet, and activity-related obstructions, and new noise affects reaching the bed, banks, and the immediate bank top north of S. Fork Bishop Creek, will require additional design measures with regard to lighting, fences, and planting of native vegetation. In regard to new lighting, shielded so that all lighting is cast downward (City of Bishop, 2015) is recommended across this site. Lighting impacts to the riparian habitat can be minimized if this requirement is extended as much as possible at lots 1-6 to disallow lighting of the southern Kingston Parcel edge. For example, fencing requirements should be specified at a minimum height of 6 ft or more at the southern edge of Lots 1-6, using only solid materials that will not transmit night lighting. This measure will also minimize noise reaching the stream, and will not allow access by dogs. Finally, the 1:1 ratio of tree replacement as proposed across the entire site (City of Bishop, 2015) should be increased to 4:1 at the southern edge of Lots 1-6, where 21 trees will be removed. Ideally, additional native trees and shrubs will also be provided for the establishment of denser screening within the unreleased LADWP land that lies between the project and the stream channel. The revegetation plan should include providing supplemental irrigation and plant protection until native poplars and willows can reach the local shallow groundwater supply. The intent of revegetation in this restricted buffer area is to preserve and enhance the remaining width of the riparian corridor as it passes by the Kingston Parcel, in order to reduce any riparian habitat fragmentation and isolation impacts to below the level of significance.

The project has an inherent potential to influence the water quality of S. Fork Bishop Creek, unless the design demonstrates prevention of untreated runoff entering the creek from new residential yards, pet enclosures, parking areas, and other impervious surfaces that will be created. Grading in especially Lots 1-6 that does not account for runoff from all potential future sources cannot reliably prevent impacts to aquatic species including Owens sucker. In addition to the effective runoff controls cited in the project description (City of Bishop, 2015), grading in the area of Lots 1-6 should at a minimum include a permanent measure that blocks direct flowpaths for polluted water that could be created by events such as water line breaks, rapid snowmelt, or torrential rainfall, in order to clearly avoid potential impacts to aquatic wildlife. This barrier could be established for the long term either by removing area from Lots 1-6 to create a riparian corridor buffer, or by establishing a final grade at the southern fence line that will reliably prevent flows from bypassing the designed runoff treatment system.



Figure 3. Suggested search area (dashed white outline) for nesting birds including species that would be protected by Migratory Bird Treaty Act regulations and (CDFW) Fish and Game Code sections 3503, 3503.5, and 3513. All trees and structures within the Kingston Parcel (solid white line) and within 100 ft of the Kingston TTM 250 property boundary should be checked within three days prior to the start of ground disturbance or tree removal.

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Appendix A: Results of CNDDDB search of the USGS Bishop, Fish Slough, Rovana, Tungsten Hills, Mt. Thompson, Coyote Flat, Big Pine, Poleta Canyon, and Laws quadrangles conducted in August 2015. The TTM 250 Kingston Subdivision study area supports upland disturbed habitats. The site is essentially level terrain, average elevation 1300 m (4270 ft).

Rank or status, by agency:

Federal = U.S. Fish and Wildlife Service under the Endangered Species Act (CDFW, 2015a, 2015d)

Endang = Endangered

Thr = Threatened

State = California Department of Fish and Wildlife listings under the California Endangered Species Act (CDFW, 2014a, 2014d)

Candidate = designated Candidate for Listing

Endang = Endangered

Thr = Threatened

FP = Fully Protected

SSC = Species of Concern

CNPS = California Native Plant Society listings (CNPS, 2001, 2015)

1B = rare and endangered in California and elsewhere

2B = rare, threatened or endangered in California, but more common elsewhere

.1 is Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 is Fairly endangered in California (20-80% of occurrences threatened)

.3 is Not very endangered in California (< 20% of occurrences threatened or no current threats known).

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Federal Listed or State Listed							
<i>Astragalus lentiginos</i> var. <i>piscinensis</i> Fish Slough milkvetch	Thr		1B.1	1250-1300	known only from alkali meadow margins with epialic crust at Fish Slough, Inyo County	alkali meadow at Fish Slough wetlands, 4150 ft (1265 m), 3.2 miles north	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Federal Listed or State Listed (cont.)							
<i>Dedekera eurekaensis</i> July gold	BLM sensitive ¹ USFS sensitive ²	Rare	1B.3	1200-2200	often limestone gravel or talus in dry canyons or on slopes, Mojavean or Great Basin scrub	steep slopes above dry wash in canyon north of Poleta Creek, White Mountains, 4800 ft (1465 m), 5.8 miles east	very unlikely due to lack of suitable habitat
<i>Lupinus padre-crowleyi</i> Father Crowley's lupine	USFS sensitive	Rare	1B.2	2500-4000	granitic gravel or talus, open slopes	sagebrush scrub near wet meadow edge, Coyote Flat, 9600 ft (2925 m), 10 miles southwest	very unlikely due to lack of suitable habitat and large elevation difference between study area and all known populations
<i>Sidalcea covillei</i> Owens Valley checkerbloom	BLM sensitive	Endang	1B.1	1100-1400	alkaline meadows and seep zones, Great Basin scrub near springs	grazed alkaline meadow west of Bishop Airport, 4140 ft (1260 m), 0.8 miles east, and moist alkaline meadow in Bishop near Sunland Lane, 4160 ft (1270 m), 0.7 miles south	very unlikely due to lack of suitable habitat, but relic population may occur in grazed alkaline meadow at adjacent lot to west

1. Listed as Sensitive by Bureau of Land Management (2012).

2. Listed as Sensitive by U.S. Forest Service (2013).

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed							
<i>Aliciella triodon</i> coyote gilia			2B.2	1200-1700	sandy or rocky soils in Mojavean scrub, often creosote scrub or juniper woodland	Mojavean scrub at mouth of Coldwater Canyon (in 1969), 4530 ft (1380 m), 1.0 miles south	very unlikely due to lack of suitable habitat
<i>Allium atrorubens</i> var. <i>atorrubens</i> Great Basin onion			2B.3	1200-2200	sandy or rocky upland fans, washes, granitic or volcanic soils, scrub or woodland	amid mixed upland scrub understory of sparse pinyon-juniper woodland, McGee Canyon, 7120 ft (2170 m), 11 miles west	some likelihood exists due to broad (historic) scrub vegetation similarity
<i>Astragalus argophyllus</i> var. <i>argophyllus</i> silver-leaved milkvetch	BLM sensitive		2B.2	1300-2000	openings in meadows, alkaline or saline, often clay soils near springs	alkaline meadow bordering Owens River east of Bishop, 4050 ft (1235 m), 3.3 miles east	very unlikely due to lack of suitable habitat
<i>Astragalus serenoii</i> var. <i>shockleyi</i> Shockley's milkvetch			2B.2	1150-2300	open gravelly clay, often alkaline, pinyon-juniper woodland or sagebrush scrub	roadside sagebrush scrub in Redding Canyon, White Mountains, 5300 ft (1615 m), 8.7 miles east	very unlikely due to lack of suitable habitat
<i>Atriplex gardneri</i> var. <i>falcata</i> falcate saltbush			2B.2	140-2200	alkaline meadow and scrub	unknown habitat near Warm Springs, Owens Valley (in 1974), 4100 ft (1250 m), 10 miles southeast	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Blepharidachne kingii</i> King's eyelash grass			2B.3	490-2135	Mojavean desert scrub, often rocky slopes	upland desert scrub on alluvial fan near Big Pine, 4100 ft (1250 m), 15 miles southeast	very unlikely due to lack of suitable habitat
<i>Boechera dispar</i> pinyon rockcress			2B.3	1200-2500	Mojavean desert scrub or pinyon-juniper woodland, often rocky slopes	unknown habitat near Bishop (in 1927), ca. 4500 ft (1370 m) or, coarse granitic alluvium near Coyote Creek, 6800 ft (2070 m), 6.1 miles southwest	very unlikely due to lack of suitable habitat
<i>Botrychium crenulatum</i> scalloped moonwort	USFS sensitive		2B.2	2160-3110	seeps, moist and shaded subalpine forest and meadows	subalpine wet meadow at seep, along Coyote Creek, 9770 ft (2980 m), 12 miles southwest	very unlikely due to lack of suitable habitat
<i>Calochortus excavatus</i> Inyo County star-tulip	BLM sensitive USFS sensitive		1B.1	1250-2200	alkaline meadow or shadscale scrub adjacent to springs	alkaline meadow on banks of Bishop Canal east of Bishop, 4120 ft (1255 m), 0.9 miles east, and moist alkaline meadow in Bishop near See Vee Lane, 4160 ft (1265 m), 0.6 miles southwest	very unlikely due to lack of suitable habitat, but relic population may occur in grazed alkaline meadow at adjacent lot to west

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Carex scirpoidea</i> ssp. <i>pseudoscirpoidea</i> western single-spiked sedge			2B.2	2900-3700	alpine meadows and seeps, mesic forest	subalpine wet meadow edge near West Fork Coyote Creek, 9570 ft (2915 m), 11 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Crepis runcinata</i> ssp. <i>hallii</i> Hall's meadow hawkbeard			2B.1	1250-2100	moist meadow margin, usually alkaline clays	moist, alkaline, saltgrass meadow at Fish Slough, 4200 ft (1280 m), 4.4 miles north	very unlikely due to lack of suitable habitat
<i>Draba praealta</i> tall draba			2B.3	2500-4100	subalpine and alpine meadows and seeps	unknown habitat at Bishop Creek above Lake Sabrina (in 1950), 9600 ft (2925 m), 16 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Draba sierrae</i> Sierra draba			1B.3	3500-4100	crevices and scree, usually granite	alpine fell field at summit of Coyote Ridge, 11,500 ft (3500 m), 14 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Elymus salina</i> Salina Pass wildrye			2B.3	1350-2850	shaded pinyon-juniper woodland, or possibly saltgrass meadow	likely identified in error at saltgrass meadow at Fish Slough, 4100 ft (1250 m), 4.2 miles north; also Mojave Desert mountains	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Eremothera boothii</i> ssp. <i>intermedia</i> Booth's hairy evening primrose			2B.3	1250-2800	Great Basin scrub, pinyon-juniper woodland, saltbush scrub, sandy	saltbush scrub at mouth of Silver Canyon, 4240 ft (1290 m), 5.1 miles east	some likelihood exists due to soil type similarity and disturbance
<i>Erythranthe calcicola</i> limestone monkeyflower	BLM sensitive		1B.3	1600-2000	talus slopes in creosote bush scrub, juniper woodland, and Joshua tree woodland	unknown habitat in Coldwater Canyon, White Mountains, 5450 ft (1660 m), 9.2 miles northeast	very unlikely due to lack of suitable habitat
<i>Fimbristylis thermalis</i> hot springs fimbristylis			2B.2	110-1340	wet soil near hot springs	seasonally flooded alkaline marsh at Fish Slough, 4180 ft (1270 m), 6.3 miles north	very unlikely due to lack of suitable habitat
<i>Grusonia pulchella</i> beautiful cholla			2B.2	1500-1700	playa margins, sandy flats, possibly arroyo margins	unusual arroyo habitat near mouth of Coldwater Canyon, 5310 ft (1620 m), 9.1 miles northeast	very unlikely due to lack of suitable habitat
<i>Ivesia kingii</i> var. <i>kingii</i> alkali ivesia	BLM sensitive		2B.2	1200-2100	moist alkaline meadow, usually clay	alkaline scald in saltgrass meadow near Owens River, 4000 ft (1220 m), 3.7 miles east	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i> sagebrush loeflingia	BLM sensitive		2B.2	700-1615	alkaline dunes, chenopod scrub	greasewood scrub in Owens Valley bottomlands habitat, 3980 ft (1215 m), 9.7 miles south	very unlikely due to lack of suitable habitat
<i>Lupinus magnificus</i> var. <i>hesperius</i> McGee Meadows lupine	BLM sensitive		1B.3	1800	only known location is sandy scrub habitat near McGee Meadows	sand scrub near McGee Meadows, Tunsten Hills, 5910 ft (1800 m), 8.0 miles west	very unlikely due to lack of suitable habitat
<i>Lupinus pusillus</i> var. <i>intermontanus</i> intermontane lupine			2B.3	1150-2060	open sandy slopes, scrub, dunes, often saline-alkaline	greasewood scrub and saline sands in Owens Valley bottomlands habitat, 3900 ft (1190 m), 18 miles southeast	very unlikely due to lack of suitable habitat
<i>Mentzelia inyoensis</i> Inyo blazing star	BLM sensitive USFS sensitive		1B.3	1100-2000	open slopes, washes, rocky	steep slopes of Silver Canyon, White Mountains, 6350 ft (1940 m), 10 miles east	very unlikely due to lack of suitable habitat
<i>Mentzelia torreyi</i> Torrey's blazing star			2B.2	900-2100	sandy or alkaline scrub, pinyon-juniper woodland	greasewood scrub at Fish Slough margin, 4180 ft (1270 m), 4.9 miles north	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Minuartia stricta</i> bog sandwort			2B.3	2450-3950	alpine, rocky or very coarse soils, meadows	alpine meadow near Coyote Ridge summit, 11,400 ft (3475 m), 15 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Oryctes nevadensis</i> Nevada oryctes			2B.1	1200-1500	sandy or alkaline soils, dunes	stabilized saline dunes and saltbush scrub, Owens Valley bottomlands 4040 ft (1230 m), 3.6 miles east	very unlikely due to lack of suitable habitat
<i>Parnassia parviflora</i> small-flowered grass of Parnassus			2B.2	2000-2800	meadows and seeps, rocky	moist subalpine meadow habitat, Buttemilk Country, 7600 ft (2315 m), 12 miles west	very unlikely due to lack of suitable habitat
<i>Phacelia inyoensis</i> Inyo phacelia	BLM sensitive USFS sensitive		1B.2	900-3200	drying margins of seeps and meadows, alkaline soil, Mono and Inyo Counties	alkaline meadow at Fish Slough, 4000 ft (1220 m), 5.0 miles north	very unlikely due to lack of suitable habitat
<i>Plagiobothrys parishii</i> Parish's popcornflower	USFS sensitive		1B.1	750-2210	seasonally moist to wet soils near seeps, alkaline meadows	alkaline meadow south of Laws (in 1913), 4100 ft (1250 m), 2.1 miles northeast, or margin of Warren Lake playa, 3950 ft (1200 m), 13 miles south	records are old, but some likelihood exists due to soil and vegetation type similarity

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Poa lettermanii</i> Letterman's bluegrass			2B.3	>3500	open alpine, sandy	stream bank near summit of Coyote Ridge, 11,600 ft (3935 m), 14 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Potamogeton robbinsii</i> Robbins' pondweed			2B.3	1530-3300	aquatic habitats, marshes, lake margins	shallow submerged margin of Fourth Lake, 10,800 ft (3290 m), 17 miles south	very unlikely due to large elevation difference between study area and all known populations
<i>Potentilla morefieldii</i> Morefield's cinquefoil	USFS sensitive		1B.3	3300-4000	alpine ridges and barrens	alpine fell field near summit of Coyote Ridge, 12,000 ft (3660 m), 14 miles southwest	very unlikely due to large elevation difference between study area and all known populations
<i>Ranunculus hydrocharoides</i> frog's-bit buttercup			2B.1	1200-2800	wet meadows and streambed margins, emergent at pond edges, lakes	canals and ditches associated with Bishop Creek, including perennial flows immediately adjacent to proposed project, 4270 ft (1300 m), 11 miles east	very unlikely due to lack of suitable habitat, but extant population may occur in perennial flows at adjacent lots to west and south

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Plants							
Not Federal or State Listed (cont.)							
<i>Sphenopholis obtusata</i> prairie wedge grass			2B.2	240-2870	wet meadows, pond margins, streambanks	relatively dry alkaline meadow at mouth of Silver Canyon, east of Laws, 4200 ft (1280 m), 5.1 miles east	very unlikely due to lack of suitable habitat
<i>Thelypodium integrifolium</i> ssp. <i>complanatum</i> foxtail thelypodium			2B.2	1100-2500	sagebrush scrub, pinyon-juniper woodland, often alkaline	moist alkaline meadow at mouth of Silver Canyon, east of Laws, 4200 ft (1280 m), 5.1 miles east	very unlikely due to lack of suitable habitat
<i>Viola pinetorum</i> var. <i>grisea</i> grey-leaved violet			1B.3	1580-3150	pinyon-juniper woodland, alpine crevices	high-elevation sagebrush scrub, Coyote Flat, 10,300 ft (3140 m), 13 miles south	very unlikely due to large elevation difference between study area and all known populations

Appendix A (continued)

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Lichens							
Not Federal or State Listed							
<i>Solorina spongiosa</i> fringed chocolate chip lichen			2B.2	2950-3000	fens, moist subalpine habitats, circumboreal	seep feeding South Fork of Bishop Creek, downstream from South Lake, 9770 ft (2980 m), 16 miles southwest	very unlikely due to lack of suitable habitat
Bryophytes							
Not Federal or State Listed							
<i>Myurella julacea</i> small mousetail moss			2B.3	2730-3450	aquatic to moist subalpine habitats	seeping rock face along road to North Lake (Bishop Creek watershed) 8950 ft (2730 m), 15 miles southwest	very unlikely due to lack of suitable habitat
<i>Pohlia tundrae</i> tundra thread moss			2B.3	2200-3660	open rocky habitats at alpine elevations	limestone crevice near summit of Chocolate Peak, 10,950 ft (3340 m), 18 miles southwest	very unlikely due to lack of suitable habitat

Appendix A (continued)

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Federal Listed or State Listed							
Amphibians							
<i>Anaxyrus canorus</i> Yosemite toad	Thr USFS sensitive	SSC		1220-3410	ponds, streams, and adjacent meadows, usually subalpine to alpine	Upper Big Pine Creek at Glacier Lodge (in 1984), 8100 ft (2470 m), 17 miles south	very unlikely due to lack of suitable habitat
<i>Rana sierrae</i> Sierra Nevada yellow-legged frog	Endang USFS sensitive	Thr SSC		620-3720	ponds, streams, and adjacent meadows, usually subalpine to alpine	wet meadow with perennial ponds, Coyote Flat, 9900 ft (3020 m), 13 miles south	very unlikely due to lack of suitable habitat
Fish							
<i>Cyprinodon radiosus</i> Owens pupfish	Endang	Endang FP		950-1300	Owens River drainage in Mono and Inyo Counties	BLM ponds at Fish Slough, 4200 ft (1280 m), 9.0 miles north	very unlikely due to lack of suitable habitat
<i>Siphateles bicolor snyderi</i> Owens tui chub	Endang	Endang		1160-2160	Owens River drainage in Mono and Inyo Counties	introduced Owens River population in ponds at White Mountain Research Station, 4100 ft (1250 m), 3.0 miles east	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Federal or State Listed (cont.)							
Birds							
<i>Buteo swainsoni</i> (nesting) Swainson's hawk	BLM sensitive USFWS BCC ³	Thr		0 - 2500	nesting in grasslands with scattered trees, riparian forest	nesting in cottonwood tree, amid extensive wet alkaline meadow habitat, 4120 ft (1255 m), 3.9 miles northeast	some likelihood of nesting in trees near or within suitable meadow habitat immediately north of the proposed project
<i>Coccyzus americanus occidentalis</i> (nesting) western yellow-billed cuckoo	Thr BLM sensitive USFS sensitive USFWS BCC ³	Endang		10-1370	nesting in large blocks of riparian habitat, often in willows in dense cottonwood-willow forest	cottonwood-willow forest in riparian zone along lower Baker Creek, 4480 ft (1365 m), 15 miles south	very unlikely due to lack of suitable riparian scrub habitat
<i>Empidonax traillii</i> (nesting) willow flycatcher	Endang (ssp. <i>extimus</i>)	Endang (all ssp.)		600-2400	nesting in extensive willow riparian scrub stands, often near wet meadow habitat	riparian willow scrub along Horton Creek, 4370 ft (1330 m), 5.5 miles west; any Owens Valley breeding populations are likely <i>ssp. extimus</i>	very unlikely due to lack of suitable riparian scrub habitat
<i>Riparia riparia</i> (nesting) bank swallow	BLM sensitive	Thr		0-2170	colonies nest in cavities in cliffs, river banks, road cuts	active colony nesting in road bank gravel at quarry near Owens River, east of Bishop, 4120 ft (1255 m), 2.0 miles northeast	very unlikely due to lack of suitable habitat

3. Birds of Conservation Concern as designated by USFWS (2015d).

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Mammals							
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	BLM sensitive USFS sensitive	Cand Thr SCC		0-2400	roosting in open on cave ceilings, or within structures, but sensitive to human presence	natal colony in Yaney Mine, in arid foothills south of Bishop Creek, 4700 ft (1430 m), 3.9 miles southeast	very unlikely to be roosting due to lack of suitable habitat, some likelihood to be foraging
<i>Gulo gulo</i> wolverine	USFS sensitive	Thr FP		2040-4300	many habitats, high elevation Sierra Nevada and northern Coast Ranges	unknown habitat, Coyote Flat (in 1974), 9800 ft (2990 m), 10 miles south, or open subalpine conifer forest near South Lake (in 2010), 10,170 ft (3100 m), 17 miles southwest	very unlikely due to elevation difference between project site and historically known occurrence
<i>Vulpes vulpes necator</i> Sierra Nevada red fox	USFS sensitive	Thr		1800-3170	forest and forest gaps, high elevation central Sierra Nevada, recent sightings indicate may use lower elevations in Eastern Sierra Nevada	unusual habitat and low elevation near Bishop (in 1922), 4150 ft (1260 m), precise location unknown, but may have been trapped in Sierra Nevada to west	very unlikely due to lack of suitable habitat
Wildlife							
Not Federal or State Listed							
Mollusks							
<i>Anodonta californiensis</i> California floater	USFS sensitive			150-1280	low elevation perennial freshwater lakes and pools in streams	Owens River and adjacent Bishop Creek Canal, 4200 ft (1280 m), 2.5 miles northwest	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Not Federal or State Listed (cont.)							
Mollusks (cont.)							
<i>Pyrgulopsis owensensis</i> Owens Valley springsnail	USFS sensitive			950-1400	freshwater perennial springs along base of Inyo Mountains	perennial spring at White Mountain Estates, and at springs immediately to south, Chalfant Valley, 4600 ft (1400 m), 9.0 miles northeast	very unlikely due to lack of suitable habitat
<i>Pyrgulopsis wongi</i> Wong's springsnail	USFS sensitive			450-2900	freshwater perennial springs and along outflow streams	perennial spring outflow in irrigated meadows of southern Round Valley, 4600 ft (1400 m), 9.7 miles west	very unlikely due to lack of suitable habitat
Fish							
<i>Catostomus fumeiventris</i> Owens sucker		SSC		1200-2780	Owens River drainage in Mono and Inyo Counties	perennially watered ditches at west end of Sierra Street, adjacent to proposed project (in 1988, possibly now extirpated), 4260 ft (1298 m), < 0.1 miles north and west	very unlikely due to lack of suitable habitat, but may occur in ditch that crosses adjacent parcel to west
<i>Rhinichthys osculus</i> ssp. 2 Owens speckled dace		SSC		950-1700	small streams and springs in and near Owens River drainage in Mono and Inyo Counties	perennially watered ditches at west end of Sierra Street, adjacent to proposed project (in 1988, possibly now extirpated), 4260 ft (1298 m), < 0.1 miles north and west	very unlikely due to lack of suitable habitat, but may occur in ditch that crosses adjacent parcel to west

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Not Federal or State Listed (cont.)							
Amphibians							
<i>Lithobates pipiens</i> northern leopard frog		SSC		>0-1950	meadows and scrub adjacent to perennial freshwater lakes, streams, and springs	confluence of Owens River and Fish Slough outflow, north of Bishop (in 1960), 4160 ft (1270 m), 3.5 miles north	very unlikely due to lack of suitable habitat
Reptiles							
<i>Elgaria panaminta</i> Panamint alligator lizard	BLM sensitive USFS sensitive	SSC		1160-2080	dense willow riparian scrub below perennial freshwater springs, among dense leaf litter accumulations	perennial spring with willow scrub, lower Silver Canyon, 5640 ft (1720 m), 8.1 miles east	very unlikely due to lack of suitable habitat
Birds							
<i>Accipiter cooperi</i> (nesting) Cooper's hawk		WL		10-2200	nesting in large trees, expansive coniferous or riparian forest	possibly nesting (in 1992) at or near riparian zone along lower Baker Creek, 4480 ft (1365 m), 15 miles south	nesting very unlikely due to lack of suitable habitat, may forage near and within proposed project, may nest very near project
<i>Accipiter gentilis</i> (nesting) northern goshawk	BLM sensitive USFS sensitive	SSC		300-3290	nesting in expansive stands of relatively closed coniferous forest	eyrie (in 1982) at Horton Creek, unknown habitat, 9200 ft (2800 m), 13 miles west	very unlikely due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Not Federal or State Listed (cont.)							
Birds (cont.)							
<i>Aquila chrysaetos</i> (nesting) golden eagle	BLM sensitive USFWS BCC	WL FP		40-2430	nesting in large tree or on cliff face	possible breeding pair (due to sighting of juveniles) near Fish Slough (in 1987), 4200 ft (1280 m), 10 miles north	very unlikely due to lack of suitable habitat
<i>Asio otus</i> (nesting) long-eared owl		SSC		150-1980	nesting in large tree or abandoned large nests on power poles, trees in boreal habitats	individual collected near Big Pine, unknown habitat (in 1954), 4000 ft (1220 m), 17 miles south	very unlikely due to lack of suitable habitat
<i>Athene cunicularia</i> (burrows, nesting) burrowing owl	BLM sensitive USFWS BCC	SSC		>0-1770	roosting and nesting in large burrows	nesting near Laws (in 1913), 4100 ft (1250 m), 7 miles south, also southern Owens Valley, 3600 ft (1100 m), > 50 miles south (in 2006)	very unlikely due to lack of suitable habitat, also all regional occurrences are historical while current occurrences are distant
<i>Circus cyaneus</i> (nesting) northern harrier		SSC		<0 - 3050	nesting on ground in expansive meadows, marshes, marshland scrub, foraging same habitats	likely nesting near Warm Springs riparian habitat, Owens Valley, 4100 ft (1250 m), 10 miles southeast	nesting very unlikely due to lack of suitable habitat, but may forage over study area

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Not Federal or State Listed (cont.)							
Birds (cont.)							
<i>Falco mexicanus</i> (nesting) prairie falcon	USFWS BCC	WL		120-2870	nesting on vertical cliffs, foraging over open grasslands, open scrublands	location is sensitive, 4400 ft (1340 m)	nesting very unlikely due to lack of suitable habitat, but may forage within and near proposed project
<i>Icteria virens</i> (nesting) yellow-breasted chat				<0-2050	nesting in often dense riparian forest and riparian thicket habitat	likely breeding behaviors observed at riparian zone along lower Baker Creek (in 1992), 4660 ft (1420 m), 15 miles south	nesting very unlikely due to lack of suitable habitat, could occupy riparian zone adjacent to south edge of proposed project
<i>Piranga rubra</i> (nesting) summer tanager				<0-1370	nesting in patchy riparian forest and woodland habitat	possible breeding pair observed at riparian zone along lower Baker Creek (in 1992), 4480 ft (1365 m), 15 miles south	nesting very unlikely due to lack of suitable habitat, could occupy riparian zone adjacent to south edge of proposed project
Mammals							
<i>Antrozous pallidus</i> pallid bat	BLM sensitive USFS sensitive	SSC		<0 - 3230	roosts and maternity colonies in crevices, buildings, forages over open areas near aquatic and riverine habitats	roosting in abandoned building near mouth of Silver Canyon, foraging in xeric scrub, 4430 ft (1350 m), 5.4 miles northeast	very unlikely to be roosting or foraging due to lack of suitable habitat

Species	Federal	State	CNPS	elevation range (m)	habitat range	nearest occurrence	likelihood of occurrence at project
Wildlife							
Not Federal or State Listed (cont.)							
Mammals (cont.)							
<i>Euderma maculatum</i> spotted bat	BLM sensitive	SSC		<0 - 3230	roost and natal colonies in crevices, caves, forages at aquatic and riverine habitats	detected foraging at Bishop City Park, 4100 ft (1250 m), 0.5 miles east	roosting very unlikely due to lack of suitable habitat, but may forage over study area
<i>Lepus townsendii townsendii</i> western white-tailed jackrabbit		SSC		1240-3350	sagebrush scrub, open coniferous forest	likely sagebrush scrub north of Bishop (in 1916), 4100 ft (1250 m), 2-3 miles north	very unlikely due to lack of suitable habitat, and all regional occurrences are historical
<i>Microtus californicus vallicola</i> Owens Valley vole	BLM sensitive	SSC		1040 - 1830	wet to moist, densely vegetated alkaline meadow, often near riparian willows	riparian meadow near Bishop Creek (in 1935), 4270 ft (1300 m), 2.8 miles south, or alkaline meadow near mouth of Silver Canyon (in 1957), 4600 ft (1400 m), 5.7 mi northeast	very unlikely due to lack of suitable habitat, and all regional occurrences are historical
<i>Myotis ciliolabrum</i> western small-footed myotis	BLM sensitive			15-2900	roosts and maternity colonies in crevices, buildings, forages over relatively dry habitats	captured foraging over riparian corridor near mouth of Silver Canyon, 4550 ft (1390 m), 6.0 miles northeast	roosting very unlikely due to lack of suitable habitat, but may forage over study area

Appendix B. List of plant species occurring at the proposed Kingston TTM 250 site in Bishop, Inyo County, California.
 State Noxious Weeds are indicated by CDFA. Habit summarizes the growth form of each species. Codes are defined below.

Plant Families and Species	Habit
Cupressaceae	
<i>Cupressus arizonicus</i>	Arizona cypress IT
Equisetaceae	
<i>Equisetum laevigatum</i>	smooth scouring rush NAH
Asteraceae	
<i>Ambrosia acanthicarpa</i>	annual bursage NAH
<i>Chrysothamnus viscidiflorus</i>	curl leaf rabbitbrush NS
<i>Ericameria nauseosa</i>	rubber rabbitbrush NS
<i>Rudbeckia hirta</i>	black-eyed Susan IAH
<i>Senecio vulgaris</i>	common groundsel IAH
<i>Solidago velutina</i> ssp. <i>sparsiflora</i>	few-flowered goldenrod NPH
<i>Sonchus asper</i> ssp. <i>asper</i>	spiny sow-thistle IAH
<i>Sonchus oleraceus</i>	common sow-thistle IAH
<i>Symphotrichium campestre</i>	western meadow aster NPH
Brassicaceae	
<i>Cardamine breweri</i>	sierra bittercress NPH
<i>Cardamine hirsuta</i>	hairy bittercress IAH
Chenopodiaceae	
<i>Beta vulgaris</i>	common beet IAH
<i>Dysphania ambrosioides</i>	Mexican tea IAH
<i>Kochia scoparia</i>	summer cypress IAH
<i>Salsola gobicola</i>	Gobi thistle IAH
<i>Salsola tragus</i> (CDFA)	Russian thistle IAH
Convolvulaceae	
<i>Convolvulus arvensis</i> (CDFA)	field bindweed IPH
Caprifoliaceae	
<i>Lonicera</i> sp. cultivar	honeysuckle IPV
Euphorbiaceae	
<i>Euphorbia maculata</i>	spotted spurge IAH
Fabaceae	
<i>Glycyrrhiza lepidota</i>	American licorice NPH
<i>Melilotus albus</i>	white melilot IAH
<i>Robinia pseudoacacia</i>	black locust IT
Malvaceae	
<i>Malva neglecta</i>	dwarf cheeseweed IAH
Portulacaceae	
<i>Portulaca oleracea</i>	common purslane IAH

Plant Families and Species

Habit

Rosaceae			
	<i>Malus pumila</i> (3 identified cultivar/grafts)	apple tree	IT
	<i>Rosa woodsii</i>	wild rose	NS
Salicaceae			
	<i>Populus fremontii</i>	Fremont poplar	NT
	<i>Populus</i> sp. (cultivar)	hybrid poplar	IT
	<i>Salix exigua</i>	sandbar willow	NS
Ulmaceae			
	<i>Ulmus pumila</i>	Siberian elm	IT
Poaceae			
	<i>Cynodon dactylon</i>	Bermuda grass	IPG
	<i>Digitaria sanguinalis</i>	hairy crabgrass	IAG
	<i>Distichlis spicata</i>	saltgrass	NPG
	<i>Elymus triticoides</i>	creeping wildrye	NPG
	<i>Poa annua</i>	annual bluegrass	IAH

key to growth habit codes:

- A annual
- G grass
- H herb
- I introduced
- N native
- P perennial
- S shrub
- T tree
- V vine

Appendix C. List of wildlife species observed at the proposed Kingston TTM 250 site in Bishop, Inyo County, California.

Observations were made within the Kingston Parcel boundaries on 6 dates in August and September 2015.

Species		Habit
AMPHIBIANS		
Pacific chorus frog	<i>Pseudacris regilla</i>	resident
REPTILES		
western fence lizard	<i>Sceloporus occidentalis</i>	resident
BIRDS		
Apodiformes		
Anna's hummingbird	<i>Calypte anna</i>	foraging†
Piciformes		
hairy woodpecker	<i>Picoides villosus</i>	foraging
Galliformes		
California quail	<i>Callipepla californica</i>	foraging
Columbiformes		
mourning dove	<i>Streptopelia decaocto</i>	foraging
Eurasian collared dove	<i>Streptopelia decaocto</i>	roosting, foraging
Passeriformes		
western scrub jay	<i>Aphelocoma californica</i>	calling, foraging
American crow	<i>Corvus brachyrhynchos</i>	calling, roosting
common raven	<i>Corvus corax</i>	calling, foraging
bushtit	<i>Psaltriparus minimus</i>	foraging
mountain chickadee	<i>Poecile gambeli</i>	foraging
lesser goldfinch	<i>Spinus psaltria</i>	foraging
purple finch	<i>Haemorhous purpureus</i>	foraging
house finch	<i>Haemorhous mexicanus</i>	foraging
white-crowned sparrow	<i>Zonotrichia leucophrys</i>	foraging
golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	foraging
spotted towhee	<i>Pipilo maculatus</i>	calling, foraging
European starling	<i>Sturnus vulgaris</i>	foraging
Accipitriformes		
red-shouldered hawk	<i>Buteo lineatus</i>	calling, foraging
MAMMALS		
domestic cat	<i>Felis catus</i>	resident
striped skunk	<i>Mephitis mephitis</i>	movement, likely foraging
raccoon (clear, recent signs)	<i>Procyon lotor</i>	movement
coyote (clear, recent signs)	<i>Canis latrans</i>	movement, likely foraging

† 2 (inactive) hummingbird nests were observed in the largest nursery greenhouse in August 2015.

Attachment 5

Greenhouse Gas Impact Analysis

GHG IMPACT ANALYSES
TENTATIVE TRACT MAP 250
CITY OF BISHOP, CALIFORNIA

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Acronyms and Abbreviations

10 ³ ft ²	thousand square feet
AB	Assembly Bill
AB-32	California Global Warming Solutions Act of 2006
AR4	IPCC's Fourth Assessment Report
BAU	business as usual
C2ES	Center for Climate and Energy Solutions
CAA	Federal Clean Air Act
CalEEMod™	California Emissions Estimator Model™
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CAT	California Climate Action Team
CCAR	California Climate Action Registry
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
eGRID	Emissions & Generation Resource Integrated Database
EMFAC2011	on-road emission factor model published by the CARB
EO	Executive Order
EPA	United States Environmental Protection Agency
ft ²	square foot
GHG	greenhouse gas
GITA	GHG Impact Technical Assessment
GWP	global warming potential
HFC	hydrofluorocarbon
IPCC	International Panel on Climate Change
LEED	Leadership in Energy and Environmental Design
M	million
MT CO ₂ e	million MT of carbon dioxide equivalents
MWh	megawatt-hours
N ₂ O	nitrous oxide
PFC	perfluorocarbon
ppb	parts per billion
BAAQMD	Bay Area Air Quality Management District
SF ₆	sulfur hexafluoride
MT	abbreviation for metric ton
UNFCCC	United Nations Framework Convention on Climate Change

SECTION 1 - INTRODUCTION

REPORT PURPOSE

The purpose of this Analysis is to estimate greenhouse gas (GHG) emissions that could occur with the construction and operation of a 15-unit subdivision in Bishop, California. Estimated emissions will be evaluated and compared to available thresholds to assist in the determination of Project significance for the purposes of the California Environmental Quality Act (CEQA) concerning GHGs and climate change.

PROJECT DESCRIPTION

The proposed project would demolish an existing nursery building and construct 15 single family homes on a 2.75 acre parcel. Construction activity would occur in 2016 and full occupancy was expected to occur in 2017. GHG emissions will result from construction and operational sources. Operational sources include emissions from new traffic resulting from Project development as well as energy use, water use, and waste generation from the increase in occupancy.

EXISTING CONDITIONS GREENHOUSE GASES

Constituent gases that trap heat in the Earth's atmosphere are called greenhouse gases, or GHGs, analogous to the way a greenhouse retains heat. GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which would otherwise have escaped into space. This phenomenon, known as the "Greenhouse Effect," is responsible for maintaining a habitable climate. Prominent GHGs contributing to this process include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). Anthropogenic, or man-caused, emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the greenhouse effect and have led to a trend of unnatural warming of the Earth's natural climate sometimes known as global warming or climate change. Emissions of these gases that induce global climate disruption are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors.

The California Climate Action Team (CAT) has stated that without the natural heat-trapping effect of GHG, the Earth's surface would be about 34 °F cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Not all GHGs have the same potential to influence global warming. In order to create a consistent metric for measurements, each GHG is assigned a global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere. Individual GHG compounds have varying GWP and atmospheric lifetimes. The reference gas for the GWP is CO₂ having a GWP of one. The calculation of the CO₂ equivalent (CO₂e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. Methane's warming potential of 25 indicates that CH₄ has a 25 times greater warming affect than CO₂ on a molecule per molecule basis. A CO₂e is the mass emissions of an individual GHG

multiplied by its GWP. GHGs are often presented in units called MT (t) (i.e. metric tons) of CO₂e (tCO₂e).

Carbon Dioxide (CO₂)

The natural production and absorption of CO₂ is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution. CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations CO₂ were stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC) indicates that concentrations were 379 ppm in 2005, an increase of more than 30 percent. Left unchecked, the IPCC projects that concentration of CO₂ in the atmosphere could increase to a minimum of 540 ppm by the year 2100 as a direct result of anthropogenic sources. This could result in an average global temperature rise of at least 3.6 °F.

Methane (CH₄)

CH₄ is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO₂ and its lifetime in the atmosphere is brief (10 to 12 years) compared with some other GHGs. CH₄ has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N₂O)

Concentrations of N₂O also began to rise at the beginning of the industrial revolution. In 1998, the average global concentration was 314 parts per billion (ppb). N₂O is produced naturally by microbial processes in soil and water, including those reactions that occur in nitrogen-containing fertilizer. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. N₂O is used as an aerosol spray propellant, e.g., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh, in rocket engines and in racecars.

Other GHGs

Chlorofluorocarbons (CFC)

CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

HFCs are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. Prior to 1990, the only significant emissions of HFCs were HFC-23. The use of HFC-134a is increasing due to its use as a refrigerant.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride (SF₆)

SF₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF₆ has the highest GWP of any gas evaluated, 23,900 times that of CO₂. SF₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

GHG Emission Levels

In 2004, total worldwide GHG emissions were estimated to be 20,135 million Metric Tons CO₂e (MT CO₂e) excluding emissions/removals from land use, land use change, and forestry. In 2004, GHG emissions in the U.S. were 7,074 MT CO₂e. In 2013, California emitted 459 MT CO₂e¹, including imported electricity and excluding combustion of international fuels and carbon sinks or storage. Transportation sources contributed 37 percent, electric power another 20 percent, and industrial sources another 23 percent.

¹ California Greenhouse Gas Inventory-2015 Edition, California ARB, June 2015.

SECTION 2 - REGULATORY CONTEXT

CLIMATE CHANGE/GREENHOUSE GASES

Federal Climate Change Legislation

In June of 2013, the President enacted a national Climate Action Plan (Plan) that consisted of a wide variety of executive actions and had three pillars; 1) cut carbon in America, 2) prepare the U.S. for impacts of climate change, and 3) lead international efforts to combat global climate change and prepare for its impacts. The Plan outlines 75 goals within the three main pillars.

Cut Carbon in America

The Plan consists of actions to help cut carbon by deploying clean energy such as cutting carbon from power plants, promoting renewable energy, and unlocking long-term investment in clean energy innovation. In addition the Plan includes actions designed to help build a 21st century transportation sector; cut energy waste in homes, businesses, and factories; and reducing other GHG emissions, such as HFCs and methane. The Plan commits to lead in clean energy and energy efficiency at the federal level.

Prepare the U.S. for Impacts of Climate Change

The Plan consists of actions to help prepare for the impacts through building stronger and safer communities and infrastructure by supporting climate resilient investments, supporting communities and tribal areas as they prepare for impacts, and boosting resilience of building and infrastructure; protecting the economy and natural resources by identifying vulnerabilities, promoting insurance leadership, conserving land and water resources, managing drought, reducing wildfire risks, and preparing for future floods; and using sound science to manage climate impacts.

Lead International Efforts

The Plan consists of actions to help the U.S. lead international efforts through working with other countries to take action by enhancing multilateral engagements with major economies, expanding bilateral cooperation with major emerging economies, combating short-lived climate pollutants, reducing deforestation and degradation, expanding clean energy use and cutting energy waste, global free trade in environmental goods and services, and phasing out subsidies that encourage wasteful use of fossil fuels and by leading efforts to address climate change through international negotiations.

In June of 2014, the Center for Climate and Energy Solutions (C2ES) published a one-year review of progress in implementation of the Plan². The C2ES found that the administration had made marked progress in its initial implementation. The administration made at least some progress on most of the Plan's 75 goals; many of the specific tasks outlined had been completed. Notable areas of progress included steps to limit carbon pollution from power plants; improve energy efficiency; reduce CH₄ and HFC emissions; help communities and industry become more resilient to climate change impacts; and end U.S. lending for coal-fired power plants overseas.

² Presidents Obama's Climate Action Plan: One Year Later. Center for Climate and Energy Solutions. June 2014.

State Climate Change Legislation

Executive Order (EO) S 3-05

On June 1, 2005, the Governor of California issued EO S 3-05 which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

To meet these targets, the state Climate Action Team prepared a report to the Governor in 2006 that contained recommendations and strategies to help ensure the targets in EO S-3-05 were met.

Assembly Bill 32 (AB-32)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB-32. AB-32 focuses on reducing GHG emissions in California. GHGs, as defined under AB-32, include CO₂, CH₄, N₂O, HFC, PFC, and SF₆. AB-32 required that GHGs emitted in California be reduced to 1990 levels by the year 2020. The California Air Resources Board (CARB) is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. AB-32 also required that by January 1, 2008, the CARB must have determined what the Statewide GHG emissions level was in 1990, and established a Statewide GHG emissions limit to be applied to the 2020 benchmark. The CARB approved a 1990 GHG emissions level of 427 MT CO_{2e}, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 MT CO_{2e}.

Under the “business as usual” or BAU scenario established in 2008, statewide emissions were increasing at a rate of approximately 1 percent per year. Therefore it was estimated that the 2020 estimated BAU of 596 MT CO_{2e} would have required a 28 percent reduction to reach the 1990 level of 427 MT CO_{2e}.

Climate Change Scoping Plan

The Scoping Plan³ released by CARB in 2008 outlined the State’s strategy to achieve the AB-32 goals. This Scoping Plan, developed by CARB in coordination with the CAT, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 MT CO_{2e} requires the reduction of 169 MtCO_{2e}, or approximately 28.3 percent, from the State’s projected 2020 BAU emissions level of 596 MT CO_{2e}.

However, in May 2014, CARB developed; in collaboration with the CAT, the First Update to California’s Climate Change Scoping Plan⁴ (Update), which shows that California is on track to

³ Climate Change Scoping Plan: a framework for change. California Air Resources Board. December 2008.

⁴ First Update to the Climate Change Scoping Plan, Building on the Framework. California Air Resources Board. May 2014.

meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB-32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), CARB is beginning to transition to the use of the International Panel on Climate Change (IPCC's) Fourth Assessment Report (AR4) 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 MT CO_{2e}, therefore the 2020 GHG emissions limit established in response to AB-32 is now slightly higher than the 427 MT CO_{2e} in the initial Scoping Plan

Existing County Regulations

AB 32 and SB 375 are the bedrock requirements for GHG control in California. However, the General Plan Update Summary (May, 2013) noted as follows:

Much of the bills' provisions do not apply to Inyo County, and their focus on urban areas makes many of their provisions inapplicable. Since less than two percent of the County is in private ownership, urban sprawl is an impossibility. Regardless, the General Plan's goals, policies and implementation measures work to promote compact communities where vehicular use is not necessary, limit emissions, and discourage sprawl. Although not required, staff recommends the emissions modeling be undertaken during the environmental review stage.

For example, the Circulation Element sets forth a goal for public transportation, Goal PT-1, to "provide effective, economically feasible, and efficient public transportation in Inyo County that is safe, convenient, and efficient, reduces the dependence on privately owned vehicles, and meets the identified transportation needs of the County, with emphasis on service to the transportation disadvantaged."

The Circulation Element also contains a goal for bicycles and trails, Goal BT-1, "Encourage and promote greater use of non-motorized means of personal transportation within the region."

The Circulation Element contains the following policy to reduce potential air quality impacts which in turn reduce GHG emissions:

Policy RH-1.6 Minimize Environmental Impacts. Insure that all transportation projects minimize adverse effects on the environment of the County.

Renewable Energy Ordinance

The County adopted Inyo County Code (ICC) Title 21, the Renewable Energy Ordinance, in 2010. The ordinance supports and encourages the responsible utilization of the County's natural resources, and encourages the use of clean, renewable energy sources. This ordinance focuses mainly on the use of wind and solar resources for alternative energy purposes.

County of Inyo Cost, Energy and Service Efficiencies Action Plan.

The Inyo County Board of Supervisors adopted a Cost, Energy and Service Efficiencies Action Plan in November 2012. The plan was developed to guide energy efficiency and reduction at

County facilities. The reduction in overall energy use will be tracked annually to analyze the success of projects that have been implemented to date. Because many County facilities were built a number of years ago, and because of budget limitations, the potential to implement dramatic changes in energy consumption and associated GHG emissions is limited. The Action Plan notes, however, that modest improvements added over a substantial number of facilities may total to a non-trivial reduction in the Inyo County GHG burden.

California Building Code

The California Building Code has progressively increased the required energy efficiency of residential development in several code updates. Building envelopes require substantially better insulation, infiltration control and dual-paned windows as standard features than in previous years. Similarly, indoor energy use has been reduced significantly from changes to Title 24 of the California Code. High efficiency appliances, decreased water use and efficient lighting are standard requirements in new California construction.

SECTION 3 - THRESHOLDS OF SIGNIFICANCE

GHG THRESHOLDS

CEQA requires lead agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data. Significance conclusions must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. Effective March 18, 2010, CEQA Appendix G states that a project would have potentially significant GHG emission impacts if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Great Basin Unified Air Pollution Control District

The Great Basin Unified Air Pollution Control District (GBUAPCD) has no GHG emissions significance thresholds particular to its air basin. However, CEQA will allow reliance on standards or thresholds promulgated by other agencies. As such, this analysis utilized the values developed by the Bay Area Air Quality Management District (BAAQMD) as their adopted thresholds of significance for new development.

The BAAQMD has adopted a threshold that states that if a new project generates GHG emissions below 1,100 MT CO₂e, it could be concluded that the Project's GHG contribution is not "cumulatively considerable" and is therefore less than significant under CEQA. If the project generates GHG emissions above the threshold, the analysis must identify mitigation measures to reduce GHG emissions

Therefore, even though the GBUAPCD has not adopted an official GHG Threshold, this analysis proposes the quantitative thresholds for residential and commercial projects as recommended by the Bay Area Air Quality Management District (BAAQMD)⁵.

SECTION 4 - GHG ANALYSIS

ANALYSIS METHODOLOGY

CalEEMod was developed by the South Coast AQMD to provide a computer model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

⁵ Bay Area AQMD, CEQA Air Quality Guidelines, June, 2010.

Construction activity would consist of development of 15 single family homes on 2.75 acres and was modeled in CalEEMod2013.2.2. Long-term operational emissions of GHGs would include direct emissions from vehicular activity of residents; indirect energy usage for cooling, lighting, etc.; energy usage associated with the transport of water and generation of GHGs from landfilled solid waste. Project related GHG emissions were calculated using methods and assumptions used in CalEEMod.

ESTIMATION OF GHG EMISSIONS

Typically projects can generate GHG emissions in many ways. The California Climate Action Registry (CCAR) includes the following six categories of emissions:

1. Indirect Emissions from Grid-Delivered Electricity Use
2. Direct Emissions from Mobile Combustion
3. Direct Emissions from Stationary Combustion
4. Indirect Emissions from Imported Steam, Direct Heating or Cooling and Electricity from a Co-Generation Plant
5. Direct Emissions from Manufacturing Processes
6. Direct Fugitive Emissions

This Analysis evaluates the Project based on these six categories. Detailed calculations are presented in the computer model input/output in Appendix A.

Construction Activity Emissions

Construction activity will be grading, building construction, and asphalt paving. The California Emission Estimator Model (CalEEMod) defaults predict the following duration and schedule for a 15-unit single family residential project:

Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Prep (3 days)	1 Grader
	1 Scraper
	1 Loader/Backhoe
Grading (6 days)	1 Dozer
	1 Grader
	2 Loader/Backhoes
Construction (220 days)	1 Small Crane
	2 Forklifts
	1 Generator Set
	1 Loader/Backhoe
	3 Welders
Paving (10 days)	1 Cement Mixer
	1 Paving Equipment
	1 Paver
	1 Loader/Backhoe
	1 Roller

The defaults in CalEEMod for construction workers and vendor trips were used to determine number of on-road trips. CalEEMod calculates on-road emissions using emission factors generated from the CARB's EMFAC2011 data with specific emission rate data for the Bishop area.

Since construction emissions estimates are one time in nature, the SCAQMD has adopted a policy to annualize the total construction GHG emissions in order to combine with operational emissions for the purpose of comparing to the threshold. SCAQMD has determined the construction emissions should be amortized over 30 years.

Adding on- and off-road construction sources and amortizing them over 30 years results in the following:

Construction Emissions (Metric Tons CO₂e)

	CO ₂ e
Year 2016	265.8
Amortized	8.9

*CalEEMod Output provided in appendix

Emissions from construction would generate an amortized 8.9 MT CO₂e per year.

Emissions From Operational Mobile

Mobile combustion sources are non-stationary emitters of GHGs such as automobiles. On-road mobile sources include vehicles which operate on public roads. CalEEMod estimates that the project will generate 144 daily trips. Operational emissions were calculated using CalEEMod2013.2.2 for an assumed project build-out and full occupancy year of 2017. CalEEMod estimates the project would generate 180.2 MT per year of CO₂e attributed to mobile source emissions.

Emissions from Energy Utilization

Nearly all companies are likely to have some indirect emissions associated with the purchase and use of electricity. In some cases, indirect emissions from electricity use may be the only GHG emissions that a company will have to report. The generation of electricity through the combustion of fossil fuels typically yields CO₂ and, to a much smaller extent, N₂O and CH₄.

Emissions associated with energy sources are also calculated in CalEEMod based on a square footage basis. The Project will consume electricity with GHGs released from off-site fossil-fueled power plants. The Project similarly will consume gaseous fuel for on-site space heating, hot water heating and possibly cooking. On- and off-site energy consumption will create 88.6 MT CO₂ per year CO₂e..

Emissions from Solid Waste and Water Consumption

CalEEMod data for single family homes in the project area estimate 0.98 MGal/yr of indoor use water use and 0.62 MGal/yr or exterior use water. This is expected to create 8.8 MT CO₂ per year. The Project is also calculates the creation of 15.5 tons solid waste per year for the residential uses which translates to generation of 7.0 MT per year of CO₂e.

EMISSIONS SUMMARY

The table below shows a summary of GHG emissions from the Project.

Consumption Source	MT CO ₂ (e) tons/year
Area Sources	22.8
Energy Utilization	88.6
Mobile Source	180.2
Solid Waste Generation	7.0
Water Consumption	8.8
Annualized Construction	8.9
Total	316.3
Guideline Threshold	1,100

EVALUATION

The GHG emissions from the Project are well below the 1,100 MT/year significance threshold proposed for this analysis. Therefore, it is reasonable to presume that this Project's contribution to global climate change is not cumulatively considerable and therefore the project's contribution to cumulative impacts would be less than significant.

APPENDIX

CALEEMOD2013.2.2 COMPUTER MODEL OUTPUT

TTM 250 Kingston Subdivision Statewide , Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	15.00	Dwelling Unit	2.75	27,000.00	43

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	54
Climate Zone	12			Operational Year	2017
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 15 homes, 2.75 acres

Construction Phase - Prep: 3 days, Grading 6 days, Construction: 220 days, Paaving: 10 days

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	22.00
tblLandUse	LotAcreage	4.87	2.75
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563
Energy	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	88.3440	88.3440	1.9700e-003	7.8000e-004	88.6279
Mobile	0.0991	0.2888	1.1123	2.3200e-003	0.1527	3.8600e-003	0.1566	0.0409	3.5500e-003	0.0445	0.0000	180.0170	180.0170	7.1600e-003	0.0000	180.1673
Waste						0.0000	0.0000		0.0000	0.0000	3.1423	0.0000	3.1423	0.1857	0.0000	7.0421
Water						0.0000	0.0000		0.0000	0.0000	0.3101	7.5233	7.8333	0.0320	7.9000e-004	8.7503
Total	1.1941	0.3254	2.3938	2.9200e-003	0.1527	0.1692	0.3219	0.0409	0.1689	0.2098	18.9467	282.5643	301.5111	0.2413	2.7900e-003	307.4440

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563
Energy	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	88.3440	88.3440	1.9700e-003	7.8000e-004	88.6279
Mobile	0.0991	0.2888	1.1123	2.3200e-003	0.1527	3.8600e-003	0.1566	0.0409	3.5500e-003	0.0445	0.0000	180.0170	180.0170	7.1600e-003	0.0000	180.1673
Waste						0.0000	0.0000		0.0000	0.0000	3.1423	0.0000	3.1423	0.1857	0.0000	7.0421
Water						0.0000	0.0000		0.0000	0.0000	0.3101	7.5233	7.8333	0.0320	7.9000e-004	8.7498
Total	1.1941	0.3254	2.3938	2.9200e-003	0.1527	0.1692	0.3219	0.0409	0.1689	0.2098	18.9467	282.5643	301.5111	0.2413	2.7900e-003	307.4435

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2016	1/5/2016	5	3	
2	Grading	Grading	1/6/2016	1/13/2016	5	6	
3	Building Construction	Building Construction	1/14/2016	11/16/2016	5	220	
4	Paving	Paving	11/17/2016	11/30/2016	5	10	
5	Architectural Coating	Architectural Coating	12/1/2016	12/30/2016	5	22	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 54,675; Residential Outdoor: 18,225; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Site Preparation	Graders	1	8.00	174	0.41
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Scrapers	1	8.00	361	0.48
Paving	Pavers	1	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	5.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0500e-003	0.0462	0.0271	4.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	3.3749	3.3749	1.0200e-003	0.0000	3.3962
Total	4.0500e-003	0.0462	0.0271	4.0000e-005	2.3900e-003	2.2700e-003	4.6600e-003	2.6000e-004	2.0900e-003	2.3500e-003	0.0000	3.3749	3.3749	1.0200e-003	0.0000	3.3962

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	6.0000e-005	5.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0883
Total	5.0000e-005	6.0000e-005	5.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0883

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0500e-003	0.0462	0.0271	4.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	3.3749	3.3749	1.0200e-003	0.0000	3.3962
Total	4.0500e-003	0.0462	0.0271	4.0000e-005	2.3900e-003	2.2700e-003	4.6600e-003	2.6000e-004	2.0900e-003	2.3500e-003	0.0000	3.3749	3.3749	1.0200e-003	0.0000	3.3962

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	6.0000e-005	5.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0883
Total	5.0000e-005	6.0000e-005	5.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0882	0.0882	0.0000	0.0000	0.0883

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5600e-003	0.0898	0.0589	6.0000e-005		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	5.8222	5.8222	1.7600e-003	0.0000	5.8590
Total	8.5600e-003	0.0898	0.0589	6.0000e-005	0.0197	5.0000e-003	0.0247	0.0101	4.6000e-003	0.0147	0.0000	5.8222	5.8222	1.7600e-003	0.0000	5.8590

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.5000e-004	1.4700e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2206	0.2206	1.0000e-005	0.0000	0.2208
Total	1.1000e-004	1.5000e-004	1.4700e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2206	0.2206	1.0000e-005	0.0000	0.2208

3.3 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5600e-003	0.0898	0.0589	6.0000e-005		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	5.8221	5.8221	1.7600e-003	0.0000	5.8590
Total	8.5600e-003	0.0898	0.0589	6.0000e-005	0.0197	5.0000e-003	0.0247	0.0101	4.6000e-003	0.0147	0.0000	5.8221	5.8221	1.7600e-003	0.0000	5.8590

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.5000e-004	1.4700e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2206	0.2206	1.0000e-005	0.0000	0.2208
Total	1.1000e-004	1.5000e-004	1.4700e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2206	0.2206	1.0000e-005	0.0000	0.2208

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4068	2.7095	1.8388	2.7400e-003		0.1788	0.1788		0.1713	0.1713	0.0000	234.7292	234.7292	0.0541	0.0000	235.8650
Total	0.4068	2.7095	1.8388	2.7400e-003		0.1788	0.1788		0.1713	0.1713	0.0000	234.7292	234.7292	0.0541	0.0000	235.8650

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5800e-003	0.0209	0.0313	5.0000e-005	1.4200e-003	3.5000e-004	1.7700e-003	4.1000e-004	3.2000e-004	7.3000e-004	0.0000	4.6431	4.6431	4.0000e-005	0.0000	4.6438
Worker	2.0800e-003	2.7200e-003	0.0270	5.0000e-005	4.3700e-003	4.0000e-005	4.4100e-003	1.1600e-003	3.0000e-005	1.2000e-003	0.0000	4.0438	4.0438	2.3000e-004	0.0000	4.0486
Total	4.6600e-003	0.0236	0.0583	1.0000e-004	5.7900e-003	3.9000e-004	6.1800e-003	1.5700e-003	3.5000e-004	1.9300e-003	0.0000	8.6869	8.6869	2.7000e-004	0.0000	8.6924

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4068	2.7095	1.8388	2.7400e-003		0.1788	0.1788		0.1713	0.1713	0.0000	234.7289	234.7289	0.0541	0.0000	235.8647
Total	0.4068	2.7095	1.8388	2.7400e-003		0.1788	0.1788		0.1713	0.1713	0.0000	234.7289	234.7289	0.0541	0.0000	235.8647

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5800e-003	0.0209	0.0313	5.0000e-005	1.4200e-003	3.5000e-004	1.7700e-003	4.1000e-004	3.2000e-004	7.3000e-004	0.0000	4.6431	4.6431	4.0000e-005	0.0000	4.6438
Worker	2.0800e-003	2.7200e-003	0.0270	5.0000e-005	4.3700e-003	4.0000e-005	4.4100e-003	1.1600e-003	3.0000e-005	1.2000e-003	0.0000	4.0438	4.0438	2.3000e-004	0.0000	4.0486
Total	4.6600e-003	0.0236	0.0583	1.0000e-004	5.7900e-003	3.9000e-004	6.1800e-003	1.5700e-003	3.5000e-004	1.9300e-003	0.0000	8.6869	8.6869	2.7000e-004	0.0000	8.6924

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.9100e-003	0.0897	0.0607	9.0000e-005		5.6300e-003	5.6300e-003		5.1800e-003	5.1800e-003	0.0000	8.1867	8.1867	2.4200e-003	0.0000	8.2376
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.9100e-003	0.0897	0.0607	9.0000e-005		5.6300e-003	5.6300e-003		5.1800e-003	5.1800e-003	0.0000	8.1867	8.1867	2.4200e-003	0.0000	8.2376

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	3.7000e-004	3.6800e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5514	0.5514	3.0000e-005	0.0000	0.5521
Total	2.8000e-004	3.7000e-004	3.6800e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5514	0.5514	3.0000e-005	0.0000	0.5521

3.5 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.9100e-003	0.0897	0.0607	9.0000e-005		5.6300e-003	5.6300e-003		5.1800e-003	5.1800e-003	0.0000	8.1867	8.1867	2.4200e-003	0.0000	8.2376
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.9100e-003	0.0897	0.0607	9.0000e-005		5.6300e-003	5.6300e-003		5.1800e-003	5.1800e-003	0.0000	8.1867	8.1867	2.4200e-003	0.0000	8.2376

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	3.7000e-004	3.6800e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5514	0.5514	3.0000e-005	0.0000	0.5521
Total	2.8000e-004	3.7000e-004	3.6800e-003	1.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5514	0.5514	3.0000e-005	0.0000	0.5521

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0500e-003	0.0261	0.0207	3.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	2.8086	2.8086	3.3000e-004	0.0000	2.8155
Total	0.4264	0.0261	0.0207	3.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	2.8086	2.8086	3.3000e-004	0.0000	2.8155

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0809	0.0809	0.0000	0.0000	0.0810
Total	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0809	0.0809	0.0000	0.0000	0.0810

3.6 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0500e-003	0.0261	0.0207	3.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	2.8086	2.8086	3.3000e-004	0.0000	2.8155
Total	0.4264	0.0261	0.0207	3.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	2.8086	2.8086	3.3000e-004	0.0000	2.8155

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0809	0.0809	0.0000	0.0000	0.0810
Total	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0809	0.0809	0.0000	0.0000	0.0810

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0991	0.2888	1.1123	2.3200e-003	0.1527	3.8600e-003	0.1566	0.0409	3.5500e-003	0.0445	0.0000	180.0170	180.0170	7.1600e-003	0.0000	180.1673
Unmitigated	0.0991	0.2888	1.1123	2.3200e-003	0.1527	3.8600e-003	0.1566	0.0409	3.5500e-003	0.0445	0.0000	180.0170	180.0170	7.1600e-003	0.0000	180.1673

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	143.55	151.20	131.55	407,754	407,754
Total	143.55	151.20	131.55	407,754	407,754

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	41.40	19.30	39.30	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.491320	0.063009	0.178824	0.144183	0.045498	0.006725	0.015816	0.041294	0.001890	0.002219	0.005977	0.000692	0.002553

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	62.2598	62.2598	1.4700e-003	3.0000e-004	62.3850
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	62.2598	62.2598	1.4700e-003	3.0000e-004	62.3850
NaturalGas Mitigated	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429
NaturalGas Unmitigated	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	488799	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429
Total		2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	488799	2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429
Total		2.6400e-003	0.0225	9.5800e-003	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0842	26.0842	5.0000e-004	4.8000e-004	26.2429

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	111785	62.2598	1.4700e-003	3.0000e-004	62.3850
Total		62.2598	1.4700e-003	3.0000e-004	62.3850

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	111785	62.2598	1.4700e-003	3.0000e-004	62.3850
Total		62.2598	1.4700e-003	3.0000e-004	62.3850

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563
Unmitigated	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0422					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.9412	0.0128	1.1595	4.5000e-004		0.1629	0.1629		0.1629	0.1629	15.4944	6.4981	21.9925	0.0143	1.2200e-003	22.6706
Landscaping	3.5000e-003	1.3100e-003	0.1125	1.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	0.1819	0.1819	1.8000e-004	0.0000	0.1858
Total	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0422					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.9412	0.0128	1.1595	4.5000e-004		0.1629	0.1629		0.1629	0.1629	15.4944	6.4981	21.9925	0.0143	1.2200e-003	22.6706
Landscaping	3.5000e-003	1.3100e-003	0.1125	1.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	0.1819	0.1819	1.8000e-004	0.0000	0.1858
Total	1.0924	0.0141	1.2720	4.6000e-004		0.1635	0.1635		0.1635	0.1635	15.4944	6.6800	22.1744	0.0145	1.2200e-003	22.8563

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.8333	0.0320	7.9000e-004	8.7498
Unmitigated	7.8333	0.0320	7.9000e-004	8.7503

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.97731 / 0.61613	7.8333	0.0320	7.9000e-004	8.7503
Total		7.8333	0.0320	7.9000e-004	8.7503

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.97731 / 0.61613	7.8333	0.0320	7.9000e-004	8.7498
Total		7.8333	0.0320	7.9000e-004	8.7498

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1423	0.1857	0.0000	7.0421
Unmitigated	3.1423	0.1857	0.0000	7.0421

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	15.48	3.1423	0.1857	0.0000	7.0421
Total		3.1423	0.1857	0.0000	7.0421

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	15.48	3.1423	0.1857	0.0000	7.0421
Total		3.1423	0.1857	0.0000	7.0421

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

Attachment 6

Regional Water Quality
Control Board Analytical
Results.

Inyo County Remediation
Memorandum

Inyo County Remediation
Closure Letter

Lahontan Regional Water Quality Control Board

September 17, 2015

File: Complaints, Inyo County

Marvin Moskowitz, Director
Inyo County Environmental Health Department
168 N. Edwards St., P.O. Box 427
Independence, CA 93526
Email: mmoskowitz@inyocounty.us

ANALYTICAL RESULTS FOR SAMPLES COLLECTED FROM THE BISHOP NURSERY SITE AND ADJACENT SOUTH FORK BISHOP CREEK, CITY OF BISHOP, INYO COUNTY

On August 19, 2015, Lahontan Regional Water Quality Control Board (Water Board) staff met with you and others at the Bishop Nursery, located at 789 Home Street, to inspect the site in response to a citizen complaint received on July 24, 2015. During that inspection, Water Board staff collected soil samples from two locations on the site (Site 1 and Site 2) and one water sample from South Fork Bishop Creek (Site 3) downstream from the nursery, as described in the enclosed Inspection Report. All samples were submitted to Babcock Laboratories in Riverside, California for analysis, the results of which are contained in the enclosed Analytical Report dated September 1, 2015. Based on our review of the analytical results and our knowledge of the site and vicinity, the Bishop Nursery site appears to pose little threat to water quality; therefore, no further evaluation by Water Board staff is warranted. However, we encourage the Inyo County Environmental Health Department to consider, at their discretion, requiring further investigation and/or remediation of the stained soils observed in the vicinity of sample locations Site 1 and Site 2. A brief discussion of the analytical results is presented below.

Petroleum Hydrocarbons and Volatile Organic Compounds: Relatively high concentrations of diesel range organics were detected in the near surface soil samples collected at both Site 1 and Site 2, with decreased concentrations detected in the soil samples collected at the 1-foot depth. Gasoline range organics and several volatile organic compounds (VOCs) were also detected in the soils collected at Site 2, with the highest concentrations detected in the sample collected just below ground surface. The VOCs detected include trimethylbenzene, butylbenzene, and xylene and are consistent with fuel range organic compounds. The limited lateral extent of the staining combined with the decreasing concentrations of hydrocarbon and VOC constituents with depth suggest that the primary area of impact is concentrated in the upper 1-foot of soil and likely not a threat to the quality of groundwater beneath the site. No further evaluation by Water Board staff is warranted. However, we encourage the Inyo County Environmental Health Department to consider, at their discretion, requiring further investigation and/or remediation of the stained soils observed in the vicinity of sample locations Site 1 and Site 2.

Metals: The soil and groundwater samples contained metals at concentrations consistent with those reported in the 2010 Phase II Environmental Site Investigation Report prepared by Tetra Tech. These metals are likely naturally occurring and their detected concentrations representative of background conditions. No further evaluation by Water Board staff is warranted.

General Chemistry, Herbicides and Pesticides: No herbicides or pesticides were detected in the water sample collected from South Fork Bishop Creek, and the general chemistry results indicated no threat or potential threat to water quality. No further evaluation by Water Board staff is warranted.

If you have questions regarding this letter, please contact me at (760) 241-7376 jan.zimmerman@waterboards.ca.gov, or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 patrice.copeland@waterboards.ca.gov.



Jan M. Zimmerman, PG
Engineering Geologist

Enc: Inspection Report (August 19, 2015)
Analytical Report, Babcock Laboratories (September 1, 2015)

cc: Terry Tye (tyet47@hotmail.com)
Scott Cimino, LADWP (scott.cimino@ladwp.com)
Andrew Holmes, Triad/Holmes Associates (aholmes@thainc.com)
Gary Schley, City of Bishop (GarySchley@ca-bishop.us)
Liz Merrill, Bishop Nursery (789 Home St, Bishop, CA 93514)

INSPECTION REPORT: Bishop Nursery and Home Store

INSPECTION DATE: August 19, 2015

INSPECTOR: Jan M. Zimmerman, EG; Kerri O'Keefe, Scientific Aide

WDID: N/A, Unregulated

TYPE: Complaint Investigation

ATTENDEES: Terry Tye, Complainant; Marvin Moskowitz, Inyo County; Scott Cimino, Los Angeles Department of Water and Power (LADWP); Andrew Holmes, Triad/Holmes Associates; Stanley Wooden, concerned citizen

SITE CONTACT: Liz Merrill, Bishop Nursery

SITE ADDRESS: Bishop Nursery and Home Store, 789 Home Street, Bishop, CA

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COMPLAINT

On July 24, 2015, Water Board staff received a call from Mr. Terry Tye of Bishop alleging improper handling and disposal of waste oil, fertilizers, herbicides, and pesticides as part of the ongoing Bishop Nursery operation. Due to the close proximity of South Fork Bishop Creek to the site, Mr. Tye was concerned that these chemicals may threaten surface waters and the City of Bishop's municipal drinking water supply. Mr. Tye provided staff with copies of a January 2009 Phase I Environmental Site Assessment and a January 2010 Phase II Environmental Site Investigation Report prepared for the site. Mr. Tye alleged that the Phase II investigation failed to collect soil and groundwater samples from areas where chemicals were known to be stored and/or spilled on the site and requested that Water Board staff investigate his concerns.

BACKGROUND

The Bishop Nursery occupies approximately 3-acres of a larger 4-acre parcel owned by LADWP. The site has been developed as a nursery since 1974 and is currently leased for Bishop Nursery. In 2001, the original structure burned down and was replaced with a similar structure in the same general location. LADWP is in escrow to sell this property to a developer that plans to construct up to 15 single family residences on the site. The City of Bishop prepared an Initial Study and Mitigated Negative Declaration (IS/MND) for the development and circulated that environmental document through the State Clearinghouse (SCH No. 2015071041) for public review on July 15, 2015. As of August 28, 2015, the IS/MND had not yet been adopted.

In 2009, LADWP contracted with Tetra Tech to conduct a due diligence Phase I Environmental Site Assessment for the Bishop Nursery property. In 2010, LADWP contracted with Tetra Tech to conduct subsequent soil and groundwater sampling at the site to evaluate potential areas of concern identified in the Phase I. A total of seven soil borings were advanced to 10 feet below ground surface (bgs) with soil samples collected at 1-foot, 5-foot, and 10-foot intervals. Groundwater was encountered at 8-feet bgs, and groundwater samples were collected from each of the seven borings. No petroleum hydrocarbons, volatile organic compounds (VOCs), herbicides, or pesticides were detected in any of the soil or groundwater samples collected. Tetra Tech concluded that based on the data obtained during the investigation, no additional assessment of the site was warranted with the exception of evaluating the risk to potential receptors with respect to the detected concentrations of metals in the soil and groundwater beneath the site. Based on our review of these reports, Water Board staff concluded that the types of metals detected in the soil and groundwater beneath the site are likely naturally occurring and their concentrations representative of background conditions.

FIELD OBSERVATIONS

On August 19, 2015, Water Board staff (Jan Zimmerman and Kerri O'Keefe) met with Terry Tye and Stanley Wooden both concerned citizens of Bishop, Marvin Moskowitz from Inyo County Environmental Health Services, Liz Merrill from Bishop Nursery, Scott Cimino from Los Angeles Department of Water and Power (LADWP), and Andrew Holmes from Triad/Holmes Associates (representing the developer) at the Bishop Nursery site. The purpose of the inspection was to (1) observe current site conditions, (2) investigate Mr. Tye's complaint regarding areas of potential concern that were not identified in the 2009/2010 Phase I/Phase II site assessments, and (3) to collect grab soil samples and/or surface water samples to evaluate potential water quality concerns related to the site. Figure 1 shows the Bishop Nursery including the site boundaries and approximate locations of the soil and surface water samples collected during the inspection. The site appears to drain to the north and northeast away from South Fork Bishop Creek with the top of the north bank of the creek topographically higher relative to the site.

Mr. Tye and Mr. Wooden directed staff to a location along the southern boundary of the site where allegedly waste oil and other petroleum-based products had been stored in open 5-gallon buckets on pallets (Site 1, Figure 1). Mr. Wooden stated that in the past he had observed these buckets "over-flowing" on several occasions and spilling the suspected waste oil to the ground. Ms. Merrill stated that buckets had been stored on pallets at this location prior, but that the buckets were sealed and contained old asphalt emulsion that had since hardened/solidified. During the inspection and upon our request, Ms. Merrill removed the existing pallets (of clay pots) from this location so that the current condition of the soil could be observed. Soil staining was observed at this location (an area approximately 3-foot square) and a petroliferous odor in the soil as noted (Photograph 1). Staff collected grab soil samples from this location at depths of approximately 0.5-foot (Sample 1A-0.5) and 1-foot (Sample 1B-1.0) bgs using a shovel and hand trowel. Deionized water was used to rinse the shovel and trowel between sample collection.

Fairly extensive soil staining (an area approximately 8-foot square) was observed in the area where the front loader/heavy equipment is routinely parked on the site (Site 2, Figure 1; Photograph 2). Ms. Merrill stated that she is aware that this equipment is in need of maintenance. Water Board staff collected grab soil samples from this location at depths of approximately 0.5-foot (Sample 2A-0.5) and 1-foot (Sample 2B-1.0) bgs. A petroliferous odor was noted in the soil at this location.

Several 5-gallon buckets of unknown substance were observed adjacent to the front loader (Photograph 3) and several buckets were observed behind a wooden storage shed just to the south of Site 2 (Photograph 4). No soil staining was observed in the area where these buckets were observed. Surficial soil staining was observed around and beneath a lawn mower. Staff did not feel that a soil sample was warranted at any of these locations.

Staff observed an 8-foot by 10-foot metal storage shed with a dirt floor (Photograph 5). Bagged dry fertilizers were stored in the shed on wooden pallets. Some of the bags were broken or opened and fertilizer was observed to have spilled onto the floor of the shed. Several other sheds containing herbicide, pesticide, and other chemicals and equipment used for site operations were observed on the site and were either fully enclosed (roof, sides, and floor) or did not contain any substances or equipment stored in a manner that appeared to pose a threat to water quality. Staff did not feel that a soil sample was warranted at any of these locations.

The main building on the site reportedly burned down in 2001 and was rebuilt with a new structure of the same general size and in the same location. At the time of the inspection, staff did not observe any evidence of ash or burn debris in or around the perimeter of the structure.

An in-stream water sample was collected from the South Fork Bishop Creek to document ambient background water quality downstream of the site (Site 3, Figure 1; Photograph 6). The sample was collected using an 8-foot pole sampler and water quality field parameters were measured using a portable Horiba, model U-22.23¹.

Sample Location	Sample Time	Field Parameters*						
		pH	Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (C)	Total Dissolved Solids (mg/L)	Oxidation Reduction Potential (mV)
South Fork Bishop Creek	3:06 pm	6.52	8.5	7.6	10.97	24.1	0.05	264

* units = mS/m, milli Siemens per meter; NTU, nephelometric turbidity units; mg/L, milligram per liter; C, degrees Celsius; mV, millivolt

The soil and water samples collected during the inspection were submitted to Babcock Laboratories for analysis on August 20, 2015. A copy of the Chain of Custody listing preservatives, total number of sample containers, and analyses requested is attached to this inspection report. The results of the laboratory analyses are expected to be received the week of August 31, 2015.

FINDINGS AND RECOMMENDATIONS

The Bishop Nursery site appears to drain to the north and northeast away from South Fork Bishop Creek. Staff did not observe any surficial hydrological connection between the site and South Fork Bishop Creek. Bishop Creek (including the South Fork) is a perennial stream and is both a water of the state and a water of the United States. Bishop Creek is assigned the following beneficial uses: MUN, AGR, GWR, REC-1, REC-2, COMM, COLD, and WILD.

Soil staining was observed in locations not previously identified in the Phase I/Phase II prepared for the site (Site 1 and Site 2; Figure 1). The stained soils had a distinct odor suggestive of petroleum-based fuels and oils. The staining at Site 1 was observed in the upper 0.5-foot of soil and limited in lateral extent to an area of approximately three square feet. The staining at Site 2 was observed in the upper 1-foot of soil and limited to an area of approximately eight square feet.

1. Because the staining appears to be surficial and isolated and site drainage flows to the north away from the creek, the areas of soil staining do not appear to pose a significant threat to water quality in South Fork Bishop Creek.

¹ Water Board staff calibrated the Horiba on August 18, 2015, using a standard solution with pH 4.00, turbidity 0.0 nephelometric units (NTU), and conductivity 4.49 milli Siemens per meter (mS/m).

2. Pending the analytical results for the soil samples collected, staff may have additional recommendations as to the potential threat to the quality of groundwater beneath the site and/or additional soil investigation.

Water Board staff observed several areas of poor housekeeping on the site and made several recommendations to Ms. Merrill with respect to bulk fertilizer storage, waste oil handling, and heavy equipment storage/maintenance.

3. Because the fertilizer storage shed has a dirt floor, there is potential for the shed floor to become saturated during heavy rains or extended periods. Staff noted that the use of the pallets was a good practice and recommended that good housekeeping practices be maintained for broken or opened bags and any fertilizer spilled on to the shed floor be scooped up and contained.
4. Staff also recommended that all fuels, oils, and waste oils, used or generated on the site be stored in covered areas and with secondary containment. Ms. Merrill agreed to move the buckets observed during the inspection to a covered area until such time that they can be properly disposed of offsite.
5. Staff recommended that temporary Best Management Practices (BMPs) be used beneath the parked front loader to collect and contain any oils or fuels that may drip or leak (i.e. plastic sheeting and absorbent) until such time that the equipment can be serviced. Ms. Merrill agreed to utilize BMPs and to park the front loader on a nearby concrete pad.

An in-stream water sample was collected from the South Fork Bishop Creek to document ambient background water quality downstream of the site (Site 3, Figure 1).

6. None of the water quality parameters measured in the field indicated a threat or potential threat to water quality.
7. Pending the analytical results for the water sample collected, staff may have additional findings and recommendations related to the quality of water in South Fork Bishop Creek.

FIGURES

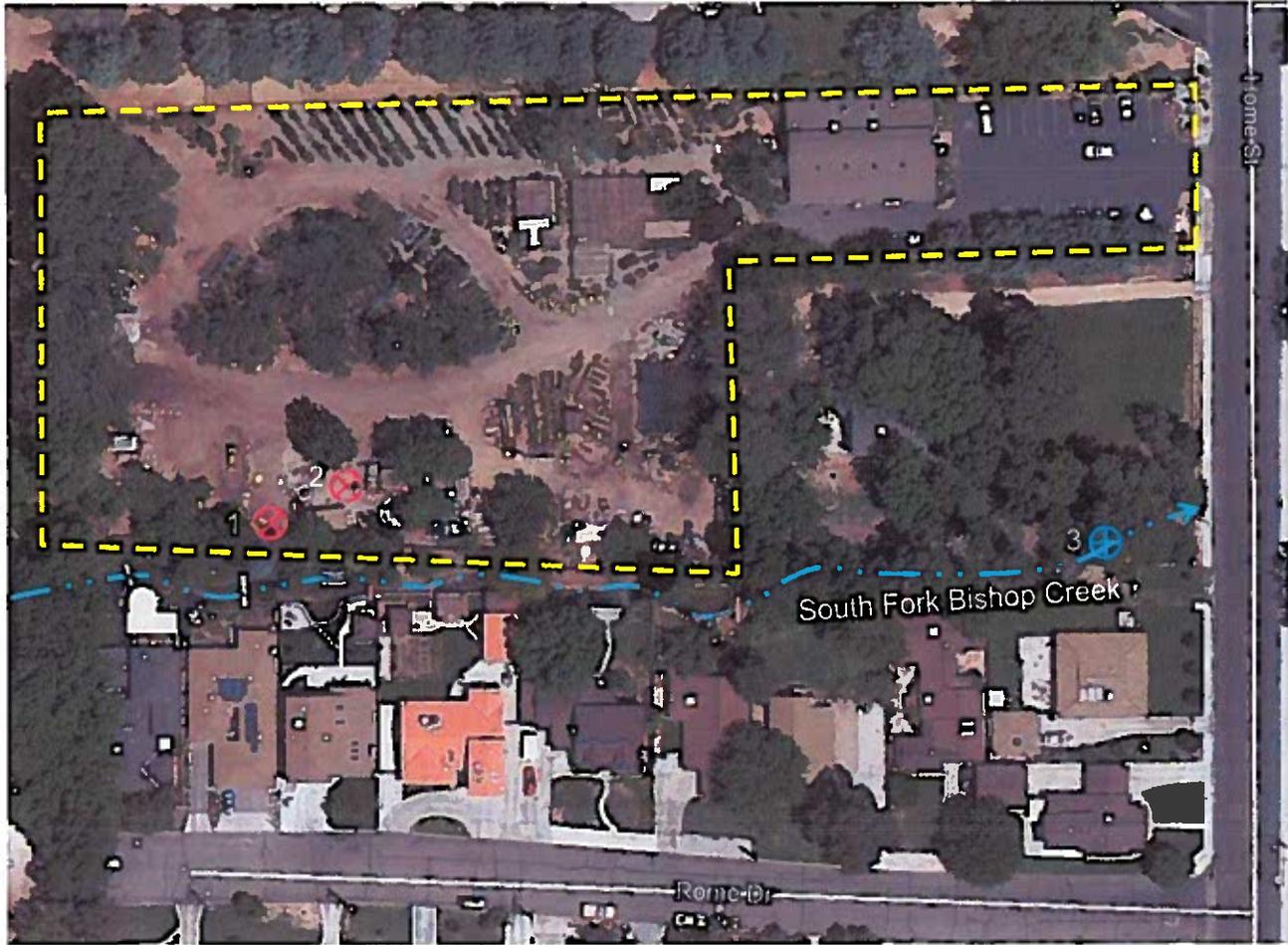


Figure 1: Google Earth aerial photograph (dated June 12, 2013) showing approximate locations of grab samples for soil (Site 1 and 2) and surface water (Site 3).

PHOTOGRAPHS: Photos taken August 21, 2015 (JMZ and KOK)



Photograph 1: Visible soil staining in area where former pallets of waste oil and other petroleum-based products had allegedly been stored. Water Board staff collected grab soil samples from this location at depths of approximately 0.5-foot and 1-foot bgs. The soils had a distinct petroliferous odor.



Photograph 2: Visible soil staining beneath heavy equipment used at the site. Site personnel have agreed to utilize temporary BMPs (plastic sheeting and absorbent) in the area where the equipment is stored. Water Board staff collected grab soil samples in this location at depths of approximately 0.5-foot and 1-foot bgs. A heavy petroliferous odor was present in the soils.



Photograph 3: Several 5-gallon buckets containing unknown liquids were observed adjacent to the heavy equipment. Staff requested that site personnel move these buckets to an area under a covered shed until such time that they can be properly disposed of offsite.



Photograph 4: Several other buckets were observed behind the wood storage shed just to the south of the heavy equipment storage area. Staff requested that site personnel move these buckets to an area under a covered shed until such time that they can be properly disposed of offsite.



Photograph 5: An 8-foot by 10-foot metal storage shed with a dirt floor was observed southeast of the heavy equipment storage. The shed is used to store bagged dry fertilizers on wooden pallets. Some fertilizer was observed to have been spilled on to the floor. Water Board staff recommended that site personnel implement good housekeeping practices within the fertilizer storage shed.



Photograph 6: View looking upstream at the in-stream water sample location within South Fork Bishop Creek.



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Client Name: Regional WQCB, Lahontan Victorville Office
Contact: Rebecca Phillips
Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 1 of 53
Project Name: CRWQCB - IFB #15-025-160
Project Number: Bishop Nursery - Bishop

Report Date: 01-Sep-2015

Work Order Number: B5H2128
Received on Ice (Y/N): Yes **Temp:** 4 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B5H2128-01	Site 1A-0.5 ---ROUTINE---	Solid	08/19/15 13:56	Jan Zimmerm	08/20/15 16:22	Courier (Hector N.) DE
B5H2128-02	Site 1B-1.0 ---ROUTINE---	Solid	08/19/15 14:07	Jan Zimmerm	08/20/15 16:22	Courier (Hector N.) DE
B5H2128-03	Site 2A-0.5 ---ROUTINE---	Solid	08/19/15 14:20	Jan Zimmerm	08/20/15 16:22	Courier (Hector N.) DE
B5H2128-04	Site 2B-1.0 ---ROUTINE---	Solid	08/19/15 14:26	Jan Zimmerm	08/20/15 16:22	Courier (Hector N.) DE
B5H2128-05	Site 3 ---ROUTINE---	Liquid	08/19/15 15:06	Jan Zimmerm	08/20/15 16:22	Courier (Hector N.) DE

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CA ELAP No. 2698
 EPA no. CA00102
 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
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Analytical Report: Page 3 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-01

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 1A-0.5 Solid 08/19/15 13:56 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
1,1,1-Trichloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1,2-Trichloroethane	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1-Dichloroethane	ND	10	1.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1-Dichloroethene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,1-Dichloropropene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2,3-Trichloropropane	ND	20	5.8	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2,4-Trimethylbenzene	ND	10	2.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2-Dichlorobenzene	ND	10	4.3	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2-Dichloroethane	ND	10	3.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,2-Dichloropropane	ND	10	2.5	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,3,5-Trimethylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,3-Dichlorobenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,3-Dichloropropane	ND	10	2.8	ug/kg	EPA 8260B	08/27/15 22:26	jes	
1,4-Dichlorobenzene	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 22:26	jes	
2,2-Dichloropropane	ND	20	2.5	ug/kg	EPA 8260B	08/27/15 22:26	jes	
2-Butanone(MEK)	ND	100	50	ug/kg	EPA 8260B	08/27/15 22:26	jes	
2-Chlorotoluene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 22:26	jes	
4-Chlorotoluene	ND	10	2.0	ug/kg	EPA 8260B	08/27/15 22:26	jes	
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Acetone	ND	200	100	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Acrylonitrile	ND	200	7.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Benzene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Bromobenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Bromochloromethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Bromodichloromethane	ND	10	1.1	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Bromoform	ND	10	8.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Bromomethane	ND	50	25	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Carbon Tetrachloride	ND	10	1.8	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Chlorobenzene	ND	10	3.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
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Analytical Report: Page 4 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Report Date: 01-Sep-2015

Work Order Number: B5H2128

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-01

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 1A-0.5	Solid	08/19/15 13:56	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatiles Organic Compounds by EPA 8260B								
Chloroethane	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Chloroform	ND	10	1.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Chloromethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 22:26	jes	
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Dibromochloromethane	ND	10	3.1	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Dibromochloropropane	ND	100	13	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Dibromomethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Dichlorodifluoromethane	ND	10	7.0	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Ethylbenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Hexachlorobutadiene	ND	30	15	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Methyl tert Butyl Ether	ND	100	3.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Methylene Chloride	ND	60	30	ug/kg	EPA 8260B	08/27/15 22:26	jes	
n-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
n-Propylbenzene	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Naphthalene	ND	10	7.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
sec-Butylbenzene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Styrene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
tert-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Tetrachloroethene	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Toluene	ND	10	3.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Trichloroethene	ND	10	2.9	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Trichlorofluoromethane	ND	100	2.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Vinyl Chloride	ND	10	4.2	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Xylenes (m+p)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Xylenes (ortho)	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Xylenes (total)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 22:26	jes	
Surrogate: 1,2-Dichloroethane-d4	108	%	75-120		EPA 8260B	08/27/15 22:26	jes	
Surrogate: Bromofluorobenzene	103	%	83-120		EPA 8260B	08/27/15 22:26	jes	
Surrogate: Toluene-d8	106	%	80-125		EPA 8260B	08/27/15 22:26	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 5 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: **B5H2128**

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-02

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 1B-1.0 Solid 08/19/15 14:07 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	10	0.19	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Arsenic	3.6	10	0.74	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Barium	52	10	0.84	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Beryllium	ND	5.0	0.37	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Cadmium	ND	5.0	0.63	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Total Chromium	5.5	10	0.81	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Cobalt	2.6	10	0.19	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Copper	11	10	0.78	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Lead	2.7	10	0.29	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Mercury	ND	0.20	0.011	mg/kg	EPA 7471A	08/26/15 19:41	mel	
Molybdenum	1.2	10	0.46	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Nickel	4.7	10	0.48	mg/kg	EPA 6020	08/25/15 17:38	ERA	J
Selenium	ND	10	2.4	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Silver	ND	10	0.30	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Thallium	ND	50	0.19	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Vanadium	22	10	0.76	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Zinc	45	10	1.7	mg/kg	EPA 6020	08/25/15 17:38	ERA	
Diesel Range Organics by EPA 8015								
DRO (C10-C28)	40	10	5.0	mg/kg	EPA 8015B	08/27/15 19:43	jhr	NHCno
ORO (C29-C44)	95	10	5.0	mg/kg	EPA 8015B	08/27/15 19:43	jhr	NBLK10 x, NMint
Surrogate: o-Terphenyl	57.4	%	10-140		EPA 8015B	08/27/15 19:43	jhr	
Surrogate: n-Triacontane	140	%	21-147		EPA 8015B	08/27/15 19:43	jhr	
Gasoline Range Organics by EPA 8015								
Gasoline Range Organics	ND	5.0	2.5	mg/kg	EPA 8015B	08/26/15 17:11	eec	
Surrogate: a,a,a-Trifluorotoluene	62.9	%	16-130		EPA 8015B	08/26/15 17:11	eec	

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CA ELAP No. 2698
 EPA no. CA00102
 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
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Analytical Report: Page 6 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-02

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 1B-1.0 Solid 08/19/15 14:07 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
1,1,1-Trichloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1,2-Trichloroethane	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1-Dichloroethane	ND	10	1.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1-Dichloroethene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,1-Dichloropropene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2,3-Trichloropropane	ND	20	5.8	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2,4-Trimethylbenzene	ND	10	2.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2-Dichlorobenzene	ND	10	4.3	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2-Dichloroethane	ND	10	3.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,2-Dichloropropane	ND	10	2.5	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,3,5-Trimethylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,3-Dichlorobenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,3-Dichloropropane	ND	10	2.8	ug/kg	EPA 8260B	08/27/15 23:26	jes	
1,4-Dichlorobenzene	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:26	jes	
2,2-Dichloropropane	ND	20	2.5	ug/kg	EPA 8260B	08/27/15 23:26	jes	
2-Butanone(MEK)	ND	100	50	ug/kg	EPA 8260B	08/27/15 23:26	jes	
2-Chlorotoluene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:26	jes	
4-Chlorotoluene	ND	10	2.0	ug/kg	EPA 8260B	08/27/15 23:26	jes	
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Acetone	ND	200	100	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Acrylonitrile	ND	200	7.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Benzene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Bromobenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Bromochloromethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Bromodichloromethane	ND	10	1.1	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Bromoform	ND	10	8.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Bromomethane	ND	50	25	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Carbon Tetrachloride	ND	10	1.8	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Chlorobenzene	ND	10	3.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 7 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-02

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 1B-1.0	Solid	08/19/15 14:07	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Chloroethane	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Chloroform	ND	10	1.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Chloromethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 23:26	jes	
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Dibromochloromethane	ND	10	3.1	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Dibromochloropropane	ND	100	13	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Dibromomethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Dichlorodifluoromethane	ND	10	7.0	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Ethylbenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Hexachlorobutadiene	ND	30	15	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Methyl tert Butyl Ether	ND	100	3.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Methylene Chloride	ND	60	30	ug/kg	EPA 8260B	08/27/15 23:26	jes	
n-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
n-Propylbenzene	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Naphthalene	ND	10	7.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
sec-Butylbenzene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Styrene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
tert-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Tetrachloroethene	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Toluene	ND	10	3.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Trichloroethene	ND	10	2.9	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Trichlorofluoromethane	ND	100	2.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Vinyl Chloride	ND	10	4.2	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Xylenes (m+p)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Xylenes (ortho)	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Xylenes (total)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 23:26	jes	
Surrogate: 1,2-Dichloroethane-d4	105	%	75-120		EPA 8260B	08/27/15 23:26	jes	
Surrogate: Bromofluorobenzene	108	%	83-120		EPA 8260B	08/27/15 23:26	jes	
Surrogate: Toluene-d8	106	%	80-125		EPA 8260B	08/27/15 23:26	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 8 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Report Date: 01-Sep-2015

Work Order Number: **B5H2128**

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-03

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 2A-0.5 Solid 08/19/15 14:20 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	10	0.19	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Arsenic	4.6	10	0.74	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Barium	62	10	0.84	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Beryllium	ND	5.0	0.37	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Cadmium	ND	5.0	0.63	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Total Chromium	7.4	10	0.81	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Cobalt	3.0	10	0.19	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Copper	17	10	0.78	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Lead	8.5	10	0.29	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Mercury	0.013	0.20	0.011	mg/kg	EPA 7471A	08/26/15 19:43	mel	J
Molybdenum	3.5	10	0.46	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Nickel	5.6	10	0.48	mg/kg	EPA 6020	08/25/15 17:40	ERA	J
Selenium	ND	10	2.4	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Silver	ND	10	0.30	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Thallium	ND	50	0.19	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Vanadium	26	10	0.76	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Zinc	68	10	1.7	mg/kg	EPA 6020	08/25/15 17:40	ERA	
Diesel Range Organics by EPA 8015								
DRO (C10-C28)	6900	1000	500	mg/kg	EPA 8015B	08/27/15 22:40	jhr	A-01
ORO (C29-C44)	10000	1000	500	mg/kg	EPA 8015B	08/27/15 22:40	jhr	NBLK10 x
Surrogate: o-Terphenyl	1360	% 10-140			EPA 8015B	08/27/15 22:40	jhr	NSdil
Surrogate: n-Triacontane	2110	% 21-147			EPA 8015B	08/27/15 22:40	jhr	NSdil
Gasoline Range Organics by EPA 8015								
Gasoline Range Organics	20	5.0	2.5	mg/kg	EPA 8015B	08/26/15 18:22	eec	NHCno
Surrogate: a,a,a-Trifluorotoluene	86.2	% 16-130			EPA 8015B	08/26/15 18:22	eec	



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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 9 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Report Date: 01-Sep-2015

Work Order Number: **B5H2128**
 Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-03

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 2A-0.5 Solid 08/19/15 14:20 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
1,1,1-Trichloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1,2-Trichloroethane	ND	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1-Dichloroethane	ND	10	1.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1-Dichloroethene	ND	10	2.3	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,1-Dichloropropene	ND	10	2.3	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2,3-Trichloropropane	ND	20	5.8	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2,4-Trimethylbenzene	5500	10	2.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2-Dichlorobenzene	ND	10	4.3	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2-Dichloroethane	ND	10	3.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,2-Dichloropropane	ND	10	2.5	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,3,5-Trimethylbenzene	1400	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,3-Dichlorobenzene	ND	10	2.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,3-Dichloropropane	ND	10	2.8	ug/kg	EPA 8260B	08/28/15 00:25	jes	
1,4-Dichlorobenzene	ND	10	2.1	ug/kg	EPA 8260B	08/28/15 00:25	jes	
2,2-Dichloropropane	ND	20	2.5	ug/kg	EPA 8260B	08/28/15 00:25	jes	
2-Butanone(MEK)	120	100	50	ug/kg	EPA 8260B	08/28/15 00:25	jes	
2-Chlorotoluene	ND	10	2.3	ug/kg	EPA 8260B	08/28/15 00:25	jes	
4-Chlorotoluene	ND	10	2.0	ug/kg	EPA 8260B	08/28/15 00:25	jes	
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Acetone	980	200	100	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Acrylonitrile	ND	200	7.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Benzene	ND	10	2.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Bromobenzene	ND	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Bromochloromethane	ND	10	3.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Bromodichloromethane	ND	10	1.1	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Bromoform	35	10	8.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Bromomethane	ND	50	25	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Carbon Tetrachloride	ND	10	1.8	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Chlorobenzene	ND	10	3.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	

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Analytical Report: Page 10 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: **B5H2128**

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-03

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 2A-0.5	Solid	08/19/15 14:20	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Chloroethane	ND	10	2.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Chloroform	ND	10	1.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Chloromethane	ND	10	5.0	ug/kg	EPA 8260B	08/28/15 00:25	jes	
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Dibromochloromethane	ND	10	3.1	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Dibromochloropropane	ND	100	13	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Dibromomethane	ND	10	3.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Dichlorodifluoromethane	ND	10	7.0	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Ethylbenzene	28	10	2.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Hexachlorobutadiene	ND	30	15	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Methyl tert Butyl Ether	ND	100	3.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Methylene Chloride	ND	60	30	ug/kg	EPA 8260B	08/28/15 00:25	jes	
n-Butylbenzene	11000	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
n-Propylbenzene	430	10	2.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Naphthalene	1400	10	7.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
sec-Butylbenzene	760	10	2.3	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Styrene	ND	10	1.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
tert-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Tetrachloroethene	ND	10	2.6	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Toluene	ND	10	3.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Trichloroethene	ND	10	2.9	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Trichlorofluoromethane	ND	100	2.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Vinyl Chloride	ND	10	4.2	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Xylenes (m+p)	170	20	4.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Xylenes (ortho)	190	10	2.4	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Xylenes (total)	360	20	4.7	ug/kg	EPA 8260B	08/28/15 00:25	jes	
Surrogate: 1,2-Dichloroethane-d4	112	%	75-120		EPA 8260B	08/28/15 00:25	jes	
Surrogate: Bromofluorobenzene	117	%	83-120		EPA 8260B	08/28/15 00:25	jes	
Surrogate: Toluene-d8	103	%	80-125		EPA 8260B	08/28/15 00:25	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 11 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: **B5H2128**

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-04

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 2B-1.0	Solid	08/19/15 14:26	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	10	0.19	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Arsenic	4.5	10	0.74	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Barium	58	10	0.84	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Beryllium	ND	5.0	0.37	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Cadmium	ND	5.0	0.63	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Total Chromium	5.3	10	0.81	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Cobalt	2.4	10	0.19	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Copper	13	10	0.78	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Lead	2.8	10	0.29	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Mercury	ND	0.20	0.011	mg/kg	EPA 7471A	08/26/15 19:45	mel	
Molybdenum	1.2	10	0.46	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Nickel	5.0	10	0.48	mg/kg	EPA 6020	08/25/15 17:41	ERA	J
Selenium	ND	10	2.4	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Silver	ND	10	0.30	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Thallium	ND	50	0.19	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Vanadium	20	10	0.76	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Zinc	43	10	1.7	mg/kg	EPA 6020	08/25/15 17:41	ERA	
Diesel Range Organics by EPA 8015								
DRO (C10-C28)	200	20	10	mg/kg	EPA 8015B	08/27/15 22:14	jhr	
ORO (C29-C44)	170	20	10	mg/kg	EPA 8015B	08/27/15 22:14	jhr	NBLK10 x
Surrogate: o-Terphenyl	135	% 10-140			EPA 8015B	08/27/15 22:14	jhr	
Surrogate: n-Tricantane	220	% 21-147			EPA 8015B	08/27/15 22:14	jhr	NSint
Gasoline Range Organics by EPA 8015								
Gasoline Range Organics	2.9	5.0	2.5	mg/kg	EPA 8015B	08/26/15 17:47	eec	J, NHCno
Surrogate: a,a,a-Trifluorotoluene	88.5	% 16-130			EPA 8015B	08/26/15 17:47	eec	

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Analytical Report: Page 12 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-04

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 2B-1.0	Solid	08/19/15 14:26	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
1,1,1-Trichloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1,2-Trichloroethane	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1-Dichloroethane	ND	10	1.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1-Dichloroethene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,1-Dichloropropene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2,3-Trichloropropane	ND	20	5.8	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2,4-Trimethylbenzene	230	10	2.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2-Dichlorobenzene	ND	10	4.3	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2-Dichloroethane	ND	10	3.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,2-Dichloropropane	ND	10	2.5	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,3,5-Trimethylbenzene	58	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,3-Dichlorobenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,3-Dichloropropane	ND	10	2.8	ug/kg	EPA 8260B	08/27/15 23:55	jes	
1,4-Dichlorobenzene	ND	10	2.1	ug/kg	EPA 8260B	08/27/15 23:55	jes	
2,2-Dichloropropane	ND	20	2.5	ug/kg	EPA 8260B	08/27/15 23:55	jes	
2-Butanone(MEK)	ND	100	50	ug/kg	EPA 8260B	08/27/15 23:55	jes	
2-Chlorotoluene	ND	10	2.3	ug/kg	EPA 8260B	08/27/15 23:55	jes	
4-Chlorotoluene	ND	10	2.0	ug/kg	EPA 8260B	08/27/15 23:55	jes	
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Acetone	290	200	100	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Acrylonitrile	ND	200	7.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Benzene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Bromobenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Bromochloromethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Bromodichloromethane	ND	10	1.1	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Bromoform	16	10	8.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Bromomethane	ND	50	25	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Carbon Tetrachloride	ND	10	1.8	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Chlorobenzene	ND	10	3.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	

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Analytical Report: Page 13 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number

B5H2128-04

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 2B-1.0	Solid	08/19/15 14:26	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Chloroethane	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Chloroform	ND	10	1.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Chloromethane	ND	10	5.0	ug/kg	EPA 8260B	08/27/15 23:55	jes	
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Dibromochloromethane	ND	10	3.1	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Dibromochloropropane	ND	100	13	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Dibromomethane	ND	10	3.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Dichlorodifluoromethane	ND	10	7.0	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Ethylbenzene	ND	10	2.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Hexachlorobutadiene	ND	30	15	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Methyl tert Butyl Ether	ND	100	3.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Methylene Chloride	ND	60	30	ug/kg	EPA 8260B	08/27/15 23:55	jes	
n-Butylbenzene	560	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
n-Propylbenzene	14	10	2.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Naphthalene	77	10	7.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
sec-Butylbenzene	30	10	2.3	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Styrene	ND	10	1.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
tert-Butylbenzene	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Tetrachloroethene	ND	10	2.6	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Toluene	ND	10	3.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Trichloroethene	ND	10	2.9	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Trichlorofluoromethane	ND	100	2.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Vinyl Chloride	ND	10	4.2	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Xylenes (m+p)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Xylenes (ortho)	ND	10	2.4	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Xylenes (total)	ND	20	4.7	ug/kg	EPA 8260B	08/27/15 23:55	jes	
Surrogate: 1,2-Dichloroethane-d4	109	%	75-120		EPA 8260B	08/27/15 23:55	jes	
Surrogate: Bromofluorobenzene	110	%	83-120		EPA 8260B	08/27/15 23:55	jes	
Surrogate: Toluene-d8	102	%	80-125		EPA 8260B	08/27/15 23:55	jes	

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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 14 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-05

Sample Description Matrix Sampled Date/Time Received Date/Time
 Site 3 Liquid 08/19/15 15:06 08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Cations								
Total Hardness	21	3.0	0.35	mg/L	SM 2340B/EPA	08/24/15 16:27	kya	
Calcium	7.3	1.0	0.50	mg/L	EPA 200.7	08/24/15 16:27	kya	
Magnesium	0.71	1.0	0.50	mg/L	EPA 200.7	08/24/15 16:27	kya	J
Sodium	2.5	1.0	0.50	mg/L	EPA 200.7	08/24/15 16:27	kya	
Potassium	1.2	1.0	0.50	mg/L	EPA 200.7	08/24/15 16:27	kya	
Anions								
Total Alkalinity	22	3.0	1.7	mg/L	SM 2320B	08/24/15 15:15	sll	
Hydroxide	ND	3.0	1.7	mg/L	SM 2320B	08/24/15 15:15	sll	
Carbonate	ND	3.0	1.7	mg/L	SM 2320B	08/24/15 15:15	sll	
Bicarbonate	27	3.0	1.7	mg/L	SM 2320B	08/24/15 15:15	sll	
Chloride	1.3	1.0	1.0	mg/L	EPA 300.0	08/21/15 03:53	ams	
Sulfate	4.5	0.50	0.37	mg/L	EPA 300.0	08/21/15 03:53	ams	
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	08/21/15 09:55	ybv	
Specific Conductance	63	1.0	1.0	umhos/cm	SM 2510 B	08/21/15 09:55	ybv	
Solids								
Total Dissolved Solids	38	10	5.8	mg/L	SM 2540C	08/21/15 14:30	cdcs	
Surfactants								
MBAS	ND	0.08	0.08	mg/L	SM 5540C	08/21/15 14:55	aam	
Metals and Metalloids								
Antimony	ND	10	0.40	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Arsenic	2.6	5.0	1.2	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Barium	4.4	20	0.18	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Beryllium	ND	10	0.26	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Cadmium	ND	2.0	0.26	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Total Chromium	ND	20	1.9	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Cobalt	ND	10	0.19	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Copper	1.4	10	0.64	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Iron	220	50	9.4	ug/L	EPA 200.7	08/24/15 16:28	kya	



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Analytical Report: Page 15 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-05

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 3	Liquid	08/19/15 15:06	08/20/15 16:22

<u>Analyte(s)</u>	<u>Result</u>	<u>RDL</u>	<u>MDL</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>	<u>Flag</u>
Metals and Metalloids								
Lead	ND	10	0.19	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Manganese	4.9	10	0.52	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Mercury	ND	0.20	0.055	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Molybdenum	7.4	10	0.17	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Nickel	ND	20	0.20	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Selenium	ND	5.0	1.4	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Silver	ND	10	0.22	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Thallium	ND	200	0.20	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Vanadium	ND	10	4.1	ug/L	EPA 200.8	08/24/15 16:31	ERA	
Zinc	2.4	10	1.5	ug/L	EPA 200.8	08/24/15 16:31	ERA	J
Organochlorine Pesticides and PCBs by EPA 608								
4,4'-DDD	ND	0.11	0.016	ug/L	EPA 608	08/25/15 20:02	acw	
4,4'-DDE	ND	0.040	0.010	ug/L	EPA 608	08/25/15 20:02	acw	
4,4'-DDT	ND	0.12	0.016	ug/L	EPA 608	08/25/15 20:02	acw	
a-BHC	ND	0.030	0.015	ug/L	EPA 608	08/25/15 20:02	acw	
Aldrin	ND	0.040	0.0094	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1016	ND	1.0	0.17	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1221	ND	1.0	1.0	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1232	ND	1.0	0.81	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1242	ND	1.0	0.70	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1248	ND	1.0	0.73	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1254	ND	1.0	0.92	ug/L	EPA 608	08/25/15 20:02	acw	
Aroclor 1260	ND	1.0	0.063	ug/L	EPA 608	08/25/15 20:02	acw	
b-BHC	ND	0.060	0.050	ug/L	EPA 608	08/25/15 20:02	acw	
Chlordane	ND	0.10	0.045	ug/L	EPA 608	08/25/15 20:02	acw	
d-BHC	ND	0.090	0.038	ug/L	EPA 608	08/25/15 20:02	acw	
Dieldrin	ND	0.020	0.011	ug/L	EPA 608	08/25/15 20:02	acw	
Endosulfan I	ND	0.14	0.011	ug/L	EPA 608	08/25/15 20:02	acw	
Endosulfan II	ND	0.040	0.017	ug/L	EPA 608	08/25/15 20:02	acw	
Endosulfan Sulfate	ND	0.66	0.46	ug/L	EPA 608	08/25/15 20:02	acw	
Endrin	ND	0.060	0.010	ug/L	EPA 608	08/25/15 20:02	acw	
Endrin Aldehyde	ND	0.23	0.073	ug/L	EPA 608	08/25/15 20:02	acw	

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Analytical Report: Page 16 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number

B5H2128-05

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 3	Liquid	08/19/15 15:06	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Organochlorine Pesticides and PCBs by EPA 608								
Heptachlor	ND	0.010	0.010	ug/L	EPA 608	08/25/15 20:02	acw	
Heptachlor Epoxide	ND	0.010	0.010	ug/L	EPA 608	08/25/15 20:02	acw	
Lindane	ND	0.040	0.020	ug/L	EPA 608	08/25/15 20:02	acw	
Methoxychlor	ND	1.8	0.46	ug/L	EPA 608	08/25/15 20:02	acw	
Toxaphene	ND	1.0	0.83	ug/L	EPA 608	08/25/15 20:02	acw	
Surrogate: Decachlorobiphenyl	93.4	% 5-138			EPA 608	08/25/15 20:02	acw	
Diesel Range Organics by EPA 8015								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	08/25/15 01:39	jhr	
ORO (C29-C44)	ND	5.0	2.2	mg/L	EPA 8015B	08/25/15 01:39	jhr	
Surrogate: o-Terphenyl	69.3	% 45-127			EPA 8015B	08/25/15 01:39	jhr	
Surrogate: n-Triacontane	65.8	% 41-118			EPA 8015B	08/25/15 01:39	jhr	
Gasoline Range Organics by EPA 8015								
Gasoline Range Organics	ND	0.050	0.024	mg/L	EPA 8015B	08/21/15 20:02	eec	
Surrogate: a,a,a-Trifluorotoluene	64.0	% 19-130			EPA 8015B	08/21/15 20:02	eec	
Chlorinated Herbicides by EPA 8151A								
2,4,5-T	ND	2.0	0.17	ug/L	EPA 8151A	08/31/15 18:07	acw	
2,4-D	ND	10	0.17	ug/L	EPA 8151A	08/31/15 18:07	acw	
2,4,5-TP Silvex	ND	1.0	0.15	ug/L	EPA 8151A	08/31/15 18:07	acw	
2,4-DB	ND	5.0	0.47	ug/L	EPA 8151A	08/31/15 18:07	acw	
Dalapon	ND	10	1.2	ug/L	EPA 8151A	08/31/15 18:07	acw	
Dicamba	ND	1.5	0.19	ug/L	EPA 8151A	08/31/15 18:07	acw	
Dichlorprop	ND	5.0	0.18	ug/L	EPA 8151A	08/31/15 18:07	acw	
Dinoseb	ND	1.0	0.36	ug/L	EPA 8151A	08/31/15 18:07	acw	
Surrogate: DCAA	99.6	% 77-115			EPA 8151A	08/31/15 18:07	acw	

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 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
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 Address: 14440 Civic Drive, Ste. 200
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Analytical Report: Page 17 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-05

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 3	Liquid	08/19/15 15:06	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	08/21/15 16:18	eec	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	08/21/15 16:18	eec	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	08/21/15 16:18	eec	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	EPA 8260B	08/21/15 16:18	eec	
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	08/21/15 16:18	eec	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	08/21/15 16:18	eec	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	08/21/15 16:18	eec	
Acrolein	ND	10	1.1	ug/L	EPA 8260B	08/21/15 16:18	eec	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	08/21/15 16:18	eec	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	08/21/15 16:18	eec	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	08/21/15 16:18	eec	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	08/21/15 16:18	eec	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	08/21/15 16:18	eec	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	08/21/15 16:18	eec	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	08/21/15 16:18	eec	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	08/21/15 16:18	eec	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	08/21/15 16:18	eec	

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 EPA no. CA00102
 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 18 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: **B5H2128**

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5H2128-05

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
Site 3	Liquid	08/19/15 15:06	08/20/15 16:22

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	08/21/15 16:18	eec	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	08/21/15 16:18	eec	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	08/21/15 16:18	eec	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	EPA 8260B	08/21/15 16:18	eec	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	08/21/15 16:18	eec	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	08/21/15 16:18	eec	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	08/21/15 16:18	eec	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	08/21/15 16:18	eec	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	08/21/15 16:18	eec	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	08/21/15 16:18	eec	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	08/21/15 16:18	eec	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	08/21/15 16:18	eec	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	08/21/15 16:18	eec	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	08/21/15 16:18	eec	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	08/21/15 16:18	eec	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	08/21/15 16:18	eec	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	08/21/15 16:18	eec	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	08/21/15 16:18	eec	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	08/21/15 16:18	eec	
Tetrachloroethene	ND	0.50	0.23	ug/L	EPA 8260B	08/21/15 16:18	eec	
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	08/21/15 16:18	eec	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	08/21/15 16:18	eec	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	08/21/15 16:18	eec	
Trichloroethene	ND	0.50	0.25	ug/L	EPA 8260B	08/21/15 16:18	eec	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	08/21/15 16:18	eec	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	08/21/15 16:18	eec	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	08/21/15 16:18	eec	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	08/21/15 16:18	eec	
Surrogate: 1,2-Dichloroethane-d4	105	%	80-120		EPA 8260B	08/21/15 16:18	eec	
Surrogate: Bromofluorobenzene	97.7	%	80-120		EPA 8260B	08/21/15 16:18	eec	
Surrogate: Toluene-d8	98.1	%	80-120		EPA 8260B	08/21/15 16:18	eec	

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Analytical Report: Page 19 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: **B5H2128**

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Cations - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Flag
Batch 5H24088 - EPA 200.2 SOP M02C									
Blank (5H24088-BLK1)					Prepared & Analyzed: 08/24/15				
Calcium	ND	1.0	0.50	mg/L					
Magnesium	ND	1.0	0.50	mg/L					
Sodium	ND	1.0	0.50	mg/L					
Potassium	ND	1.0	0.50	mg/L					
LCS (5H24088-BS1)					Prepared & Analyzed: 08/24/15				
Calcium	17.6	1.0	0.50	mg/L	17.0	104	85-115		
Magnesium	17.0	1.0	0.50	mg/L	17.0	99.8	85-115		
Sodium	32.8	1.0	0.50	mg/L	33.7	97.6	85-115		
Potassium	16.2	1.0	0.50	mg/L	17.0	95.7	85-115		
LCS Dup (5H24088-BSD1)					Prepared & Analyzed: 08/24/15				
Calcium	18.2	1.0	0.50	mg/L	17.0	107	85-115	3.37	20
Magnesium	17.4	1.0	0.50	mg/L	17.0	103	85-115	2.87	20
Sodium	34.0	1.0	0.50	mg/L	33.7	101	85-115	3.57	20
Potassium	16.8	1.0	0.50	mg/L	17.0	99.0	85-115	3.44	20
Matrix Spike (5H24088-MS1)					Source: B5H2108-01 Prepared & Analyzed: 08/24/15				
Calcium	32.1	1.0	0.50	mg/L	17.0	16.0	94.7	70-130	
Magnesium	27.2	1.0	0.50	mg/L	17.0	11.2	93.9	70-130	
Sodium	270	1.0	0.50	mg/L	33.7	253	51.1	70-130	QM-3x
Potassium	42.3	1.0	0.50	mg/L	17.0	27.8	85.2	70-130	



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Analytical Report: Page 20 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Flag
Batch 5H20069 - Analyzed as Received IC										
Blank (5H20069-BLK1) Prepared & Analyzed: 08/21/15										
Sulfate	ND	0.50	0.37	mg/L						
Chloride	ND	1.0	1.0	mg/L						
LCS (5H20069-BS1) Prepared & Analyzed: 08/20/15										
Sulfate	47.4	0.50	0.37	mg/L	50.0	94.8	90-110			
Chloride	50.6	1.0	1.0	mg/L	50.0	101	90-110			
Matrix Spike (5H20069-MS1) Source: B5H2104-01 Prepared & Analyzed: 08/21/15										
Sulfate	275	0.50	0.37	mg/L	100	190	84.8	75-128		QOcal
Chloride	214	1.0	1.0	mg/L	50.0	170	88.1	84-129		
Matrix Spike (5H20069-MS2) Source: B5H2138-01 Prepared & Analyzed: 08/21/15										
Sulfate	95.2	0.50	0.37	mg/L	100	ND	95.1	75-128		
Chloride	49.6	1.0	1.0	mg/L	50.0	ND	99.0	84-129		
Matrix Spike Dup (5H20069-MSD1) Source: B5H2104-01 Prepared & Analyzed: 08/21/15										
Sulfate	277	0.50	0.37	mg/L	100	190	86.2	75-128	0.507	20 QOcal
Chloride	216	1.0	1.0	mg/L	50.0	170	91.3	84-129	0.748	20
Batch 5H24083 - Analyzed as received										
Blank (5H24083-BLK1) Prepared & Analyzed: 08/24/15										
Total Alkalinity	ND	3.0	1.7	mg/L						
Hydroxide	ND	3.0	1.7	mg/L						
Carbonate	ND	3.0	1.7	mg/L						
Bicarbonate	ND	3.0	1.7	mg/L						



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Analytical Report: Page 21 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Flag
Batch 5H24083 - Analyzed as received										
LCS (5H24083-BS1)					Prepared & Analyzed: 08/24/15					
Total Alkalinity	466	3.0	1.7	mg/L	472	98.7	95-105			
Carbonate	274	3.0	1.7	mg/L	272	101	95-105			
Duplicate (5H24083-DUP1)					Source: B5H1941-01 Prepared & Analyzed: 08/24/15					
Total Alkalinity	211	3.0	1.7	mg/L	200			5.35	20	
Hydroxide	ND	3.0	1.7	mg/L	ND				20	
Carbonate	ND	3.0	1.7	mg/L	ND				20	
Bicarbonate	257	3.0	1.7	mg/L	244			5.19	20	
Duplicate (5H24083-DUP2)					Source: B5H1954-01 Prepared & Analyzed: 08/24/15					
Total Alkalinity	110	3.0	1.7	mg/L	110			0.00	20	
Hydroxide	ND	3.0	1.7	mg/L	ND				20	
Carbonate	ND	3.0	1.7	mg/L	ND				20	
Bicarbonate	134	3.0	1.7	mg/L	134			0.00	20	



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Analytical Report: Page 22 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Aggregate Properties - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21008 - Analyzed as received										
LCS (5H21008-BS1)					Prepared & Analyzed: 08/21/15					
pH	3.9	1.0	1.0	pH Units	4.00	97.8	97.5-102.5			
Specific Conductance	1350	1.0	1.0	umhos/cm	1410	95.5	90-110			
Duplicate (5H21008-DUP1)					Source: B5H2131-01 Prepared & Analyzed: 08/21/15					
pH	7.0	1.0	1.0	pH Units	7.0			0.00	5	
Specific Conductance	762	1.0	1.0	umhos/cm	772			1.30	20	
Duplicate (5H21008-DUP2)					Source: B5H2134-01 Prepared & Analyzed: 08/21/15					
pH	7.8	1.0	1.0	pH Units	7.8			0.129	5	
Specific Conductance	656	1.0	1.0	umhos/cm	650			0.919	20	



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Analytical Report: Page 23 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21043 - Analyzed as received										
Blank (5H21043-BLK1)										
Prepared & Analyzed: 08/21/15										
Total Dissolved Solids	ND	10	5.8	mg/L						
LCS (5H21043-BS1)										
Prepared & Analyzed: 08/21/15										
Total Dissolved Solids	763	20	12	mg/L	746	102	90-110			
Duplicate (5H21043-DUP1)										
Source: B5H1834-01 Prepared & Analyzed: 08/21/15										
Total Dissolved Solids	332	20	12	mg/L	323			2.75	20	
Duplicate (5H21043-DUP2)										
Source: B5H1839-04 Prepared & Analyzed: 08/21/15										
Total Dissolved Solids	481	20	12	mg/L	508			5.46	20	



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Analytical Report: Page 24 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Surfactants - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H20071 - Solvent Extraction.										
Blank (5H20071-BLK1)					Prepared & Analyzed: 08/21/15					
MBAS	ND	0.08	0.08	mg/L						
LCS (5H20071-BS1)					Prepared & Analyzed: 08/21/15					
MBAS	0.314	0.08	0.08	mg/L	0.320	98.1	62-123			
Matrix Spike (5H20071-MS1)					Source: B5H2128-05 Prepared & Analyzed: 08/21/15					
MBAS	0.231	0.08	0.08	mg/L	0.400	ND	57.8	47-132		
Matrix Spike Dup (5H20071-MSD1)					Source: B5H2128-05 Prepared & Analyzed: 08/21/15					
MBAS	0.219	0.08	0.08	mg/L	0.400	ND	54.8	47-132	5.33	20



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Analytical Report: Page 25 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Flag
Batch 5H24074 - EPA 200.2 SOP M02C										
Blank (5H24074-BLK1)					Prepared & Analyzed: 08/24/15					
Antimony	ND	10	0.40	ug/L						
Arsenic	ND	5.0	1.2	ug/L						
Barium	ND	20	0.18	ug/L						
Beryllium	ND	10	0.26	ug/L						
Cadmium	ND	2.0	0.26	ug/L						
Total Chromium	ND	20	1.9	ug/L						
Cobalt	ND	10	0.19	ug/L						
Copper	ND	10	0.64	ug/L						
Lead	ND	10	0.19	ug/L						
Manganese	ND	10	0.52	ug/L						
Mercury	ND	0.20	0.055	ug/L						
Molybdenum	0.301	10	0.17	ug/L						
Nickel	ND	20	0.20	ug/L						
Selenium	ND	5.0	1.4	ug/L						
Silver	ND	10	0.22	ug/L						
Thallium	ND	200	0.20	ug/L						
Vanadium	ND	10	4.1	ug/L						
Zinc	ND	10	1.5	ug/L						
LCS (5H24074-BS1)					Prepared & Analyzed: 08/24/15					
Antimony	348	10	0.40	ug/L	334	104	85-115			
Arsenic	340	5.0	1.2	ug/L	334	102	85-115			
Barium	328	20	0.18	ug/L	334	98.3	85-115			
Beryllium	345	10	0.26	ug/L	334	103	85-115			
Cadmium	337	2.0	0.26	ug/L	334	101	85-115			
Total Chromium	330	20	1.9	ug/L	334	99.0	85-115			
Cobalt	333	10	0.19	ug/L	334	99.9	85-115			
Copper	317	10	0.64	ug/L	334	95.1	85-115			
Lead	367	10	0.19	ug/L	334	110	85-115			
Manganese	326	10	0.52	ug/L	334	97.6	85-115			
Mercury	2.89	0.20	0.055	ug/L	2.78	104	85-115			
Molybdenum	352	10	0.17	ug/L	334	106	85-115			
Nickel	316	20	0.20	ug/L	334	94.8	85-115			
Selenium	318	5.0	1.4	ug/L	334	95.3	85-115			
Silver	313	10	0.22	ug/L	334	93.7	85-115			
Thallium	335	200	0.20	ug/L	334	101	85-115			
Vanadium	348	10	4.1	ug/L	334	104	85-115			

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 EPA no. CA00102
 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
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 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 26 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H24074 - EPA 200.2 SOP M02C										
LCS (5H24074-BS1)										
					Prepared & Analyzed: 08/24/15					
Zinc	335	10	1.5	ug/L	334	100	85-115			
LCS Dup (5H24074-BSD1)										
					Prepared & Analyzed: 08/24/15					
Antimony	367	10	0.40	ug/L	334	110	85-115	5.18	20	
Arsenic	355	5.0	1.2	ug/L	334	106	85-115	4.40	20	
Barium	346	20	0.18	ug/L	334	104	85-115	5.42	20	
Beryllium	357	10	0.26	ug/L	334	107	85-115	3.53	20	
Cadmium	349	2.0	0.26	ug/L	334	105	85-115	3.51	20	
Total Chromium	348	20	1.9	ug/L	334	104	85-115	5.14	20	
Cobalt	349	10	0.19	ug/L	334	105	85-115	4.58	20	
Copper	332	10	0.64	ug/L	334	99.6	85-115	4.64	20	
Lead	378	10	0.19	ug/L	334	113	85-115	3.06	20	
Manganese	341	10	0.52	ug/L	334	102	85-115	4.76	20	
Mercury	3.08	0.20	0.055	ug/L	2.78	111	85-115	6.42	20	
Molybdenum	370	10	0.17	ug/L	334	111	85-115	4.94	20	
Nickel	330	20	0.20	ug/L	334	99.1	85-115	4.34	20	
Selenium	327	5.0	1.4	ug/L	334	98.1	85-115	2.92	20	
Silver	337	10	0.22	ug/L	334	101	85-115	7.43	20	
Thallium	345	200	0.20	ug/L	334	104	85-115	2.97	20	
Vanadium	367	10	4.1	ug/L	334	110	85-115	5.29	20	
Zinc	349	10	1.5	ug/L	334	105	85-115	4.14	20	
Matrix Spike (5H24074-MS1)										
					Source: B5H2108-01 Prepared & Analyzed: 08/24/15					
Antimony	398	10	0.40	ug/L	334	0.656	119	70-130		
Arsenic	393	5.0	1.2	ug/L	334	3.42	117	70-130		
Barium	373	20	0.18	ug/L	334	2.29	111	70-130		
Beryllium	379	10	0.26	ug/L	334	ND	114	70-130		
Cadmium	376	2.0	0.26	ug/L	334	ND	113	70-130		
Total Chromium	355	20	1.9	ug/L	334	ND	107	70-130		
Cobalt	380	10	0.19	ug/L	334	ND	114	70-130		
Copper	353	10	0.64	ug/L	334	3.13	105	70-130		
Lead	394	10	0.19	ug/L	334	ND	118	70-130		
Manganese	355	10	0.52	ug/L	334	1.57	106	70-130		
Mercury	3.30	0.20	0.055	ug/L	2.78	ND	119	70-130		
Molybdenum	427	10	0.17	ug/L	334	7.80	126	70-130		
Nickel	354	20	0.20	ug/L	334	1.68	106	70-130		
Selenium	348	5.0	1.4	ug/L	334	ND	104	70-130		



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Analytical Report: Page 27 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Flag
Batch 5H24074 - EPA 200.2 SOP M02C										
Matrix Spike (5H24074-MS1)			Source: B5H2108-01		Prepared & Analyzed: 08/24/15					
Silver	349	10	0.22	ug/L	334	ND	105	70-130		
Thallium	357	200	0.20	ug/L	334	0.869	107	70-130		
Vanadium	403	10	4.1	ug/L	334	4.92	120	70-130		
Zinc	388	10	1.5	ug/L	334	21.4	110	70-130		
Batch 5H24088 - EPA 200.2 SOP M02C										
Blank (5H24088-BLK1)			Prepared & Analyzed: 08/24/15							
Iron	ND	50	9.4	ug/L						
LCS (5H24088-BS1)			Prepared & Analyzed: 08/24/15							
Iron	774	50	9.4	ug/L	751		103	85-115		
LCS Dup (5H24088-BSD1)			Prepared & Analyzed: 08/24/15							
Iron	802	50	9.4	ug/L	751		107	85-115	3.48	20
Matrix Spike (5H24088-MS1)			Source: B5H2108-01		Prepared & Analyzed: 08/24/15					
Iron	781	50	9.4	ug/L	751	19.3	101	70-130		



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Analytical Report: Page 28 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H25065 - EPA 200.2 SOP M02C										
Blank (5H25065-BLK1)				Prepared & Analyzed: 08/25/15						
Antimony	ND	10	0.19	mg/kg						
Arsenic	ND	10	0.74	mg/kg						
Barium	ND	10	0.84	mg/kg						
Beryllium	ND	5.0	0.37	mg/kg						
Cadmium	ND	5.0	0.63	mg/kg						
Total Chromium	ND	10	0.81	mg/kg						
Cobalt	ND	10	0.19	mg/kg						
Copper	ND	10	0.78	mg/kg						
Lead	ND	10	0.29	mg/kg						
Molybdenum	ND	10	0.46	mg/kg						
Nickel	ND	10	0.48	mg/kg						
Selenium	ND	10	2.4	mg/kg						
Silver	ND	10	0.30	mg/kg						
Thallium	ND	50	0.19	mg/kg						
Vanadium	ND	10	0.76	mg/kg						
Zinc	ND	10	1.7	mg/kg						
LCS (5H25065-BS1)				Prepared & Analyzed: 08/25/15						
Antimony	212	10	0.19	mg/kg	200	106	69-129			
Arsenic	191	10	0.74	mg/kg	200	95.5	77-122			
Barium	194	10	0.84	mg/kg	200	97.1	73-122			
Beryllium	193	5.0	0.37	mg/kg	200	96.6	75-140			
Cadmium	199	5.0	0.63	mg/kg	200	99.7	74-129			
Total Chromium	192	10	0.81	mg/kg	200	96.2	71-137			
Cobalt	198	10	0.19	mg/kg	200	98.9	70-121			
Copper	193	10	0.78	mg/kg	200	96.6	71-129			
Lead	201	10	0.29	mg/kg	200	101	72-130			
Molybdenum	216	10	0.46	mg/kg	200	108	70-140			
Nickel	189	10	0.48	mg/kg	200	94.4	77-126			
Selenium	200	10	2.4	mg/kg	200	100	77-130			
Silver	196	10	0.30	mg/kg	200	98.2	66-131			
Thallium	192	50	0.19	mg/kg	200	95.8	76-126			
Vanadium	200	10	0.76	mg/kg	200	99.9	76-136			
Zinc	187	10	1.7	mg/kg	200	93.4	78-126			



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Analytical Report: Page 29 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H25065 - EPA 200.2 SOP M02C										
Matrix Spike (5H25065-MS1) Source: B5H2128-01 Prepared & Analyzed: 08/25/15										
Antimony	62.3	10	0.19	mg/kg	200	ND	31.2	39-143		QMint
Arsenic	194	10	0.74	mg/kg	200	4.36	94.7	69-125		
Barium	238	10	0.84	mg/kg	200	49.4	94.5	45-152		
Beryllium	187	5.0	0.37	mg/kg	200	ND	93.4	57-149		
Cadmium	194	5.0	0.63	mg/kg	200	ND	96.9	70-131		
Total Chromium	194	10	0.81	mg/kg	200	5.62	94.0	67-147		
Cobalt	192	10	0.19	mg/kg	200	2.31	95.1	61-121		
Copper	193	10	0.78	mg/kg	200	11.1	91.0	30-153		
Lead	193	10	0.29	mg/kg	200	5.87	93.8	57-134		
Molybdenum	211	10	0.46	mg/kg	200	6.32	102	61-150		
Nickel	185	10	0.48	mg/kg	200	4.30	90.3	60-135		
Selenium	202	10	2.4	mg/kg	200	ND	101	70-140		
Silver	184	10	0.30	mg/kg	200	ND	91.9	37-135		
Thallium	181	50	0.19	mg/kg	200	ND	90.4	65-130		
Vanadium	221	10	0.76	mg/kg	200	19.8	100	67-136		
Zinc	251	10	1.7	mg/kg	200	63.7	93.8	53-162		
Matrix Spike Dup (5H25065-MSD1) Source: B5H2128-01 Prepared & Analyzed: 08/25/15										
Antimony	77.3	10	0.19	mg/kg	200	ND	38.7	39-143	21.5	20 QMint
Arsenic	203	10	0.74	mg/kg	200	4.36	99.5	69-125	4.86	20
Barium	251	10	0.84	mg/kg	200	49.4	101	45-152	5.16	20
Beryllium	199	5.0	0.37	mg/kg	200	ND	99.7	57-149	6.48	20
Cadmium	204	5.0	0.63	mg/kg	200	ND	102	70-131	5.26	20
Total Chromium	203	10	0.81	mg/kg	200	5.62	98.5	67-147	4.48	20
Cobalt	201	10	0.19	mg/kg	200	2.31	99.1	61-121	4.14	20
Copper	200	10	0.78	mg/kg	200	11.1	94.3	30-153	3.39	20
Lead	207	10	0.29	mg/kg	200	5.87	100	57-134	6.57	20
Molybdenum	226	10	0.46	mg/kg	200	6.32	110	61-150	6.67	20
Nickel	193	10	0.48	mg/kg	200	4.30	94.2	60-135	4.11	20
Selenium	209	10	2.4	mg/kg	200	ND	104	70-140	3.20	20
Silver	191	10	0.30	mg/kg	200	ND	95.4	37-135	3.71	20
Thallium	192	50	0.19	mg/kg	200	ND	96.2	65-130	6.17	20
Vanadium	235	10	0.76	mg/kg	200	19.8	108	67-136	6.49	20
Zinc	254	10	1.7	mg/kg	200	63.7	95.0	53-162	0.976	20



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Analytical Report: Page 30 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H25065 - EPA 200.2 SOP M02C										
Reference (5H25065-SRM1)				Prepared & Analyzed: 08/25/15						
Antimony	12.8	10	0.19	mg/kg	11.3	113	0-200			
Arsenic	62.1	10	0.74	mg/kg	59.2	105	0-200			
Barium	12.8	10	0.84	mg/kg	11.3	113	0-200			
Beryllium	4.77	5.0	0.37	mg/kg	5.29	90.2	0-200			J
Cadmium	91.7	5.0	0.63	mg/kg	94.0	97.6	0-200			
Total Chromium	56.3	10	0.81	mg/kg	50.5	111	0-200			
Cobalt	12.0	10	0.19	mg/kg	11.7	102	0-200			
Copper	60.6	10	0.78	mg/kg	61.5	98.6	0-200			
Lead	120	10	0.29	mg/kg	114	105	0-200			
Molybdenum	51.1	10	0.46	mg/kg	46.5	110	0-200			
Nickel	43.5	10	0.48	mg/kg	43.2	101	0-200			
Selenium	95.6	10	2.4	mg/kg	94.8	101	0-200			
Silver	24.4	10	0.30	mg/kg	25.9	94.2	0-200			
Thallium	41.1	50	0.19	mg/kg	45.6	90.1	0-200			J
Vanadium	60.8	10	0.76	mg/kg	53.2	114	0-200			
Zinc	530	10	1.7	mg/kg	544	97.6	0-200			
Batch 5H26107 - EPA 7471A										
Blank (5H26107-BLK1)				Prepared & Analyzed: 08/26/15						
Mercury	ND	0.20	0.011	mg/kg						
LCS (5H26107-BS1)				Prepared & Analyzed: 08/26/15						
Mercury	0.320	0.20	0.011	mg/kg	0.334	95.7	78-120			
Matrix Spike (5H26107-MS1)				Source: B5H2128-01 Prepared & Analyzed: 08/26/15						
Mercury	0.332	0.20	0.011	mg/kg	0.334	0.0152	94.9	31-144		



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Project Name: CRWQCB - IFB #15-025-160
Project Number: Bishop Nursery - Bishop

Report Date: 01-Sep-2015

Work Order Number: B5H2128
Received on Ice (Y/N): Yes **Temp:** 4 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H26107 - EPA 7471A										
Matrix Spike Dup (5H26107-MSD1)										
				Source: B5H2128-01		Prepared & Analyzed: 08/26/15				
Mercury	0.332	0.20	0.011	mg/kg	0.334	0.0152	94.8	31-144	0.195	25



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Organochlorine Pesticides and PCBs by EPA 608 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H24069 - EPA 3510C										
Blank (5H24069-BLK1)										
Prepared: 08/24/15 Analyzed: 08/25/15										
4,4'-DDD	ND	0.11	0.016	ug/L						
4,4'-DDE	ND	0.040	0.010	ug/L						
4,4'-DDT	ND	0.12	0.016	ug/L						
a-BHC	ND	0.030	0.015	ug/L						
Aldrin	ND	0.040	0.0094	ug/L						
Aroclor 1016	ND	1.0	0.17	ug/L						
Aroclor 1221	ND	1.0	1.0	ug/L						
Aroclor 1232	ND	1.0	0.81	ug/L						
Aroclor 1242	ND	1.0	0.70	ug/L						
Aroclor 1248	ND	1.0	0.73	ug/L						
Aroclor 1254	ND	1.0	0.92	ug/L						
Aroclor 1260	ND	1.0	0.063	ug/L						
b-BHC	ND	0.060	0.050	ug/L						
Chlordane	ND	0.10	0.045	ug/L						
d-BHC	ND	0.090	0.038	ug/L						
Dieldrin	ND	0.020	0.011	ug/L						
Endosulfan I	ND	0.14	0.011	ug/L						
Endosulfan II	ND	0.040	0.017	ug/L						
Endosulfan Sulfate	ND	0.66	0.46	ug/L						
Endrin	ND	0.060	0.010	ug/L						
Endrin Aldehyde	ND	0.23	0.073	ug/L						
Heptachlor	ND	0.010	0.010	ug/L						
Heptachlor Epoxide	ND	0.010	0.010	ug/L						
Lindane	ND	0.040	0.020	ug/L						
Methoxychlor	ND	1.8	0.46	ug/L						
Toxaphene	ND	1.0	0.83	ug/L						
Surrogate: Decachlorobiphenyl	0.292			ug/L	0.300	97.2	5-138			



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Analytical Report: Page 33 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Organochlorine Pesticides and PCBs by EPA 608 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H24069 - EPA 3510C										
LCS (5H24069-BS1)										
					Prepared: 08/24/15 Analyzed: 08/25/15					
4,4'-DDD	0.505	0.11	0.016	ug/L	0.500	101	31-141			
4,4'-DDE	0.466	0.040	0.010	ug/L	0.500	93.3	30-145			
4,4'-DDT	0.639	0.12	0.016	ug/L	0.500	128	25-160			
a-BHC	0.476	0.030	0.015	ug/L	0.500	95.2	37-134			
Aldrin	0.467	0.040	0.0094	ug/L	0.500	93.5	42-122			
b-BHC	0.513	0.060	0.050	ug/L	0.500	103	17-147			
d-BHC	0.395	0.090	0.038	ug/L	0.500	79.0	19-140			
Dieldrin	0.533	0.020	0.011	ug/L	0.500	107	36-146			
Endosulfan I	0.569	0.14	0.011	ug/L	0.500	114	45-153			
Endosulfan II	0.539	0.040	0.017	ug/L	0.500	108	5-202			
Endrin	0.539	0.060	0.010	ug/L	0.500	108	30-147			
Endrin Aldehyde	0.547	0.23	0.073	ug/L	0.500	109	44-123			
Heptachlor	0.479	0.010	0.010	ug/L	0.500	95.9	34-111			
Heptachlor Epoxide	0.492	0.010	0.010	ug/L	0.500	98.4	37-142			
Lindane	0.482	0.040	0.020	ug/L	0.500	96.4	32-127			
Methoxychlor	2.03	1.8	0.46	ug/L	2.00	102	39-138			
Surrogate: Decachlorobiphenyl	0.368			ug/L	0.300	123	5-138			
LCS Dup (5H24069-BSD1)										
					Prepared: 08/24/15 Analyzed: 08/25/15					
4,4'-DDD	0.500	0.11	0.016	ug/L	0.500	100	31-141	0.990	40	
4,4'-DDE	0.449	0.040	0.010	ug/L	0.500	89.7	30-145	3.88	40	
4,4'-DDT	0.556	0.12	0.016	ug/L	0.500	111	25-160	13.9	40	
a-BHC	0.450	0.030	0.015	ug/L	0.500	90.0	37-134	5.64	40	
Aldrin	0.463	0.040	0.0094	ug/L	0.500	92.6	42-122	0.982	40	
b-BHC	0.477	0.060	0.050	ug/L	0.500	95.4	17-147	7.24	40	
d-BHC	0.370	0.090	0.038	ug/L	0.500	73.9	19-140	6.69	40	
Dieldrin	0.504	0.020	0.011	ug/L	0.500	101	36-146	5.61	40	
Endosulfan I	0.551	0.14	0.011	ug/L	0.500	110	45-153	3.24	40	
Endosulfan II	0.506	0.040	0.017	ug/L	0.500	101	5-202	6.15	40	
Endrin	0.498	0.060	0.010	ug/L	0.500	99.6	30-147	7.96	40	
Endrin Aldehyde	0.502	0.23	0.073	ug/L	0.500	100	44-123	8.61	40	
Heptachlor	0.460	0.010	0.010	ug/L	0.500	92.1	34-111	4.07	40	
Heptachlor Epoxide	0.476	0.010	0.010	ug/L	0.500	95.3	37-142	3.29	40	
Lindane	0.457	0.040	0.020	ug/L	0.500	91.5	32-127	5.23	40	
Methoxychlor	1.79	1.8	0.46	ug/L	2.00	89.5	39-138	12.6	40	J



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Organochlorine Pesticides and PCBs by EPA 608 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H24069 - EPA 3510C										
LCS Dup (5H24069-BSD1)										
Prepared: 08/24/15 Analyzed: 08/25/15										
Surrogate: Decachlorobiphenyl	0.336		ug/L	0.300		112	5-138			
Matrix Spike (5H24069-MS1)										
Source: B5H2128-05 Prepared: 08/24/15 Analyzed: 08/25/15										
4,4'-DDD	0.508	0.11	0.016	ug/L	0.526	ND	96.6	31-141		
4,4'-DDE	0.461	0.040	0.010	ug/L	0.526	ND	87.6	30-145		
4,4'-DDT	0.574	0.12	0.016	ug/L	0.526	ND	109	25-160		
a-BHC	0.483	0.030	0.015	ug/L	0.526	ND	91.8	37-134		
Aldrin	0.550	0.040	0.0094	ug/L	0.526	ND	105	42-122		
b-BHC	0.506	0.060	0.050	ug/L	0.526	ND	96.1	17-147		
d-BHC	0.398	0.090	0.038	ug/L	0.526	ND	75.3	19-140		
Dieldrin	0.537	0.020	0.011	ug/L	0.526	ND	102	36-146		
Endosulfan I	0.569	0.14	0.011	ug/L	0.526	ND	108	45-153		
Endosulfan II	0.531	0.040	0.017	ug/L	0.526	ND	101	5-202		
Endrin	0.534	0.060	0.010	ug/L	0.526	ND	101	30-147		
Endrin Aldehyde	0.530	0.23	0.073	ug/L	0.526	ND	101	5-131		
Heptachlor	0.517	0.010	0.010	ug/L	0.526	ND	98.3	34-111		
Heptachlor Epoxide	0.500	0.010	0.010	ug/L	0.526	ND	95.1	37-142		
Lindane	0.490	0.040	0.020	ug/L	0.526	ND	93.2	32-127		
Methoxychlor	1.94	1.8	0.46	ug/L	2.11	ND	92.2	5-121		
Surrogate: Decachlorobiphenyl	0.256		ug/L	0.316		81.2	5-138			



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Diesel Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Flag
Batch 5H21042 - Microextraction										
Blank (5H21042-BLK1) Prepared: 08/21/15 Analyzed: 08/24/15										
DRO (C10-C28)	ND	5.0	0.78	mg/L						
ORO (C29-C44)	ND	5.0	2.2	mg/L						
Surrogate: o-Terphenyl	1.8			mg/L	2.14	83.3	45-127			
Surrogate: n-Triacontane	1.2			mg/L	1.57	75.0	41-118			
LCS (5H21042-BS1) Prepared: 08/21/15 Analyzed: 08/24/15										
DRO (C10-C28)	23.9	5.0	0.78	mg/L	28.6	83.5	47-124			
ORO (C29-C44)	22.4	5.0	2.2	mg/L	28.6	78.5	50-119			
Surrogate: o-Terphenyl	1.8			mg/L	2.14	81.8	45-127			
Surrogate: n-Triacontane	1.4			mg/L	1.57	88.2	41-118			
LCS Dup (5H21042-BSD1) Prepared: 08/21/15 Analyzed: 08/25/15										
DRO (C10-C28)	25.3	5.0	0.78	mg/L	28.6	88.5	47-124	5.80	20	
ORO (C29-C44)	24.0	5.0	2.2	mg/L	28.6	84.1	50-119	6.89	20	
Surrogate: o-Terphenyl	1.8			mg/L	2.14	82.7	45-127			
Surrogate: n-Triacontane	1.4			mg/L	1.57	90.7	41-118			
Matrix Spike (5H21042-MS1) Source: B5H2128-05 Prepared: 08/21/15 Analyzed: 08/25/15 Q nes										
DRO (C10-C28)	26.2	5.0	0.78	mg/L	28.6	ND	91.7	41-117		
ORO (C29-C44)	23.4	5.0	2.2	mg/L	28.6	ND	81.8	43-111		
Surrogate: o-Terphenyl	1.8			mg/L	2.14		86.1	45-127		
Surrogate: n-Triacontane	1.5			mg/L	1.57		96.4	41-118		
Batch 5H27010 - Microextraction										
Blank (5H27010-BLK1) Prepared & Analyzed: 08/27/15										
DRO (C10-C28)	ND	10	5.0	mg/kg						
ORO (C29-C44)	6.02	10	5.0	mg/kg						J
Surrogate: o-Terphenyl	1.2			mg/kg	1.88		63.0	10-140		
Surrogate: n-Triacontane	0.86			mg/kg	1.38		62.9	21-147		



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Diesel Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H27010 - Microextraction										
LCS (5H27010-BS1)					Prepared & Analyzed: 08/27/15					
DRO (C10-C28)	27.4	10	5.0	mg/kg	40.0	68.5	42-110			
ORO (C29-C44)	32.0	10	5.0	mg/kg	40.0	80.0	44-116			
Surrogate: o-Terphenyl	1.3			mg/kg	1.88	70.5	10-140			
Surrogate: n-Triacontane	1.2			mg/kg	1.38	84.0	21-147			
LCS Dup (5H27010-BSD1)					Prepared & Analyzed: 08/27/15					
DRO (C10-C28)	28.8	10	5.0	mg/kg	40.0	72.0	42-110	5.01	40	
ORO (C29-C44)	32.5	10	5.0	mg/kg	40.0	81.3	44-116	1.59	40	
Surrogate: o-Terphenyl	1.4			mg/kg	1.88	73.3	10-140			
Surrogate: n-Triacontane	1.3			mg/kg	1.38	93.0	21-147			
Matrix Spike (5H27010-MS1)					Source: B5H2128-02 Prepared & Analyzed: 08/27/15					
DRO (C10-C28)	92.3	20	10	mg/kg	40.0	40.4	130	14-136		
ORO (C29-C44)	188	20	10	mg/kg	40.0	95.4	NR	18-139		QMint
Surrogate: o-Terphenyl	1.2			mg/kg	1.88	65.5	10-140			
Surrogate: n-Triacontane	2.7			mg/kg	1.38	200	21-147			QSout
Matrix Spike Dup (5H27010-MSD1)					Source: B5H2128-02 Prepared & Analyzed: 08/27/15					
DRO (C10-C28)	121	20	10	mg/kg	40.0	40.4	NR	14-136	26.7	40 QMSD
ORO (C29-C44)	285	20	10	mg/kg	40.0	95.4	NR	18-139	41.0	40 QMint, QOcal
Surrogate: o-Terphenyl	1.4			mg/kg	1.88	77.2	10-140			
Surrogate: n-Triacontane	3.8			mg/kg	1.38	NR	21-147			QSout



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Gasoline Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Flag
Batch 5H21010 - Purge and Trap										
Blank (5H21010-BLK1) Prepared & Analyzed: 08/21/15										
Gasoline Range Organics	ND	0.050	0.024	mg/L						
Surrogate: a,a,a-Trifluorotoluene	0.14			mg/L	0.215	66.5	19-130			
LCS (5H21010-BS1) Prepared & Analyzed: 08/21/15										
Gasoline Range Organics	2.80	0.050	0.024	mg/L	2.32	121	62-135			
Surrogate: a,a,a-Trifluorotoluene	0.24			mg/L	0.215	113	19-130			
LCS Dup (5H21010-BSD1) Prepared & Analyzed: 08/21/15										
Gasoline Range Organics	2.74	0.050	0.024	mg/L	2.32	118	62-135	2.39	40	
Surrogate: a,a,a-Trifluorotoluene	0.24			mg/L	0.215	111	19-130			
Matrix Spike (5H21010-MS1) Source: B5H0959-01 Prepared & Analyzed: 08/21/15										
Gasoline Range Organics	2.79	0.050	0.024	mg/L	2.50	ND	111	56-123		
Surrogate: a,a,a-Trifluorotoluene	0.24			mg/L	0.215	111	19-130			
Matrix Spike Dup (5H21010-MSD1) Source: B5H0959-01 Prepared & Analyzed: 08/21/15										
Gasoline Range Organics	3.10	0.050	0.024	mg/L	2.50	ND	124	56-123	10.7	40 QMSD
Surrogate: a,a,a-Trifluorotoluene	0.24			mg/L	0.215	112	19-130			
Batch 5H25111 - Purge and Trap										
Blank (5H25111-BLK1) Prepared & Analyzed: 08/25/15										
Gasoline Range Organics	ND	5.0	2.5	mg/kg						
Surrogate: a,a,a-Trifluorotoluene	2.9			mg/kg	4.30	67.9	16-130			
LCS (5H25111-BS1) Prepared & Analyzed: 08/25/15										
Gasoline Range Organics	60.5	5.0	2.5	mg/kg	50.0	121	58-137			
Surrogate: a,a,a-Trifluorotoluene	4.8			mg/kg	4.30	112	16-130			



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Gasoline Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H25111 - Purge and Trap										
LCS Dup (5H25111-BSD1)					Prepared & Analyzed: 08/25/15					
Gasoline Range Organics	63.6	5.0	2.5	mg/kg	50.0	127	58-137	5.03	40	
Surrogate: a,a,a-Trifluorotoluene	4.9			mg/kg	4.30	113	16-130			
Matrix Spike (5H25111-MS1)					Source: B5H2128-01 Prepared & Analyzed: 08/25/15					
Gasoline Range Organics	41.9	5.0	2.5	mg/kg	50.0	ND	83.7	22-111		
Surrogate: a,a,a-Trifluorotoluene	4.0			mg/kg	4.30	93.0	16-130			
Matrix Spike Dup (5H25111-MSD1)					Source: B5H2128-01 Prepared & Analyzed: 08/25/15					
Gasoline Range Organics	42.4	5.0	2.5	mg/kg	50.0	ND	84.7	22-111	1.20	40
Surrogate: a,a,a-Trifluorotoluene	3.8			mg/kg	4.30	88.5	16-130			



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Chlorinated Herbicides by EPA 8151A - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Flag
Batch 5H24080 - Microextraction										
Blank (5H24080-BLK1)				Prepared: 08/24/15 Analyzed: 08/31/15						
2,4,5-T	ND	2.0	0.17	ug/L						
2,4-D	ND	10	0.17	ug/L						
2,4,5-TP Silvex	ND	1.0	0.15	ug/L						
2,4-DB	ND	5.0	0.47	ug/L						
Dalapon	ND	10	1.2	ug/L						
Dicamba	ND	1.5	0.19	ug/L						
Dichlorprop	ND	5.0	0.18	ug/L						
Dinoseb	ND	1.0	0.36	ug/L						
Surrogate: DCAA	22.9			ug/L	25.0	91.7	77-115			
LCS (5H24080-BS1)				Prepared: 08/24/15 Analyzed: 08/31/15						
2,4,5-T	4.30	2.0	0.17	ug/L	5.00	86.0	80-120			
2,4-D	3.69	10	0.17	ug/L	5.00	73.8	76-114			QLout, J
2,4,5-TP Silvex	4.93	1.0	0.15	ug/L	5.00	98.6	80-120			
2,4-DB	4.99	5.0	0.47	ug/L	5.00	99.8	65-127			J
Dalapon	4.54	10	1.2	ug/L	5.00	90.8	80-113			J
Dicamba	5.04	1.5	0.19	ug/L	5.00	101	80-120			
Dichlorprop	5.52	5.0	0.18	ug/L	5.00	110	74-117			
Dinoseb	6.21	1.0	0.36	ug/L	5.00	124	73-119			QLout
Surrogate: DCAA	24.2			ug/L	25.0	96.6	77-115			
LCS Dup (5H24080-BSD1)				Prepared: 08/24/15 Analyzed: 08/31/15						
2,4,5-T	4.39	2.0	0.17	ug/L	5.00	87.7	80-120	2.00	20	
2,4-D	3.65	10	0.17	ug/L	5.00	73.1	76-114	0.980	20	QLout, J
2,4,5-TP Silvex	5.04	1.0	0.15	ug/L	5.00	101	80-120	2.17	20	
2,4-DB	5.23	5.0	0.47	ug/L	5.00	105	65-127	4.72	20	
Dalapon	4.87	10	1.2	ug/L	5.00	97.4	80-113	7.01	20	J
Dicamba	5.19	1.5	0.19	ug/L	5.00	104	80-120	2.93	20	
Dichlorprop	5.64	5.0	0.18	ug/L	5.00	113	74-117	2.06	20	
Dinoseb	6.38	1.0	0.36	ug/L	5.00	128	73-119	2.78	20	QLout
Surrogate: DCAA	23.7			ug/L	25.0	94.9	77-115			



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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
Blank (5H21011-BLK1)										
Prepared & Analyzed: 08/21/15										
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L						
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L						
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L						
1,1-Dichloroethane	ND	0.50	0.098	ug/L						
1,1-Dichloroethene	ND	0.50	0.12	ug/L						
1,1-Dichloropropene	ND	0.50	0.14	ug/L						
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L						
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L						
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L						
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L						
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L						
1,2-Dichloroethane	ND	0.50	0.21	ug/L						
1,2-Dichloropropane	ND	0.50	0.19	ug/L						
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L						
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L						
1,3-Dichloropropane	ND	0.50	0.22	ug/L						
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L						
2,2-Dichloropropane	ND	0.50	0.49	ug/L						
2-Butanone(MEK)	ND	3.0	1.2	ug/L						
2-Chlorotoluene	ND	0.50	0.092	ug/L						
4-Chlorotoluene	ND	0.50	0.095	ug/L						
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L						
Acrolein	ND	10	1.1	ug/L						
Acrylonitrile	ND	10	1.2	ug/L						
Benzene	ND	0.50	0.14	ug/L						
Bromobenzene	ND	0.50	0.22	ug/L						
Bromochloromethane	ND	0.50	0.33	ug/L						
Bromodichloromethane	ND	0.50	0.11	ug/L						
Bromoform	ND	1.0	0.50	ug/L						
Bromomethane	ND	0.50	0.48	ug/L						
Carbon Tetrachloride	ND	0.50	0.15	ug/L						
Chlorobenzene	ND	0.50	0.23	ug/L						
Chloroethane	ND	0.50	0.35	ug/L						
Chloroform	ND	0.50	0.46	ug/L						
Chloromethane	ND	0.50	0.36	ug/L						

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 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
Blank (5H21011-BLK1)					Prepared & Analyzed: 08/21/15					
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L						
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L						
Dibromochloromethane	ND	0.50	0.37	ug/L						
Dibromomethane	ND	0.50	0.16	ug/L						
Dichlorodifluoromethane	ND	0.50	0.18	ug/L						
Ethylbenzene	ND	0.50	0.26	ug/L						
Hexachlorobutadiene	ND	0.50	0.21	ug/L						
Isopropylbenzene	ND	0.50	0.36	ug/L						
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L						
Methylene Chloride	ND	3.0	0.15	ug/L						
Naphthalene	ND	0.50	0.44	ug/L						
n-Butylbenzene	ND	0.50	0.15	ug/L						
n-Propylbenzene	ND	0.50	0.15	ug/L						
sec-Butylbenzene	ND	0.50	0.12	ug/L						
Styrene	ND	0.50	0.22	ug/L						
tert-Butylbenzene	ND	0.50	0.21	ug/L						
Tetrachloroethene	ND	0.50	0.23	ug/L						
Toluene	ND	0.50	0.22	ug/L						
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L						
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L						
Trichloroethene	ND	0.50	0.25	ug/L						
Trichlorofluoromethane	ND	5.0	0.16	ug/L						
Vinyl Chloride	ND	0.50	0.13	ug/L						
Xylenes (m+p)	ND	0.50	0.36	ug/L						
Xylenes (ortho)	ND	0.50	0.41	ug/L						
Surrogate: 1,2-Dichloroethane-d4	10.2			ug/L	10.0		102		80-120	
Surrogate: Bromofluorobenzene	9.94			ug/L	10.0		99.4		80-120	
Surrogate: Toluene-d8	9.78			ug/L	10.0		97.8		80-120	



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
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Analytical Report: Page 42 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
LCS (5H21011-BS1)				Prepared & Analyzed: 08/21/15						
1,1-Dichloroethane	27.0	0.50	0.098	ug/L	25.0	108	70-130			
1,1-Dichloroethene	27.5	0.50	0.12	ug/L	25.0	110	70-130			
1,4-Dichlorobenzene	24.2	0.50	0.072	ug/L	25.0	96.9	70-130			
Benzene	25.7	0.50	0.14	ug/L	25.0	103	70-130			
Bromodichloromethane	24.6	0.50	0.11	ug/L	25.0	98.4	70-130			
Bromoform	21.5	1.0	0.50	ug/L	25.0	86.0	70-130			
Chloroform	25.8	0.50	0.46	ug/L	25.0	103	70-130			
Dibromochloromethane	24.2	0.50	0.37	ug/L	25.0	96.8	70-130			
Ethylbenzene	25.7	0.50	0.26	ug/L	25.0	103	70-130			
Methyl tert Butyl Ether	25.3	5.0	0.43	ug/L	25.0	101	70-130			
Tetrachloroethene	28.0	0.50	0.23	ug/L	25.0	104	70-130			
Toluene	25.5	0.50	0.22	ug/L	25.0	102	70-130			
Trichloroethene	25.9	0.50	0.25	ug/L	25.0	104	70-130			
Vinyl Chloride	25.3	0.50	0.13	ug/L	25.0	101	70-130			
Xylenes (m+p)	51.1	0.50	0.36	ug/L	50.0	102	70-130			
Xylenes (ortho)	25.6	0.50	0.41	ug/L	25.0	103	70-130			
<i>Surrogate:</i>	9.99			ug/L	10.0	99.9	80-120			
<i>1,2-Dichloroethane-d4</i>										
<i>Surrogate:</i>	10.1			ug/L	10.0	101	80-120			
<i>Bromofluorobenzene</i>										
<i>Surrogate: Toluene-d8</i>	9.94			ug/L	10.0	99.4	80-120			
LCS Dup (5H21011-BS1)				Prepared & Analyzed: 08/21/15						
1,1-Dichloroethane	26.0	0.50	0.098	ug/L	25.0	104	70-130	3.59	20	
1,1-Dichloroethene	27.1	0.50	0.12	ug/L	25.0	108	70-130	1.43	20	
1,4-Dichlorobenzene	24.3	0.50	0.072	ug/L	25.0	97.2	70-130	0.247	20	
Benzene	25.2	0.50	0.14	ug/L	25.0	101	70-130	2.01	20	
Bromodichloromethane	24.6	0.50	0.11	ug/L	25.0	98.3	70-130	0.163	20	
Bromoform	21.5	1.0	0.50	ug/L	25.0	86.0	70-130	0.0465	20	
Chloroform	25.4	0.50	0.46	ug/L	25.0	102	70-130	1.72	20	
Dibromochloromethane	24.4	0.50	0.37	ug/L	25.0	97.7	70-130	0.946	20	
Ethylbenzene	25.9	0.50	0.26	ug/L	25.0	103	70-130	0.582	20	
Methyl tert Butyl Ether	25.4	5.0	0.43	ug/L	25.0	102	70-130	0.276	20	
Tetrachloroethene	26.3	0.50	0.23	ug/L	25.0	105	70-130	1.07	20	
Toluene	25.4	0.50	0.22	ug/L	25.0	102	70-130	0.196	20	
Trichloroethene	26.0	0.50	0.25	ug/L	25.0	104	70-130	0.270	20	
Vinyl Chloride	24.1	0.50	0.13	ug/L	25.0	96.3	70-130	5.06	20	

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CA ELAP No. 2698
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 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
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Analytical Report: Page 43 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
LCS Dup (5H21011-BSD1)					Prepared & Analyzed: 08/21/15					
Xylenes (m+p)	52.0	0.50	0.36	ug/L	50.0	104	70-130	1.84	20	
Xylenes (ortho)	25.8	0.50	0.41	ug/L	25.0	103	70-130	0.816	20	
Surrogate: 1,2-Dichloroethane-d4	9.78			ug/L	10.0	97.8	80-120			
Surrogate: Bromofluorobenzene	10.2			ug/L	10.0	102	80-120			
Surrogate: Toluene-d8	10.0			ug/L	10.0	100	80-120			
Duplicate (5H21011-DUP1)				Source: B5H2128-05 Prepared & Analyzed: 08/21/15						
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	ND				40	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	ND				40	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	ND				40	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	ND				40	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	ND				40	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	ND				40	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	ND				40	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	ND				40	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	ND				40	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	ND				40	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	ND				40	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	ND				40	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	ND				40	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	ND				40	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	ND				40	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	ND				40	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	ND				40	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	ND				40	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	ND				40	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	ND				40	
2-Chlorotoluene	ND	0.50	0.092	ug/L	ND				40	
4-Chlorotoluene	ND	0.50	0.095	ug/L	ND				40	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	ND				40	
Acrolein	ND	10	1.1	ug/L	ND				40	
Acrylonitrile	ND	10	1.2	ug/L	ND				40	
Benzene	ND	0.50	0.14	ug/L	ND				40	
Bromobenzene	ND	0.50	0.22	ug/L	ND				40	
Bromochloromethane	ND	0.50	0.33	ug/L	ND				40	

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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 44 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
Duplicate (5H21011-DUP1) Source: B5H2128-05 Prepared & Analyzed: 08/21/15										
Bromodichloromethane	ND	0.50	0.11	ug/L	ND				40	
Bromoform	ND	1.0	0.50	ug/L	ND				40	
Bromomethane	ND	0.50	0.48	ug/L	ND				40	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	ND				40	
Chlorobenzene	ND	0.50	0.23	ug/L	ND				40	
Chloroethane	ND	0.50	0.35	ug/L	ND				40	
Chloroform	ND	0.50	0.46	ug/L	ND				40	
Chloromethane	ND	0.50	0.36	ug/L	ND				40	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	ND				40	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	ND				40	
Dibromochloromethane	ND	0.50	0.37	ug/L	ND				40	
Dibromomethane	ND	0.50	0.16	ug/L	ND				40	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	ND				40	
Ethylbenzene	ND	0.50	0.26	ug/L	ND				40	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	ND				40	
Isopropylbenzene	ND	0.50	0.36	ug/L	ND				40	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	ND				40	
Methylene Chloride	ND	3.0	0.15	ug/L	ND				40	
Naphthalene	ND	0.50	0.44	ug/L	ND				40	
n-Butylbenzene	ND	0.50	0.15	ug/L	ND				40	
n-Propylbenzene	ND	0.50	0.15	ug/L	ND				40	
sec-Butylbenzene	ND	0.50	0.12	ug/L	ND				40	
Styrene	ND	0.50	0.22	ug/L	ND				40	
tert-Butylbenzene	ND	0.50	0.21	ug/L	ND				40	
Tetrachloroethene	ND	0.50	0.23	ug/L	ND				40	
Toluene	ND	0.50	0.22	ug/L	ND				40	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	ND				40	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	ND				40	
Trichloroethene	ND	0.50	0.25	ug/L	ND				40	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	ND				40	
Vinyl Chloride	ND	0.50	0.13	ug/L	ND				40	
Xylenes (m+p)	ND	0.50	0.36	ug/L	ND				40	
Xylenes (ortho)	ND	0.50	0.41	ug/L	ND				40	
Surrogate: 1,2-Dichloroethane-d4		10.2		ug/L	10.0		102		80-120	



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Client Name: Regional WQCB, Lahontan Victorville Office
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Analytical Report: Page 45 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H21011 - Purge and Trap										
Duplicate (5H21011-DUP1)			Source: B5H2128-05 Prepared & Analyzed: 08/21/15							
Surrogate:	9.88		ug/L	10.0		98.8	80-120			
Bromofluorobenzene										
Surrogate: Toluene-d8	9.75		ug/L	10.0		97.5	80-120			
Matrix Spike (5H21011-MS1)			Source: B5H2117-02 Prepared & Analyzed: 08/21/15							
1,1-Dichloroethane	28.3	0.50	0.098	ug/L	25.0	ND	113	70-130		
1,1-Dichloroethene	30.3	0.50	0.12	ug/L	25.0	ND	121	70-130		
1,4-Dichlorobenzene	26.1	0.50	0.072	ug/L	25.0	ND	105	70-130		
Benzene	27.7	0.50	0.14	ug/L	25.0	ND	111	70-130		
Bromodichloromethane	99.0	0.50	0.11	ug/L	25.0	72.8	105	70-130		
Bromoform	24.2	1.0	0.50	ug/L	25.0	1.30	91.8	70-130		
Chloroform	171	0.50	0.46	ug/L	25.0	152	76.7	70-130		QOcal
Dibromochloromethane	50.4	0.50	0.37	ug/L	25.0	22.7	111	70-130		
Ethylbenzene	28.4	0.50	0.26	ug/L	25.0	ND	114	70-130		
Methyl tert Butyl Ether	27.6	5.0	0.43	ug/L	25.0	ND	111	70-130		
Tetrachloroethene	29.3	0.50	0.23	ug/L	25.0	ND	117	70-130		
Toluene	27.7	0.50	0.22	ug/L	25.0	ND	111	70-130		
Trichloroethene	28.3	0.50	0.25	ug/L	25.0	ND	113	70-130		
Vinyl Chloride	26.3	0.50	0.13	ug/L	25.0	0.190	105	70-130		
Xylenes (m+p)	57.1	0.50	0.36	ug/L	50.0	ND	114	70-130		
Xylenes (ortho)	27.9	0.50	0.41	ug/L	25.0	ND	112	70-130		
Surrogate:	9.86			ug/L	10.0		98.6	80-120		
1,2-Dichloroethane-d4										
Surrogate:	10.0			ug/L	10.0		100	80-120		
Bromofluorobenzene										
Surrogate: Toluene-d8	9.99			ug/L	10.0		99.9	80-120		
Batch 5H27025 - Purge and Trap										
Blank (5H27025-BLK1)			Prepared & Analyzed: 08/27/15							
1,1,1-Trichloroethane	ND	10	2.1	ug/kg						
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg						
1,1,2-Trichloroethane	ND	10	2.4	ug/kg						
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg						
1,1-Dichloroethane	ND	10	1.6	ug/kg						
1,1-Dichloroethene	ND	10	2.3	ug/kg						
1,1-Dichloropropene	ND	10	2.3	ug/kg						
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg						
1,2,3-Trichloropropane	ND	20	5.8	ug/kg						

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Analytical Report: Page 46 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap										
Blank (5H27025-BLK1)				Prepared & Analyzed: 08/27/15						
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg						
1,2,4-Trimethylbenzene	ND	10	2.9	ug/kg						
1,2-Dichlorobenzene	ND	10	4.3	ug/kg						
1,2-Dichloroethane	ND	10	3.4	ug/kg						
1,2-Dichloropropane	ND	10	2.5	ug/kg						
1,3,5-Trimethylbenzene	ND	10	2.4	ug/kg						
1,3-Dichlorobenzene	ND	10	2.2	ug/kg						
1,3-Dichloropropane	ND	10	2.8	ug/kg						
1,4-Dichlorobenzene	ND	10	2.1	ug/kg						
2,2-Dichloropropane	ND	20	2.5	ug/kg						
2-Butanone(MEK)	ND	100	50	ug/kg						
2-Chlorotoluene	ND	10	2.3	ug/kg						
4-Chlorotoluene	ND	10	2.0	ug/kg						
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg						
Acetone	ND	200	100	ug/kg						
Acrylonitrile	ND	200	7.9	ug/kg						
Benzene	ND	10	2.7	ug/kg						
Bromobenzene	ND	10	2.4	ug/kg						
Bromochloromethane	ND	10	3.6	ug/kg						
Bromodichloromethane	ND	10	1.1	ug/kg						
Bromoform	ND	10	8.7	ug/kg						
Bromomethane	ND	50	25	ug/kg						
Carbon Tetrachloride	ND	10	1.8	ug/kg						
Chlorobenzene	ND	10	3.2	ug/kg						
Chloroethane	ND	10	2.6	ug/kg						
Chloroform	ND	10	1.4	ug/kg						
Chloromethane	ND	10	5.0	ug/kg						
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg						
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg						
Dibromochloromethane	ND	10	3.1	ug/kg						
Dibromochloropropane	ND	100	13	ug/kg						
Dibromomethane	ND	10	3.6	ug/kg						
Dichlorodifluoromethane	ND	10	7.0	ug/kg						
Ethylbenzene	ND	10	2.2	ug/kg						
Hexachlorobutadiene	ND	30	15	ug/kg						
Methyl tert Butyl Ether	ND	100	3.2	ug/kg						

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Analytical Report: Page 47 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap										
Blank (5H27025-BLK1)					Prepared & Analyzed: 08/27/15					
Methylene Chloride	ND	60	30	ug/kg						
n-Butylbenzene	ND	10	2.4	ug/kg						
n-Propylbenzene	ND	10	2.6	ug/kg						
Naphthalene	ND	10	7.6	ug/kg						
sec-Butylbenzene	ND	10	2.3	ug/kg						
Styrene	ND	10	1.7	ug/kg						
tert-Butylbenzene	ND	10	2.4	ug/kg						
Tetrachloroethene	ND	10	2.6	ug/kg						
Toluene	ND	10	3.9	ug/kg						
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg						
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg						
Trichloroethene	ND	10	2.9	ug/kg						
Trichlorofluoromethane	ND	100	2.7	ug/kg						
Vinyl Chloride	ND	10	4.2	ug/kg						
Xylenes (m+p)	ND	20	4.7	ug/kg						
Xylenes (ortho)	ND	10	2.4	ug/kg						
Xylenes (total)	ND	20	4.7	ug/kg						
Surrogate:	50.5			ug/kg	46.5	109	75-120			
1,2-Dichloroethane-d4										
Surrogate:	46.2			ug/kg	46.5	99.4	83-120			
Bromofluorobenzene										
Surrogate: Toluene-d8	49.0			ug/kg	46.5	105	80-125			
LCS (5H27025-BS1)					Prepared & Analyzed: 08/27/15					
1,1-Dichloroethane	444	10	1.6	ug/kg	500	88.8	55-123			
1,1-Dichloroethene	354	10	2.3	ug/kg	500	70.9	22-136			
1,4-Dichlorobenzene	523	10	2.1	ug/kg	500	105	70-124			
Benzene	495	10	2.7	ug/kg	500	99.1	67-123			
Bromodichloromethane	515	10	1.1	ug/kg	500	103	79-120			
Bromoform	429	10	8.7	ug/kg	500	85.7	48-138			
Chloroform	527	10	1.4	ug/kg	500	105	70-130			
Dibromochloromethane	510	10	3.1	ug/kg	500	102	63-126			
Ethylbenzene	563	10	2.2	ug/kg	500	113	70-131			
Methyl tert Butyl Ether	446	100	3.2	ug/kg	500	89.2	64-125			
Tetrachloroethene	591	10	2.6	ug/kg	500	118	70-130			
Toluene	530	10	3.9	ug/kg	500	106	70-128			
Trichloroethene	552	10	2.9	ug/kg	500	110	73-130			

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CA ELAP No. 2698
 EPA no. CA00102
 LACSD No., 10119



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 48 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap										
LCS (5H27025-BS1)										
Prepared & Analyzed: 08/27/15										
Vinyl Chloride	346	10	4.2	ug/kg	500	69.2	27-130			
Xylenes (m+p)	1120	20	4.7	ug/kg	1000	112	70-130			
Xylenes (ortho)	555	10	2.4	ug/kg	500	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.0			ug/kg	46.5	107	75-120			
Surrogate: Bromofluorobenzene	49.8			ug/kg	46.5	107	83-120			
Surrogate: Toluene-d8	49.8			ug/kg	46.5	107	80-125			
LCS Dup (5H27025-BSD1)										
Prepared & Analyzed: 08/27/15										
1,1-Dichloroethane	414	10	1.6	ug/kg	500	82.8	55-123	6.98	20	
1,1-Dichloroethene	342	10	2.3	ug/kg	500	68.5	22-136	3.46	20	
1,4-Dichlorobenzene	520	10	2.1	ug/kg	500	104	70-124	0.654	20	
Benzene	471	10	2.7	ug/kg	500	94.1	67-123	5.14	20	
Bromodichloromethane	494	10	1.1	ug/kg	500	98.8	79-120	4.23	20	
Bromoform	421	10	8.7	ug/kg	500	84.3	48-138	1.70	20	
Chloroform	503	10	1.4	ug/kg	500	101	70-130	4.81	20	
Dibromochloromethane	489	10	3.1	ug/kg	500	97.7	63-126	4.35	20	
Ethylbenzene	547	10	2.2	ug/kg	500	109	70-131	2.76	20	
Methyl tert Butyl Ether	440	100	3.2	ug/kg	500	87.9	64-125	1.45	20	
Tetrachloroethene	564	10	2.6	ug/kg	500	113	70-130	4.52	20	
Toluene	508	10	3.9	ug/kg	500	102	70-128	4.13	20	
Trichloroethene	522	10	2.9	ug/kg	500	104	73-130	5.51	20	
Vinyl Chloride	336	10	4.2	ug/kg	500	67.3	27-130	2.75	20	
Xylenes (m+p)	1090	20	4.7	ug/kg	1000	109	70-130	2.38	20	
Xylenes (ortho)	536	10	2.4	ug/kg	500	107	70-130	3.44	20	
Surrogate: 1,2-Dichloroethane-d4	50.0			ug/kg	46.5	108	75-120			
Surrogate: Bromofluorobenzene	50.8			ug/kg	46.5	109	83-120			
Surrogate: Toluene-d8	49.3			ug/kg	46.5	106	80-125			



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 49 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap									
Duplicate (5H27025-DUP1) Source: B5H2128-01 Prepared & Analyzed: 08/27/15									
1,1,1-Trichloroethane	ND	10	2.1	ug/kg	ND			40	
1,1,1,2-Tetrachloroethane	ND	10	2.1	ug/kg	ND			40	
1,1,2-Trichloroethane	ND	10	2.4	ug/kg	ND			40	
1,1,2,2-Tetrachloroethane	ND	10	5.0	ug/kg	ND			40	
1,1-Dichloroethane	ND	10	1.6	ug/kg	ND			40	
1,1-Dichloroethane	ND	10	2.3	ug/kg	ND			40	
1,1-Dichloropropene	ND	10	2.3	ug/kg	ND			40	
1,2,3-Trichlorobenzene	ND	10	5.9	ug/kg	ND			40	
1,2,3-Trichloropropane	ND	20	5.8	ug/kg	ND			40	
1,2,4-Trichlorobenzene	ND	10	6.2	ug/kg	ND			40	
1,2,4-Trimethylbenzene	ND	10	2.9	ug/kg	ND			40	
1,2-Dichlorobenzene	ND	10	4.3	ug/kg	ND			40	
1,2-Dichloroethane	ND	10	3.4	ug/kg	ND			40	
1,2-Dichloropropane	ND	10	2.5	ug/kg	ND			40	
1,3,5-Trimethylbenzene	ND	10	2.4	ug/kg	ND			40	
1,3-Dichlorobenzene	ND	10	2.2	ug/kg	ND			40	
1,3-Dichloropropane	ND	10	2.8	ug/kg	ND			40	
1,4-Dichlorobenzene	ND	10	2.1	ug/kg	ND			40	
2,2-Dichloropropane	ND	20	2.5	ug/kg	ND			40	
2-Butanone(MEK)	ND	100	50	ug/kg	ND			40	
2-Chlorotoluene	ND	10	2.3	ug/kg	ND			40	
4-Chlorotoluene	ND	10	2.0	ug/kg	ND			40	
4-Methyl-2-Pentanone(MIBK)	ND	100	16	ug/kg	ND			40	
Acetone	100	200	100	ug/kg	ND			40	J
Acrylonitrile	ND	200	7.9	ug/kg	ND			40	
Benzene	ND	10	2.7	ug/kg	ND			40	
Bromobenzene	ND	10	2.4	ug/kg	ND			40	
Bromochloromethane	ND	10	3.6	ug/kg	ND			40	
Bromodichloromethane	ND	10	1.1	ug/kg	ND			40	
Bromoform	ND	10	8.7	ug/kg	ND			40	
Bromomethane	ND	50	25	ug/kg	ND			40	
Carbon Tetrachloride	ND	10	1.8	ug/kg	ND			40	
Chlorobenzene	ND	10	3.2	ug/kg	ND			40	
Chloroethane	ND	10	2.6	ug/kg	ND			40	
Chloroform	ND	10	1.4	ug/kg	ND			40	
Chloromethane	ND	10	5.0	ug/kg	ND			40	

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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 50 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap										
Duplicate (5H27025-DUP1)			Source: B5H2128-01		Prepared & Analyzed: 08/27/15					
cis-1,2-Dichloroethene	ND	10	1.9	ug/kg	ND				40	
cis-1,3-Dichloropropene	ND	10	1.7	ug/kg	ND				40	
Dibromochloromethane	ND	10	3.1	ug/kg	ND				40	
Dibromochloropropane	ND	100	13	ug/kg	ND				40	
Dibromomethane	ND	10	3.6	ug/kg	ND				40	
Dichlorodifluoromethane	ND	10	7.0	ug/kg	ND				40	
Ethylbenzene	ND	10	2.2	ug/kg	ND				40	
Hexachlorobutadiene	ND	30	15	ug/kg	ND				40	
Methyl tert Butyl Ether	ND	100	3.2	ug/kg	ND				40	
Methylene Chloride	ND	60	30	ug/kg	ND				40	
n-Butylbenzene	ND	10	2.4	ug/kg	ND				40	
n-Propylbenzene	ND	10	2.6	ug/kg	ND				40	
Naphthalene	ND	10	7.6	ug/kg	ND				40	
sec-Butylbenzene	ND	10	2.3	ug/kg	ND				40	
Styrene	ND	10	1.7	ug/kg	ND				40	
tert-Butylbenzene	ND	10	2.4	ug/kg	ND				40	
Tetrachloroethene	ND	10	2.6	ug/kg	ND				40	
Toluene	ND	10	3.9	ug/kg	ND				40	
trans-1,2-Dichloroethene	ND	10	2.7	ug/kg	ND				40	
trans-1,3-Dichloropropene	ND	10	1.5	ug/kg	ND				40	
Trichloroethene	ND	10	2.9	ug/kg	ND				40	
Trichlorofluoromethane	ND	100	2.7	ug/kg	ND				40	
Vinyl Chloride	ND	10	4.2	ug/kg	ND				40	
Xylenes (m+p)	ND	20	4.7	ug/kg	ND				40	
Xylenes (ortho)	ND	10	2.4	ug/kg	ND				40	
Xylenes (total)	ND	20	4.7	ug/kg	ND				40	
<i>Surrogate:</i>	<i>50.3</i>			<i>ug/kg</i>	<i>46.5</i>	<i>108</i>	<i>75-120</i>			
<i>1,2-Dichloroethane-d4</i>										
<i>Surrogate</i>	<i>48.0</i>			<i>ug/kg</i>	<i>46.5</i>	<i>103</i>	<i>83-120</i>			
<i>Bromofluorobenzene</i>										
<i>Surrogate: Toluene-d8</i>	<i>48.6</i>			<i>ug/kg</i>	<i>46.5</i>	<i>104</i>	<i>80-125</i>			



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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
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Analytical Report: Page 51 of 53
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5H27025 - Purge and Trap										
Matrix Spike (5H27025-MS1) Source: B5H2128-02 Prepared & Analyzed: 08/27/15										
1,1-Dichloroethane	381	10	1.6	ug/kg	500	ND	76.2	20-139		
1,1-Dichloroethene	304	10	2.3	ug/kg	500	ND	60.7	10-156		
1,4-Dichlorobenzene	484	10	2.1	ug/kg	500	ND	96.8	45-132		
Benzene	438	10	2.7	ug/kg	500	ND	87.7	19-143		
Bromodichloromethane	447	10	1.1	ug/kg	500	ND	89.5	20-133		
Bromoform	382	10	8.7	ug/kg	500	ND	76.4	10-139		
Chloroform	449	10	1.4	ug/kg	500	ND	89.8	19-140		
Dibromochloromethane	453	10	3.1	ug/kg	500	ND	90.6	11-135		
Ethylbenzene	499	10	2.2	ug/kg	500	ND	99.8	29-147		
Methyl tert Butyl Ether	424	100	3.2	ug/kg	500	ND	84.7	38-125		
Tetrachloroethene	503	10	2.6	ug/kg	500	ND	101	22-146		
Toluene	463	10	3.9	ug/kg	500	ND	92.5	25-144		
Trichloroethene	459	10	2.9	ug/kg	500	ND	91.9	18-145		
Vinyl Chloride	300	10	4.2	ug/kg	500	ND	60.1	10-150		
Xylenes (m+p)	1000	20	4.7	ug/kg	1000	ND	100	30-144		
Xylenes (ortho)	501	10	2.4	ug/kg	500	ND	100	34-143		
<i>Surrogate:</i>										
<i>1,2-Dichloroethane-d4</i>	50.0			ug/kg	46.5		108	75-120		
<i>Surrogate:</i>										
<i>Bromofluorobenzene</i>	49.6			ug/kg	46.5		107	83-120		
<i>Surrogate: Toluene-d8</i>	50.0			ug/kg	46.5		108	80-125		



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Client Name: Regional WQCB, Lahontan Victorville Office
Contact: Rebecca Phillips
Address: 14440 Civic Drive, Ste. 200
Victorville, CA 92392

Analytical Report: Page 52 of 53
Project Name: CRWQCB - IFB #15-025-160
Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded B5H2128-05

A-01 ORO range resembles weathered diesel

J Estimated value

NBLK10 Analyte was detected at 6.02 mg/kg in the Method Blank. Since sample result is equal to or greater than ten times the blank result, this bias is considered to be negligible.

NHCno The sample chromatographic pattern does NOT resemble the fuel standard used for quantitation.

NMint Due to matrix interference, the matrix spike and/or matrix spike duplicate performed on this sample did not meet laboratory acceptance criteria.

NSdil Sample dilution required due to high analyte concentration and/or matrix interference. The surrogate recovery for this sample is not available.

NSint Due to matrix interference, the surrogate recovery for this sample cannot be accurately quantified.

Q_nes Insufficient sample for the sample duplicate and/or MS/MSD analysis.

QLout The LCS and/or LCSD recovery did not meet laboratory acceptance criteria.

QM-3x Due to analyte concentration greater than or equal to 3 times the spike concentration, recoveries for the metal MS and/or MSD did not meet laboratory acceptance criteria.

QMint Due to matrix interference, the MS and/or MSD did not meet laboratory acceptance criteria.

QMSD The MS recovery and MS/MSD RPD met laboratory acceptance criteria. MSD recovery was not within range. MSD performed to assess precision data only.

QOcal The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

QSout Surrogate recoveries did not meet laboratory acceptance criteria.

ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / " : NELAP does not offer accreditation for this analyte/method/matrix combination



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Client Name: Regional WQCB, Lahontan Victorville Office
Contact: Rebecca Phillips
Address: 14440 Civic Drive, Ste. 200
Victorville, CA 92392

Analytical Report: Page 53 of 53
Project Name: CRWQCB - IFB #15-025-160
Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes **Temp:** 4 °C

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Digitally signed by: Cindy Waddell
DN: CN = Cindy Waddell C = US O = Babcock
Laboratories OU = Project Manager Assistant
Date: 2015.09.01 18:25:22 -0700'

cc:

e-MDL_No Alias.rpt

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Client Name: Regional WQCB, Lahontan Victorville Office
 Contact: Rebecca Phillips
 Address: 14440 Civic Drive, Ste. 200
 Victorville, CA 92392

Analytical Report: Page 1 of 1
 Project Name: CRWQCB - IFB #15-025-160
 Project Number: Bishop Nursery - Bishop

Work Order Number: B5H2128

Report Date: 01-Sep-2015

Received on Ice (Y/N): Yes Temp: 4 °C

Chain of Custody & Sample Information Record

E. S. Babcock & Sons, Inc. Environmental Laboratories

(951) 653-3351 FAX (951) 653-1662
 www.babcocklabs.com

Client: Lahontan Water Board		Contact: Jan Zimmerman		Phone No. 760/241-7376		
FAX No.		Email: jan.zimmerman@waterboards.ca.gov		Additional Reporting Requests <input type="checkbox"/> Include GC Data Package <input type="checkbox"/> FAN Results <input type="checkbox"/> Ecol Results <input type="checkbox"/> Size EDT <input type="checkbox"/> (Include Source Number in Notes)		
Project Name: Bishop Nursery		Turn Around Time: Routine		Analysis Requested		
Project Location: Bishop		Lab TAT Approval: By		Matrix		
Sampler Information		# of Containers & Preservatives		Notes		
Name: Jan Zimmerman		Total # of Containers		OR = Drinking Water		
Employer: Lahontan Water Board		Unpreserved		WR = Wastewater		
Signature:		H2SO4		GW = Groundwater		
		HCl		S = Soil		
		HNO3		SL = Sludge		
		NaOH		L = Liquid		
		NaOH/ZnAcetate		M = Microbiome		
		NH4Cl				
		MCAA				
Sample ID	Date	Time	Sample Type	Analysis Requested	Matrix	Notes
SITE 1A-0.5	8/19/15	1:56 PM	2	X X X X X	SOIL	POTENTIAL HIGH VOC/TPH
SITE 1B-1.0	8/19/15	2:07 PM	2	X X X X X	SOIL	POTENTIAL HIGH VOC/TPH
SITE 2A-0.5	8/19/15	2:20 PM	2	X X X X X	SOIL	POTENTIAL HIGH VOC/TPH
SITE 2B-1.0	8/19/15	2:26 PM	2	X X X X X	SOIL	POTENTIAL HIGH VOC/TPH
SITE 3	8/19/15	3:06 PM	7	X X X X X X X X	SURFACE WATER	
Relinquished By (Sign)	Print Name / Company	Date / Time	Received By (Sign)	Print Name / Company		
<i>[Signature]</i>	Karen O'Keefe HEC/Lahontan	8/21/15 2:30 PM	<i>[Signature]</i>	HEC/Lahontan Angie Brown/ESB		

Lab No. **B5H2128**
 AUG 20 2015
 Page 1 of 1

(For Lab Use Only)		Sample Integrity/Chain Receipt	
Sample(s) Submitted on Ice?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Temperature	4 °C
Custody Seal(s) Intact?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Coole Blank	<input type="checkbox"/>
Sample(s) Intact?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

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 EPA no. CA00102
 LACSD No., 10119

Presented below is a copy of the email Marvin Moskowitz, Inyo County Environmental Health Department sent to LADWP as a follow-up to the Bishop Home Street Nursery site visit and sampling event of August 19, 2015. The landowner has designated the lessee to conduct the cleanup.

Good Afternoon Scott;

I believe we have both seen the sampling results and follow-up letter from Lahontan regarding the Home Street Nursery site visit conducted on August 19, 2015. This office agrees with the conclusions reached by the Lahontan staff in that, while there was no indication of any significant contamination of groundwaters or surface waters, there are two areas of localized soil contamination that require remediation at this time.

As the Los Angeles Dept. of Water & Power is the landowner, I am requesting that a plan and time schedule be submitted to me for the remediation. This should be a fairly straightforward project, as contamination was localized and very near the surface. The two areas where we excavated and sampled during the site visit need to be deepened and expanded to allow removal of all contaminated soils. In my estimation, a hole two feet deep, and two feet in diameter may be sufficient at each of the two sites. When excavation is completed, one soil sample from each site should be collected and analyzed for the constituents of concern. The excavated soils from the first site appeared to be impacted only by diesel fuel, and as such, this soil could be taken to the Bishop-Sunland landfarm/landfill for treatment and ultimate disposal. The soil from the second site shows contamination from organics other than gasoline and diesel fuels and, as such, may not be taken to the Bishop-Sunland landfarm/landfill. This soil will need to be taken to an appropriate landfill facility. After it is determined that no further contamination exists, the holes may be backfilled with clean soil.

Please submit a workplan and time schedule within the next two weeks.

Thanks,

Marvin Moskowitz

Marvin Moskowitz
Director



Telephone (760) 878-0238
FAX (760) 878-0239

COUNTY OF INYO
ENVIRONMENTAL HEALTH SERVICES
P.O. BOX 427
INDEPENDENCE, CA 93526

October 28, 2015

Robert Kingston
Bishop Nursery
789 N. Home Street
Bishop, CA 93514

NOTIFICATION OF CASE CLOSURE FOR THE BISHOP NURSERY, 789 N. HOME STREET, BISHOP, CA, APN 008-090-02-03 – NO FURTHER ACTION REQUIRED

This letter confirms the completion of a site investigation and corrective action for the unauthorized discharge of gasoline and diesel fuel, as well as various volatile organic compounds (VOC's), at two localized locations on the Bishop Nursery property. Based on recent sampling results, as well as site investigations, it is the opinion of this department that there no longer exists any potential or real threat to human health or the environment, and that no further action related to the unauthorized release(s) at the site is required.

Release Discovery

This office received a citizen's complaint in July, 2015 of apparent soil contamination at the Bishop Nursery site. On August 19, 2015 a site investigation was conducted. The site visit was conducted by this department in conjunction with staff from the Lahontan Regional Water Quality Control Board. The complainee was also on site to show us the areas of possible soil contamination. There were two localized areas of stained soils near the southern boundary of the property. Soil samples were collected at the two sites by the Lahontan staff, from the surface and also from one foot below grade. Lahontan staff also sampled the nearby Bishop Creek. Sample results for the soil samples showed some soil contamination from total petroleum hydrocarbons, heavy metals and volatile organic compounds (VOC's). It should be noted that contamination levels were much lower in the samples collected one foot below grade as compared to the surface samples. This would tend to indicate that the depth of soil contamination was limited. Sample results from the Bishop Creek showed no contaminants of concern.

Remediation

A remediation plan was formulated by this office and additional excavation of the two sites was conducted by Bishop Nursery staff under this office's direct supervision. The soils were excavated to a depth of two feet, and approximately four feet in diameter. Removed soils were placed on tarps and

covered. Samples were collected at the bottom of the two excavations and sent to a CA approved laboratory for analysis. Results were all non-detect except for one sample indicating a minor amount of diesel contamination, just over the detectable limit. After sample results were reviewed, the nursery staff were notified that the excavations could be backfilled with clean soil and the excavated soils could be transported by a certified hazardous materials transporter to an appropriate disposal facility.

No Further Action Required Rationale

I believe a no further action required status is warranted at this site based on the following rationale:

- Contaminated soils have been removed,
- The site has been adequately characterized
- No water supply well, surface water or other receptors have been or is likely to be affected by the release; and
- The site currently presents no significant risk to human health or the environment.

Sincerely,



Marvin Moskowitz,
Director
Inyo County Environmental Health Services

cc: Scott Cimino, LADWP (by email)
Jim Tatum, City of Bishop (by email)
Terry Tye (by email)

Attachment 7

Drainage and Wastewater Report

DRAINAGE AND WASTEWATER REPORT

KINGSTON SUBDIVISION

APN 008-090-02

758 HOME STREET

BISHOP, CA

INYO COUNTY

PREPARED FOR

Bob Kingston

P.O. BOX 50644

Santa Barbara, CA 93150



triad/holmes associates

civil engineering
land surveying

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OCTOBER 27, 2015

THA #04-0570

Drainage & Wastewater Report

KINGSTON SUBDIVISION
TTM No. 250

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EXHIBITS

DRAINAGE EXHIBIT

STORMWATER AND WASTEWATER CALCULATIONS

PURPOSE:

The purpose of this report is to determine the existing and proposed stormwater flows and the capacity of the existing gutter and oil/water separator, and also to determine the anticipated wastewater flow from the project and capacity of the existing sewer main.

PROJECT DESCRIPTION:

The existing site is 2.75 acres in size and it currently being used as a nursery with associated nursery yard, building and paved parking lot. The proposed project includes a new road about 550 feet long, with a hammerhead at the terminus. The road will have curb, gutter and sidewalk on both sides. The subdivision will be comprised of 15 single family lots ranging in size from 5100 sf to 8200 sf. The project drains to Home Street, which collects surface runoff with two drop inlets and is run through a Stormwater Separator before draining to Bishop Creek. The sewer lateral from the project will connect to the existing 6" clay sewer main which runs east on Yaney Street.

ASSUMPTIONS AND DESIGN CRITERIA:

The City of Bishop has no formal design standards, but requested that a 25-year storm frequency be used in the analysis of the gutter capacity. Otherwise, common engineering practices were used including the following criteria:

Stormwater flow and gutter capacity

The recurrence interval for the design storm is a 25-year storm.

Rational Method is used to determine the peak design runoff flow, Q.

Runoff coefficient, C, is determined using Caltrans Highway Design Manual.

Time of concentration is determined by use of a nomograph for small drainage basins.

Rainfall intensity, I, is obtained from NOAA Atlas 14 for Bishop, CA.

Manning Channel Calculator software is used to determine gutter capacity.

Wastewater flow and pipe capacity

Average flow per dwelling unit is assumed to be 300 gallons per day.

Peak flow is determined per chart provided by Fair and Geyer in their text "Water Supply and Waste-Water Disposal".

Manning Pipe Calculator software is used to determine sewer main pipe capacity.

CONCLUSIONS:

Stormwater Runoff

The hydrologic calculations show that the 25-year design flow for the area which is tributary to the Home Street curb and gutter south of the Kingston Subdivision is 6.7 cubic feet/second (cfs). Based on the Manning's Channel calculator for a City standard curb and gutter running at a slope of 0.15%, the curb has a full-flow capacity of 6.92 cfs. At full-flow capacity, 0.50 foot deep, however, the storm water is spread across the entire half-width of the road. At a flow depth of 0.20 feet where the spread is minimal, the gutter capacity is only 0.30 cfs, which is much less than the 25-year runoff generated from the adjacent roads. Therefore, the existing gutters in Home Street are undersized to carry the 25-year flow for the existing improvements and cannot carry additional flow from the proposed development. Therefore, storm water runoff shall be caught and put in underground storm drain facilities before leaving the proposed subdivision and entering Home Street.

Stormwater Treatment

The existing hydrodynamic separator in Home Street is a Stormceptor STC 450. Using the design software provided by Stormceptor, and using a water quality treatment objective of 80% TSS removal, it was determined that the existing separator is undersized to treat the existing improvements which it currently serves. A tributary area which only encompasses the existing City streets of Rome Street, Home Street and Sierra Street is approximately 2.2 acres. The existing Stormceptor only provides 73% TSS removal for 2.2 acres of 100% impervious surface. Therefore, it will be necessary for the new subdivision to provide its own storm water treatment facility.

Wastewater flow

The hydraulic calculations for existing and projected wastewater flow and carrying capacity show that the existing 6" clay sewer main is more than sufficient for serving the proposed project.

Table 819.2B
Runoff Coefficients for
Developed Areas

Type of Drainage Area	Runoff Coefficient
Business:	
Downtown areas	0.70 - 0.95
Neighborhood areas	0.50 - 0.70
Residential:	
Single-family areas	0.30 - 0.50
Multi-units, detached	0.40 - 0.60
Multi-units, attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment dwelling areas	0.50 - 0.70
Industrial:	
Light areas	0.50 - 0.80
Heavy areas	0.60 - 0.90
Parks, cemeteries:	0.10 - 0.25
Playgrounds:	0.20 - 0.40
Railroad yard areas:	0.20 - 0.40
Unimproved areas:	0.10 - 0.30
Lawns:	
Sandy soil, flat, 2%	0.05 - 0.10
Sandy soil, average, 2-7%	0.10 - 0.15
Sandy soil, steep, 7%	0.15 - 0.20
Heavy soil, flat, 2%	0.13 - 0.17
Heavy soil, average, 2-7%	0.18 - 0.25
Heavy soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and walks	0.75 - 0.85
Roofs:	0.75 - 0.95

Before data on the specific characteristics to be examined can be properly analyzed, it must be arranged in a systematic manner. Several computer programs are available which may be used to systematically arrange data and perform the statistical computations.

Some common types of data groupings are as follows:

- Magnitude
- Time of Occurrence
- Geographic Location

Several standard frequency distributions have been studied extensively in the statistical analysis of hydrologic data. Those which have been found to be most useful are:

(1) *Log-Pearson Type III Distribution.* The popularity of the Log-Pearson III distribution is simply based on the fact that it very often fits the available data quite well, and it is flexible enough to be used with a wide variety of distributions. Because of this flexibility, the U.S. Water Resources Council recommends its use by all U.S. Government agencies as the standard distribution for flood frequency studies.

The three parameters necessary to describe the Log-Pearson III distribution are:

- Mean flow
- Standard deviation
- Coefficient of skew

Log-Pearson III distributions are usually plotted on log-normal probability graph paper for convenience even though the plotted frequency distribution may not be a straight line.

(2) *Log-normal Distribution.* The characteristics of the log-normal distribution are the same as those of the classical normal or Gaussian mathematical distribution except that the flood flow at a specified frequency is replaced with its logarithm and has a positive skew. Positive skew means that the distribution is skewed toward the high flows or extreme values

NOAA Atlas 14, Volume 6, Version 2 BISHOP AP

Station ID: 04-0822

Location name: Bishop, California, US*

Coordinates: 37.3711, -118.3581

Elevation:

Elevation (station metadata): 4102 ft*

* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

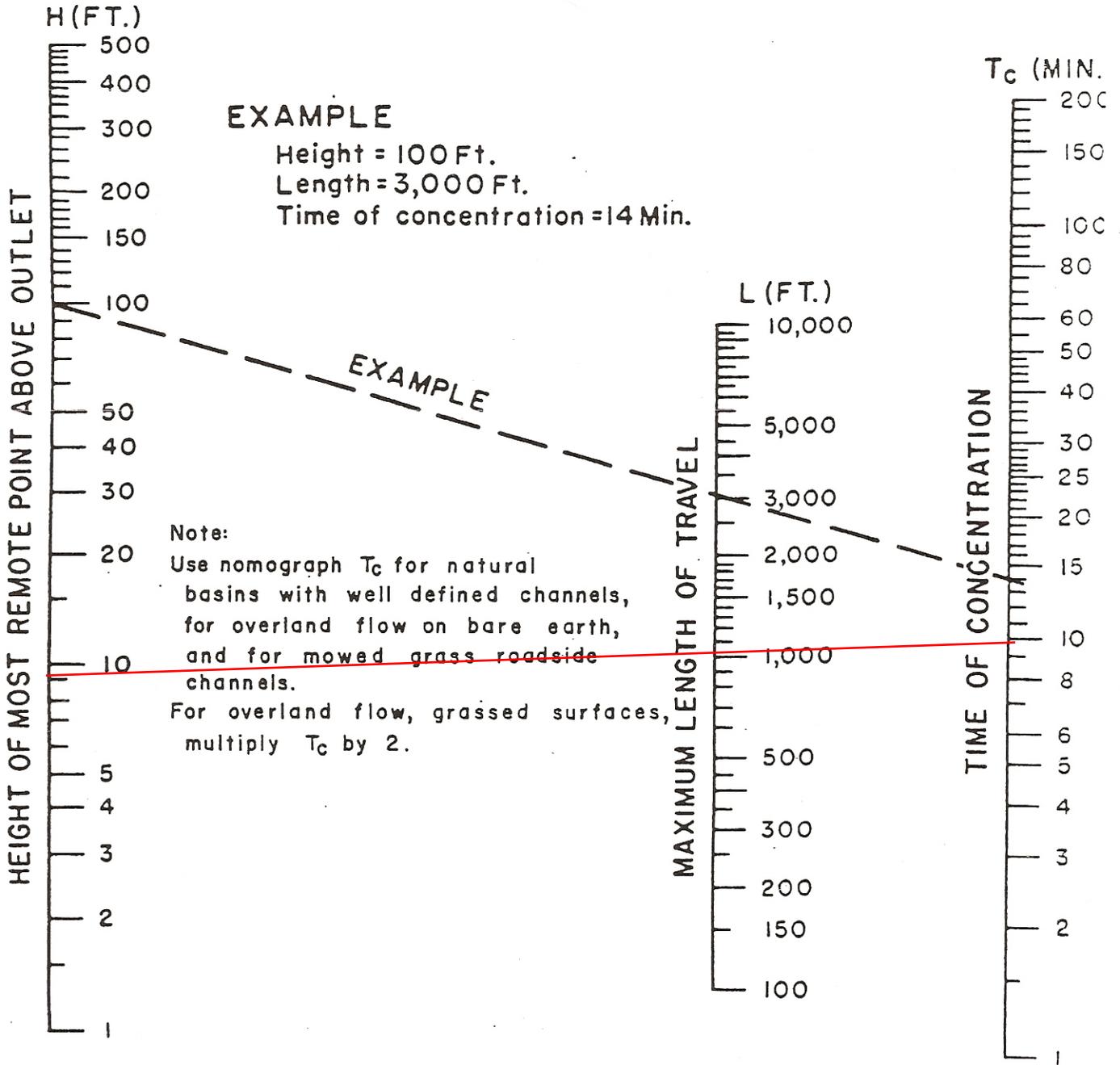
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.732 (0.600-0.888)	1.01 (0.828-1.22)	1.38 (1.14-1.69)	1.69 (1.39-2.09)	2.15 (1.69-2.74)	2.51 (1.94-3.28)	2.88 (2.17-3.86)	3.29 (2.41-4.54)	3.85 (2.71-5.54)	4.32 (2.93-6.43)
10-min	0.522 (0.432-0.636)	0.720 (0.594-0.876)	0.990 (0.816-1.21)	1.22 (0.996-1.50)	1.54 (1.22-1.96)	1.79 (1.39-2.35)	2.06 (1.56-2.77)	2.36 (1.73-3.25)	2.77 (1.94-3.98)	3.10 (2.09-4.61)
15-min	0.420 (0.348-0.512)	0.580 (0.480-0.708)	0.796 (0.656-0.976)	0.980 (0.800-1.21)	1.24 (0.980-1.58)	1.45 (1.12-1.89)	1.67 (1.26-2.23)	1.90 (1.39-2.62)	2.23 (1.56-3.20)	2.50 (1.69-3.72)
30-min	0.288 (0.240-0.352)	0.398 (0.330-0.486)	0.546 (0.450-0.668)	0.672 (0.550-0.828)	0.850 (0.672-1.09)	0.992 (0.768-1.29)	1.14 (0.862-1.53)	1.30 (0.954-1.79)	1.53 (1.07-2.20)	1.71 (1.16-2.55)
60-min	0.203 (0.168-0.247)	0.279 (0.231-0.341)	0.384 (0.317-0.469)	0.472 (0.386-0.582)	0.597 (0.472-0.762)	0.697 (0.539-0.910)	0.802 (0.605-1.07)	0.914 (0.670-1.26)	1.07 (0.753-1.54)	1.20 (0.814-1.79)
2-hr	0.158 (0.130-0.192)	0.216 (0.179-0.264)	0.294 (0.243-0.360)	0.360 (0.294-0.444)	0.451 (0.356-0.576)	0.522 (0.404-0.682)	0.596 (0.450-0.798)	0.674 (0.494-0.929)	0.782 (0.550-1.13)	0.868 (0.588-1.29)
3-hr	0.135 (0.112-0.165)	0.185 (0.153-0.226)	0.252 (0.208-0.308)	0.307 (0.251-0.379)	0.384 (0.303-0.490)	0.444 (0.343-0.579)	0.506 (0.382-0.677)	0.571 (0.418-0.787)	0.660 (0.464-0.950)	0.731 (0.496-1.09)
6-hr	0.101 (0.084-0.123)	0.139 (0.115-0.169)	0.189 (0.156-0.232)	0.231 (0.189-0.285)	0.289 (0.229-0.370)	0.335 (0.259-0.438)	0.382 (0.288-0.512)	0.432 (0.316-0.595)	0.500 (0.351-0.719)	0.554 (0.375-0.826)
12-hr	0.066 (0.055-0.080)	0.092 (0.076-0.112)	0.128 (0.105-0.156)	0.158 (0.129-0.195)	0.201 (0.159-0.257)	0.235 (0.182-0.307)	0.272 (0.205-0.364)	0.311 (0.228-0.428)	0.366 (0.257-0.526)	0.410 (0.278-0.611)
24-hr	0.042 (0.036-0.050)	0.060 (0.052-0.071)	0.084 (0.072-0.101)	0.105 (0.090-0.126)	0.135 (0.112-0.167)	0.160 (0.130-0.201)	0.186 (0.148-0.238)	0.214 (0.166-0.281)	0.254 (0.191-0.346)	0.288 (0.210-0.403)
2-day	0.025 (0.022-0.030)	0.036 (0.030-0.042)	0.050 (0.043-0.059)	0.062 (0.052-0.074)	0.078 (0.065-0.097)	0.092 (0.074-0.115)	0.105 (0.084-0.135)	0.120 (0.093-0.158)	0.141 (0.106-0.191)	0.157 (0.114-0.220)
3-day	0.018 (0.016-0.022)	0.026 (0.022-0.031)	0.036 (0.031-0.043)	0.044 (0.038-0.053)	0.056 (0.046-0.069)	0.065 (0.053-0.082)	0.075 (0.060-0.096)	0.085 (0.066-0.111)	0.099 (0.074-0.134)	0.110 (0.080-0.154)
4-day	0.014 (0.012-0.017)	0.020 (0.017-0.024)	0.028 (0.024-0.034)	0.035 (0.030-0.042)	0.044 (0.036-0.054)	0.051 (0.041-0.064)	0.058 (0.046-0.075)	0.066 (0.051-0.086)	0.076 (0.057-0.104)	0.085 (0.062-0.119)
7-day	0.009 (0.008-0.011)	0.013 (0.011-0.015)	0.018 (0.015-0.021)	0.022 (0.019-0.026)	0.028 (0.023-0.034)	0.032 (0.026-0.040)	0.037 (0.029-0.047)	0.042 (0.033-0.055)	0.049 (0.037-0.066)	0.054 (0.040-0.076)
10-day	0.007 (0.006-0.008)	0.009 (0.008-0.011)	0.013 (0.011-0.015)	0.016 (0.013-0.019)	0.020 (0.017-0.025)	0.023 (0.019-0.029)	0.027 (0.021-0.034)	0.031 (0.024-0.040)	0.036 (0.027-0.049)	0.040 (0.029-0.056)
20-day	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.009 (0.007-0.010)	0.011 (0.009-0.014)	0.013 (0.011-0.016)	0.015 (0.012-0.019)	0.017 (0.014-0.023)	0.021 (0.015-0.028)	0.023 (0.017-0.032)
30-day	0.003 (0.002-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.006 (0.005-0.008)	0.008 (0.007-0.010)	0.010 (0.008-0.012)	0.011 (0.009-0.014)	0.013 (0.010-0.017)	0.015 (0.011-0.021)	0.017 (0.013-0.024)
45-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.003-0.005)	0.005 (0.004-0.006)	0.006 (0.005-0.008)	0.007 (0.006-0.009)	0.009 (0.007-0.011)	0.010 (0.008-0.013)	0.012 (0.009-0.016)	0.013 (0.010-0.019)
60-day	0.002 (0.001-0.002)	0.002 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.003-0.005)	0.005 (0.004-0.006)	0.006 (0.005-0.008)	0.007 (0.006-0.009)	0.008 (0.006-0.011)	0.010 (0.007-0.013)	0.011 (0.008-0.016)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS



Based on study by P. Z. Kirpich,
 Civil Engineering, Vol. 10, No. 6, June 1940, p. 332

Rev. 1973

Figure G 261



triad/holmes associates
civil engineering
land surveying
mammoth lakes • bishop • redwood city
napa • san luis obispo

KINGSTON SUBDIVISION HYDROLOGIC & HYDRAULIC CALCULATIONS

PURPOSE: DETERMINE POST-DEVELOPMENT RUNOFF RATE

ASSUMPTION: 25-YEAR DESIGN STORM

CONDITION: NEW SUBDIVISION DRAINS TO HOME ST.

RATIONAL METHOD: $Q = CIA$

TRIBUTARY AREA A = ACRES

AVERAGE RUNOFF COEFFECIENT C =

Tc = MINS

NOAA ATLAS 14 FOR BISHOP, CA

AVERAGE RETURN INTERVAL (ARI) = YEARS

DURATION = MINS

INTENSITY = IN/HR

25-YR POST-DEVELOPMENT FLOW: Q = CFS

Channel Report

<Name>

Gutter

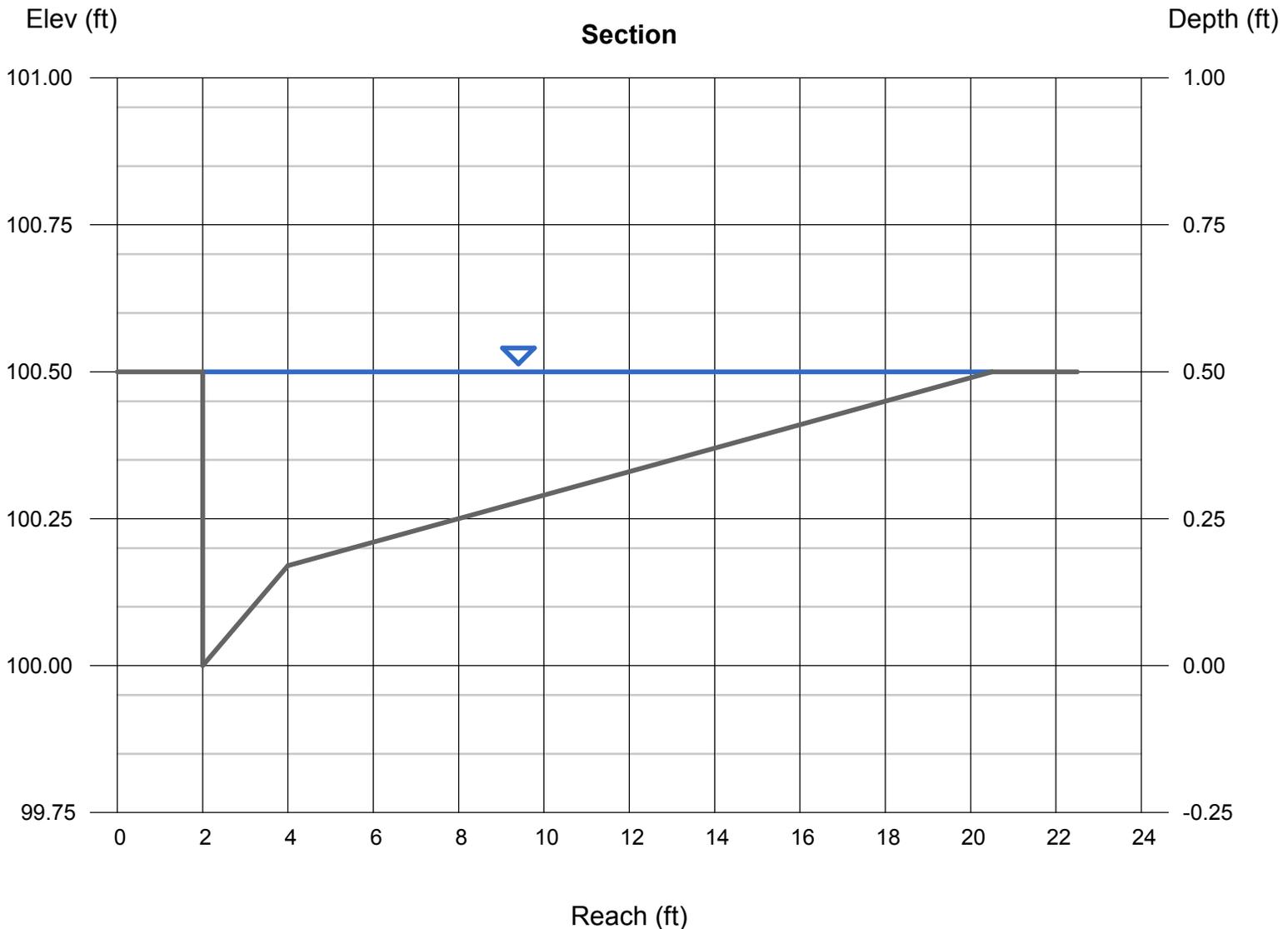
Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.085
Gutter Width (ft) = 2.00
Invert Elev (ft) = 100.00
Slope (%) = 0.15
N-Value = 0.012

Highlighted

Depth (ft) = 0.50
Q (cfs) = 6.922
Area (sqft) = 3.55
Velocity (ft/s) = 1.95
Wetted Perim (ft) = 19.01
Crit Depth, Yc (ft) = 0.47
Spread Width (ft) = 18.50
EGL (ft) = 0.56

Calculations

Compute by: Q vs Depth
No. Increments = 10



Depth	Q	Area	Veloc	Wp	Yc
(ft)	(cfs)	(sqft)	(ft/s)	(ft)	(ft)
0.05	0.007	0.015	0.49	0.64	0.04
0.10	0.045	0.059	0.77	1.28	0.09
0.15	0.134	0.132	1.01	1.92	0.13
0.20	0.295	0.253	1.17	3.71	0.18
0.25	0.606	0.490	1.24	6.26	0.24
0.30	1.152	0.853	1.35	8.81	0.28
0.35	1.999	1.340	1.49	11.36	0.33
0.40	3.207	1.953	1.64	13.91	0.37
0.45	4.831	2.690	1.80	16.46	0.42
0.50	6.922	3.553	1.95	19.01	0.47

Channel Report

6-IN DIAMETER CLAY SEWER PIPE AT 1%

Circular

Diameter (ft) = 0.50

Invert Elev (ft) = 100.00

Slope (%) = 1.00

N-Value = 0.015

Calculations

Compute by: Q vs Depth

No. Increments = 10

Highlighted

Depth (ft) = 0.25

Q (cfs) = 0.245

Area (sqft) = 0.10

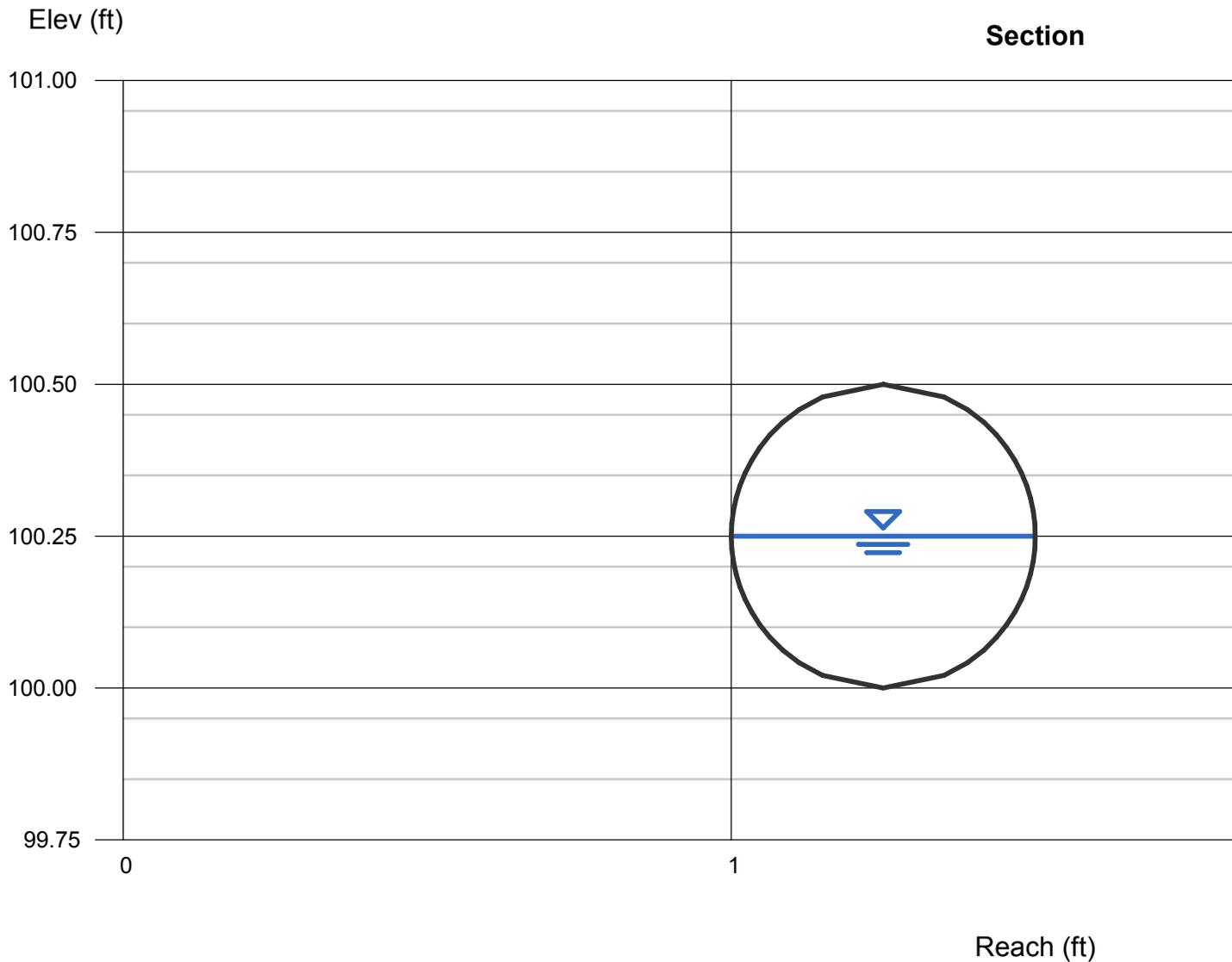
Velocity (ft/s) = 2.48

Wetted Perim (ft) = 0.79

Crit Depth, Yc (ft) = 0.25

Top Width (ft) = 0.50

EGL (ft) = 0.35

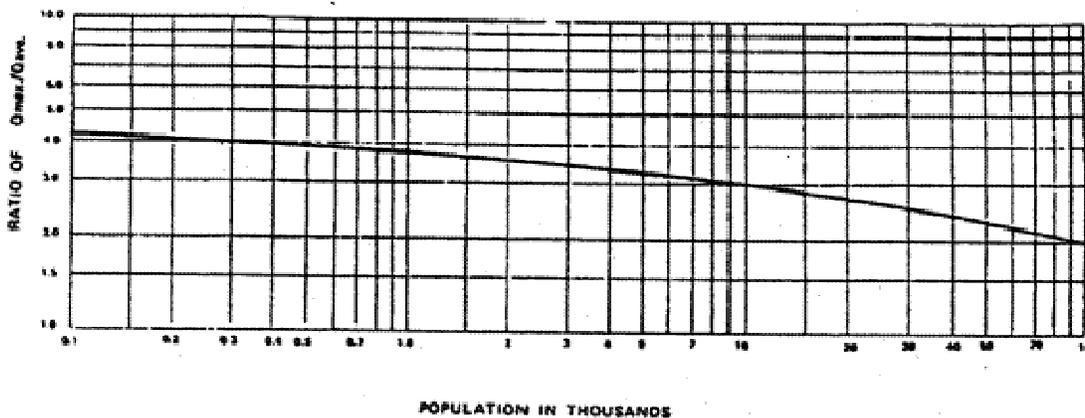


Depth	Q	Area	Veloc	Wp	Yc
(ft)	(cfs)	(sqft)	(ft/s)	(ft)	(ft)
0.05	0.010	0.010	1.00	0.32	0.05
0.10	0.043	0.028	1.53	0.46	0.11
0.15	0.095	0.050	1.92	0.58	0.16
0.20	0.164	0.073	2.23	0.68	0.21
0.25	0.245	0.099	2.48	0.79	0.25
0.30	0.328	0.123	2.66	0.89	0.29
0.35	0.408	0.147	2.77	0.99	0.33
0.40	0.475	0.168	2.82	1.11	0.36
0.45	0.518	0.186	2.78	1.25	0.37
0.50	0.486	0.196	2.47	1.57	0.36



TENTATIVE TRACT MAP NO. 250 -- KINGSTON SUBDIVISION SEWER CAPACITY CALCULATIONS

- 35 = EXISTING NUMBER OF DWELLING UNITS SERVED
22 = PROPOSED NUMBER OF NEW DWELLING UNITS TO BE SERVED
57 = TOTAL NUMBER UNITS TO BE SERVED
- 300 = AVERAGE DAILY FLOW (GPUPD)
17100 = PROJECTED AVERAGE DAILY FLOW (GPD)
712.5 = PROJECTED AVERAGE HOURLY FLOW (GPH)
- 4.2 = PEAKING FACTOR BASED ON CURVE BELOW
2992.5 = PEAK FLOW (GPH)
0.11 = PEAK FLOW (CFS)
0.52 = MAXIMUM FLOW OF A 6" CLAY SEWER PIPE @ 1% SLOPE
- OK** SEWER MAIN HAS CAPACITY GREATER THAN INCREASED DEMAND



Qmax: Maximum Rate of Sewage Flow (Peak Hourly Flow)

Qava: Average Daily Sewage Flow

Source: $Q_{max}/Q_{ava} = \frac{18 + \sqrt{P}}{4 + \sqrt{P}}$ --- (P = population in thousands)

Fair, G.M. and Geyer, J.C. "Water Supply and Waste-Water Disposal"
1st Ed., John Wiley & Sons, Inc., New York (1954), p. 136

Attachment 8

Roadway Safety Analysis



triad/holmes associates

civil engineering
land surveying

mammoth lakes • bishop • redwood city • napa
san luis obispo • pleasanton

October 29, 2015

City of Bishop
Planning Department
Attention: Gary Schley
377 West Line Street
Bishop, California 93514

Dear Mr. Schley,

Triad/Holmes Associates has been requested by the City of Bishop to address safety concerns brought up by the public regarding the roadway section proposed for the Kingston Subdivision TTM 250.

DESCRIPTION OF PROPOSED STREET

The roadway proposed is a dead end street, 680 feet in length to be used as ingress and egress for 15 single family residences. The road will have a posted speed limit of 15 mph. The road section is 36 feet in width from curb face to curb face with 4 ft. sidewalks on both sides of the road adjacent to the curbs. Parking along the street is proposed to be allowed on both sides of the roadway.

TRAFFIC VOLUMES

The anticipated traffic volumes on the street were generated using the Institute of Transportation Engineers "Trip Generation Report". The volume of traffic for a single family residential subdivision is estimated to be 10 trips per day per residence with a peak hour volume of one trip per residence. Therefore the project traffic volume is estimated to be:

Total Vehicles per day: 150 trips per day (15 residences x 10 trips/day)

Peak number of vehicles per hour = 15 (15 residences x 1 vehicle per residence)

At peak hour this equates to one vehicle every four minutes.

AASHTO DESIGN GUIDELINES

AASHTO (American Association of State Highway and Transportation Officials) publishes "A Policy on Geometric Design of Highways and Streets" for guidelines on roadway design. AASHTO standards are widely used and accepted as a national guideline for street improvement design. The following table provides a list of AASHTO recommendations of a local urban road for access to a residential subdivision

compared to the proposed roadway section accessing the Kingston Subdivision where traffic volumes are less than 250 vehicles per day.

	<u>AASHTO</u>	<u>Kingston Subdivision Roadway</u>
Width of Roadway	18 ft. (2 - 9 ft. lanes)	22 ft. (2 – 11 ft. lanes)
Parking Lanes	7 ft. (one or both sides)	7 ft. both sides
Minimum Centerline Curve Radii	100 feet	100 feet
Bike Lanes	Not required*	Not provided
Dead End Street Turnaround	Tee allowed**	Tee proposed
Sidewalks	4 ft. wide one side of street	4 ft. wide both sides of street

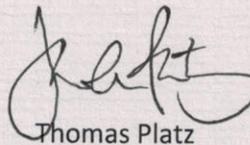
* Not required due to low volume of traffic where a car will be able to avoid a bicyclist within the width of the travelled way.

** Recommends turnaround geometry to meet local fire department requirements.

AASHTO recommends sidewalks be located as far from travel lanes as possible adjacent to right of way lines. The proposed walkway location will be separated from the travel lanes by the seven foot wide parking lanes on both sides of the street. The parking lanes provide the safety buffer discussed by AASHTO.

Therefore even though the proposed road section accessing the Kingston Subdivision does not meet City design standards, it does meet or exceed the recommended design guidelines provided by AASHTO in their publication, "A Policy on Geometric Design of Highways and Streets".

Sincerely,



Thomas Platz



Attachment 9

Trip Generation

Tract 250 - Kingston
 Trip Generation
 per Trip Generation Manual 9th Edition

Unit	Residences	Nursery			
	Houses	Employees		Square feet	
Number	15	20		5,236	
Trips:			Reduction		Reduction
Weekday	183	422	43%	357	51%
Peak Hour	20.1	51.0	40%	47.3	43%