APPENDICES

APPENDIX A

SANTA BARBARA COUNTY
WASTEWATER ORDINANCE

CHAPTER 29 SEWERS*

Article II. On-Site Sewage Disposal Systems

Sec. 29-6. Purpose of article.

It is the purpose or this article to regulate existing and future on-site sewage disposal systems, as defined herein, to ensure that they are constructed, modified, repaired, abandoned, maintained, and serviced in a manner which protects the health, safety and general welfare of the people of Santa Barbara County. It is the intent of the board of supervisors, in adopting the standards described in this article, to ensure that upon permit issuance, all on-site sewage disposal systems are capable of disposing sewage in a subsurface manner and that upon servicing, septic tanks shall be inspected for signs of corrosion, deterioration, damage and disposal field failure. (Ord. No. 4356, § 2)

CHAPTER 29 SEWERS*

Article II. On-Site Sewage Disposal Systems

Sec. 29-8. Permit and inspection requirements.

(a) Permit and Inspection Required.

(1) No person shall construct, reconstruct, repair, modify or abandon any on-site sewage disposal system or graywater system or any portion thereof on any property within the unincorporated area of the county without having first obtained a permit to do so from the administrative authority; provided, however, that this provision shall not apply to emergency work necessary due to the sudden failure of the existing system or a condition of imminent danger, when it is demonstrated to the satisfaction of the administrative authority that such work is urgently necessary and that it is not practical to obtain a permit before commencement of work. In all such cases, notification shall be made before commencement of work by telephone, electronic facsimile or in person to the administrative authority. A written application for permit shall be submitted to the administrative authority within three business days after commencement of work.

(2) It shall be unlawful for any person to cover, conceal or put into use an on-site sewage disposal system, or portion thereof, without having first obtained an inspection and final approval from the administrative authority.

(b) Permit Requirements for New On-Site Sewage Disposal Systems.

(1) Prior to issuance of a permit for construction of an on-site sewage disposal system, a satisfactory percolation or performance test report shall be submitted to the administrative authority. Such percolation or performance test shall be carried out in the area of the property to be used for the proposed on-site sewage disposal field, and shall be representative of the soil zones to be used for the disposal field.

(2) If the on-site sewage disposal system is to utilize the leach line method of disposal, soil percolation tests shall be performed under the supervision of a registered civil or geotechnical engineer.

(3) If the site is unsuitable for leach lines and the drywall method of disposal is to be utilized, performance tests of completed drywells shall be carried out under the supervision of a registered civil or geotechnical engineer or a certified engineering geologist.

(4) A land use permit or coastal development permit for any new structure to be served by a proposed on-site sewage disposal system shall be issued by the Santa Barbara County planning and development department prior to issuance of a permit to construct an on-site sewage disposal system.

(c) Permit Transfer. The permit is not transferable, unless the new property owner makes a new application and the conditions under which the existing approved permit was issued have not changed. If changes are proposed in the design or construction of the on-site sewage disposal system, the new owner shall file an application for a new on-site sewage disposal system permit.

(d) Permit Expiration. Each permit shall expire and become null and void if the work authorized has not been completed within one year from the date of permit issuance. Upon the expiration of the permit, no further work shall be performed until the applicant receives a new permit.

(e) Permit Suspension and Revocation.

(1) The administrative authority may suspend or revoke any permit issued pursuant to this

article, whenever it finds that the permittee has violated any provisions of this article, has misrepresented any material fact in the permit application or supporting documents for such permit, and/or performed any work under the permit that has resulted in a nuisance.

(2) No person whose permit has been suspended or revoked shall continue to perform the work for which the permit was granted until, in the case of suspension, such permit has been reinstated by the administrative authority. The permit shall not be reinstated until the violation has been abated.

(3) Upon suspension or revocation of any permit, if any work already done by the permittee has left an on-site sewage disposal system in such a condition as to constitute an emergency, the administrative authority may order the permittee to perform any work reasonably necessary to protect the public health and safety. No permittee or person who has held any permit issued pursuant to this article shall fail to comply with any such order.

(f) Right of Hearing. Any person whose application for a permit has been denied, suspended, or revoked, may appeal to the administrative authority in writing, within ten working days after notification of the imposition of any denial, suspension, or revocation. Such appeal must specify the grounds upon which it is taken. The administrative authority shall set such an appeal for an office hearing at the earliest practical time, and shall notify the appellant, in writing, of the established time and place at least ten days prior to the date of the hearing.

(g) Permit Application Fees. The board of supervisors may, by resolution, adopt such fees as are allowed under Sections 510 and 4010.8 of the California Health and Safety Code and may prescribe such terms and conditions as may be necessary to enable the County of Santa Barbara to recover the reasonable and necessary costs incurred by the county in administering this article.

(h) Water Quality Standards. These standards adopt by reference the "Individual, Alternative and Community Systems Prohibitions" contained in the "Central Coast Water Quality Control Plan" (commonly referred to as the "Basin Plan") adopted by the State of California Central Coast Regional Water Quality Control Board for new discharges from sewage disposal systems. Repairs or modifications to existing on-site sewage disposal systems shall adhere to these standards to the maximum extent feasible, as determined by the administrative authority.

(i) Permit Exemption for Maintenance Activities. Sewage disposal system maintenance, as defined in this article, may be performed by a qualified contractor without a permit as long as a written report of work performed is submitted to the administrative authority as outlined in this article and such work complies with all applicable county standards for on-site sewage disposal systems in effect at the time. (Ord. No. 4356, § 2)

Sec. 29-9. Septic tank requirements.

(a) Septic Tank Construction. Septic tanks shall be constructed of reinforced concrete, fiberglass, or other durable, corrosion resistant, synthetic material and shall conform to Standard PS-1 of the International Association of Plumbing and Mechanical Officials (IAPMO). Metal and wooden tanks are prohibited.

(b) Septic Tank Integrity. Septic tanks installed with more than three feet of earth cover or beneath surfaces subject to vehicular traffic (e.g., driveways and vehicle turnarounds) shall be engineered to support the additional load. Septic tanks placed in paved driveways shall be provided with "traffic grade" lids.

(c) Septic Tank Installation. Septic tanks shall he installed by a qualified contractor according to the manufacturer's specifications and applicable requirements of the Uniform Plumbing Code, as adopted by Chapter 10 of this code. Earth cover over the tank shall be clean fill material, free of debris and rock.

(d) Access to Septic Tanks.

(1) Septic tanks shall be installed in a location that is accessible for servicing, inspection and pumping.

(2) Septic tanks shall be installed with the top of the tank no deeper than one foot below finish grade whenever possible. If it is demonstrated that the top of a septic tank must be deeper than one foot from grade, each compartment of a septic tank shall be provided with a watertight riser, capable of withstanding anticipated structural loads and extending to within one foot of finish grade.

(3) Risers shall be constructed of concrete, PVC, fiberglass or other approved material, with a minimum inside horizontal measurement of twenty inches. All joints shall be waterproofed with an appropriate sealant and/or interlocking mechanism approved by the administrative authority.

(4) When necessary to extend septic tank risers to finish grade, access lids shall be a cast iron, gas-tight type, securely fastened with stainless steel or other corrosion resistant fasteners resistant to vandals, tampering, and access by children.

(5) Surface water shall be diverted away from the riser cover or septic tank lid by providing a sloping surface away from the riser, or extending the riser at least six inches above grade. (Ord. No. 4356, § 2)

Sec. 29-10. Drywell and disposal field requirements.

(a) Seepage Pits and Cesspools Prohibited.

(1) Seepage pits are prohibited as a method of sewage disposal, and upon discovery, shall be abandoned or modified under permit and inspection by the administrative authority to conform to the construction standards for drywells included in this article.

(2) Cesspools are prohibited as a method of sewage disposal, and upon discovery, shall be abandoned according to the provisions of this article.

(b) Drywell Approval.

(1) All attempts shall be made to provide for shallow sewage effluent disposal by the leach line method. If the site soil conditions prove unfavorable (e.g., percolation rates slower than sixty minutes/inch, unfavorable historic site information or geologic conditions), drywell disposal may be considered. Drywells may be utilized only if leach lines are not feasible, as determined by a registered civil/ geotechnical engineer with the concurrence of the administrative authority. A determination of leach line infeasibility shall include a certified written statement by the engineer which specifies the unfavorable conditions which render leach line disposal infeasible.

(2) Unless specifically required by the administrative authority, a certified statement is not required for a new drywell which conforms to the standards of this article, and is constructed to replace an existing seepage pit or a drywell.

(c) Drywell Construction.

(1) Drywells shall be cylindrical in shape with a diameter of not less than four feet nor more than six feet. Construction of a drywell with a diameter less than four feet or greater than six feet may be permitted with written approval of the administrative authority.

(2) Drywells shall have a centrally located four- inch diameter perforated pipe which extends from the inlet to a point as close to the bottom of the pit as is practical and the space around the pipe shall be filled with rock which may vary in size from three-fourths inch to two and one-half inches. When necessary to meet minimum slope setback requirements, the upper portion of the central pipe shall be unperforated.

(3) Rock fill in drywells shall he covered with building paper or equivalent, and backfilled with a minimum of eighteen inches of clean earth cover, free of debris and rock.

(4) Drywells shall have an effective disposal depth of at least ten feet. Effective disposal depth is defined as total depth subtracted by the distance below the grade to the uppermost disposal pipe perforation.

(5) Multiple drywell installations shall receive septic tank effluent via an approved distribution box installed on a level concrete pad with watertight piping laid on undisturbed or compacted soil. The relative distribution of effluent to each of the drywells shall be approved by the administrative authority.

(d) Drywell Performance Requirements. A disposal field utilizing the drywell method of disposal shall be capable of absorbing at least five times the required septic tank capacity in twenty-four hours, after initial presaturation, as evidenced by a drywell performance test report.

(e) Separation from Subdrains. If subdrains discharge diverted water to subsurface soils, the minimum upslope separation from a new leach field or drywell shall be twenty feet and the minimum downslope separation shall be fifty feet. In all instances, the subdrain shall be located a minimum of ten feet from any leach field or drywell. (Ord. No. 4356, § 2)

CHAPTER 29 SEWERS*

Article II. On-Site Sewage Disposal Systems

Sec. 29-11. Servicing, inspection, reporting and upgrade requirements.

(a) On-Site Sewage Disposal System Servicing. Whenever an on-site sewage disposal system is serviced, both of the following shall occur:

(1) All compartments of the septic tank shall be pumped of all scum and sludge residue by a registered septic tank pumper.

(2) The septic tank shall be inspected for signs of deterioration, corrosion, damage, disposal field failure, or other deficiencies.

(b) On-Site Sewage Disposal System Inspections.

(1) On or after January 1, 2000, any individual who inspects on-site sewage disposal systems and submits reports as required by this article shall be a qualified inspector, as defined by this article.

(2) Prior to January 1, 2000, on-site sewage disposal systems may be inspected and reports submitted by a qualified inspector or by a septic tank pumper holding a valid registration permit from the administrative authority on the effective date of this article.

(c) Report Required. A written report on forms provided by the administrative authority shall be submitted by qualified inspectors, or by septic tank pumpers as provided in section 29-11 (b)(2) above, to the administrative authority and the property owner no later than thirty days following servicing of an on-site sewage disposal system. The report shall include:

(1) The name of the property owner, the street address of the property on which the on-site sewage disposal system is located, and the date of servicing.

(2) The name of the septic tank pumper, size of the septic tank(s), gallons pumped, the name and location of the disposal site and a description of servicing activities.

(3) A description of any on-site sewage disposal system maintenance performed.

(4) A description of any uncorrected deficiencies in the on-site sewage disposal system. Reported deficiencies shall include, but not be limited to: damaged, corroded or deteriorated septic system components, disposal field in a state of failure, backflow of effluent from the disposal field back into the septic tank, lack of access risers or other upgrades required by this article, or other condition determined to be a significant deficiency or not in compliance with the provisions of this article.

(5) A description of any seepage pit or cesspool on the property.

(d) On-Site Sewage Disposal System Upgrades Required.

(1) All existing seepage pits, whether or not in a state of failure, shall be properly abandoned or modified upon discovery, to conform to the construction standards for drywells included in this article. Abandonment or modification shall be completed under permit and inspection by the administrative authority within thirty days of discovery.

(2) Upon failure of an on-site sewage disposal system, the system shall be repaired and made to conform to the requirements of this article except for variations specifically approved in writing by the administrative authority.

(3) Septic tanks constructed of concrete shall be replaced or structurally modified when the lid or wall is determined to have a remaining thickness of two and one-half inches or less, or to have decreased to one-half or less of its original thickness.

(4) Septic tanks shall be replaced or repaired when the height of the baffle between compartments is equal to the water depth within the tank.

(5) Any septic tank which has more than one foot of cover and is uncovered for purposes of servicing, repair or modification shall be retrofitted with risers and manhole covers as specified in this article.

(e) Notification to Property Owner. Upon notification of an uncorrected deficiency or required upgrade in an on-site sewage disposal system, the administrative authority shall notify the owner in writing of the needed corrections required to comply with the applicable standards in this article.

(f) Action by the Property Owner. Within thirty days of receipt of such written notification, the property owner shall make all corrective actions necessary to comply with the applicable standards in this article, unless otherwise directed by the administrative authority. (Ord. No. 4356, § 2)

APPENDIX B

TORO CANYON PLAN

5. WASTEWATER AND WATER GOAL, POLICIES, ACTIONS, AND DEVELOPMENT STANDARDS

GOAL WW-TC: Protect Quality Of Surface, Ground, And Ocean Waters From Degradation; Maintain Adequate, Safe Water Supplies; And Protect Groundwater Basins From Prolonged Overdraft. Provide Adequate Wastewater Treatment And Disposal Throughout The Planning Area.

Policy WW-TC-1: **Development and infrastructure shall achieve a high level of wastewater treatment, in order to best serve the public health and welfare.**

DevStd WW-TC-1.1: Septic system installations shall only occur on parcels that are free of site characteristics listed under "VIII.D.3.i. Individual, Alternative and Community Systems Prohibitions" in the *Water Quality Control Plan for Central Coast Basin, Region 3* by the Regional Water Quality Control Board. Adherence to this standard and any other more restrictive applicable standards or zoning regulations as well as the County Wastewater Ordinance shall constitute a finding of consistency with Land Use Development Policy 4 and Coastal Plan Policy 2-6 with regard to wastewater service.

DevStd WW-TC-1.2: To the maximum extent feasible, development shall be sited and designed to avoid the use of wastewater system features (e.g. lift stations and grinder pumps) that require more maintenance than gravity fed laterals or septic systems and whose failure could result in the contamination of surface or groundwater or potential health hazards. Gravity flow of wastewater to septic tank and disposal fields must be available when new lots to be served by septic systems are created. Unless it would preclude reasonable use of property, private operation and maintenance of lift stations and grinder pumps is prohibited.

DevStd WW-TC-1.3: For development proposing public sewer service, prior to approving land use clearance and/or recording final maps, adequate wastewater treatment and disposal capacity (based on County and RWQCB accepted figures) shall be demonstrated for the Carpinteria Sanitary District or Montecito Sanitary District, as appropriate, to serve the specific project along with other approved development.

Action WW-TC-1.4: The County shall work with the Montecito Sanitary District and Local Agency Formation Commission to extend sewer lines to serve residents on the east side of Ladera Lane, west of Toro Creek, within the Urban Boundary.

Action WW-TC-1.5: The County shall work with the Carpinteria Sanitary District and Local Agency Formation Commission to extend sewer lines within designated Rural Neighborhoods (RNs) when consistent with Coastal Plan Land Use Policy 2-10.

Policy WW-TC-2: **Pollution of surface, ground and ocean waters shall be avoided. Where avoidance is not feasible, pollution shall be minimized.**

DevStd WW-TC-2.1: To reduce the possibility of prolonged effluent daylighting, two disposal fields shall be built to serve each septic system as required by EHS so that when one field begins to fail, the other field can immediately be put into use. An additional third expansion area shall be set aside where no development can occur, except for driveways on constrained sites as provided below in Development Standard WW-TC-2.3.1. In the expansion area, a disposal field should be constructed when any other disposal field is in a state of failure.

DevStd WW-TC-2.2: For remodels of plumbed structures where the existing septic system must be enlarged or where septic system repairs are required due to failure, in addition to the enlargement and/or repair of the existing septic system, an additional disposal field shall be installed to the maximum extent feasible.

DevStd WW-TC-2.3 Where feasible, measures to decrease the amount of nitrates filtering through soil to groundwater shall be required, including:

1. Shallow-rooted non-invasive plants (maximum root depth of four feet) shall be planted above all leach fields to encourage evapotranspiration of effluent and uptake of nitrates. Impervious surfaces, such as paved driveways, shall not be constructed above leach fields. If site constraints require a driveway to be located above a leach field in order to ensure reasonable use of property, turf block or other suitable pervious surface shall be used.

2. Advanced treatment for the removal of nitrates shall be required on septic systems utilizing drywells as the disposal field. Existing septic systems that utilize drywells that have failed, or that need to be modified or certified, must also install advanced treatment.

DevStd WW-TC-2.4: Discretionary development to house or manage animals must have a waste management program prepared according to Environmental Health Services' Guidelines for Management of Animal Wastes and approved by the Environmental Health Services Division.

DevStd WW-TC-2.5: Septic systems and other potential sources of water pollution shall be a minimum of 100 feet from the geologic top of slope of tributary or creek banks (reference point as defined by Planning and Development and Environmental Health Services). Modifications to existing sources of potential water pollution shall meet this buffer to the maximum extent feasible.

Action WW-TC-2.6: The County should mail the Environmental Health Services brochure "Your Septic System: A Reference Guide for Homeowners" to all Toro Canyon properties with septic systems.

DevStd WW-TC-2.7: Development shall not be approved where individual or cumulative impacts of septic systems for new development would cause pollution of creeks and ocean waters, unless this would preclude reasonable use of property.

DevStd WW-TC-2.8: Development shall be designed to reduce runoff from the site by minimizing impervious surfaces, using pervious or porous surfaces, and minimizing contiguous impervious areas.

DevStd WW-TC-2.9: Development shall incorporate best management practices (BMPs) to reduce pollutants in storm water runoff. The BMPs can include, but are not limited to dry wells for roof drainage or other roof downspout infiltration systems, modular paving, unit pavers on sand or other porous pavement for driveways, patios or parking areas, multiple-purpose detention systems, cisterns, structural devices (e.g., grease, silt, sediment, and trash traps), sand filters, or vegetated treatment systems (e.g. bioswales/filters).

DevStd WW-TC-2.10 Construction Best Management Practices shall be included on drainage plans and/or erosion control plans and implemented to prevent contamination of runoff from construction sites. These practices shall include, but are not limited to, appropriate storage areas for pesticides and chemicals, use of washout areas to prevent drainage of wash water to storm drains or surface waters, erosion and sediment control measures, and storage and maintenance of equipment away from storm drains and water courses.

Policy WW-TC-3: **Development in Toro Canyon shall incorporate appropriate water efficient design, technology and landscaping.**

Action WW-TC-3.1: The County Water Agency shall work with the MWD and the CVWD to promote educational programs that encourage efficient water use.

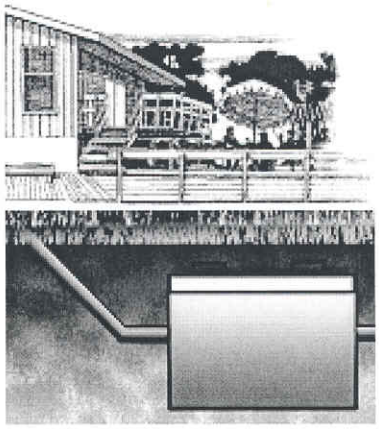
DevStd WW-TC-3.2: In cases where landscape plans are required for development, they shall include appropriate water-conserving features such as those listed in the Water Resources section of the County's *Standard Conditions of Approval and Standard Mitigation Measures*.

APPENDIX C

SANTA BARBARA COUNTY
SEPTIC SYSTEM REFERENCE GUIDE

Your Septic System

A Reference Guide for Homeowners



Santa Barbara County PUBLIC Health DEPARTMENT

Santa Barbara County Environmental Health Services

Our job is to help ensure that existing and future on-site sewage disposal systems are constructed, modified, repaired, abandoned, maintained and serviced in a manner which **protects the health, safety and general welfare of the people of Santa Barbara County.**

North County:

2125 S. Centerpointe Parkway #333
Santa Maria, CA 93455-1340
(805) 346-8460

South County:

225 Camino del Remedio
Santa Barbara, CA 93110
(805) 681-4900

Contact us by email at:
PHD-Septic@co.santa-barbara.ca.us

What Environmental Health Services can provide for you:

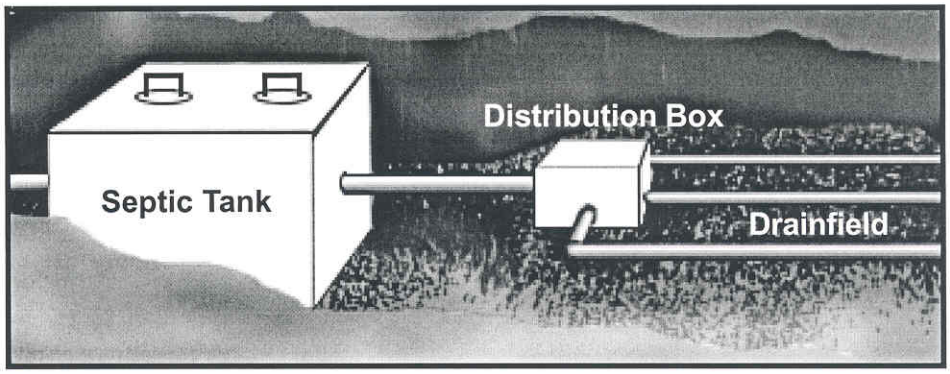
- Lists of qualified septic tank pumpers
- Lists of septic system contractors
- Printed information about septic system maintenance
- Available recent history of your property
- A real-live human to answer your questions

How Your Septic System Works

Septic systems are individual wastewater treatment systems.

Septic systems use a buried settling tank and the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where centralized wastewater treatment is impractical.

All septic systems are individually designed for each site, but are based on the same principles.



A typical septic system consists of a septic tank, a distribution box and a drainfield, all connected by pipes.

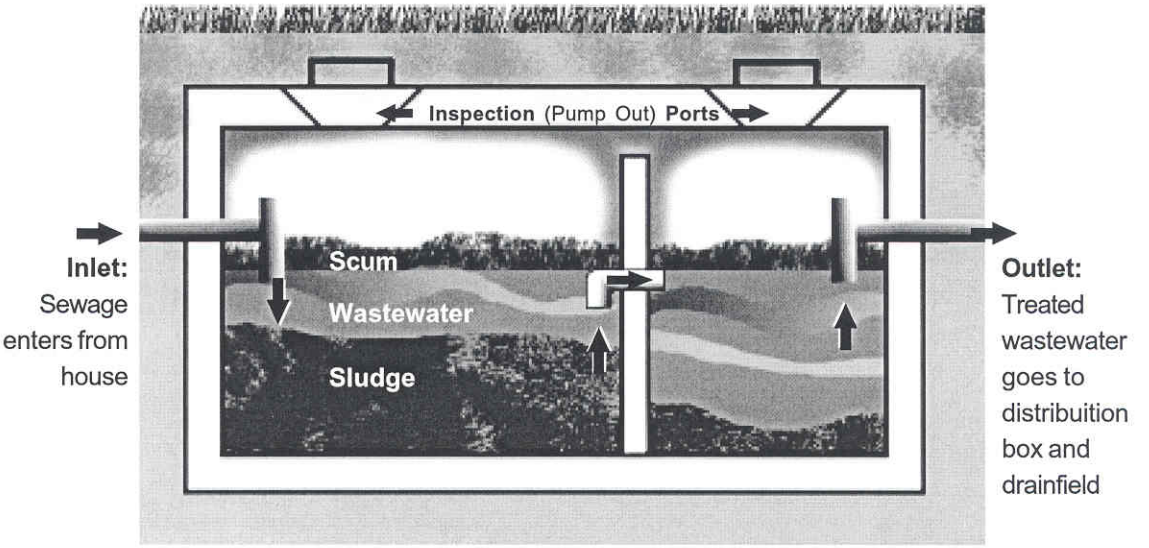
Your septic system treats your household wastewater by temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as *primary treatment*.

The solids stored in the tank are partially decomposed by bacteria and later removed, along with the lighter scum, by a professional septic tank pumper. Failure to pump out accumulated solids and scum will eventually result in clogging of the drainfield and failure of the system.

When the partially treated wastewater leaves the tank, it typically flows into a distribution box that divides the flow among a network of drainfield trenches. Drainage holes in each line allow the wastewater to be absorbed into the soil. The wastewater then slowly seeps into the subsurface soil where it is further treated and purified (*secondary treatment*).

A properly located and functioning septic system does not pollute the groundwater.

Inside a Typical Septic Tank



Septic systems must be maintained regularly to work properly. Solids and scum that accumulate in the septic tank should be pumped out every three to five years to protect the leachfield from clogging. Neglect or abuse of your septic system can cause it to fail.

Failing septic systems can:

- cause a serious health threat to your family and neighbors;
- reduce the value of your property;
- be very expensive to repair;
- degrade the environment, especially lakes, streams, and groundwater;
- put at risk those whose water supply comes from that groundwater.

Be alert to the warning signs of a failing system:

- sewage surfacing over the drainfield (especially after storms);
- sewage back-ups in the house;
- lush, green growth over the drainfield;
- slow draining toilets or drains;
- sewage odors.

Do's and Don'ts

Do have your tank inspected every 3 to 5 years by a licensed septic tank pumper. If you have a garbage disposal unit, pump the tank at more frequent intervals.

Do keep a record of pumping, inspections, and other maintenance. Use the back page of this brochure to record maintenance dates.

Do practice water conservation. Repair dripping faucets and leaking toilets, run washing machines and dishwashers only when full, avoid long showers, and use water saving features in faucets, showerheads and toilets.

Do learn the location of your septic tank and drainfield. Keep a sketch of it handy for service visits. If your system has a flow diversion valve, learn its location and turn it once a year. Alternating drainfields can add many years to the life of your system.

Do divert roof drains and surface water from driveways and hillsides away from the septic system. Keep sump pumps and house drains away from the septic system as well.

Do use bleach and disinfectants sparingly. Bleach, disinfectants, and drain and toilet bowl cleaners can kill bacteria that are essential to the operation of the septic system.

Don't allow anyone to drive or park over any part of the system. The area over the drainfield should be left undisturbed with only a mowed grass cover. Roots from nearby trees or shrubs may clog and damage your drain lines. Paving over a drainfield will reduce its efficiency and is prohibited.

Don't make repairs to your septic system without obtaining the required health department permit. Always use professional licensed septic system contractors for maintenance and repairs.

Don't use commercial septic tank additives or caustic drain chemicals. These products may hurt your system in the long run.

Don't use your toilet as a trash can by dumping nondegradables down your toilet or drains. Also, don't poison your septic system and the groundwater by pouring harmful chemicals down the drain. They can kill the beneficial bacteria that treat your wastewater. Keep the following materials out of your septic systems:

Record of Service

Date	Work Done	Contractor

Remember to always dispose of wastewater from your home into the septic tank. This includes all sink, bath, shower, toilet, washing machine and dishwasher wastewaters.

Any of these waters can contain disease-causing microorganisms or environmental pollutants.

For More Information

Please contact your nearest Santa Barbara County Environmental Health Services office:

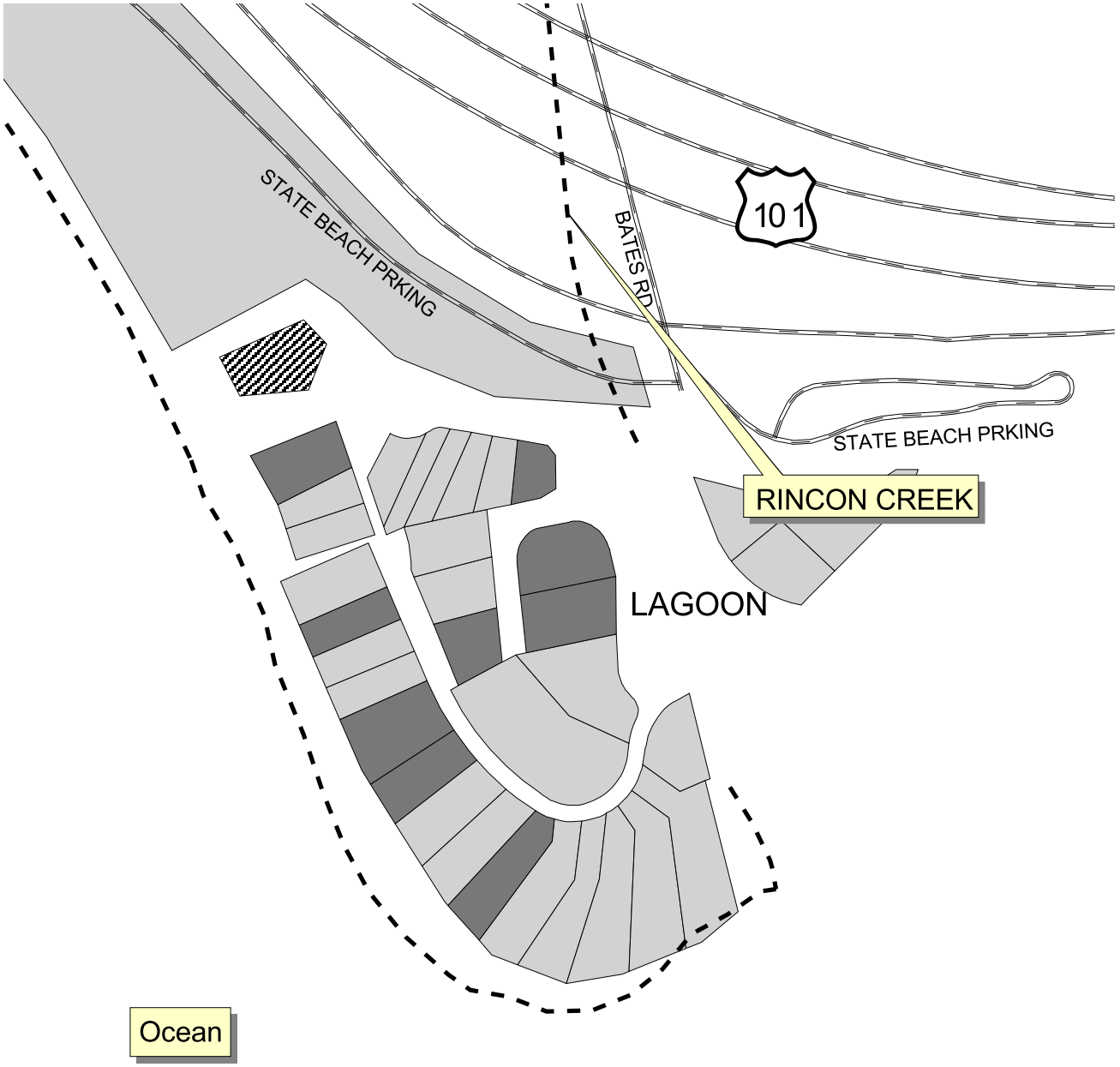
Santa Barbara (805) 681-4900

Santa Maria (805) 346-8460

Contact us by email:
PHD-Septic@co.santa-barbara.ca.us

APPENDIX D

SEPTIC SYSTEM FOCUS AREA MAPS



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.03 0 0.03 0.06 Miles

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

FOCUS AREA

RINCON POINT

APPENDIX

D - 1

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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Civil Environmental & Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

FOCUS AREA

SHEPARD MESA

APPENDIX

D-2

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.09 0 0.09 0.18 Miles

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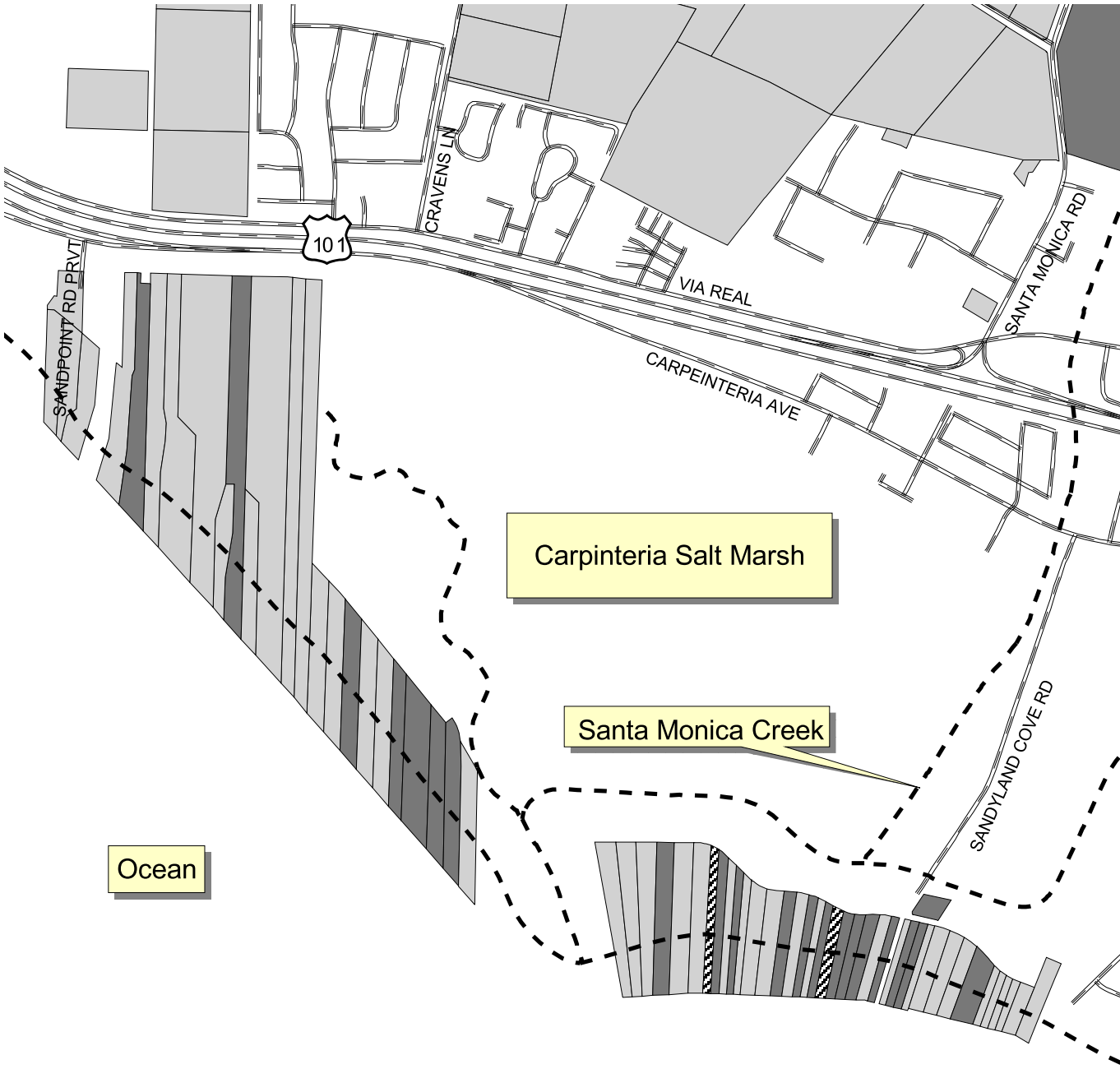
FOCUS AREA

ARROYO PAREDON

APPENDIX

D-3



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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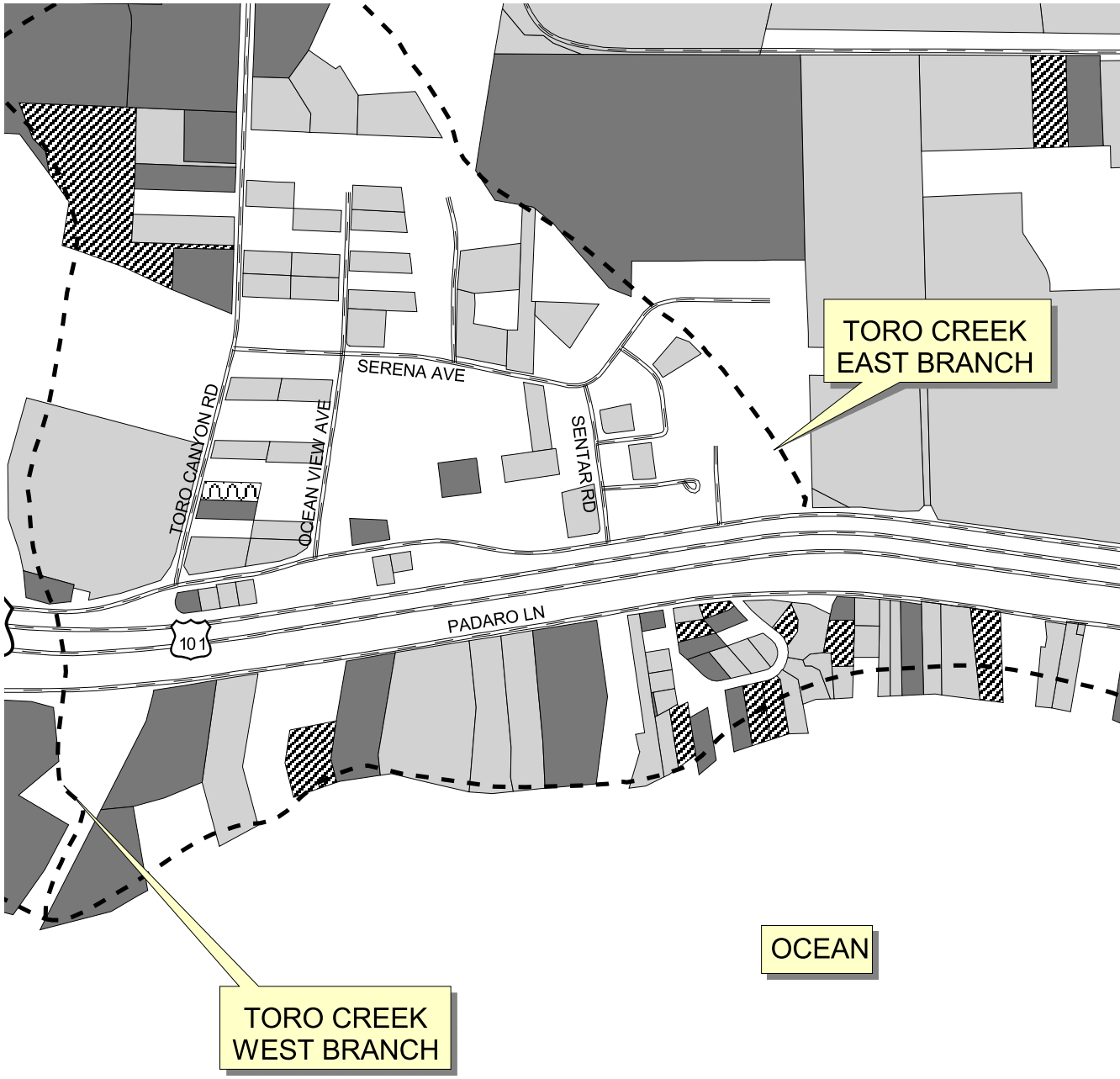
FOCUS AREA

SAND POINT ROAD

APPENDIX

D-4



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.08 0 0.08 0.16 Miles

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& Water Resources
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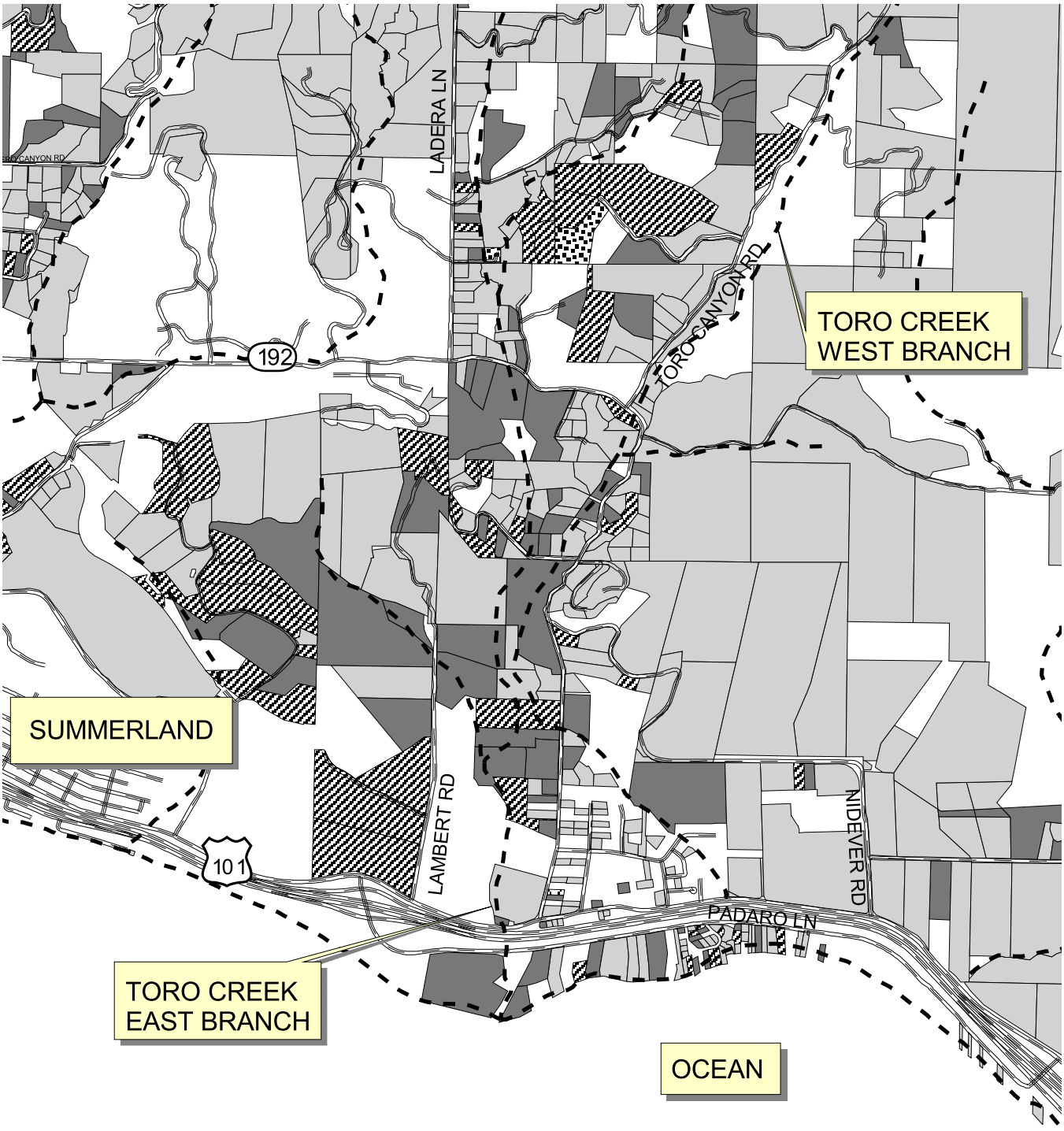
FOCUS AREA

PADARO LANE

APPENDIX

D-5



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.4 0 0.4 0.8 Miles

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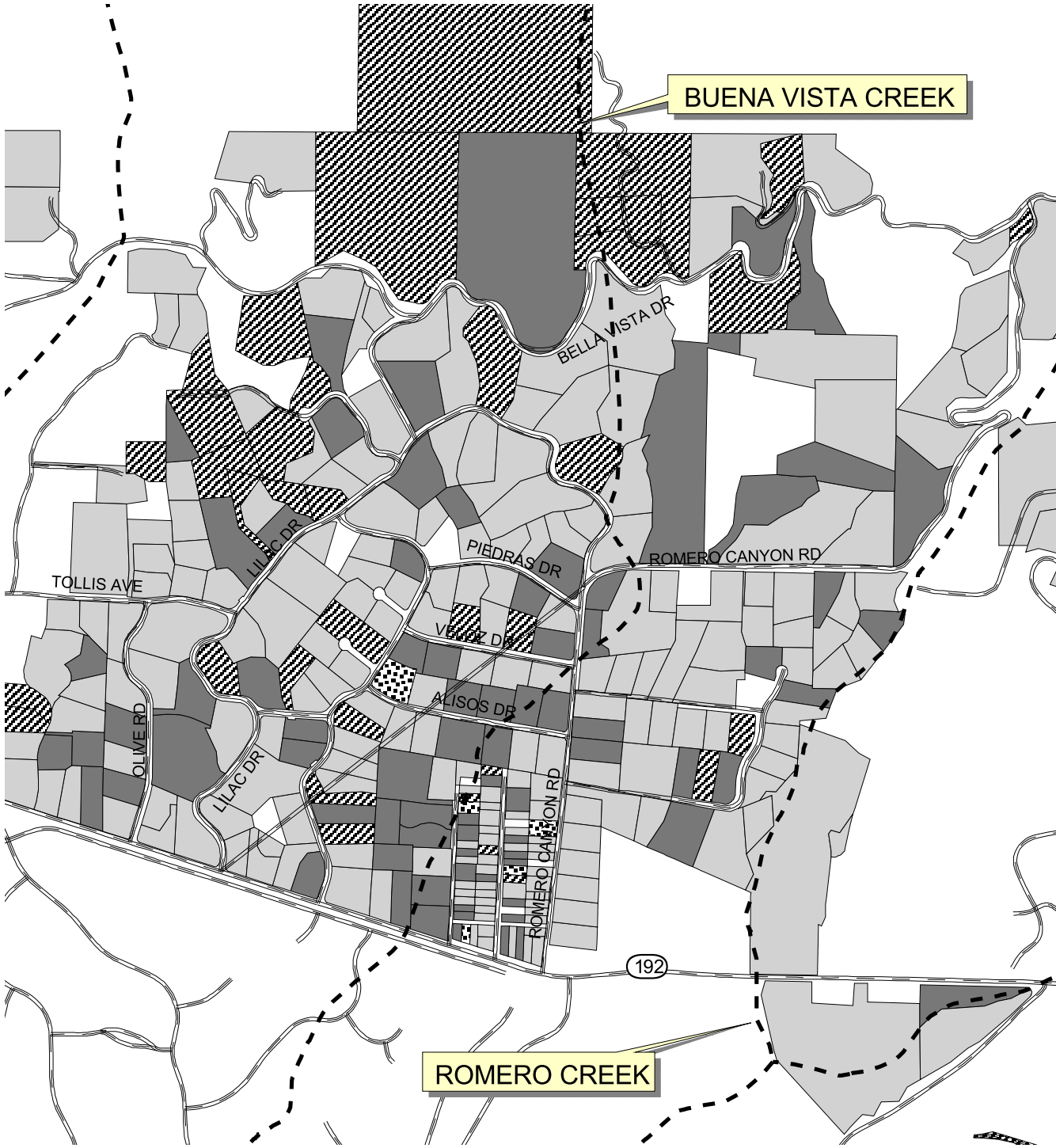
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

FOCUS AREA

TORO CANYON

APPENDIX

D-6



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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Environmental
& Water Resources
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FOCUS AREA

BUENA VISTA AREA

APPENDIX

D-7

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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FOCUS AREA

COLD SPRINGS

APPENDIX

D-8

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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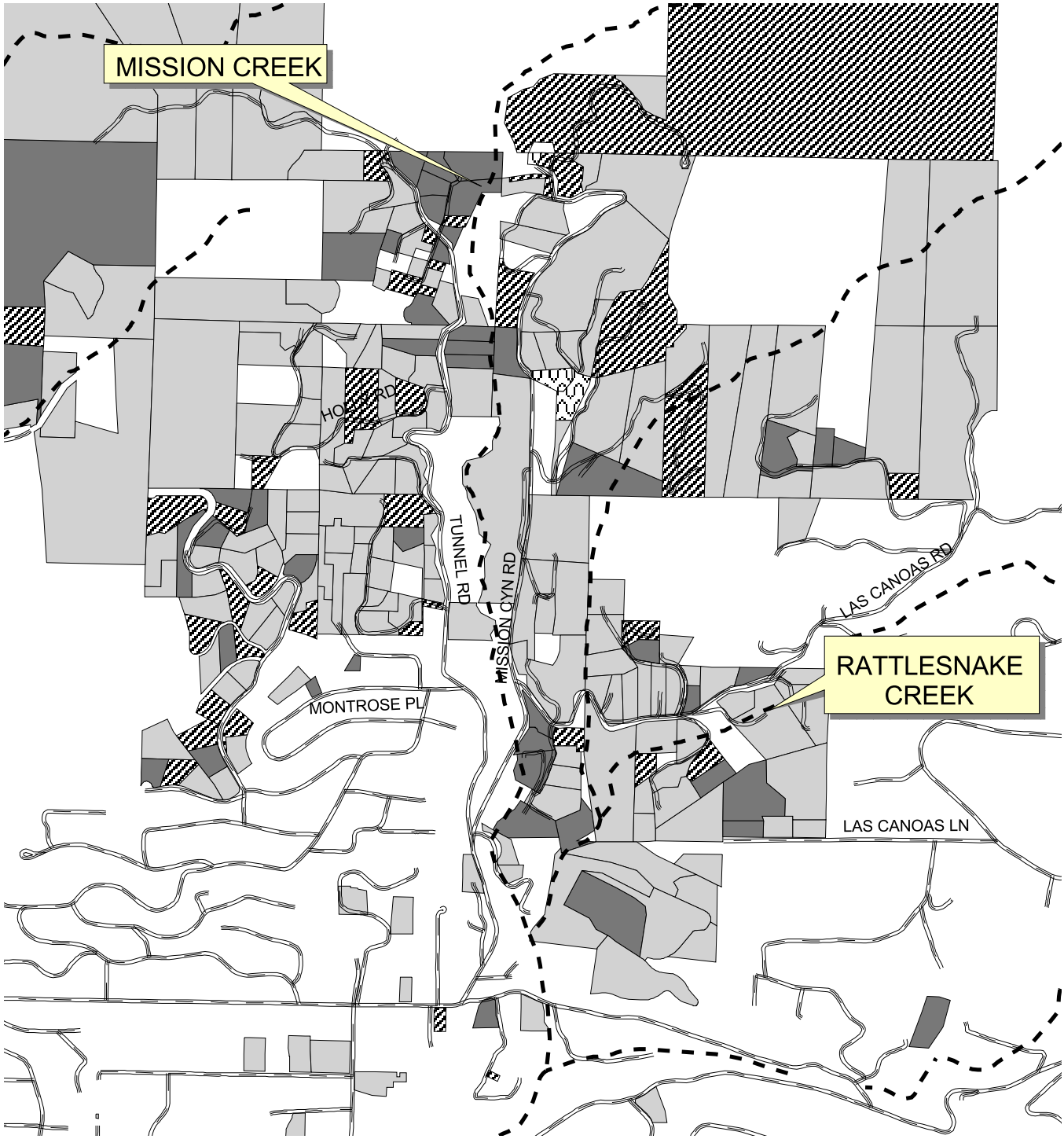
FOCUS AREA

SYCAMORE CREEK

APPENDIX

D-9



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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& Water Resources
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FOCUS AREA

MISSION CANYON

APPENDIX

D-10

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.05 0 0.05 0.1 Miles

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Civil Environmental & Water Resources
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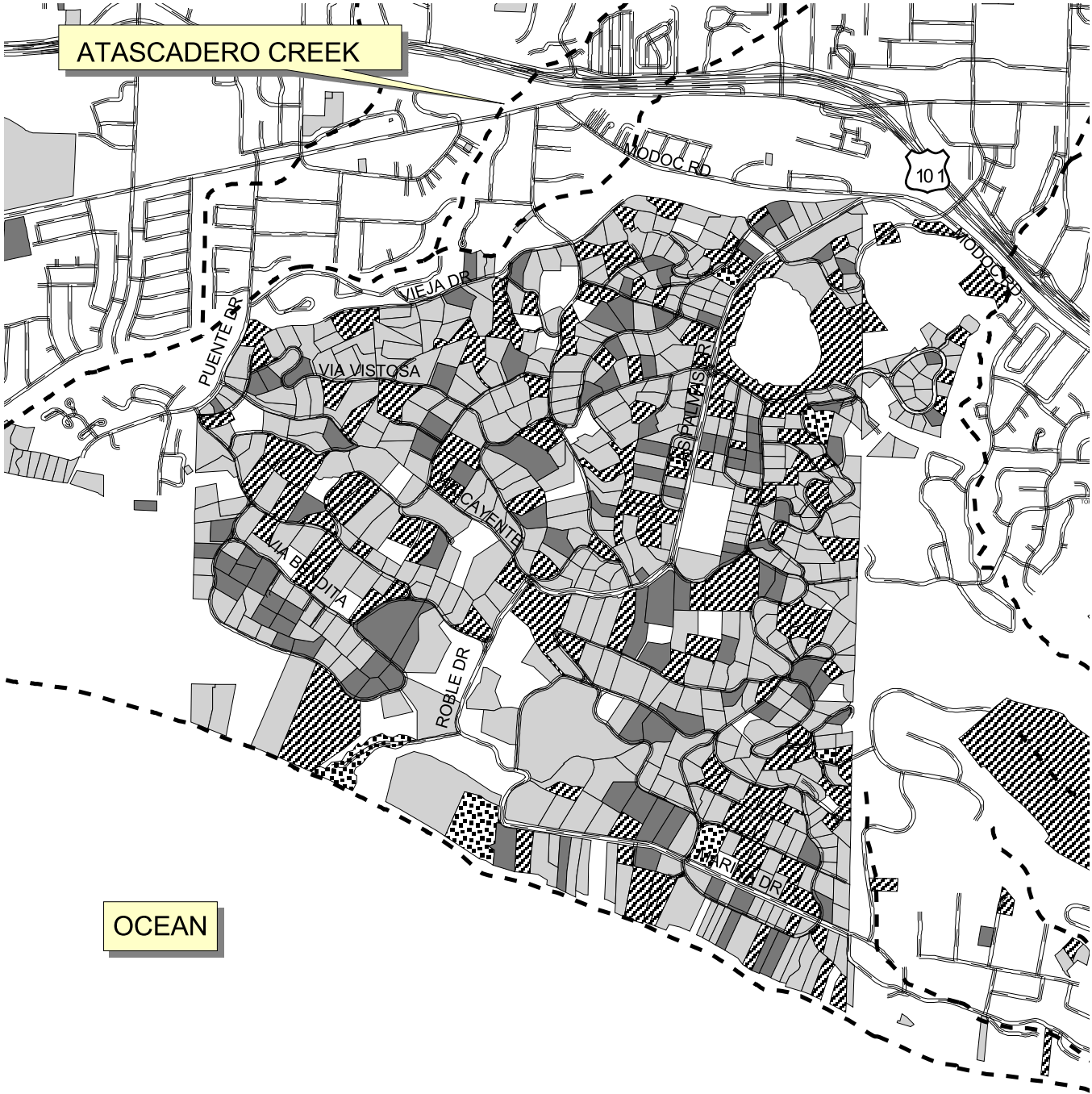
FOCUS AREA

VISTA VALLEJO

APPENDIX

D-11



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.3 0 0.3 0.6 Miles

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Civil Environmental & Water Resources
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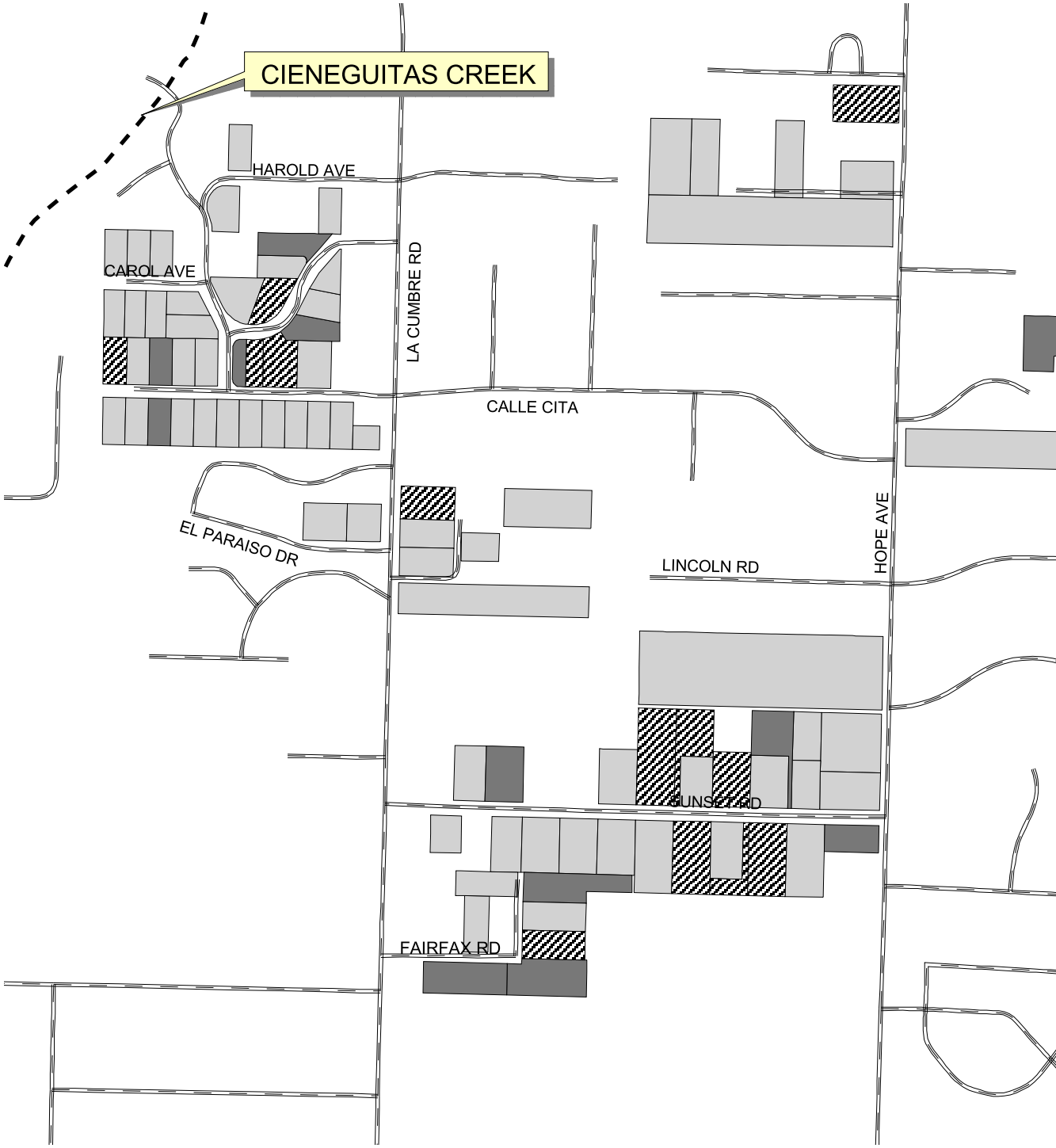
FOCUS AREA

HOPE RANCH

APPENDIX

D-13



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.04 0 0.04 0.08 Miles

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& Water Resources
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FOCUS AREA

SUNSET ROAD/CAROL AVENUE

APPENDIX

D-14

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.04 0 0.04 0.08 Miles

QUESTA ENGINEERING CORP.
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FOCUS AREA

LA BUENA TIERRA

APPENDIX

D-15

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.06 0 0.06 0.12 Miles

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FOCUS AREA

VIA CHAPARRAL

APPENDIX

D-16

STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.09 0 0.09 0.18 Miles

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Environmental
& Water Resources
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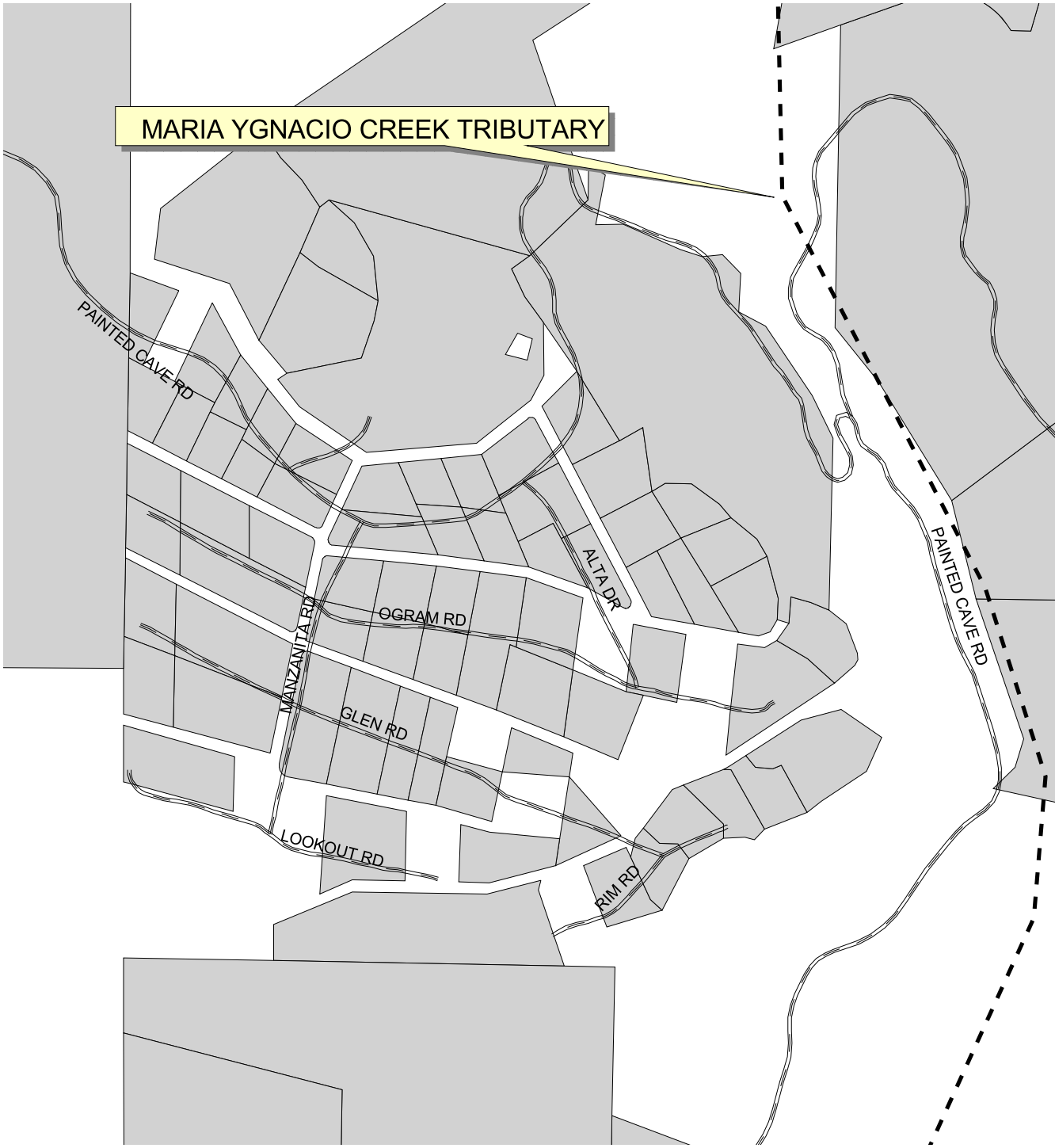
FOCUS AREA

UPPER FAIRVIEW

APPENDIX

D-17



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.03 0 0.03 0.06 Miles

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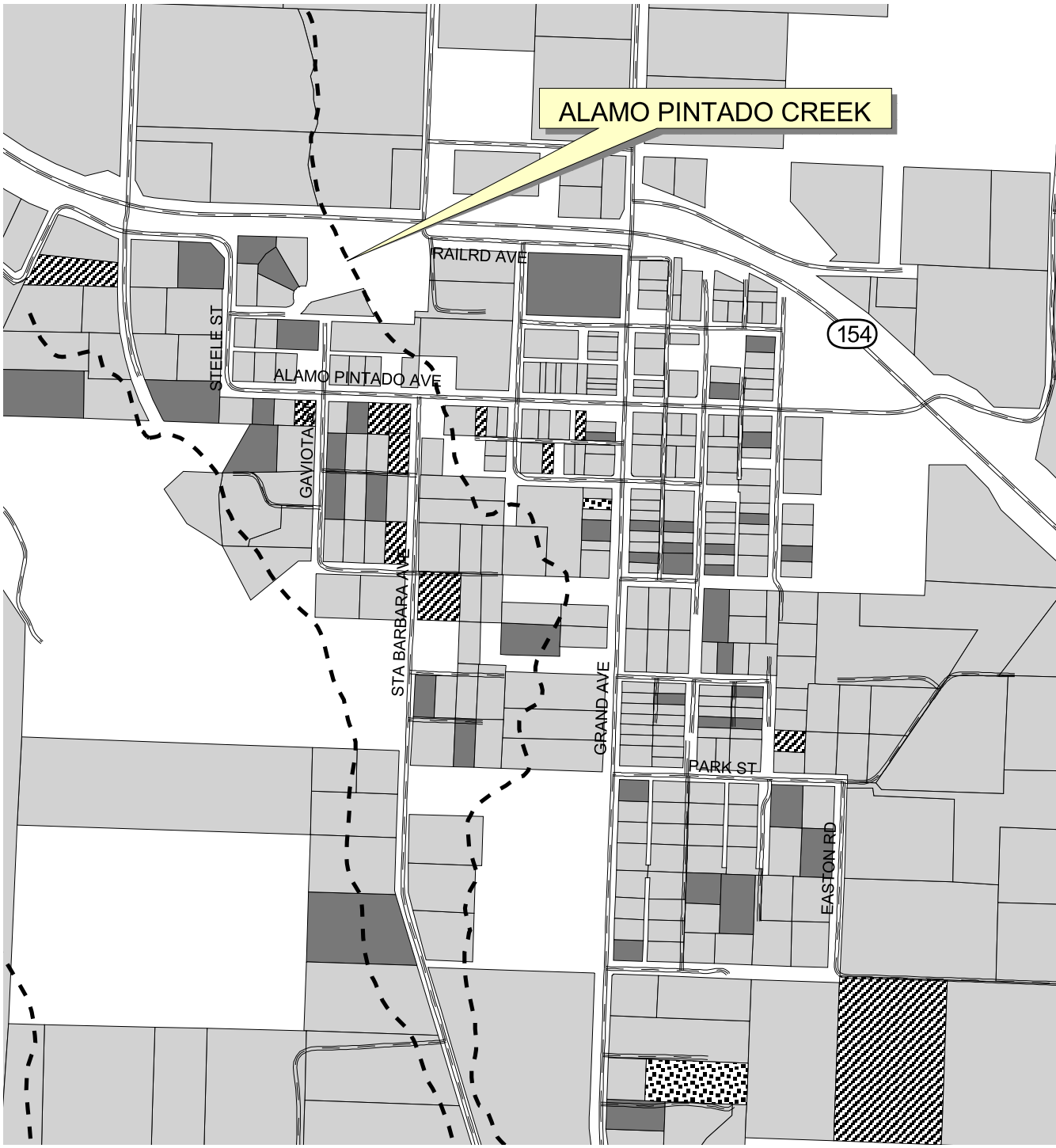
FOCUS AREA

PAINTED CAVE ROAD

APPENDIX

D-18



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.09 0 0.09 0.18 Miles

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& Water Resources
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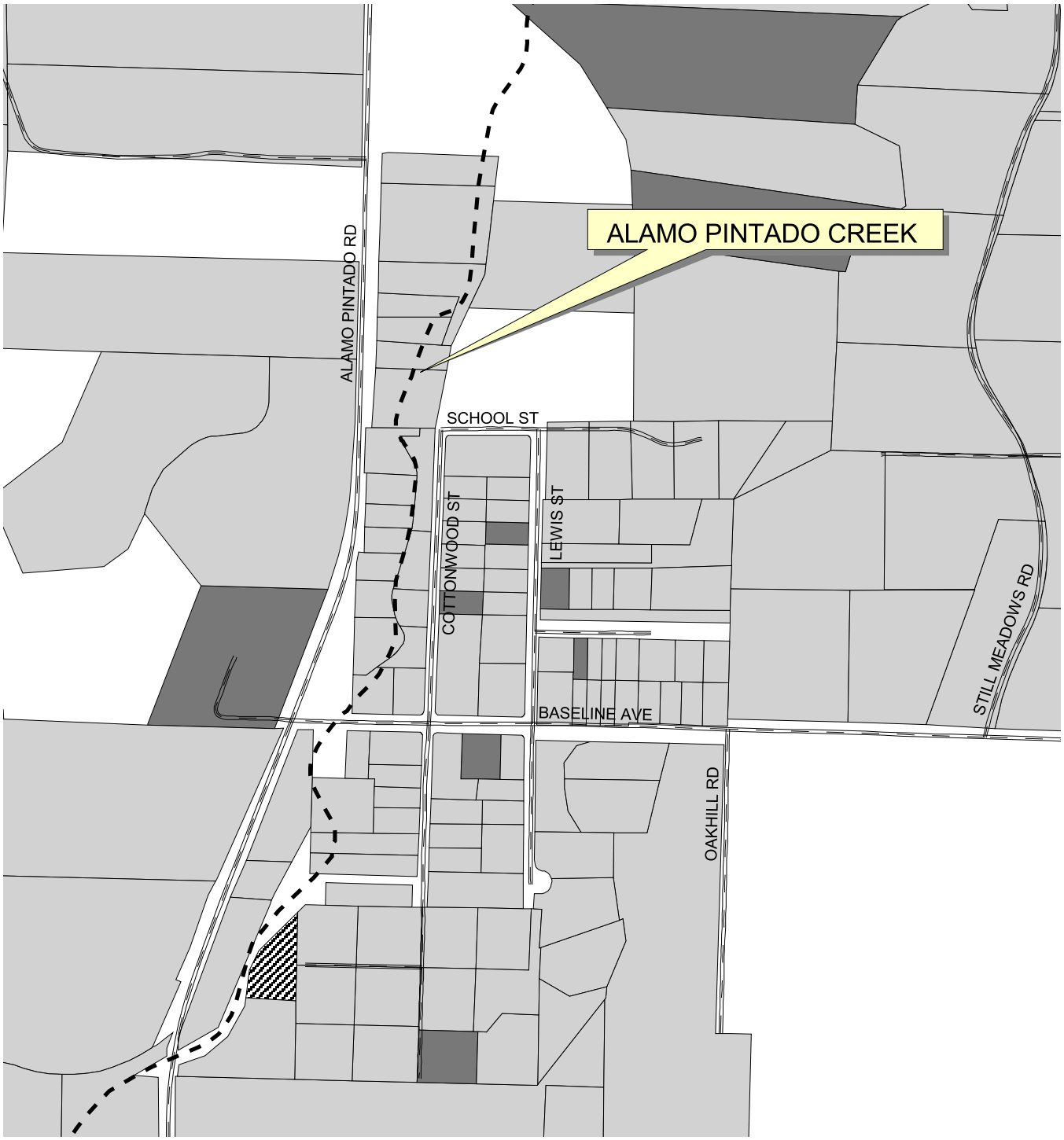
FOCUS AREA

LOS OLIVOS

APPENDIX

D-19



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.06 0 0.06 0.12 Miles

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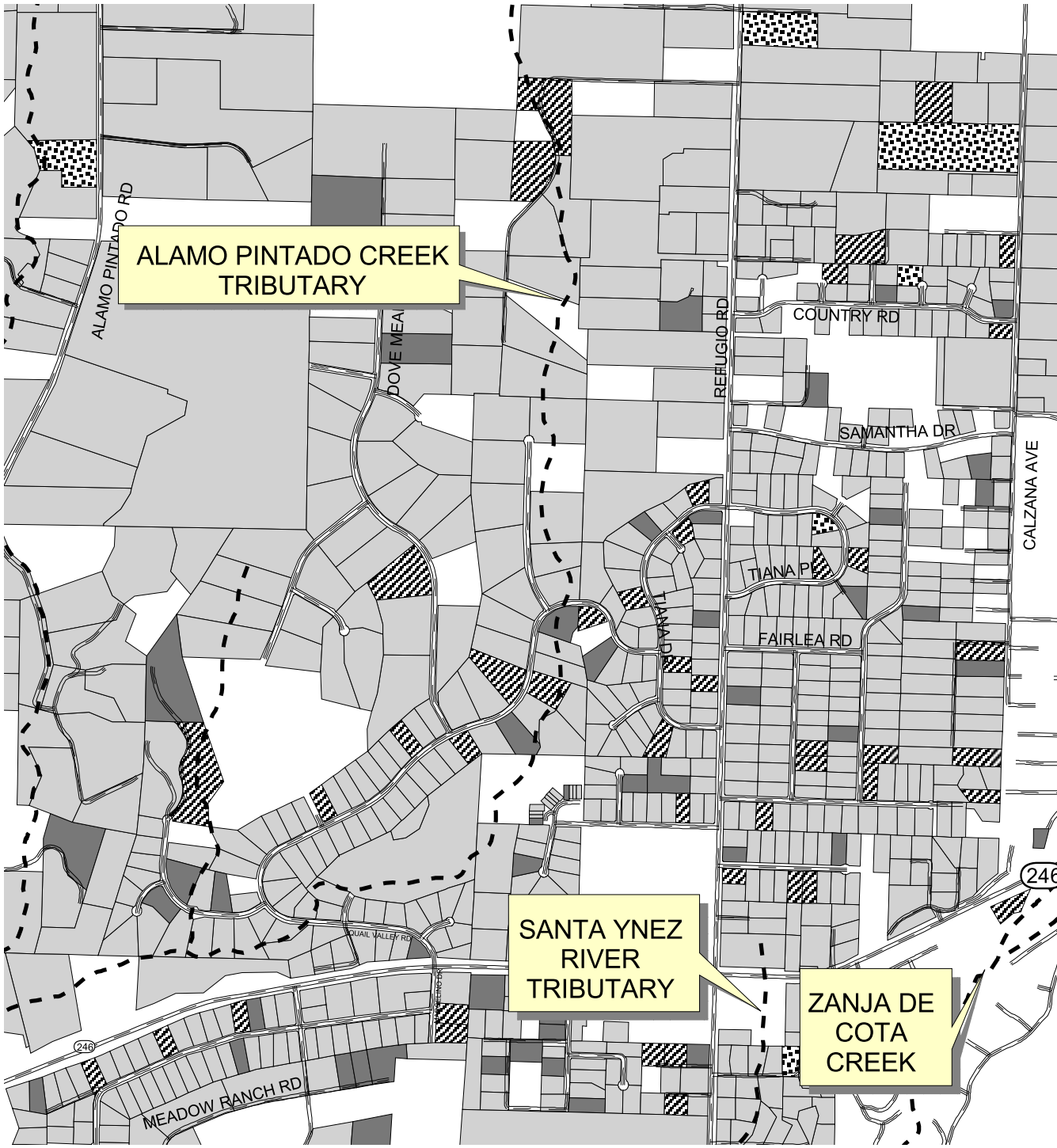
FOCUS AREA

BALLARD

APPENDIX

D-20



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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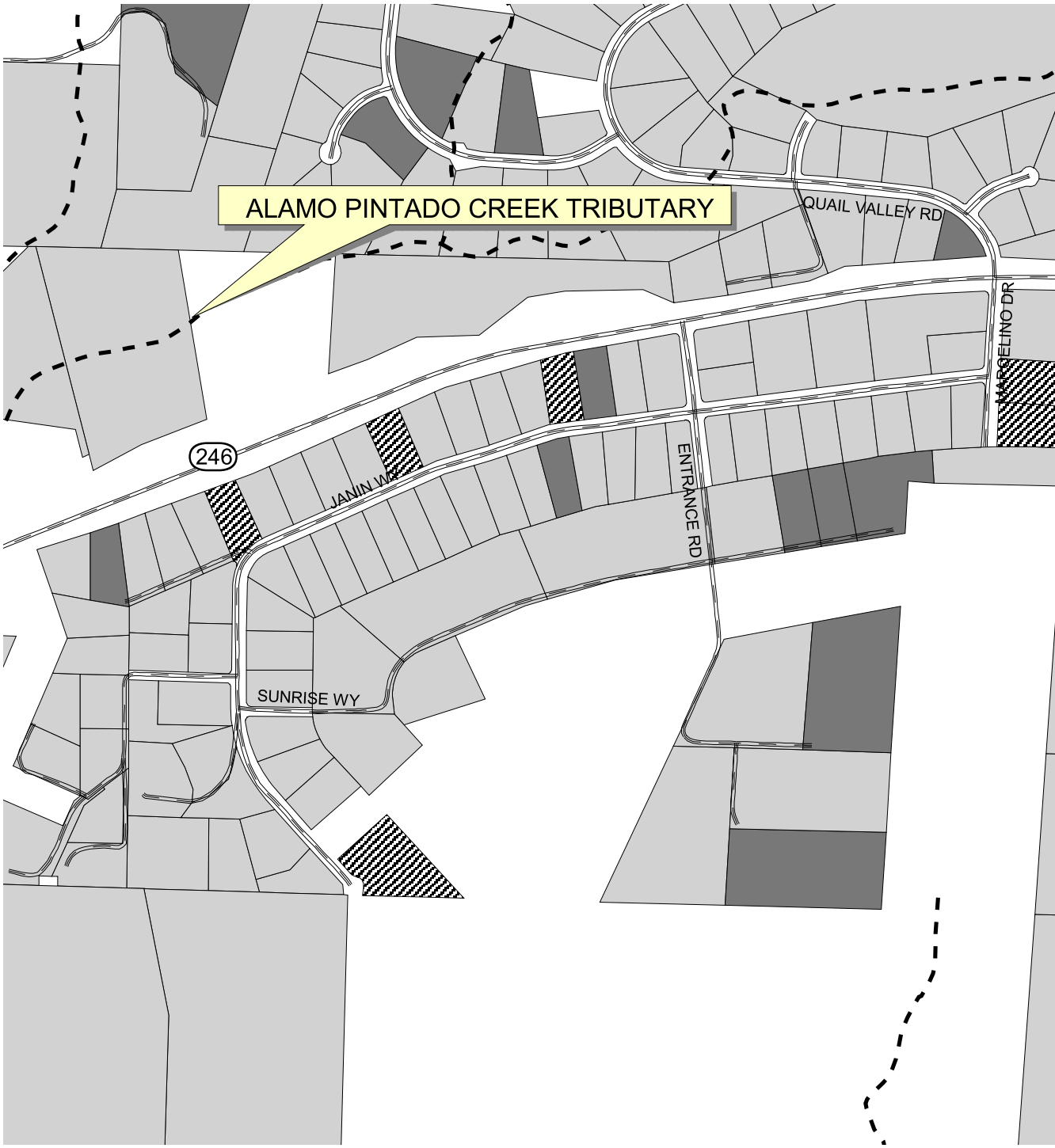
FOCUS AREA

SANTA YNEZ AREA

APPENDIX

D-21



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.08 0 0.08 0.16 Miles

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Environmental
& Water Resources
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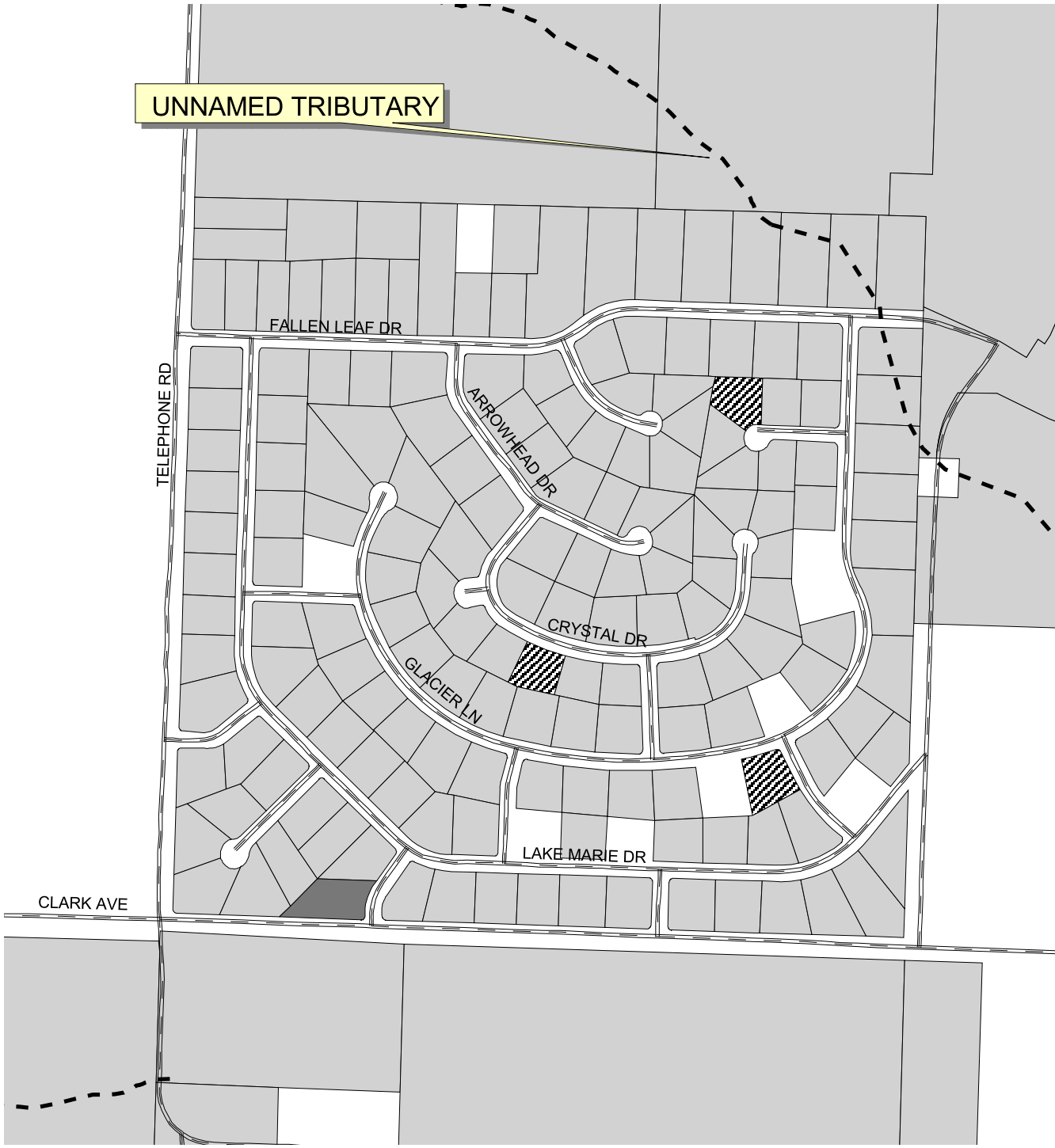
FOCUS AREA

JANIN ACRES

APPENDIX

D-22



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.06 0 0.06 0.12 Miles

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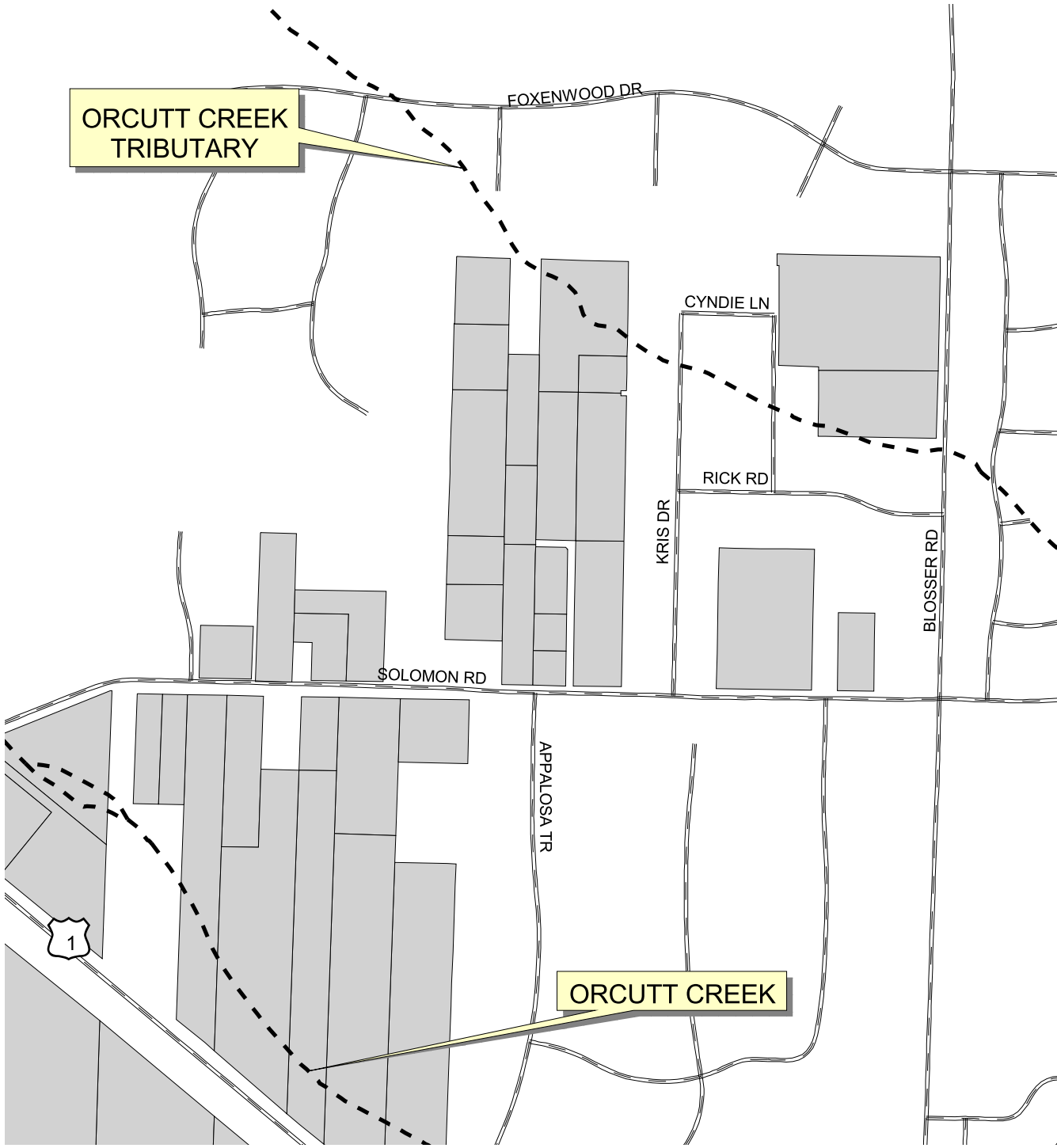
FOCUS AREA

LAKE MARIE ESTATES

APPENDIX

D-23



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.06 0 0.06 0.12 Miles

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FOCUS AREA

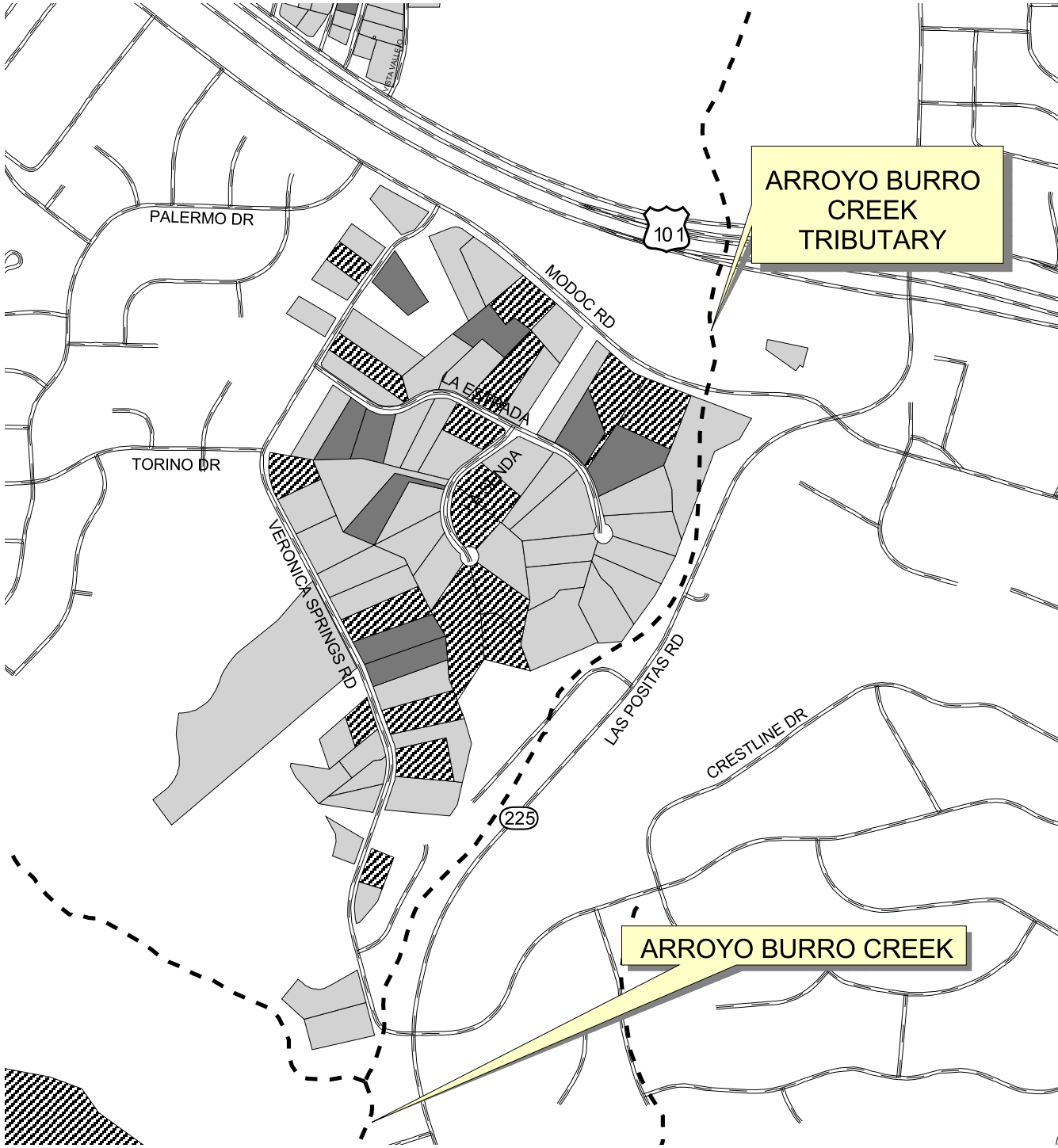
ORCUTT AREA

APPENDIX

D-24

APPENDIX E

SEPTIC TANK INSPECTION REPORT
AND
PERMIT CONVERSION FORMS



STREETS
SURFACE WATER
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System/Advanced Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.08 0 0.08 0.16 Miles

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FOCUS AREA

VERONICA SPRINGS

APPENDIX

D-12

County of Santa Barbara
Septic Tank Inspection Report

Date of Service: _____

ner's name: _____

Location of inspection: _____

Assessor's parcel number: _____ # of Bedrooms: _____ Year Built/Age: _____

Type of on-site disposal system:
☐ Septic tank with leach field or drywell ☐ Cesspool ☐ Other _____

Estimated capacity of septic tank or cesspool: _____ gallons Septage disposal location: _____

# of compartments: _____ Amount pumped: _____ gallons Method of measurement: _____

Construction of septic tank or cesspool:
☐ Round ☐ Rectangular ☐ Oval ☐ Other _____
☐ Concrete ☐ Fiberglass ☐ Plastic ☐ Other _____

Condition of tank:	No	Yes		No	Yes
Inlet tee present	☐	☐	Lids are in good condition	☐	☐
Outlet tee present	☐	☐	Needs pumping	☐	☐
Tank deteriorated	☐	☐	House lateral open	☐	☐
Corrosion noted	☐	☐	Heavy grease build-up	☐	☐

Height of baffle above liquid level: _____

Minimum concrete thickness: _____ Method of Measurement: _____

or to pumping, was effluent level above outflow tee? (Indicates failing system) ☐ No ☐ Yes

Any signs of past drainage problems? ☐ No ☐ Yes

Signs of surfacing effluent? ☐ No ☐ Yes, location: _____

Previous records indicate: _____

Maintenance Performed: _____

_____

Recommended repairs, replacement, or service (description of uncorrected deficiencies):
1. _____ Estimated Cost: $ _____
2. _____ Estimated Cost: $ _____
3. _____ Estimated Cost: $ _____

Site Map

Any imminent danger? ☐ No ☐ Yes

Comments: _____

_____

Did a Qualified Inspector personally inspect system? No ☐ Yes ☐

Signature of Qualified Inspector: _____

Registration or Contractor's License # _____

Company: _____

Phone: _____ Fax: _____

SANTA BARBARA SANITARY SURVEY

APN:			
TYPE OF SYSTEM:	**Leach Lines**	**Seepage Pit** depth:	
Size of Septic Tank:			
RESIDENTIAL	NUMBER OF BEDROOMS		
COMMERCIAL	TYPE (restaurant, etc)		Flow:
MULTI-RESIDENTIAL	Number of Units:		Flow:
SOILS DATA: Y or N	PERC DATA: Y or N	WATER WELL?	
GROUNDWATER DATA:			
SLOPE:	ENGINEER		

SETBACKS	Septic Tank	Disposal Field/Dry Well
Drinking Well		
Water Course		

Type of Failure:

Santa Barbara Co. Environmental Health

Report #: 5118

Onsite Application ID: _____

Received Date: _____

Status: _____

Program/Element: _____

Business Name : _____
(Comments)

ONSITE OWNER INFORMATION

Owner Name: _____

Address(Mailing): _____

City,St,Zip: _____

Phone: _____

Fax: _____

Email: _____

JOB LOCATION INFORMATION

St#,Dir,Name,Type,Unit : _____

City,St,Zip: _____

Lot Size : _____

APN(000-000-000) : _____

Inspection Code : _____

No. of Bedrooms: _____

Dwelling Type: _____

Water Source: _____

Location on Site: _____

Fixture #: _____

Septic Sys Type: _____

Perc Depth : _____

Perc Rate : _____

Septic Tank

Make: _____

Model: _____

Size(Material): _____

Permitted by : _____

Date Permitted: _____

Inspected by : _____

Final Insp By : _____

Final Insp Date: _____

Date of Repair: _____

Prof Engineer Name : _____

Pumps Used: _____
(Y/N) _____

CONTRACTOR INFORMATION

Business Name: _____

First Name: _____

Last Name : _____

Address: _____

City/St/Zip: _____

Certification No.(Lic/Class) : _____

Work Phone: _____

Septic Tank Dimensions

	Permitted	*Built*
Capacity:	_____	_____
Absorption Area Required:	_____	_____
Reduction Allowed:	_____	_____
Working Depth:	_____	_____

Setbacks - Well to

Septic Tank: _____

AbsorptionField: _____

Soil Profile - Depth To

Bedrock: _____

Max groundwater: _____

Field Lines

	Permitted	*Built*	*# of Lines*	Depth	Soil Type
Disposal Field Length:	_____	_____	_____	_____	_____
Disposal Field Width:	_____	_____		_____	_____
Trench Depth:	_____	_____		_____	_____
Clothes Washer Line Length	_____	_____			
Clothes washer Line Width	_____	_____			
Spa Line Length:	_____	_____			
Spa Line Width:	_____	_____			

Seepage Pit

Number : _____

Diameter : _____

Depth : _____

Disposal Field

Rocks Below Line: _____

Waste Water Flow: _____

Seepage Pit Performance (Total): _____

Setbacks - Water Course

Reservoir (Y/N) ____

Septic Tank: _____

Absorption Field: _____

Slope

Absorption Field Slope: _____

APPENDIX F

SEPTIC SYSTEM COMPLAINT FILES

SANTA BARBARA COUNTY SEPTIC SYSTEM SURVEY
Complaint Files

SOUTH COAST				
Focus Area	**Location**	**When**	**What**	**Conclusion/Resolution**
Arroyo Paredon (outside watershed)	Cravens	5/5/95	odor	system repaired
Goleta (la buena Tierra)	La Buena Tierra	7/26/99	cleanout/greywater discharging	no discharge observed
Goleta (la Goleta)	La Goleta Rd	11/7/96	overflowing sewage	failing system confirmed
	La Goleta Rd	5/4/95	overflowing sewage	system repaired
Hope Ranch	Bajada Lane	10/14/99	surfacing effluent	
	camino medio	6/3/98	sewage overflow	No sewage observed
	Estrella	3/12/93	septic system spill	no sewage noted
	Hope ranch private beach	4/5/94	failing septic system	No evidence found to support complaint
	Hope Ranch Slough & Beach	6/14/95	beach looks dirty	nothing out of the ordinary noted
	Las Olas Beach, Hope Ranch	8/14/95	flushing raw sewage onto beach, bypassing septic system	No evidence found to support complaint
	Los Palmas Road	5/23/94	failing septic system	No evidence found to support complaint
	Marina Dr	3/10/99	discharging into ocean	drywell by bluff is collecting rainwater only
	Via Roblada	9/20/00	Black sewage like substance from residence	Dye test unable to confirm septic failure
	Via Vistosa	5/18/98	Surfacing effluent	failing septic
Mission Canyon	Glendessary	12/10/97	failing septic system	owner hooking up to sewer
	Las Canoas Rd	3/31/98	failing septic system	
	Las Canoas Rd	12/12/96	failing septic system	no sewage or smell noted
	Las Canoas Rd	1/29/02	water bubbling out of the side of hill	Dye test unable to confirm septic
	Las Canoas Rd	5/2/00	Illegal septic systems	No evidence found to support complaint
	Las Canoas Rd	3/8/00	Odors	Dye test unable to confirm septic
	Las Canoas Rd	4/1/98	failing septic system	No evidence found to support complaint
	Tunnel Rd	3/19/01	smelly foamy discharge from black corrugated hose draining to roadway	owners cleaning patio with soap and water which drained into the storm
	Tunnel Rd	9/22/98	septic and grey water spew by products from open pipes onto a common roadway.	grey water; repairs completed
	Tunnel Rd	8/4/99	sewage smell	complainant to call when they see discharge

SANTA BARBARA COUNTY SEPTIC SYSTEM SURVEY
Complaint Files

SOUTH COAST				
		When	**What**	**Conclusion**
Montecito (Cold Springs)	Cold Springs Rd	2/14/96	surfacing effluent from abandoned system	
	Cold Springs Rd	10/2/96	surfacing effluent from abandoned system	
	Riven Rock	1/7/93	raw sewage running through creek	no source could be found
	Riven Rock	5/23/97	septic causing odors	
		1/11/00	leachline not properly hooked up and septic system has bad odor	no visible signs of surfacing effluent or odor
	Riven Rock	1/28/99	sewage odor	no violations of health and sanitation laws at time of inspection
Montecito (orchard ln)	Orchid	9/14/95	leaking septic	No evidence found to support complaint
Montecito (Sycamore)	Barker Pass Rd	4/2/98	surfacing effluent	
	Ranchito vista	2/26/98	mudslide on property and septic tank destroyed	strong septic odor detected; connection between septic tank and disposal field may have been severed.
	Sierra Vista	1/10/96	sewage seeping onto road	did not observe any discharge or odor
	Stanwood	11/13/98	discharging into creek	no problems observed
More Mesa	Louisiana	9/14/95	leaking septic	No evidence found to support complaint
		1/4/98	odor & surfacing sewage	tank uncovered; tank lid replaced
Painted cave	Glenn Rd	8/19/99	no septic permits	stop work order issued
	Glenn Rd	6/1/93	no septic permits	No evidence found to support complaint
	Rim Rd	2/22/95	overflowing sewage	greywater system disposing of grey water onto ground surface
	Rim Rd	11/23/99	toilets empty to ground	surfacing effluent from kitchen and laundry; tank deteriorated
Rincon	Rincon Hill Rd	4/26/95	overflowing sewage	septic system over 1000' from seepage
	Rincon Point Ln	5/4/95	sewage flowing from septic tank to creek	No evidence found to support complaint
San Antonio	Los Verdes	1/24/95	failing septic system	No evidence found to support complaint
	Los Verdes	3/11/00	failing septic system	switched drywells
	Via Clarice	11/30/98	Surfacing effluent	failing septic

SANTA BARBARA COUNTY SEPTIC SYSTEM SURVEY
Complaint Files

SOUTH COAST				
		When	**What**	**Conclusion**
Santa Barbara (Sunset/Carol)	Calle cita	1/11/95	water is forcing sewage into neighbors yard	No evidence found to support complaint
	Calle cita	1/24/95	surfacing effluent	dye test conducted
	Calle cita	3/5/96	septic system leaking into the water supply	obvious signs of failure on side yard
	Calle cita	10/28/97	odor	
	Hope Av	7/11/00	Discharge of sewage onto ground surface	roto rooter cleaned site
	Hope Av	2/26/97	seepage from septic system coming from neighbors property	leaking water pipe
	Russell Way	11/2/99	leaking septic	no sewage spilling but slight odor; new drywell installed
	Sunset	11/8/89	failing septic system	failing septic
	Sunset	6/19/84	septic runoff draining into street	failing septic
Santa Barbara (Vista Vallejo)	Vista Vallejo	5/24/99	Surfacing effluent	failing septic; new drywell constructed
Toro Canyon	Camino Cielo	2/26/98	effluent discharging onto neighbor's property	no effluent observed
	Camino Cielo	5/19/98	illegal septic work	greywater system connected to septic system
	E. Valley Rd	12/13/96	overflowing sewage	no sewage leaking from facility/septic tank & system at this point; tank cover damaged; swale behind facility encourages natural runoff to impact
	East Valley Road	6/5/98	liquid bubbling in rear yard	possibly groundwater
	Torito Rd	1/4/99	septic runoff draining into yard	Dye test unable to confirm septic
	Toro Canyon Rd	11/1/00	septic runoff draining into yard	failing septic system repaired

SOUTH COAST				
		When	What	Conclusion
Veronica Springs	La Entrada	5/27/98	greywater draining into arroyo burro creek	N.O.V. issued to discharge greywater properly
	La Senda	7/24/00	failing cesspool	new drywell constructed
	La Senda	1/30/97	odors from drywell	some pooled sewage in trench. Drywell is not in vicinity of influence for neighbors drywell and there is probably no potential for a problem
	Veronica Springs Rd	9/19/94	neighbor put in PVC pipe which is constantly draining either clear water or foamy water	Unable to contact owner
	Veronica Springs Rd	7/31/96	failing septic system	No sewage; water sample taken
		3/13/98	Illegal greywater system & septic system repairs without permit	No evidence found to support complaint
		3/27/98	failing cesspool	No evidence found to support complaint
	Veronica Springs Rd	9/13/96	Channeling greywater discharges to creek; stockpiling manure at property line	No EHS enforceable violation occurring at time of inspection
	Veronica Springs Rd	9/22/97	Septic system in disrepair; pumper truck services system 2-3 times per week; modified system without	Hit groundwater at 3'; owner looking into modifying the system
		2/25/00	septic system effluent pumped into street after rainstorms	No discharged observed; owner inquired into connecting to sewer
		6/7/00	some sort of discharge from address	no sign of sewage of failing septic; complainant getting more water in french drain system.
	Veronica Springs Rd	3/11/96	someone draining greywater into veronica creek	no sign of pipe or any grey water was noted

SANTA BARBARA COUNTY SEPTIC SYSTEM SURVEY
Complaint Files

NORTH COUNTY				
		When	**What**	**Conclusion**
Ballard	Alamo Pintado	7/3/95	surfacing effluent	dye test unable to confirm septic failure
	Highway 246	4/3/95	Septic system leaking onto neighbor's property	possibly perched groundwater
	Refugio Road	5/12/98	septic failure, constantly overflowing	standing water from runoff impeded repair of system. Tank submerged in surface water and possible effluent
Janin Acres	Janin Way	12/1/94	septic runoff draining into neighbors yard	water pooling in front yard of 2568 Janin way and in the backyard of 2570 Janin way. Dye test did not confirm. Possibly perched water or broken
Santa Ynez	Cuesta Street	6/20/97	Failure	septic line had been repaired
	Deerhill Drive	4/4/95	sludged up drywell	Confirmed failed septic system
	Edison Sreet	10/2/96	surfacing effluent	high water use was probably cause of leach field failure. New drywell constructed
	Horizon Drive	1/12/95	overflowing septic tank, chemical toilet used during rainy season	1.5 acre parcel, most of lot had ponding water

APPENDIX G

CONTRACTOR-CONSULTANT QUESTIONNAIRE RESULTS

Santa Barbara County Septic System Survey

Contractor-Consultant Questionnaire

Questa Engineering Corporation has been hired by Santa Barbara County Environmental Health Services to conduct a county-wide survey of septic systems. The overall purpose of the study is to determine the extent of public health hazards and/or water quality problems due to existing septic systems and to identify needed improvements in practices, standards or sewerage facilities in problem areas.

To date the work effort has included extensive review and mapping of file information, bacteriological sampling of surface streams, review of soils, geology, hydrology and water quality data, community meetings and a Homeowner Questionnaire survey. We are also interested in obtaining information from Septic System Contractors and Consultants who work in Santa Barbara County regarding their observations and opinions about different types of problems and areas of particular concern. For this purpose we have enclosed a Contractor-Consultant Questionnaire Survey form that we would like you complete and return to Questa Engineering in the self-addressed, stamped envelope. A copy of the survey form is also available on our web site address listed below.

Completion of the enclosed survey form should be self-explanatory; however, please feel free to call either of the listed contact people at our office (see below) if you have any questions. The information from the questionnaires will be compiled and presented as part of our report to the County. All those participating in the survey will be acknowledged; but no individuals or businesses will be specifically mentioned in our report without obtaining prior consent.

We appreciate you taking the time to complete the survey form. We know your direct experience with septic systems in Santa Barbara County will be helpful to our work and to the overall results of the project.

We would like to have the completed survey sent back to us by May 15th if possible.

Once again, thank you for your participation and don't hesitate to call with any questions.

Norman Hantzsche, P.E.
Principal/Managing Engineer

Jocelyn Habal, R.E.H.S.
Environmental Health Specialist

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SANTA BARBARA COUNTY
SEPTIC SYSTEM SURVEY

Septic System Contractor-Consultant Questionnaire

Type of Work/Services Provided:

__7___Septic tank pumping/inspections
__6___Escrow or other inspections
__5___Maintenance
__8___Minor System Repairs
__8 __Major System repairs and new installations:
- **_10___**Septic Tanks
- **_8 ___**Pump systems
- **_10___**Leachfields
- **_9___**Dry Wells
- **_7___**Alternative Designs or other: _____

__3___Site Investigations/Evaluations
- **__3__**Percolation testing
- **__3__**Soils/geology/groundwater assessment

__3__ Engineering/Design
- **__3__**Standard Systems
- **__3__**Pump Systems
- **__2___**Alternative Treatment/Disposal Systems

____Other: _____

_____

Geographical areas of Santa Barbara County where you provide septic system services:

__11___South Coast	**__6___Orcutt Area**
__9 ___Santa Ynez Valley	**__6___Lompoc Area**
__6 ___Santa Maria Area	**__2___Cuyama Area**

_____Other: ___Hollister Ranch, Ventura County, San Luis Obispo,_____

A. SEPTIC TANK PROBLEMS OBSERVED

TYPE OF PROBLEM	OCCURRENCE FREQUENCY			PARTICULAR GEOGRAPHICAL AREA(S) OF CONCERN (IF ANY)
	Rare or Never (□)	Occasional (□)	Common (□)	
1. Undersized tanks	3	10		
2. Sub-standard materials/design	2	10	2	Paradise Rd & Hwy 154
3. Structural damage/deterioration		8	4	
4. Defective/missing tees, baffle, pipe connections		8	4	
5. Difficult or obstructed access to tank	2	3	7	Montecito, Hope Ranch
6. Excessive tank depth	3	7	3	Montecito, Hope Ranch
7. Root intrusion/blockage	1	8	3	Santa Barbara – Montecito
8. Groundwater infiltration or flooding	8	4	1	All areas; refugio & calzada rd.; Hope Ranch (995 C2&3, D2&3)
9. Excessive water use/flow from house	2	7	3	All area
10. Excessive solids, scum, grease accumulation		5	6	All areas
11. Close proximity to wells or streams	9	3	1	All areas
12. Other: (list)				

B. DISPOSAL SYSTEM PROBLEMS OBSERVED

TYPE OF PROBLEM	OCCURRENCE FREQUENCY			PARTICULAR GEOGRAPHICAL AREA(S) OF CONCERN (IF ANY)
	Rare or Never (□)	Occasional (□)	Common (□)	
1. Old, undocumented, non-permitted	3	8	2	Foothills, Santa Barbara
2. Excessive water use or over irrigation	1	9	2	Montecito, Hope Ranch
3. Physical damage (e.g. from landscaping, paving, live stock, grading, etc)	5	8		South Coast
4. Root intrusion, blockage, or piping problems	1	8	3	All areas
5. Solids carryover from septic tank	1	9	3	All areas
6. Soil percolation/drainage problem (e.g. rock, clay, shallow soil depth)	1	8	4	South coast
7. High groundwater/infiltration	6	5	2	Montecito, Santa Barbara Hope Ranch (995 C2&3; D2&3)
8. Surface drainage/flooding	6	7	1	
9. Steep slopes, slides, erosion	10	2	1	Montecito & S.B. Foothills
10. Seepage/breakout at cut slopes or embankments	10	2	1	Montecito & S.B. Foothills
11. Close proximity to wells	10	3	1	Montecito – Hope Ranch
12. Close proximity to streams/drainages	5	6	2	Montecito
13. Inadequate land area	6	4	3	All areas

B. DISPOSAL SYSTEM PROBLEMS OBSERVED (Continued)

TYPE OF PROBLEM	OCCURRENCE FREQUENCY			PARTICULAR GEOGRAPHICAL AREA(S) OF CONCERN (IF ANY)
	Rare or Never (□)	Occasional (□)	Common (□)	
14. Other specific Leachfield problems: (list)				
They don't work – clogg up from no grease traps			1	All areas
Diverter valve instead of distribution box				
Poor orig. design. Houses remodeled w/o increasing size of leachfield/tank as needed		1		
Grease buildup		1		
Old systems typically undersized		1		
Most leachfield failures could be solved by pumping tank properly and making sure outgoing invert is properly installed in tank.				
15. Other specific Dry Well problems: (list)		1		Montecito Area
They don't work, clogg up from septic tank overflow of grease and fats			1	
Old style not gravel filled			1	Hope Ranch, Montecito
Diverter valve not installed on most older systems			1	Hope Ranch, Montecito
Seasonal ground saturation				
Grease buildup				

C. PUMP SYSTEMS – PROBLEMS OBSERVED

TYPE OF PROBLEM	OCCURRENCE FREQUENCY			PARTICULAR GEOGRAPHICAL AREA(S) OF CONCERN (IF ANY)
	Rare or Never (□)	Occasional (□)	Common (□)	
1. Faulty installation or design	4	7	1	South Coast
2. Mechanical failure	1	10	1	South Coast
3. Homeowner abuse	2	6	4	South Coast
4. Sewage overflow during power outages	8	3	1	South Coast
5. Other:				

D. SEPTIC SYSTEM PROBLEMS – AREA ASSESSMENT

Geographic Area	Overall Problem Rating				Opinion on Long-Term Septic System Management needs						Other Comments
	Low (□)	Med (□)	High (□)	No Opinion (□)	OK As Is (□)	Require Routine System Inspections (□)	Change Design Standards (□)	Require/ Allow Alternative Designs (□)	Community System or Sewers Needed (□)	No Opinion (□)	
South Coast				**1**		**1**			**1**		
Rincon Point		**4**	**2**	**1**		**4**		**1**	**4**	**1**	
Shepards Mesa	**1**	**5**	**1**	**2**	**1**	**2**		**2**	**1**	**1**	
Padaro Lane	**1**	**4**	**3**	**1**		**2**		**2**	**4**	**1**	
Sand Point Road	**1**	**3**	**3**	**1**		**2**		**1**	**4**	**1**	
Toro Canyon	**2**	**4**	**1**	**2**		**2**		**3**	**1**	**1**	
Montecito	**2**	**4**	**1**		**1**	**2**		**2**	**2**	**1**	
-Orchard Lane Area	**1**	**3**	**1**	**2**	**2**	**1**		**1**	**1**	**2**	
-Cold Springs Area	**1**	**2**	**2**	**2**	**1**	**2**		**1**	**1**	**1**	
-Sycamore Creek Area	**1**	**2**	**1**	**2**	**1**	**1**		**1**	**1**	**1**	
Mission Canyon	**1**	**2**	**1**	**2**	**1**	**1**		**1**	**1**	**1**	
Hope Ranch	**3**	**4**	**1**	**1**	**1**	**3**		**3**	**2**	**1**	
Veronica Springs	**3**	**1**	**1**	**1**	**1**	**1**		**2**	**1**	**1**	

D. SEPTIC SYSTEM PROBLEMS – AREA ASSESSMENT (continued)

Geographic Area	Overall Problem Rating				Opinion on Long-Term Septic System Management needs						Other Comments
	Low (□)	Med (□)	High (□)	No Opinion (□)	OK As Is (□)	Require Routine System Inspections (□)	Change Design Standards (□)	Require/ Allow Alternative Designs (□)	Community System or Sewers Needed (□)	No Opinion (□)	
South Coast *(Cont'd)*				**1**					**1**	**1**	
Goleta	**2**		**1**	**1**		**1**			**1**	**1**	
-Holiday Hills Area	**1**		**1**	**3**	**1**	**1**		**1**	**1**	**1**	
-La Goleta Rd Area	**1**	**1**	**1**	**2**		**1**		**1**	**1**	**1**	
-La Buena Tierra Area	**1**		**1**	**3**		**1**		**1**	**1**	**1**	
-Via Chapparal/ La Paloma Ave	**2**		**1**	**2**		**1**		**1**	**1**	**1**	
Santa Barbara	**1**	**1**	**1**	**2**		**1**		**1**	**2**	**1**	
-Sunset St/Carol Ave Area	**2**		**1**	**2**		**1**		**1**	**1**	**1**	
-Vista Vallejo Area	**2**		**1**	**2**		**1**		**1**	**1**	**1**	**Systs 40+ old**
San Marcos Pass Area	**3**	**1**	**2**	**1**	**1**	**2**		**1**	**1**		**Old systs; new d.w. works fine**
OTHER:											

D. SEPTIC SYSTEM PROBLEMS – AREA ASSESSMENT (continued)

Geographic Area	Overall Problem Rating				Opinion on Long-Term Septic System Management needs						Other Comments
	Low (□)	Med (□)	High (□)	No Opinion (□)	OK As Is (□)	Require Routine System Inspections (□)	Change Design Standards (□)	Require/ Allow Alternative Designs (□)	Community System or Sewers Needed (□)	No Opinion (□)	
North County											
Santa Ynez Valley	**3**	**2**		**2**	**1**	**2**		**1**		**1**	
-Los Olivos		**4**	**2**	**2**	**1**	**3**		**1**	**1**	**1**	
-Ballard	**1**	**3**	**2**	**2**	**1**	**3**		**1**	**1**	**1**	
-Santa Ynez	**4**	**2**		**2**	**2**	**2**			**1**	**1**	
-Janin Acres	**2**	**2**	**2**	**2**	**1**	**3**	**1**	**3**	**1**	**1**	
-Other:				**2**							
Santa Maria	**5**			**3**	**2**	**1**				**2**	
Lompoc	**3**	**1**		**3**	**2**	**1**				**1**	
Orcutt	**4**	**1**		**3**	**2**	**1**				**2**	
Cachuma Lake	**3**			**3**	**2**	**1**				**1**	**Large parcels**
OTHER:											

OTHER COMMENTS AND RECOMMENDATIONS

1. **Design Standards and Regulations:**

   * **All new sewage recycler systems – no septic systems in ground anywhere**

   - **S.B. co. efforts to update ordinance is good**
   - **Continue to encourage public sewer connecitons**
   - **I would make minimum depth under 4" perf. Pipe to be no less than 36"**

2. **Septic system pumper/inspection reporting requirements:**

   - **need to enforce codes to repair or replace failed systems**
   - **if septic tank owners were required to have tank pumped every 2 years or not more than 3 years, a competent pumper could be aware of any problems and a reasonable solution and could be implemented on a case by case basis.**
   - **if pumpers maps show drywells they should be checked for rock**

3. **Other monitoring/inspection needs:**

   - **Safety**
   - **Pumpers handling these inspections at this time do not know what they are doing. Nine times out of ten their assessment of the problem is wrong . I am not referring to EHS inspectors here but rather the "new" pump out "inspectors" should be someone with intimate knowledge of design and above all with experience installing systems in all situations. More common sense is required in this area, rather than purely technical experts.**

4. **Other:**

   - **this is a no win situation like using fossil fuels to run engines – it's a sick joke that gonna wipe us off the face of this planet unless we change our ways.**
   - **There are a umber of areas in S.B. county where septic systems are experiencing failure, however in some of these areas it is related to old neighborhoods and old systems.. Montecito, Hope Ranch, and Padaro Lane are examples where a sewer system should be installed due to poor percolation rates and/or high groundwater**
   - **I would say that poor design is the rule rather than the exception. Not so much in tank size requirement, but in leach field design, which ultimately determines how well any of these systems perform.**
   - **Failure due to old neighborhoods and old systems. Montecito/hope ranch/Padaro lane are examples of places that need sewer due to poor percolation rates and/or high groundwater.**

APPENDIX H

HOMEOWNER SURVEY QUESTIONNAIRE

Santa Barbara County Septic System Survey
Community Meetings

Questa Engineering Corporation has been hired by Santa Barbara County Environmental Health Services to conduct a county-wide survey of septic systems. The overall purpose of the study is to determine the extent of public health hazards and/or water quality problems due to existing septic systems and to identify needed improvements in practices, standards or sewerage facilities in problem areas.

The purpose of the community meetings will be to discuss the overall purpose and scope of the septic system survey, present and review water quality sampling results and other preliminary findings, and seek additional input from homeowners and others regarding septic system conditions, standards, management practices or specific problems.

LOCATION OF COMMUNITY MEETING	WHEN
1. ***El Montecito Presbyterian Church*** ***1455 East Valley Road, Montecito***	**April 16** **6:30 p.m. to 9:00 p.m.**
2. ***Monte Vista School*** ***730 North Hope Avenue, Santa Barbara***	**April 17** **6:30 p.m. to 9:00 p.m.**

Attached to this meeting announcement is a homeowner questionnaire that we would like you to complete and either mail it back to Questa Engineering or bring it to one of the community meetings.

Your attendance at the community meetings is encouraged and will be very helpful in our efforts to obtain as much information and as many viewpoints as possible, while giving us a chance to explain the work that is being done.

If your property happens to be undeveloped, please disregard the enclosed questionnaire.

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Santa Barbara County Septic System Survey Homeowner Questionnaire

(1) Property Owner: _____

(2) Site Address: _____

(3) Is the property occupied: (a) Year Round: _____ or (b) Part time: _____

(4) Total Number of Bedrooms: _____

(5) What type of wastewater disposal system serves the property?

___ Septic Tank with leachfield
___ Septic Tank with Seepage pit
___ Other (specify): _____
___ Unknown

(6) How is greywater disposed of?

____ Into septic tank - leachfield system
____ Separate greywater system
____ Onto ground surface
____ Other (specify): _____

(7) How old is the wastewater system?

____ Number of Years
____ Unknown

(8) Approximate distance (in feet) from septic system (Disposal field):
____ Year Round Creek
____ Seasonal Creek/Drainages
____ Water Well

(9) How often is the septic tank pumped

____ More than once a year
____ Once a year
____ Every 2 to 5 years
____ Less frequently

(10) Assessor's Parcel Number: _____

(11) Total Number of Permanent Residents: _____

(12) Have any of the following problems been observed with the wastewater system?
(if yes, please check applicable period).

___ Slow drainage of plumbing fixtures/backup into house:

___ Year Round
___ Seasonal
___ After Heavy Rainfall
___ Occasional for unexplained reason

___ Wet areas in leachfield area and/or odors

___ Year Round
___ Seasonal
___ After Heavy Rainfall
___ Occasional for unexplained reason

___ Liquid on ground surface

___ Year Round
___ Seasonal
___ After Heavy Rainfall
___ Occasional for unexplained reason

(13) Approximately how many years since the septic tank was last pumped? _____

(14) Has on-site system ever been repaired? **Yes** or **No**

(15) If the on-site system has been repaired, was the repair effective? **Yes** or **No**

(16) Other comments/suggestions on general or specific septic system conditions and problems in your area. (Attach additional sheets as needed)

Please mail completed survey to Questa Engineering or bring to community meeting

APPENDIX I

WATER QUALITY SAMPLING PROCEDURES AND LOCATIONS

SANTA BARBARA COUNTY SEPTIC SYSTEM SURVEY

WATER QUALITY SAMPLING PLAN

SAMPLING PROCEDURES

Surface water samples will consist of grab samples utilizing sterilized polypropylene containers. Samples will be collected at various fixed points across surveyed streams. The appropriate preserved samples will be filled in the field and transported to the laboratory facility.

Sampling will be conducted after a major storm event to obtain water quality information after the stream has stabilized. We anticipate water quality sample collection during at least four storm event sampling periods. Typically one sample will be obtained at each station. It is important to obtain samples after the rain has subsided in order to not have a high concentration of pollutants from runoff.

Sample Containers

All sample containers necessary for the collection, preservation, transport and storage of samples will be supplied by the primary laboratory.

Clean, empty sample containers with caps will be supplied to the field crew in protective cardboard cartons or ice chests by the primary laboratory. The containers will be certified clean by either the laboratory or the container supplier. Each individual carton will contain a laboratory-supplied travel blank. To ensure data quality control, the sampler will utilize the appropriate sample container as specified by the laboratory for each sample type.

Collecting Samples

Provided below are general guidelines that will be followed for sample collection:

1. Label the bottle with the site number, date and time.

2. Remove the cap from the bottle just before sampling. Avoid touching the inside of the bottle or the cap. If you accidentally touch the inside of the bottle, use another one.

3. Sample away from the streambank in the main current. Never sample stagnant water. The outside curve of the stream is often a good place to sample, since the main current tends to hug this bank. In shallow stretches, carefully wade into the center current to collect the sample or use an extension pole.

4. If wading is required, try to disturb as little bottom sediment as possible. Be careful not to collect water that has sediment from bottom disturbance. Stand facing upstream. Collect

the water sample on your upstream side, in front of you. You may also tape your bottle to an extension pole to sample from deeper water.

5. Hold the bottle near its base and plunge it (opening downward) below the water surface. If you are using an extension pole, remove the cap, turn the bottle upside down, and plunge it into the water, facing upstream. Collect the water sample from a few inches beneath the surface.

6. Turn the bottle underwater into the current and away from you. In slow-moving stream reaches, push the bottle underneath the surface and away from you in an upstream direction.

7. Do not fill the bottle completely. Leave a small air space. Recap the bottle carefully, remembering not to touch the inside.

8. Fill the bottle number and/or site number on the appropriate field data sheet.

Delivering Samples to the Laboratory

All bacteriological samples are to be packed and transported to the laboratory the day the samples are collected to provide ample time for samples to be analyzed within the required holding times. Samples will be transported by Questa field personnel directly to the Santa Barbara County Public Health Laboratory located at315 Camino Del Remedio, Santa Barbara. The Laboratory Director is Michael Hartley. The laboratory phone number is (805) 681-5255.

Sample Packing and Shipping

In the event that any samples are taken that require transport to an out-of-area laboratory (e.g., for chemical analysis), sample packaging and shipping procedures will be in accordance with U.S. EPA specifications, as well as U.S. Department of Transportation (DOT) regulations (49 CFR) as summarized here. All samples will be shipped according to low or medium hazard requirements, if appropriate. Artificial ice will be included in coolers containing samples which require temperature control. Samples will be packaged in the following manner:

1. Sample stickers will be securely attached to each sample container

2. The sample containers will be placed in the lined cooler. Bubble-wrap, suitable foam padding, or newspaper will be placed between sample containers to prevent breakage during shipment and handling.

3. The COC will be placed inside a plastic bag and placed inside the cooler.

4. The cooler will be taped shut with clear packaging tape wrapped over the custody seals.

5. The cooler will then be delivered to the overnight courier or directly to the laboratory

Safety Considerations

Table 2 provides a list of general safety precautions and guidelines that will be provided to and followed by the field personnel participating in the water quality sampling program.

SAMPLE CUSTODY AND DOCUMENTATION

Sample tracking

During sample acquisition a sample tracking form will be used to record all pertinent information related to each sample. An example of this form is included in **Attachment B**

Samples will be individually labeled after they are collected. The label includes the project name, job number, data and time the sample was collected, the initials of the individual who performed the sampling, and a unique five digit sample identification number.

At the time of sampling, sample, number, collection time and location will be recorded on: (1) a label affixed to the container; (2) a COC form; and, (3) a bound field notebook

Field Log Book

A bound , waterproof log book will be maintained by the members of the sampling team to provide a daily record of sample location, significant events, observations, and field measurements taken during field investigations. All entries will be signed and dated. Field data will be recorded with waterproof ink. Field log books are intended to provide sufficient data and observations to enable project team members to reconstruct events that occurred during the project. The field log book entries will be factual, detailed, and objective. Where appropriate, records of photographs and sketch maps will be included. Log books used by members of the field investigation team will be kept as permanent records.

Chain of Custody and Sample Labels

The Chain of Custody (COC) record will be employed as physical evidence of sample custody. The sampler will complete a COC record to accompany each sample shipment from the field to the laboratory. The COC will specify: (a) time, date, and location of sample collection; (b) specific time and date of sample transaction between field and laboratory staff; and, (c) name of receiving party at the laboratory.

Corrections on the COC record will be made by drawing a line through, initialing, and dating the

error, and entering the correct information. Erasures will not be permitted. An example of a COC record form is shown in **Attachment B**.

Upon receipt of the samples, laboratory personnel will check to insure that the contents of the ice chest(s) are accurately described by the COC and that sample containers are received in good condition. Upon verification of the number and type of samples and the requested analysis, a laboratory representative will sign the COC, indicating receipt of samples.

The COC record form will be completed in triplicate. Upon sample deliver, one copy will be left with the laboratory, one copy will be kept by the sampler, and one copy will be sent to Questa's Project Manager.

The sample label consists of a unique five-digit number. The sample number will be used to track the sample and its associated analytical laboratory results. The sample label will also contain project number, date of sampling, and sampler name. Prior to sampling, a label will be completed and affixed to the appropriate container.

Final Evidence Files

Once the project has been completed, the individual files will be assembled, organized, and securely stored as final evidence for the project. A final evidence file for this project will be maintained by Questa for three years after completion. Laboratory records must also be kept for a minimum of three years.

TABLE 2
GENERAL SAFETY CONSIDERATIONS
FOR WATER QUALITY SAMPLING

- Always conduct the sampling with at least one partner. Always let someone else know where you are, when you intend to return, and what to do if you don't come back at the appointed time.

- Develop a safety plan. Carry a cell phone or find out the location and telephone number of the nearest telephone and write it down. Locate the nearest medical center and write down directions on how to get between the center and your site(s) so you can direct emergency personnel. Have each member of the sampling team complete a medical form that includes emergency contacts, insurance information, and pertinent health information such as allergies, diabetes, epilepsy, etc.

- Have a first aid kit handy.

- Listen to weather reports. Do not conduct the sampling if severe weather is predicted or if a storm occurs while at the site.

- Never wade in swift or high water.

- Park your vehicle in a safe location. Be sure your car doesn't pose a hazard to other drivers and that you don't block traffic.

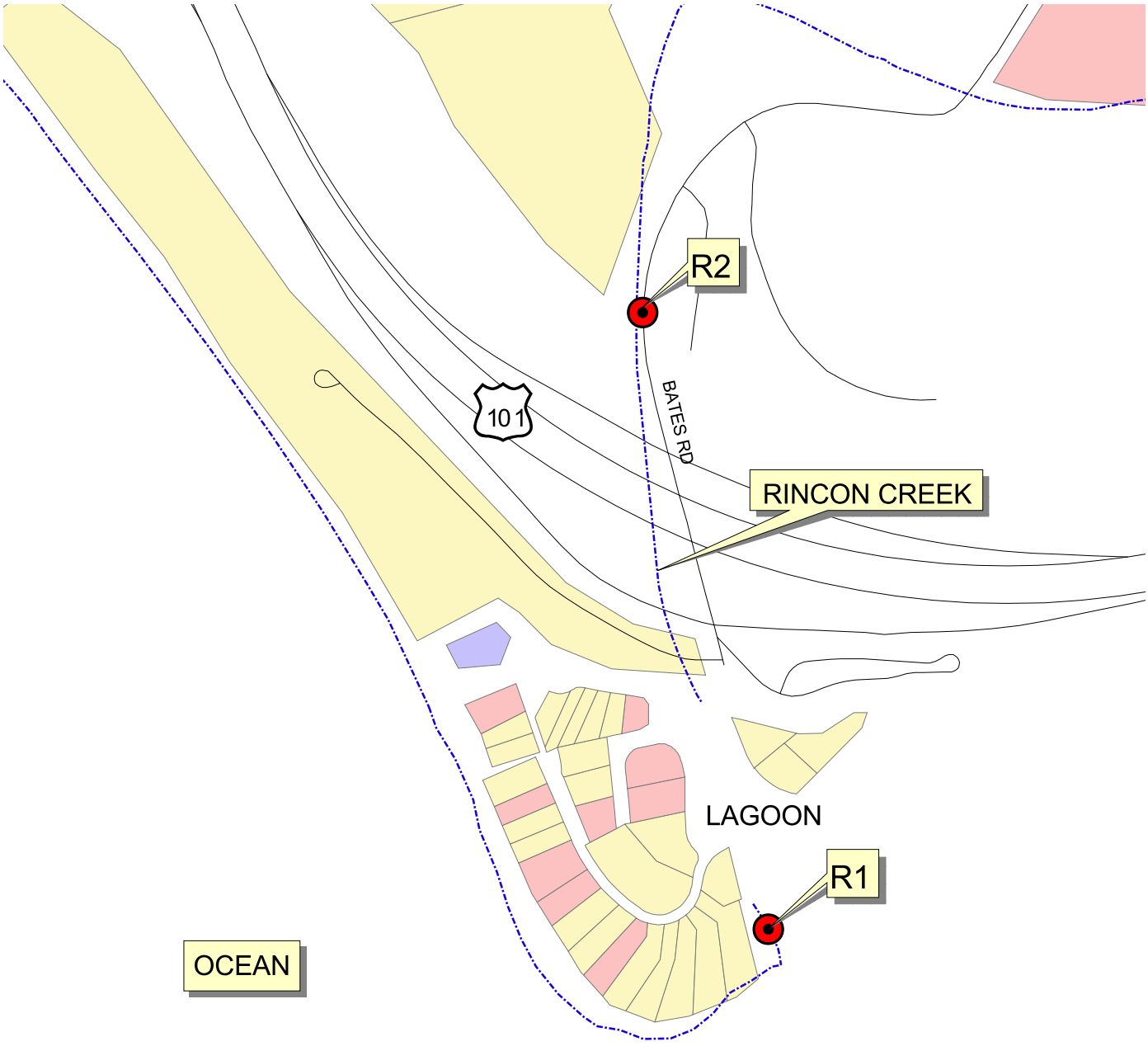
- Put your wallet and keys in a safe place, such as a watertight bag to keep in a pouch strapped to your waist. Without proper precautions, wallet and keys might end up downstream.

- Never cross private property without the permission of the landowner. Sample at public access points such as bridge or road crossings or public parks. Take along an identification card.

- Confirm that you are at the proper site location by checking maps, site descriptions, or directions.

- Watch for irate dogs, farm animals, wildlife, snakes, and insects such as ticks, hornets, and wasps. Know what to do if you get bitten or stung.

TABLE 2 cont'd
• Watch for poison ivy, poison oak, sumac, and other types of vegetation in your area that can causes rashes and irritation. • Never drink the water in a stream. Assume it is unsafe to drink, and bring you own water from home. After sampling, wash your hands with antibacterial soap. • Do not walk on unstable stream banks. Disturbing these banks can accelerate erosion and might prove dangerous if a bank collapses. Disturb streamside vegetation as little as possible. • Be very careful when walking in the stream itself. Rocky bottom streams can be very slippery and can contain deep pools; muddy bottom streams might also prove treacherous in areas where mud, silt, or sand have accumulated in sink holes. If you must cross the stream, use a walking stick to steady yourself and to probe for deep water or much. Your partner should wait on dry land ready to assist you if you fall. Do not attempt to cross streams that are swift and above the knee in depth. • Preferably, attach the sample bottle to a dipping pole and sample while standing on dry land. • If you are sampling from a bridge, be wary of passing traffic. Never lean over bridge rails unless you are firmly anchored to the ground or the bridge with good hand/foot holds. • If at any time you feel uncomfortable about the condition of the stream or your surrounding, stop monitoring and leave the site at once. Your safety is more important than the data.



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

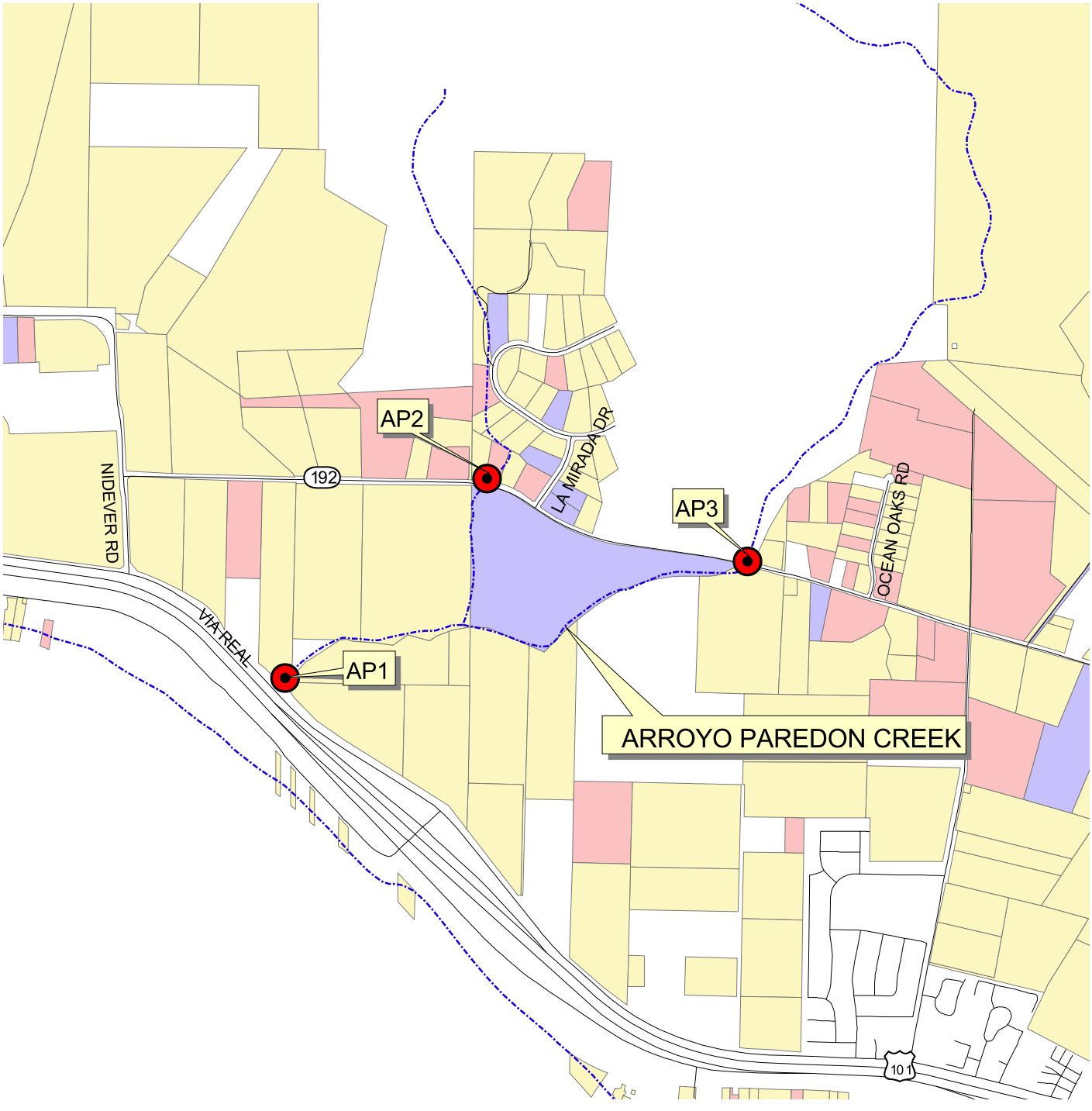
N

0.05 0 0.05 0.1 Miles

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

RINCON CREEK
SAMPLING LOCATIONS

APPENDIX
I - 1



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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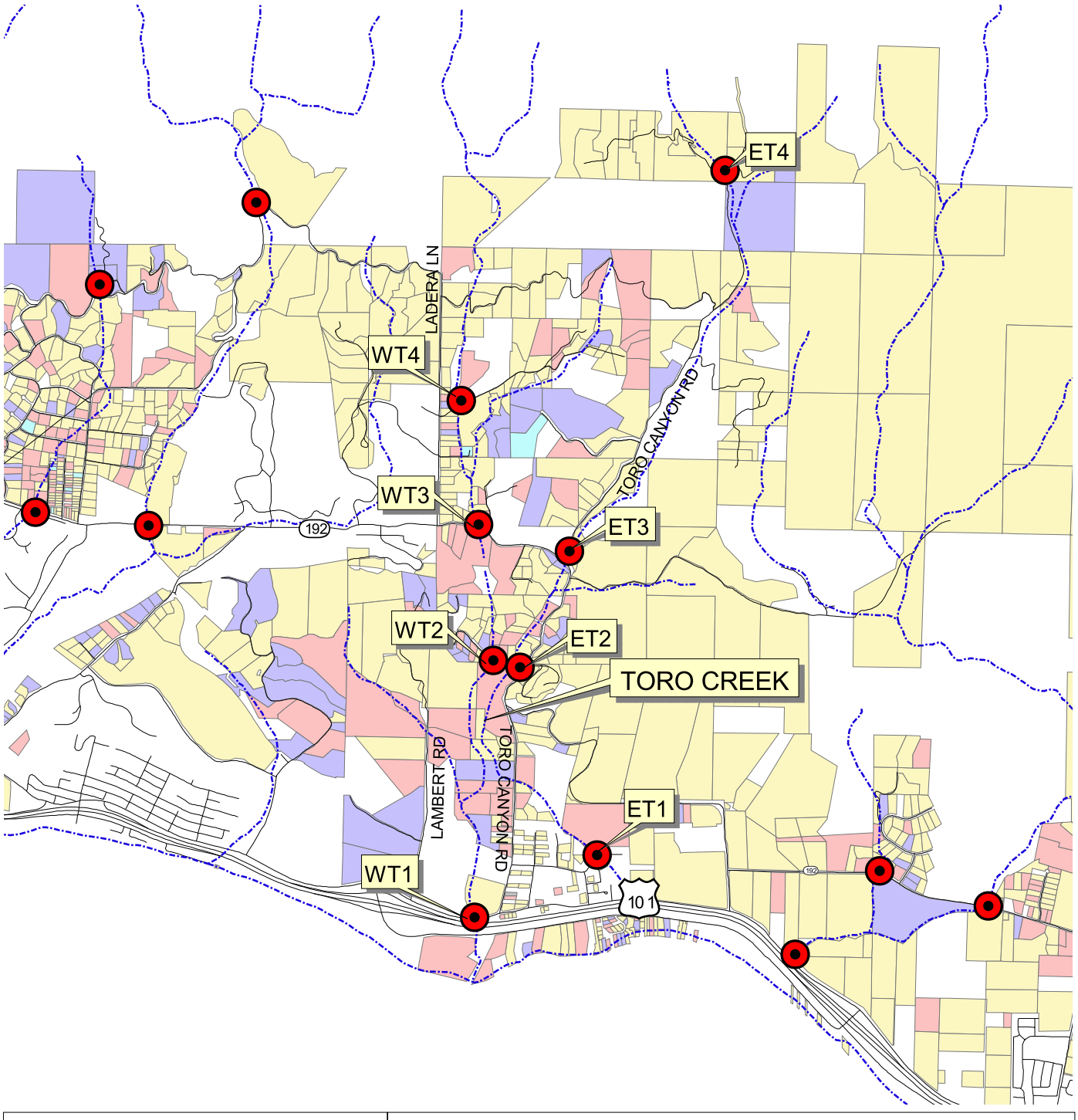
ARROYO PAREDON CREEK
SAMPLING LOCATIONS

APPENDIX
I - 2



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.3 0 0.3 0.6 Miles

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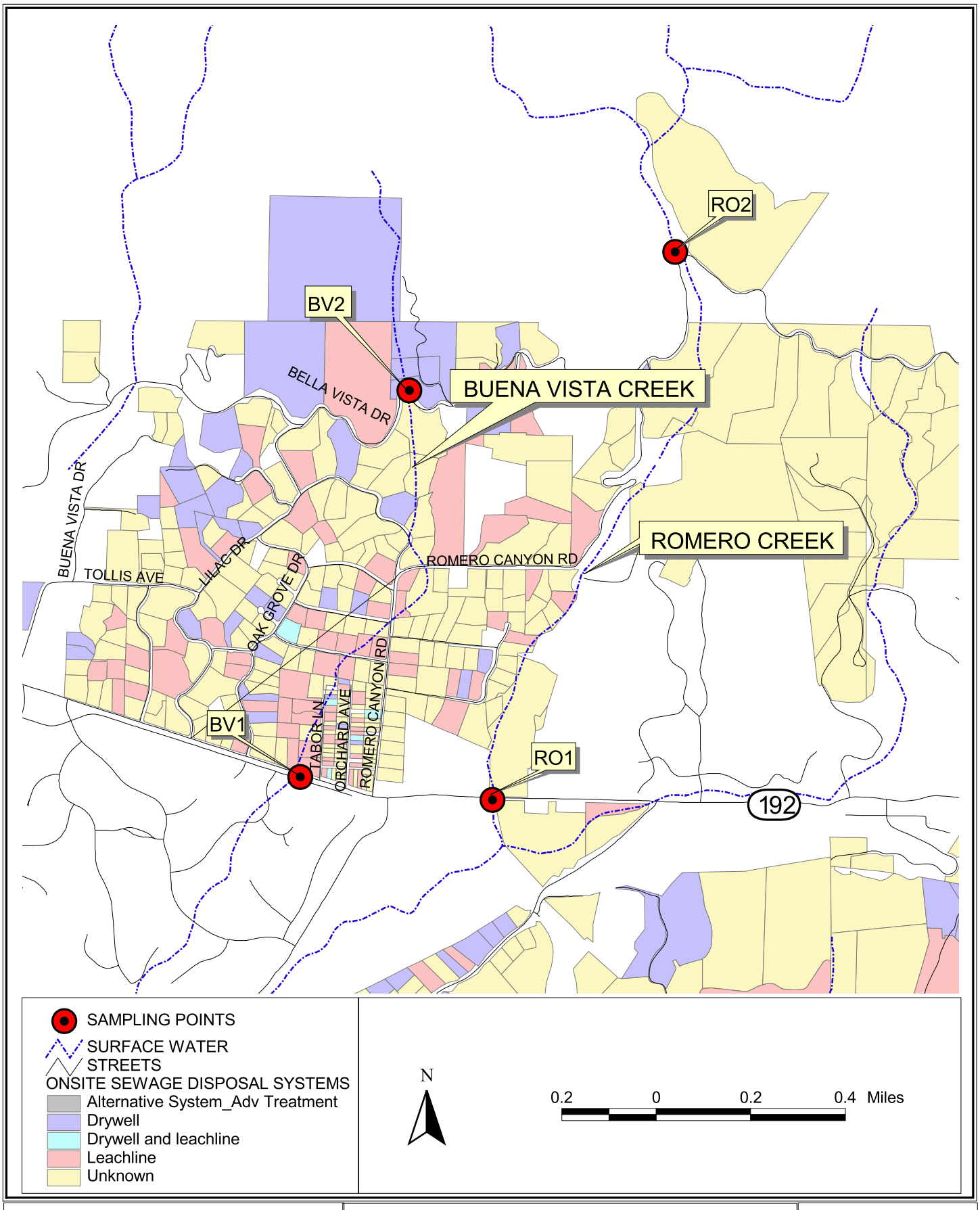
TORO CREEK
SAMPLING LOCATIONS

APPENDIX
I - 3



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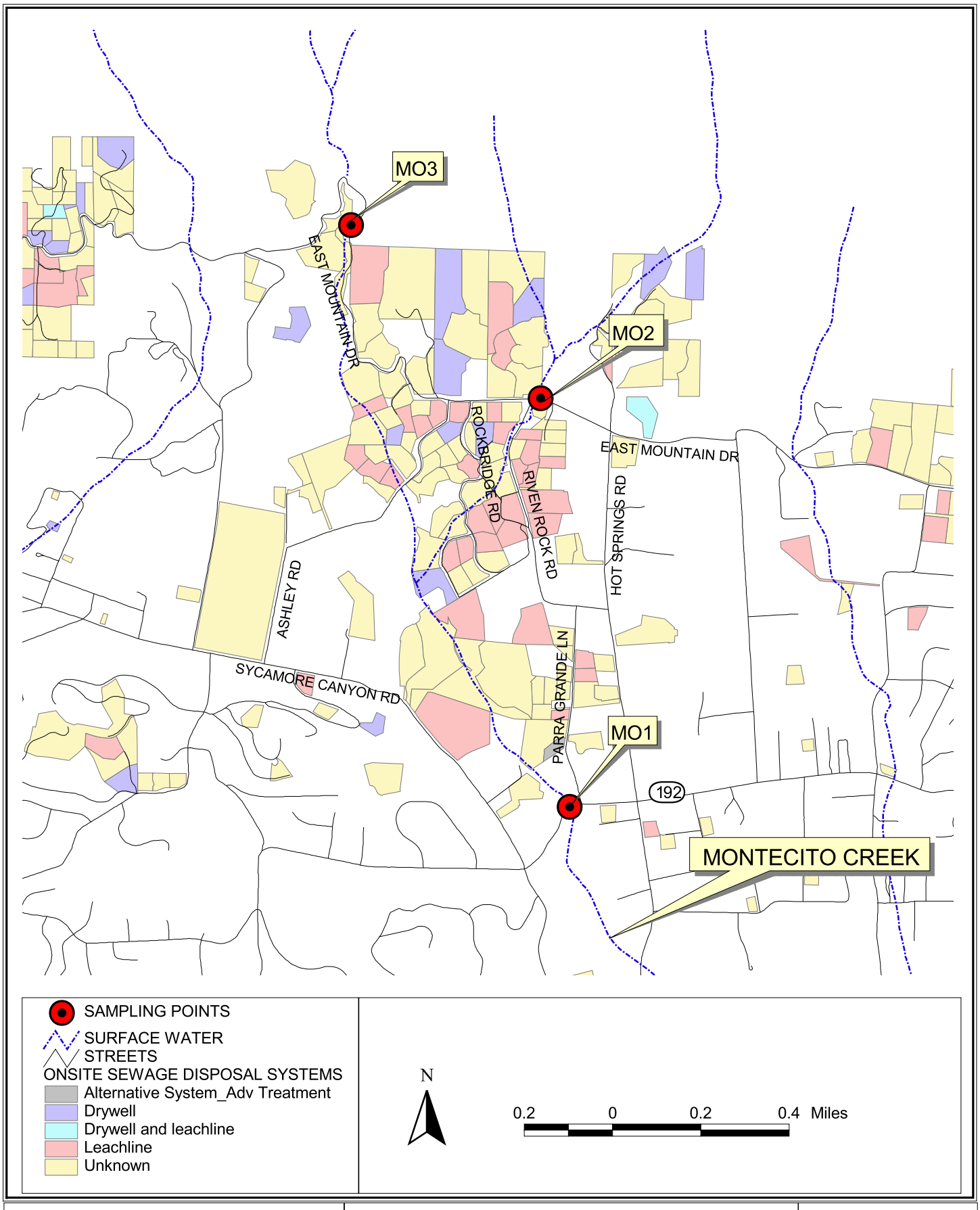
BUENA VISTA AND ROMERO CREEK SAMPLING LOCATIONS

APPENDIX

I - 4



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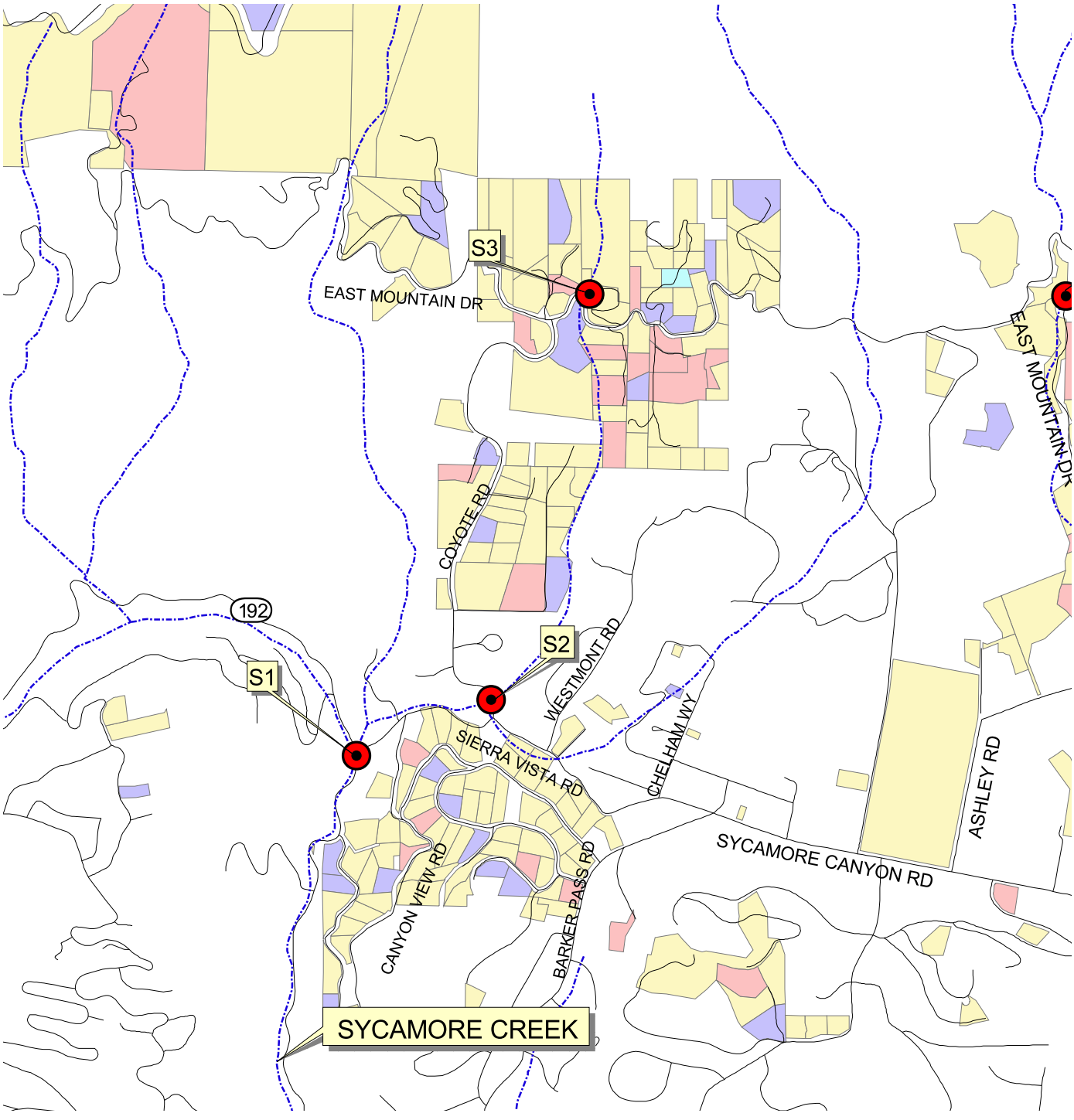
MONTECITO CREEK
SAMPLING LOCATIONS

APPENDIX
I - 5



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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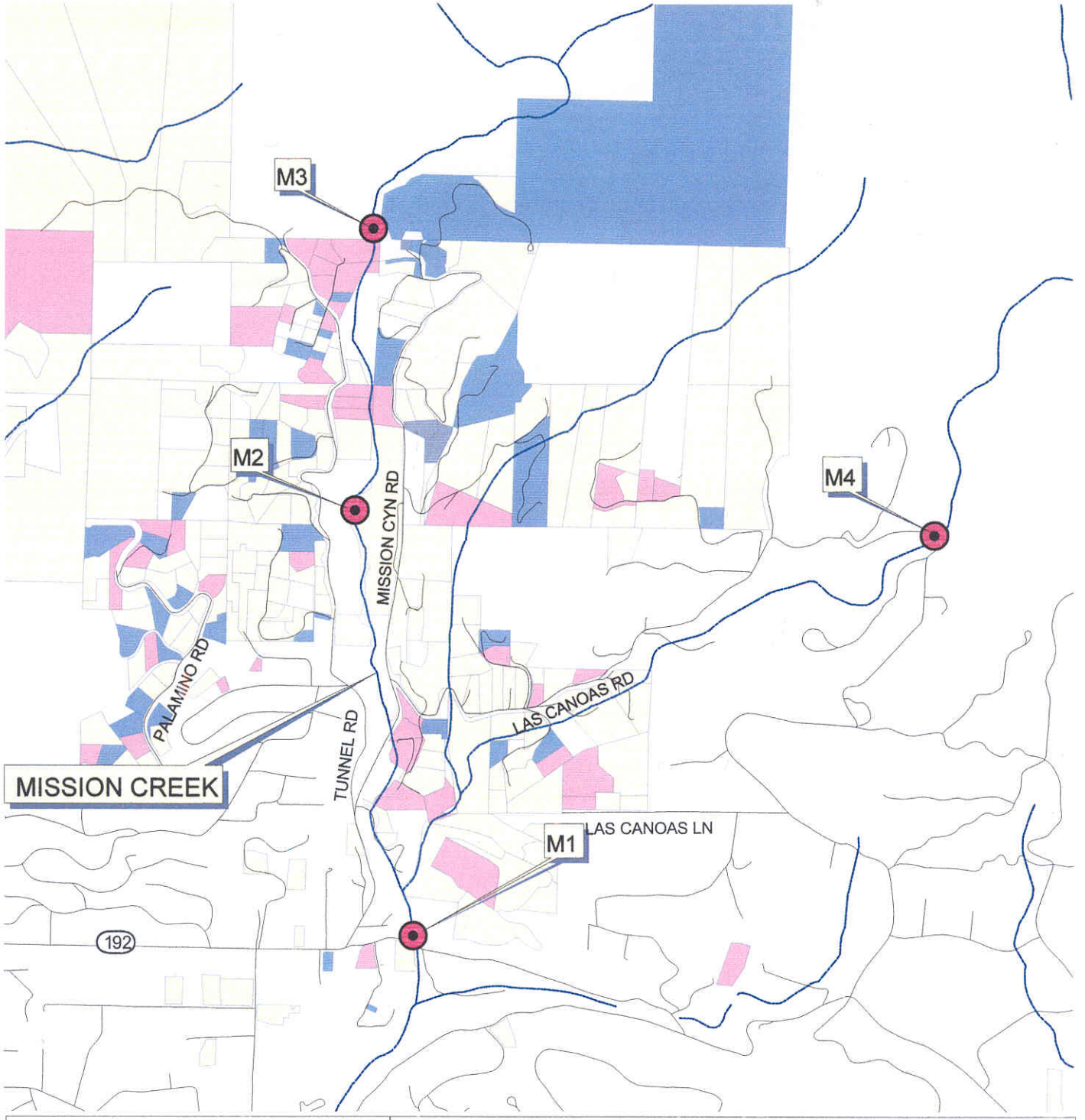
SYCAMORE CREEK
SAMPLING LOCATIONS

APPENDIX
I - 6



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
- Alternative System_Adv Treatment
- Drywell
- Drywell and leachline
- Leachline
- Unknown

N

0.2 0 0.2 0.4 Miles

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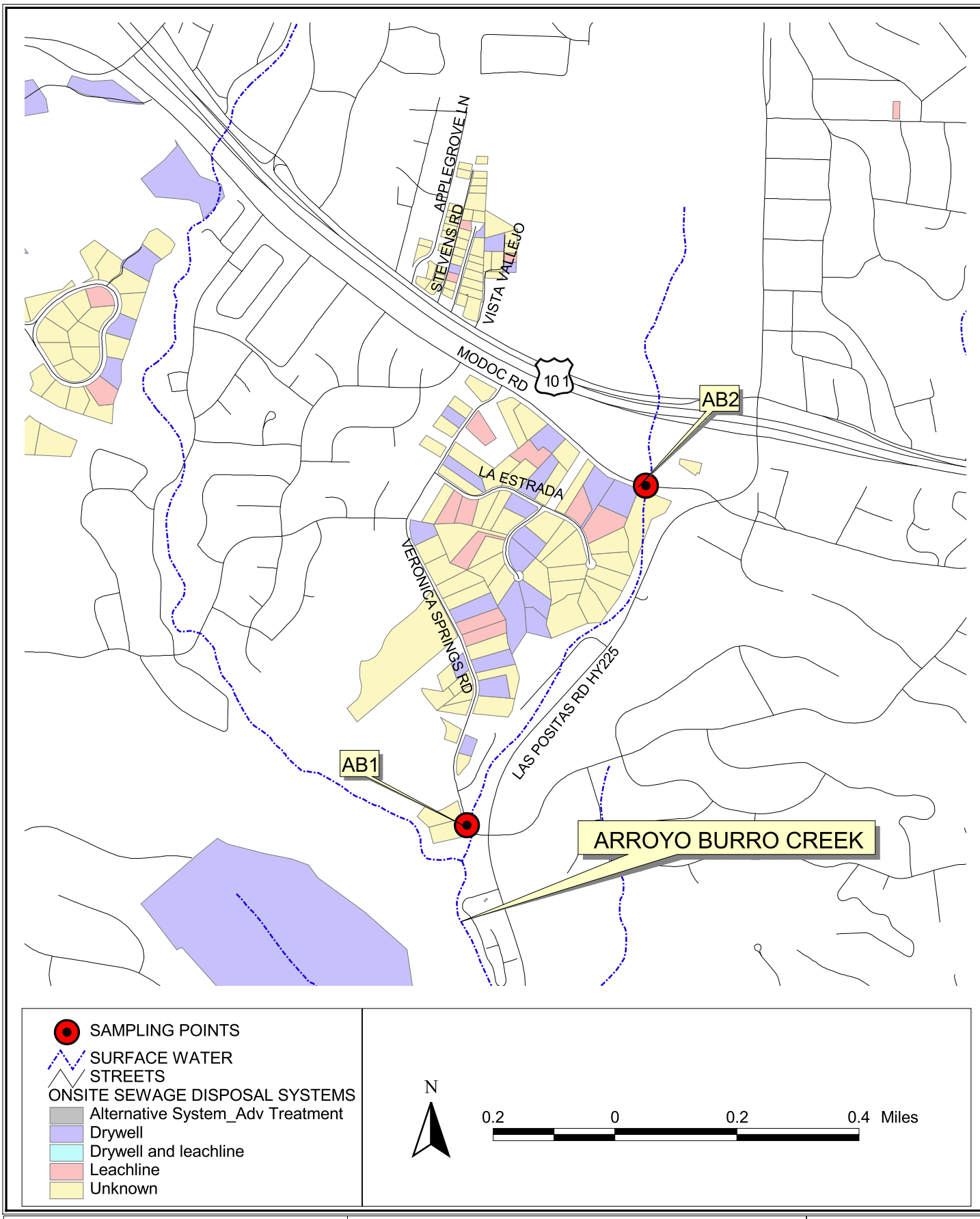
MISSION CREEK
SAMPLING LOCATIONS

APPENDIX
I - 7



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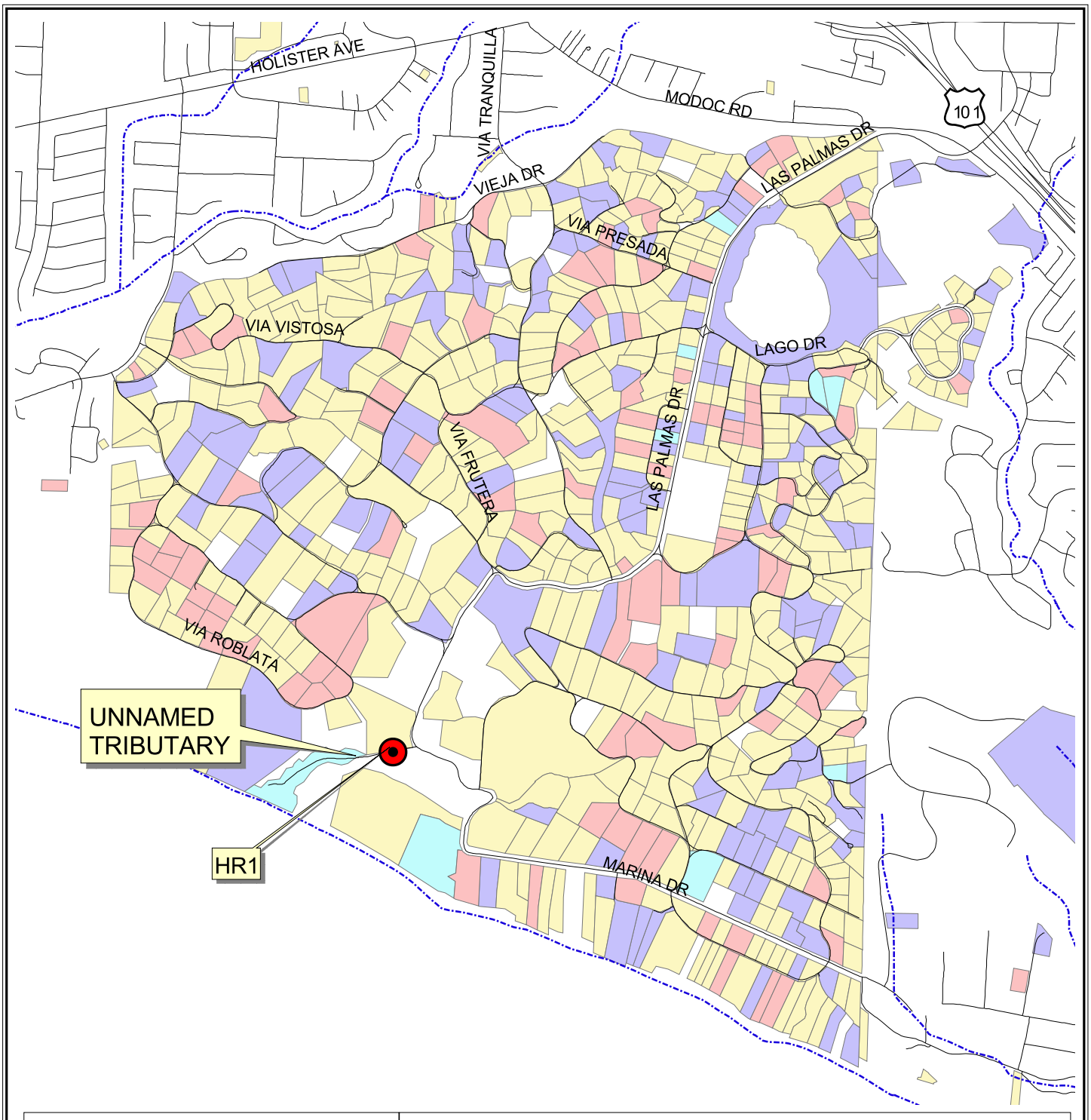
ARROYO BURRO CREEK
SAMPLING LOCATIONS

APPENDIX

I - 8



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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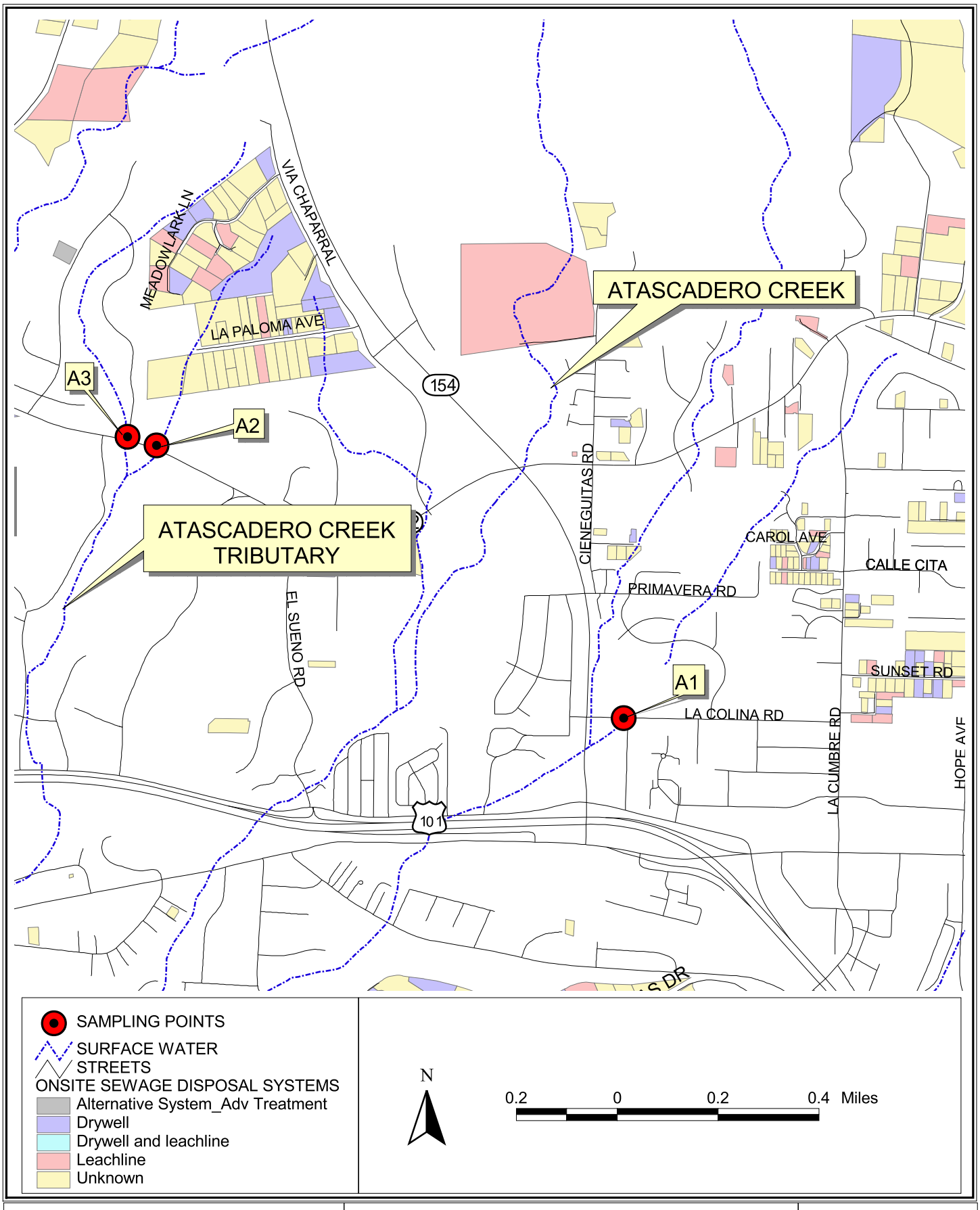
HOPE RANCH
SAMPLING LOCATIONS

APPENDIX
I - 9



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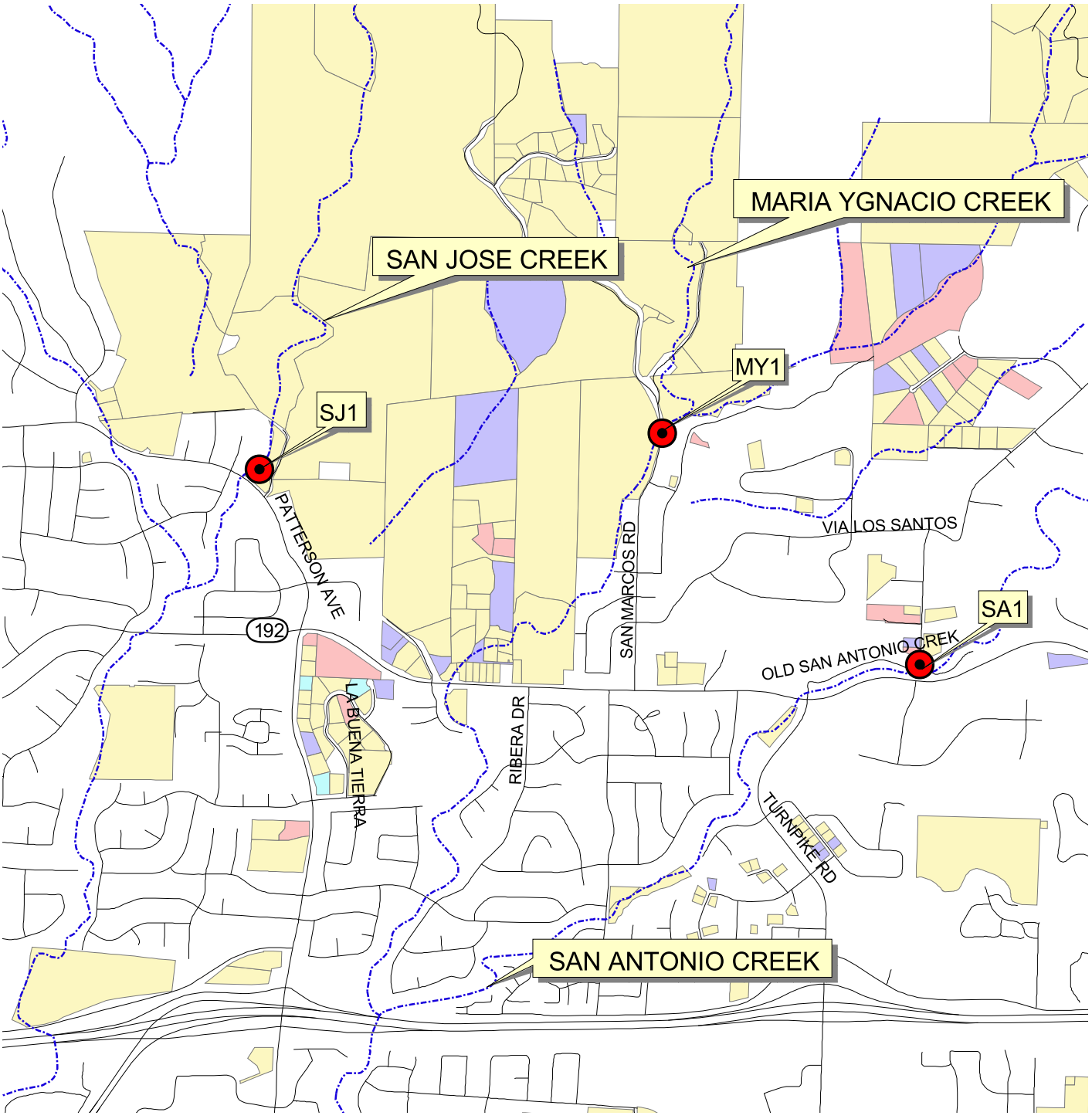
ATASCADERO CREEK
SAMPLING LOCATIONS

APPENDIX
I - 10



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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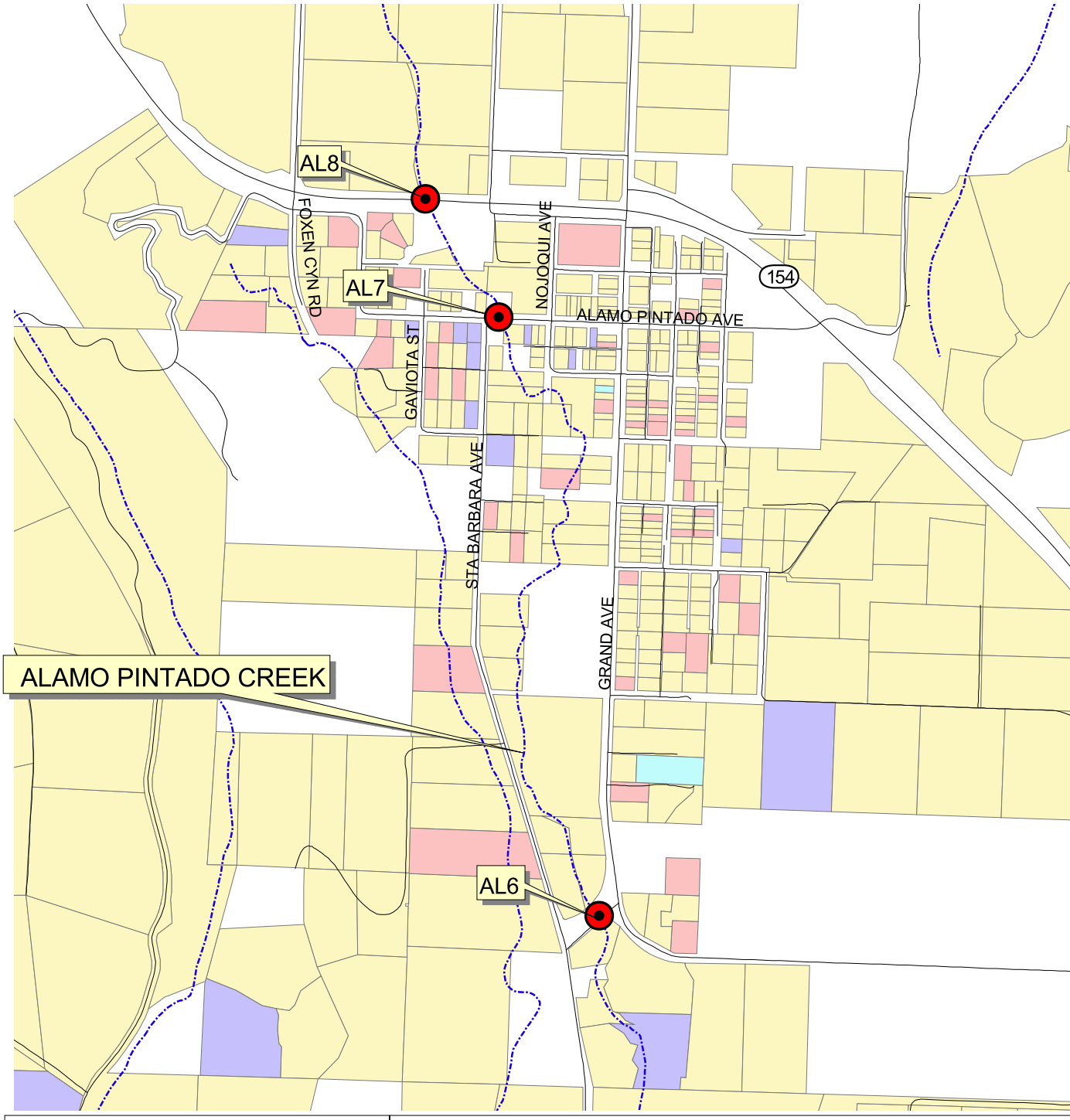
SAN JOSE, MARIA YGNACIO AND SAN ANTONIO SAMPLING LOCATIONS

APPENDIX

I - 11



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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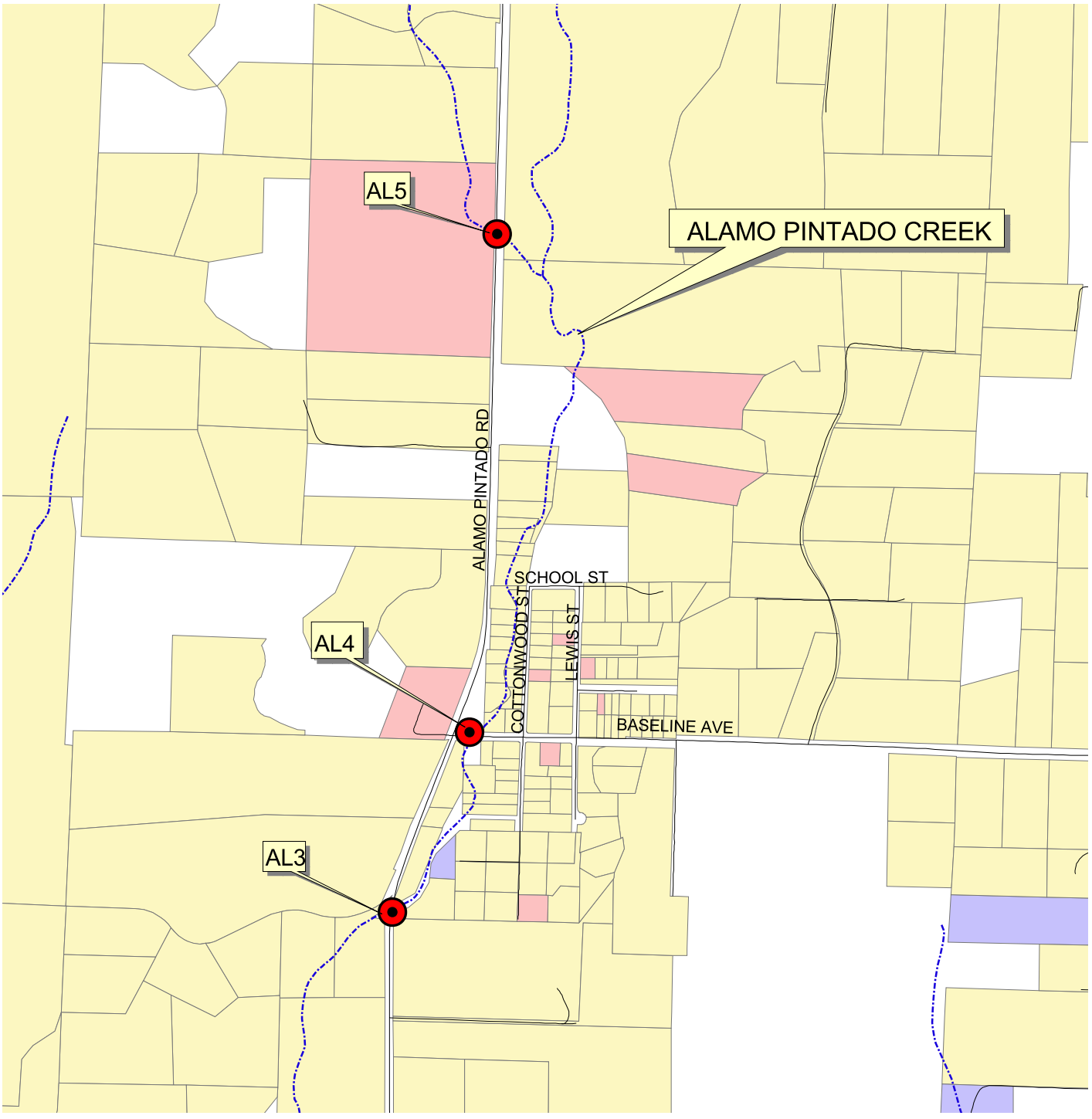
ALAMO PINTADO CREEK
(LOS OLIVOS)
SAMPLING LOCATIONS

APPENDIX
I - 12



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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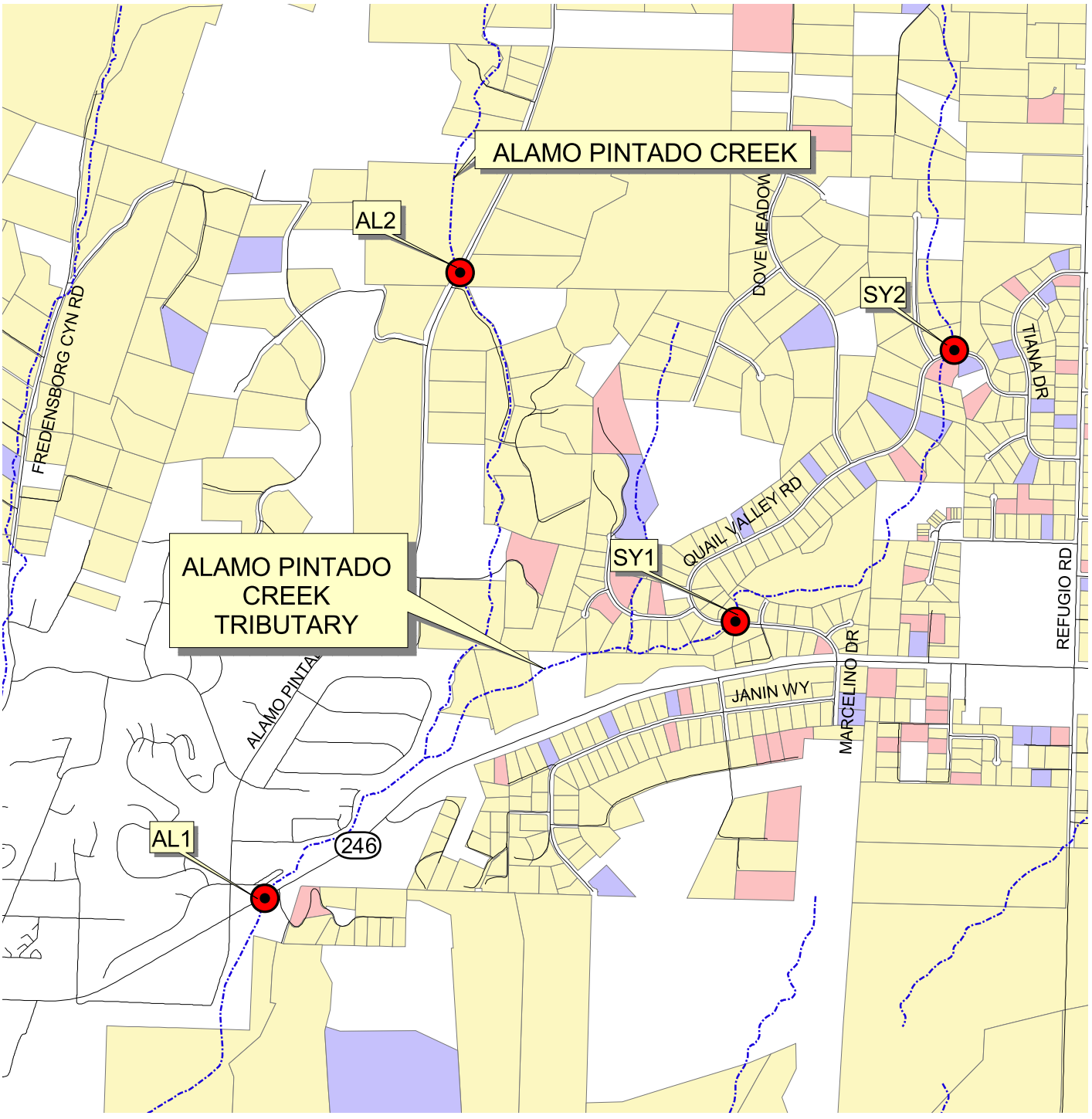
ALAMO PINTADO CREEK
(BALLARD)
SAMPLING LOCATIONS

APPENDIX
I - 13



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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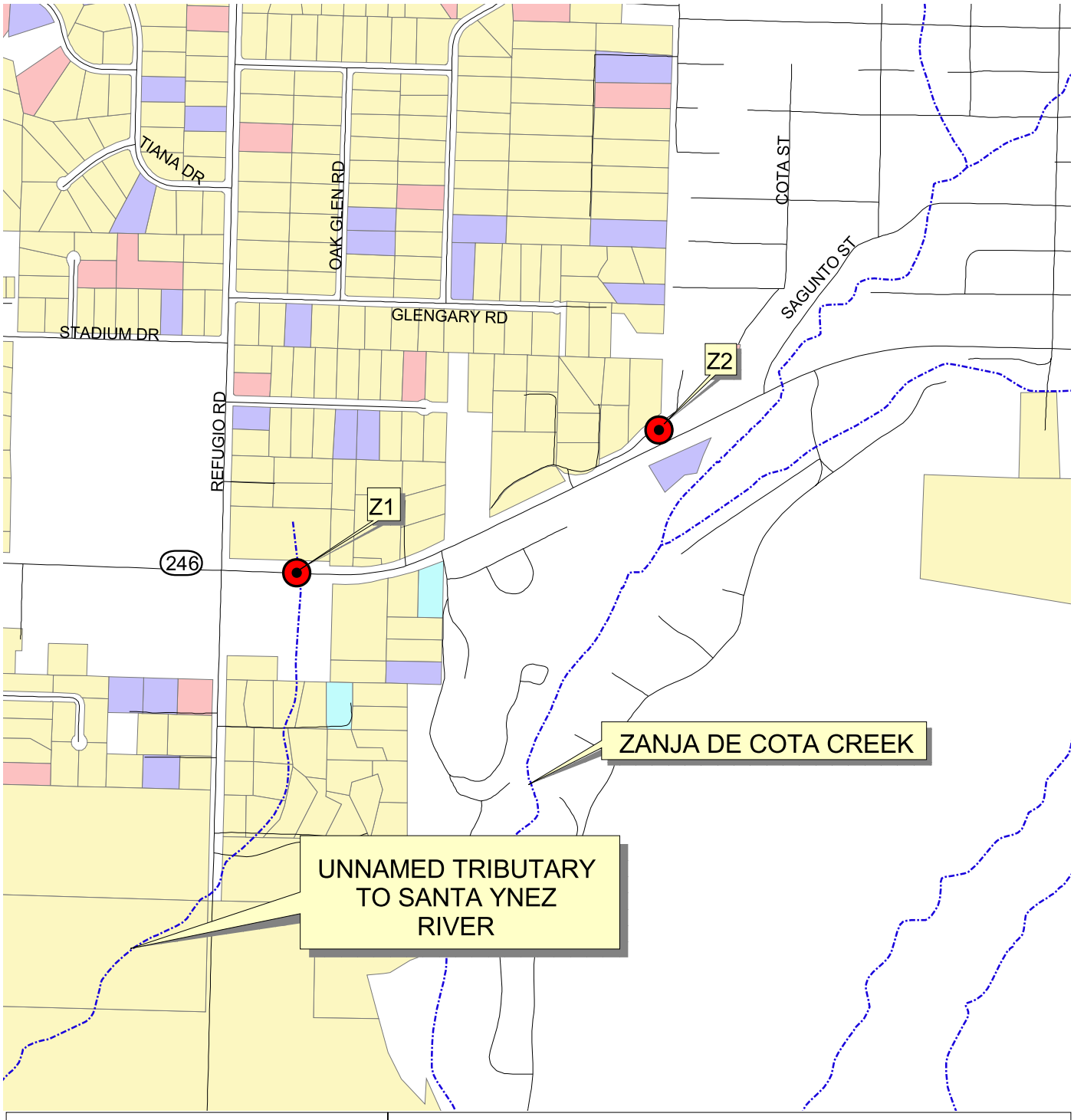
ALAMO PINTADO CREEK
(SANTA YNEZ)
SAMPLING LOCATIONS

APPENDIX
I - 14



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.1 0 0.1 0.2 Miles

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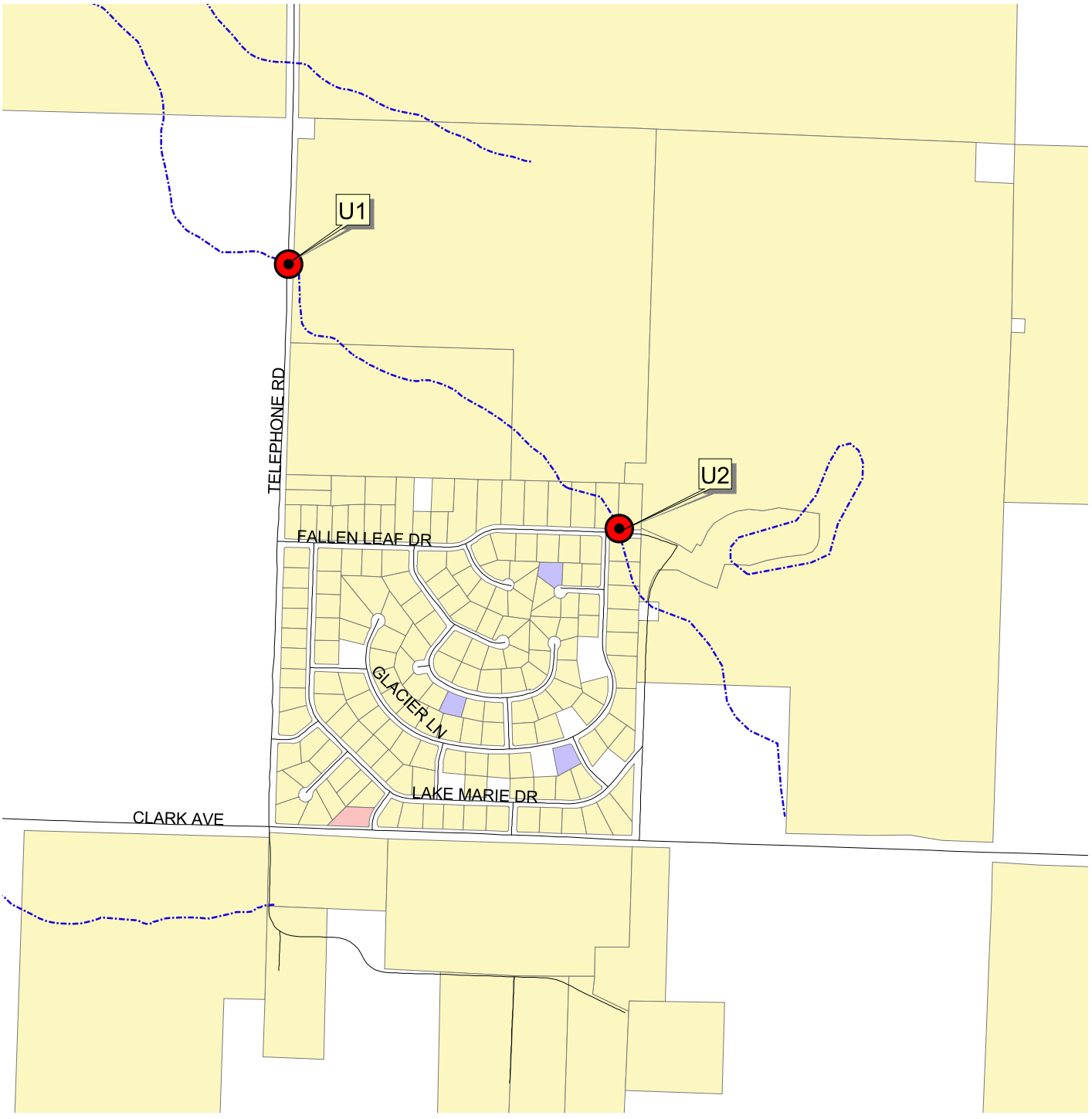
ZANJA DE COTA
SAMPLING LOCATIONS

APPENDIX
I - 15



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
Alternative System_Adv Treatment
Drywell
Drywell and leachline
Leachline
Unknown

N

0.2 0 0.2 0.4 Miles

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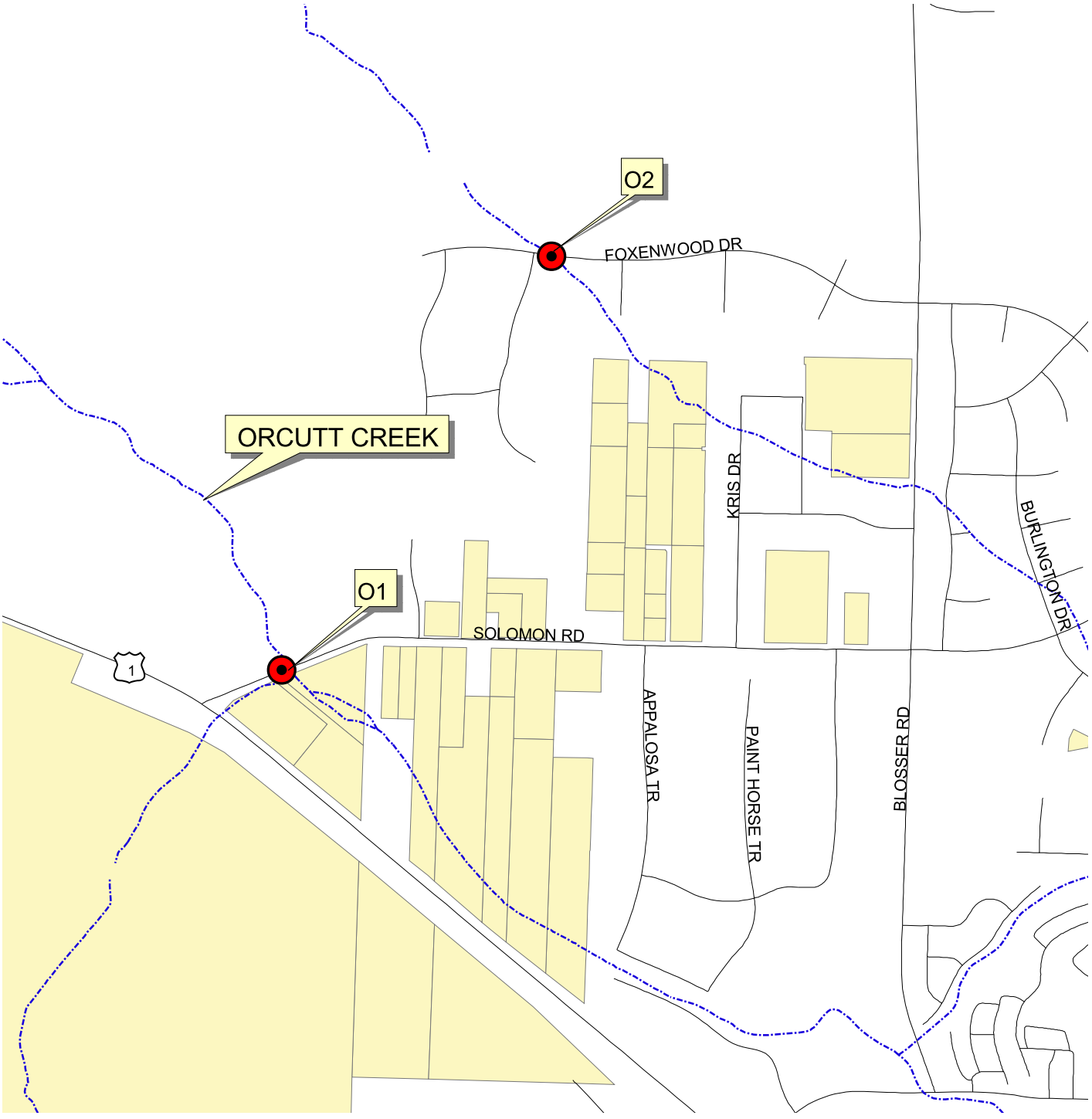
UNNAMED TRIBUTARY
(LAKE MARIE ESTATES)
SAMPLING LOCATIONS

APPENDIX
I - 16



SAMPLING POINTS
SURFACE WATER
STREETS
ONSITE SEWAGE DISPOSAL SYSTEMS
- Alternative System_Adv Treatment
- Drywell
- Drywell and leachline
- Leachline
- Unknown

N

0.1 0 0.1 0.2 Miles

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ORCUTT CREEK
(FOXENWOOD ESTATES)
SAMPLING LOCATIONS

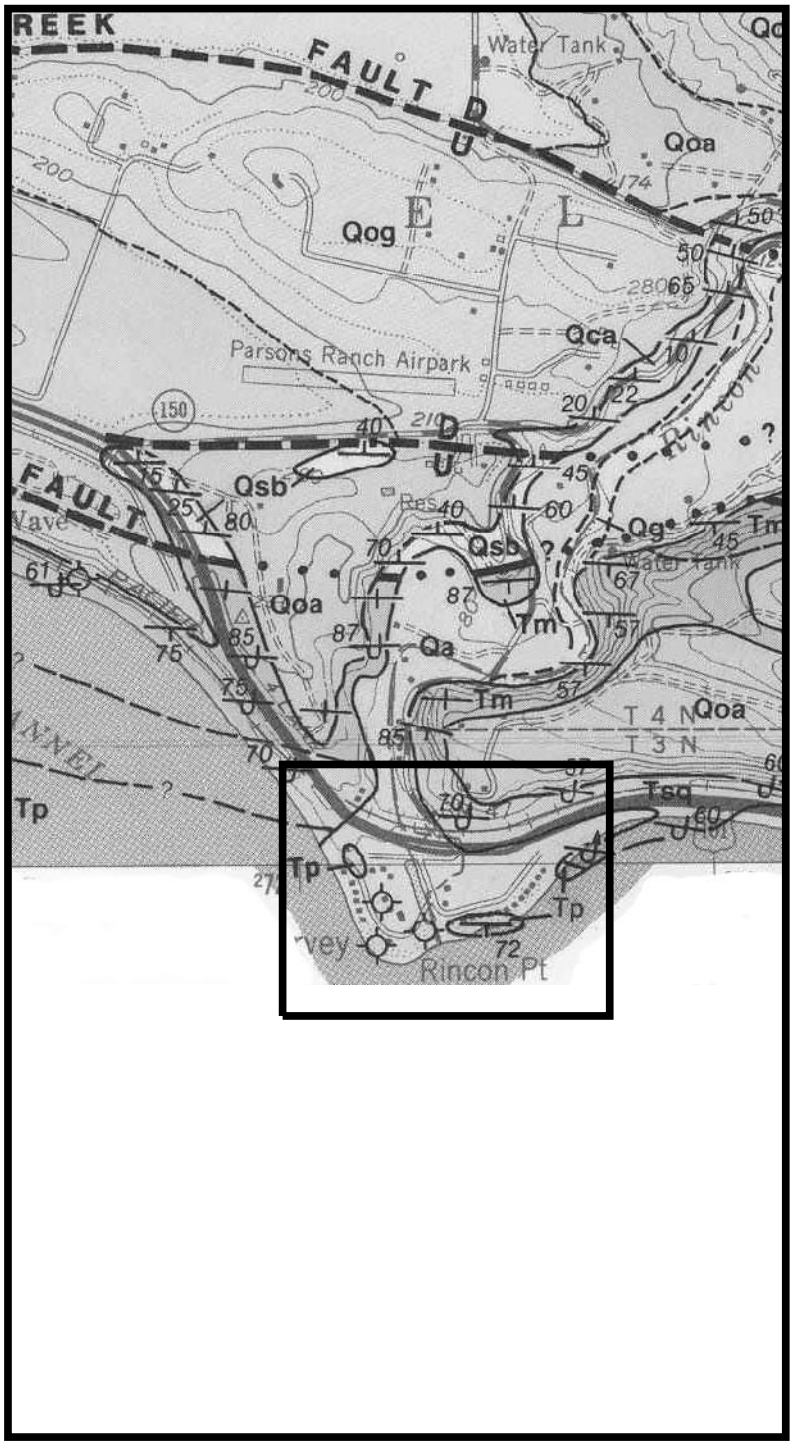
APPENDIX
I - 17

APPENDIX J

FOCUS AREA GEOLOGY MAPS

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

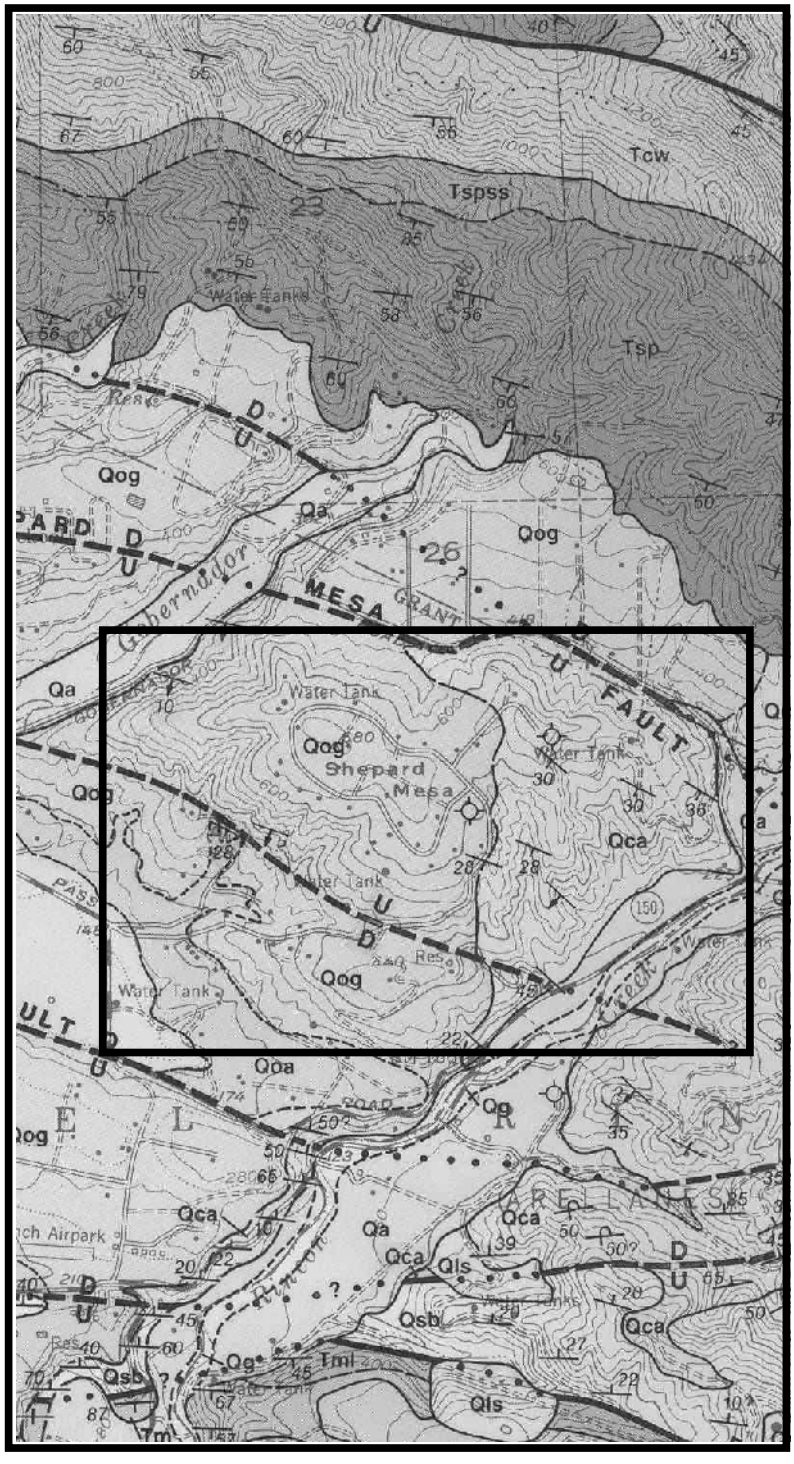
RINCON POINT FOCUS AREA

APPENDIX

J-1

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



GEOL0GY MAP

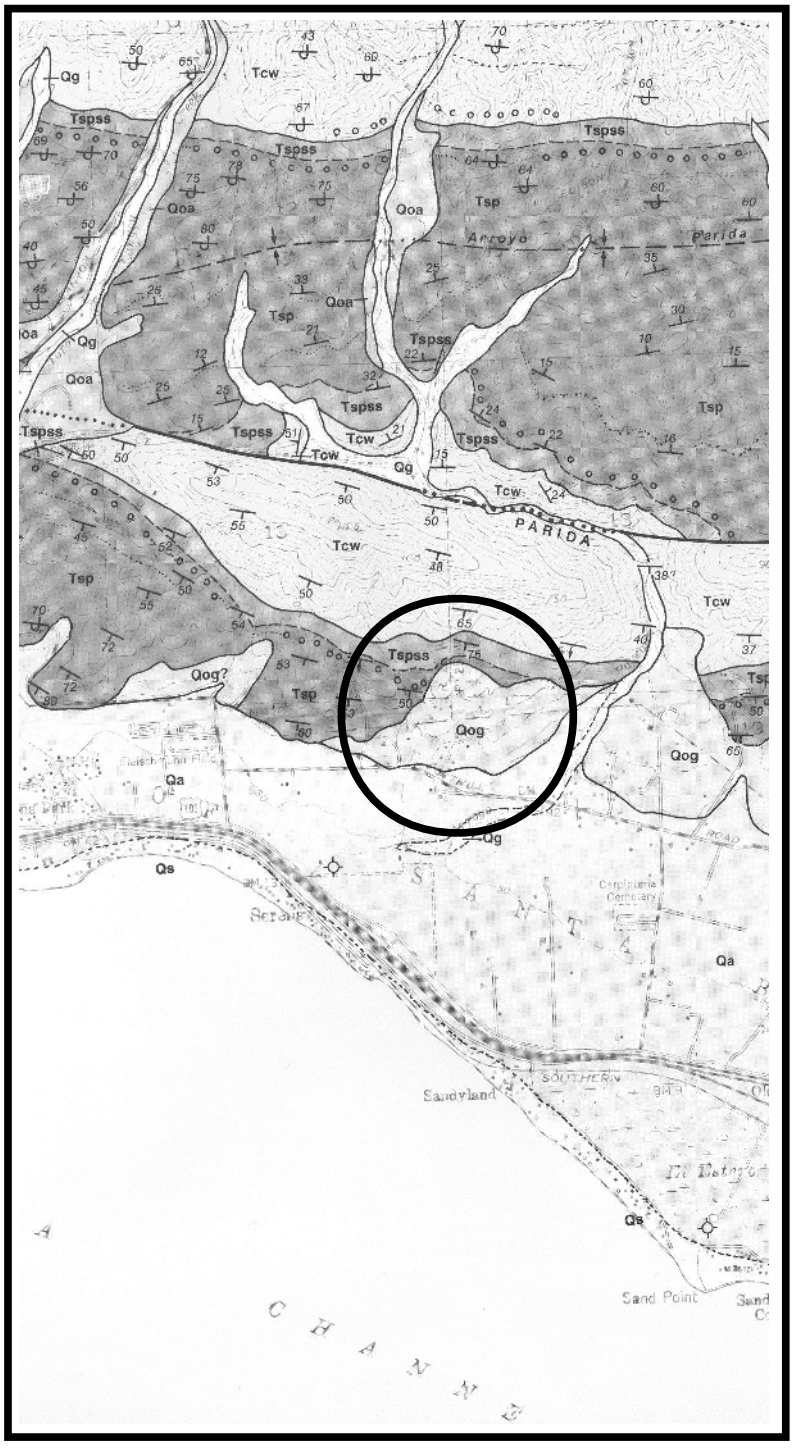
SHEPARD MESA FOCUS AREA

APPENDIX

J-2

GEOLOGY

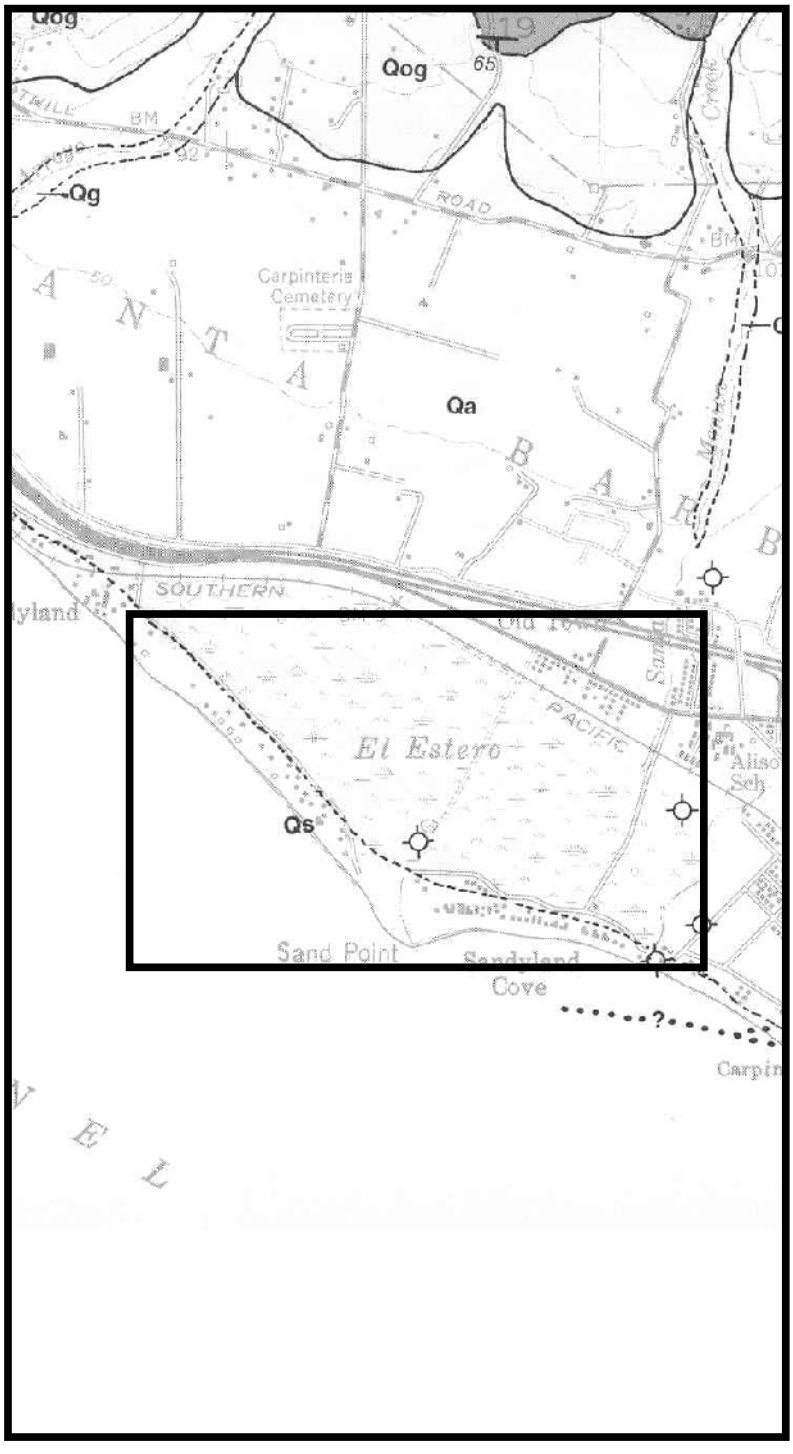
Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.	GEOLOGY MAP ARROYO PAREDON FOCUS AREA	APPENDIX J-3

GEOLOGY

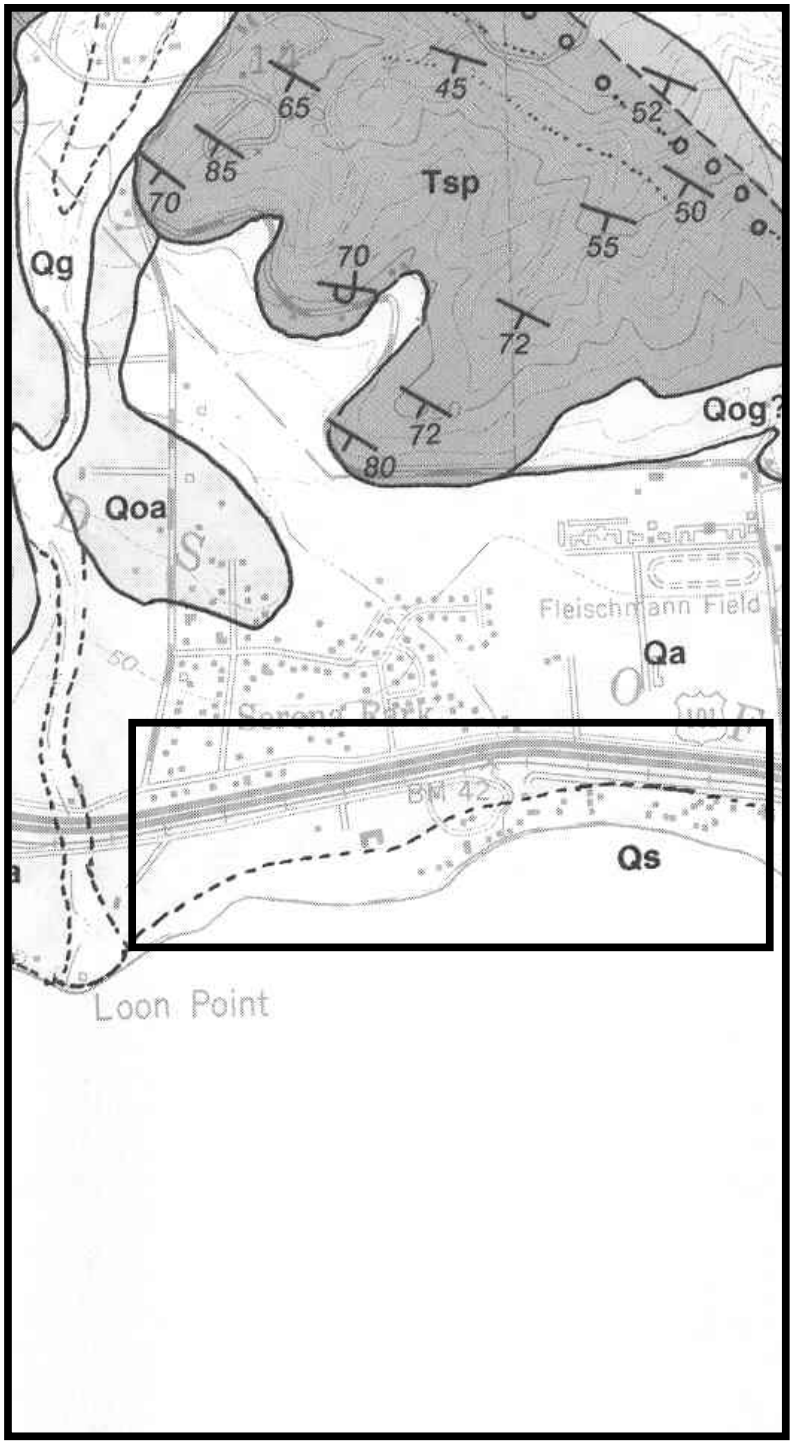
Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.	GEOLOGY MAP SAND POINT ROAD FOCUS AREA	APPENDIX J-4

GEOLOGY

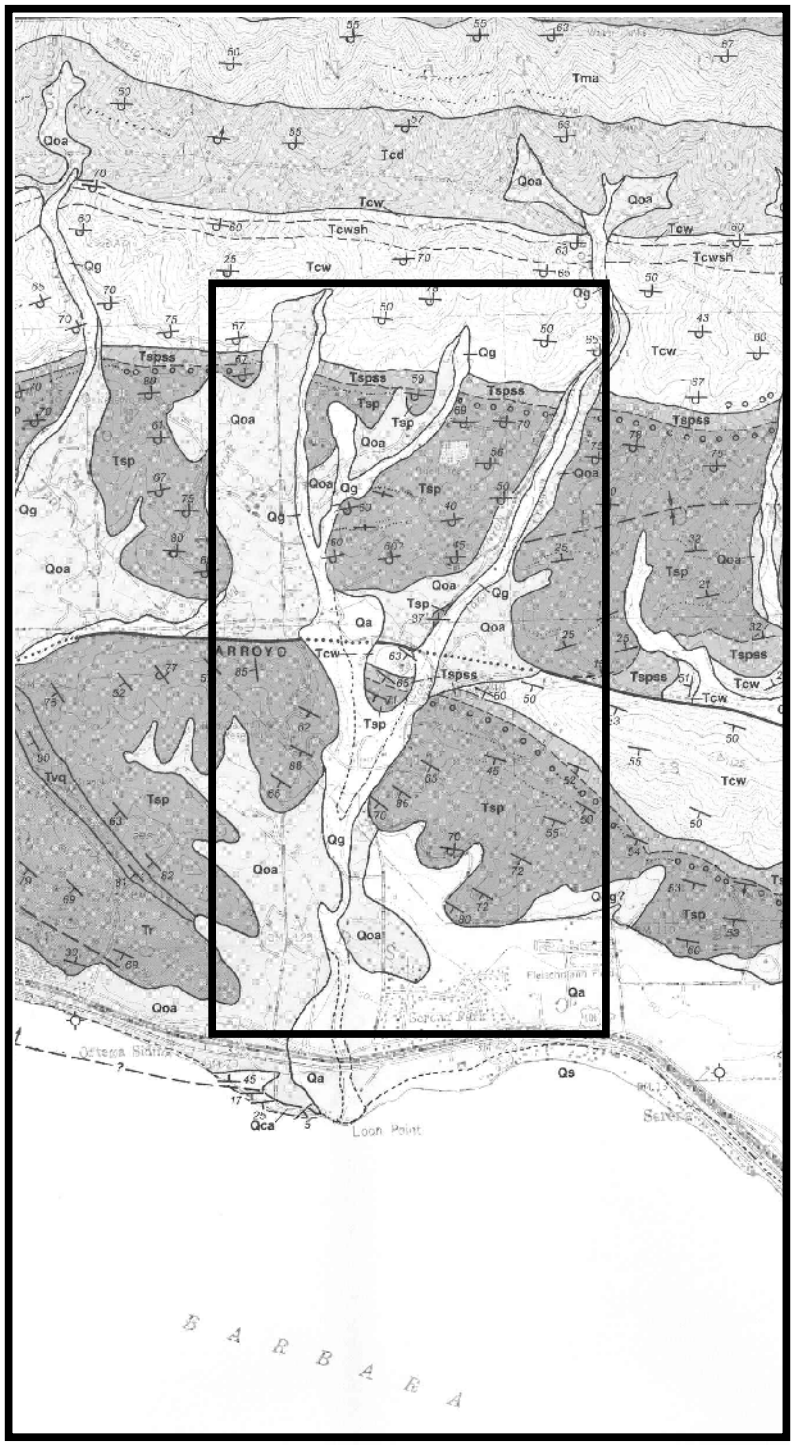
Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.	GEOLOGY MAP PADARO LANE FOCUS AREA	APPENDIX J-5

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

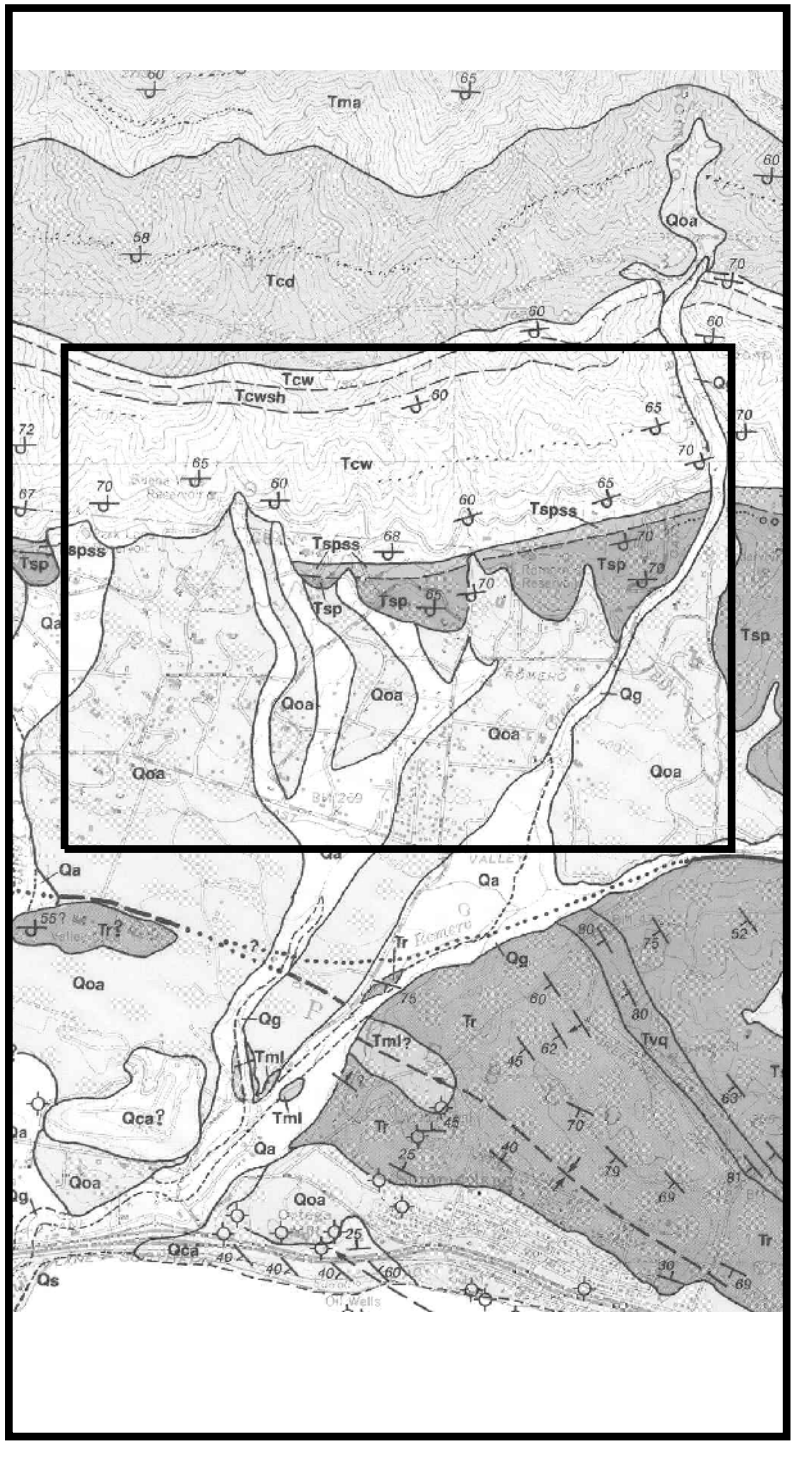
TORO CANYON FOCUS AREA

APPENDIX

J-6

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

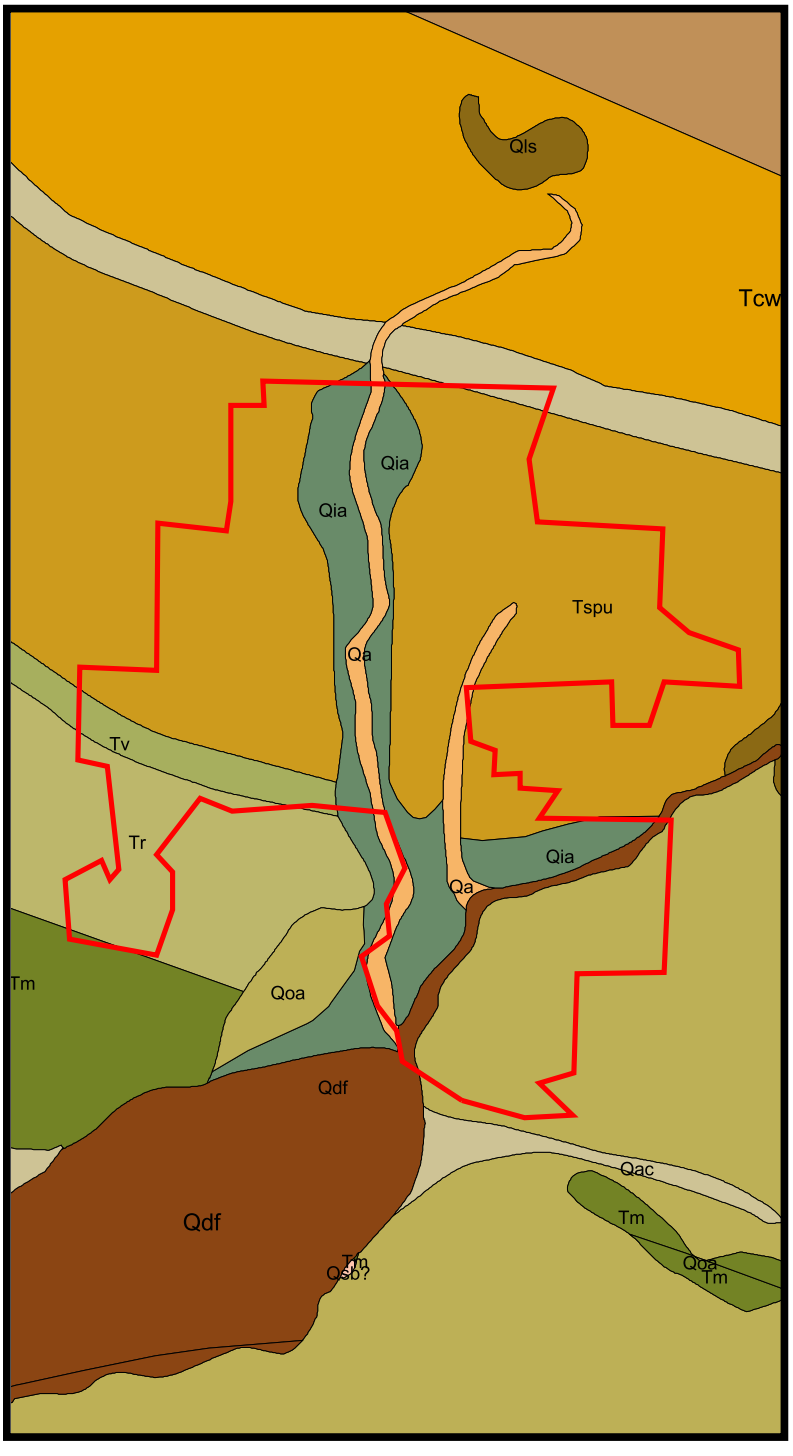
BUENA VISTA FOCUS AREA

APPENDIX

J-7

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

COLD SPRINGS FOCUS AREA

APPENDIX

J-8

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
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Tm - Monterey Formation
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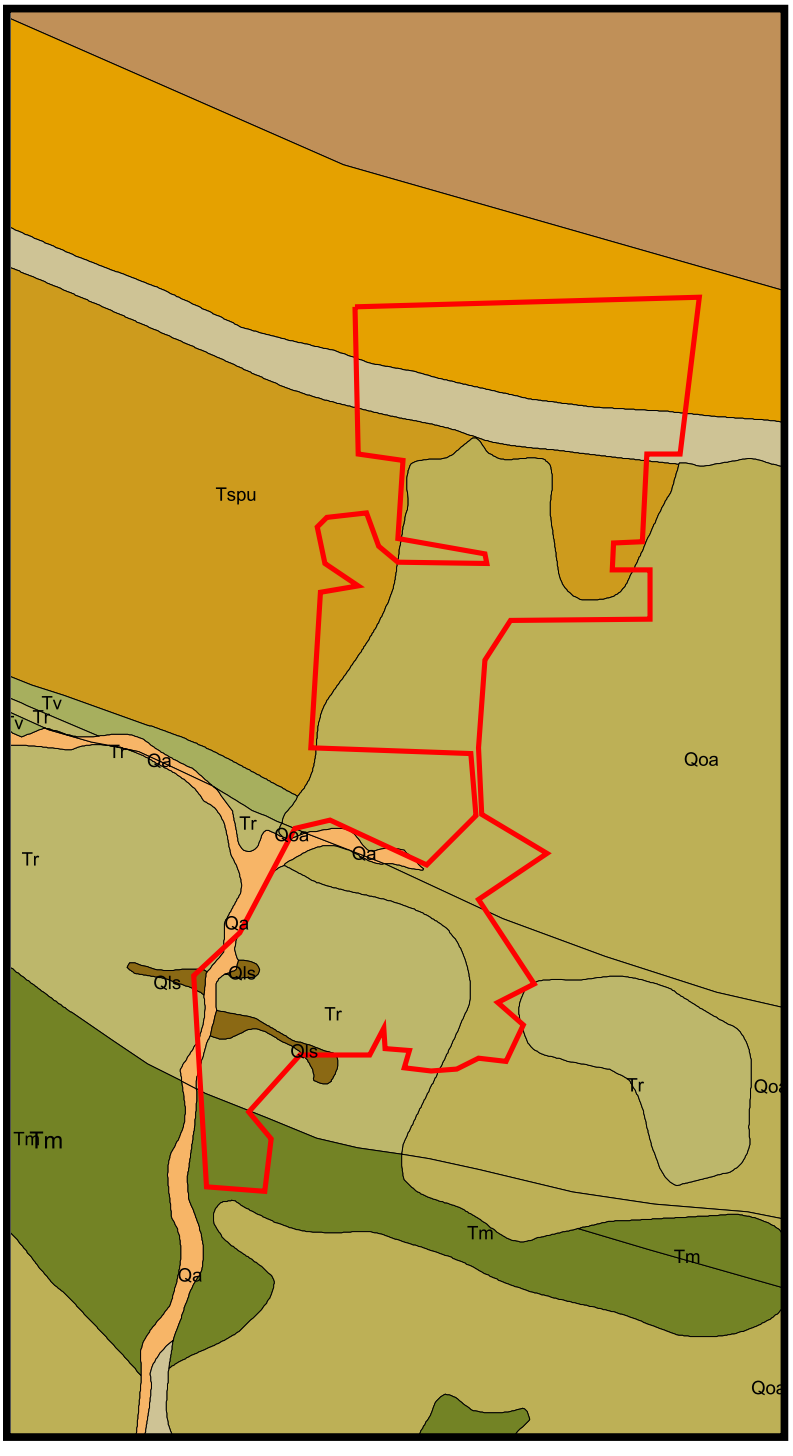
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

SYCAMORE CREEK FOCUS AREA

APPENDIX

J-9

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
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Qtc - Travertine and/or Caliche Deposits
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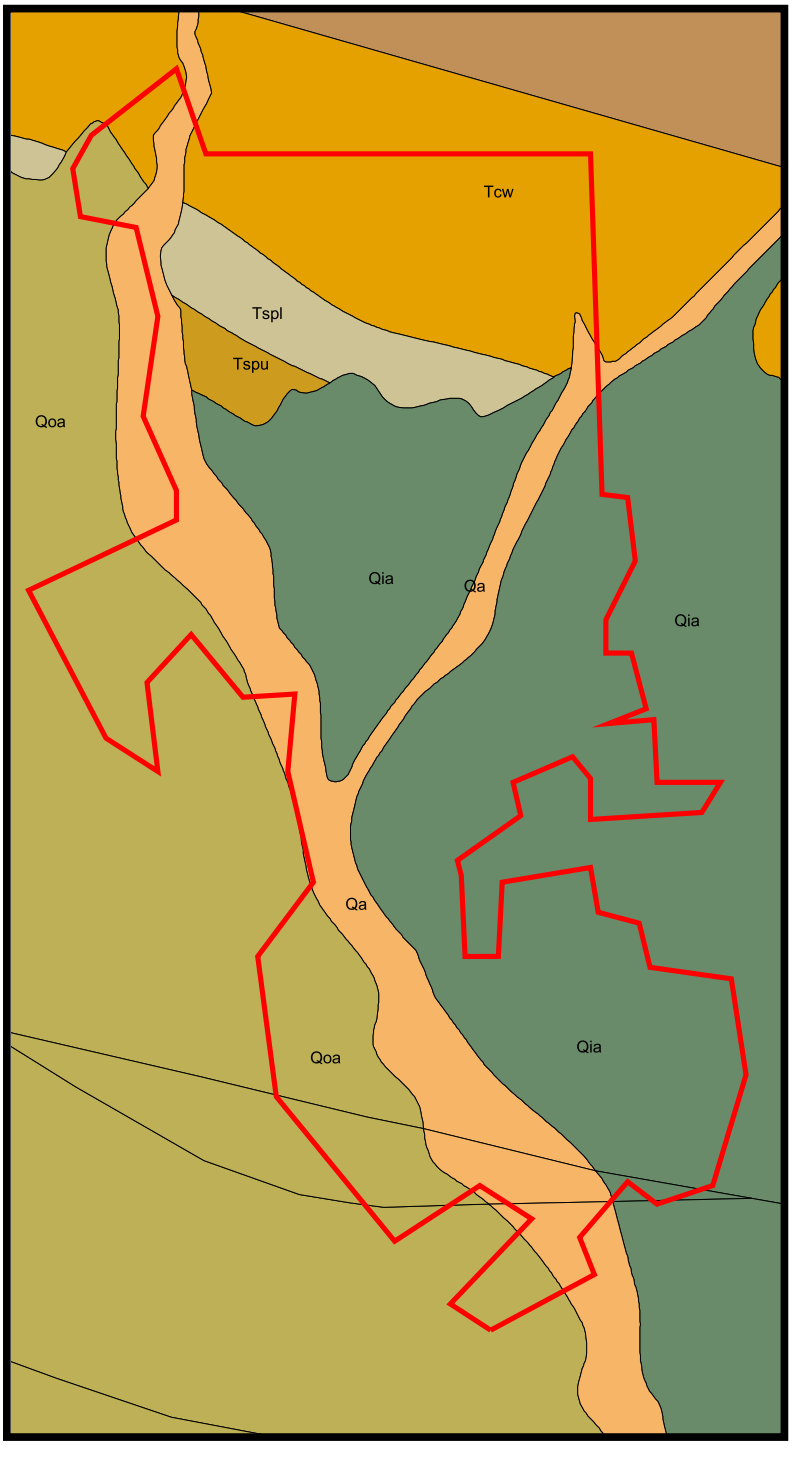
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

MISSION CANYON FOCUS AREA

APPENDIX

J-10

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
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Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
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Qmt? - Marine Terrace Deposits (Uncertain)
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Trs - Rincon Shale
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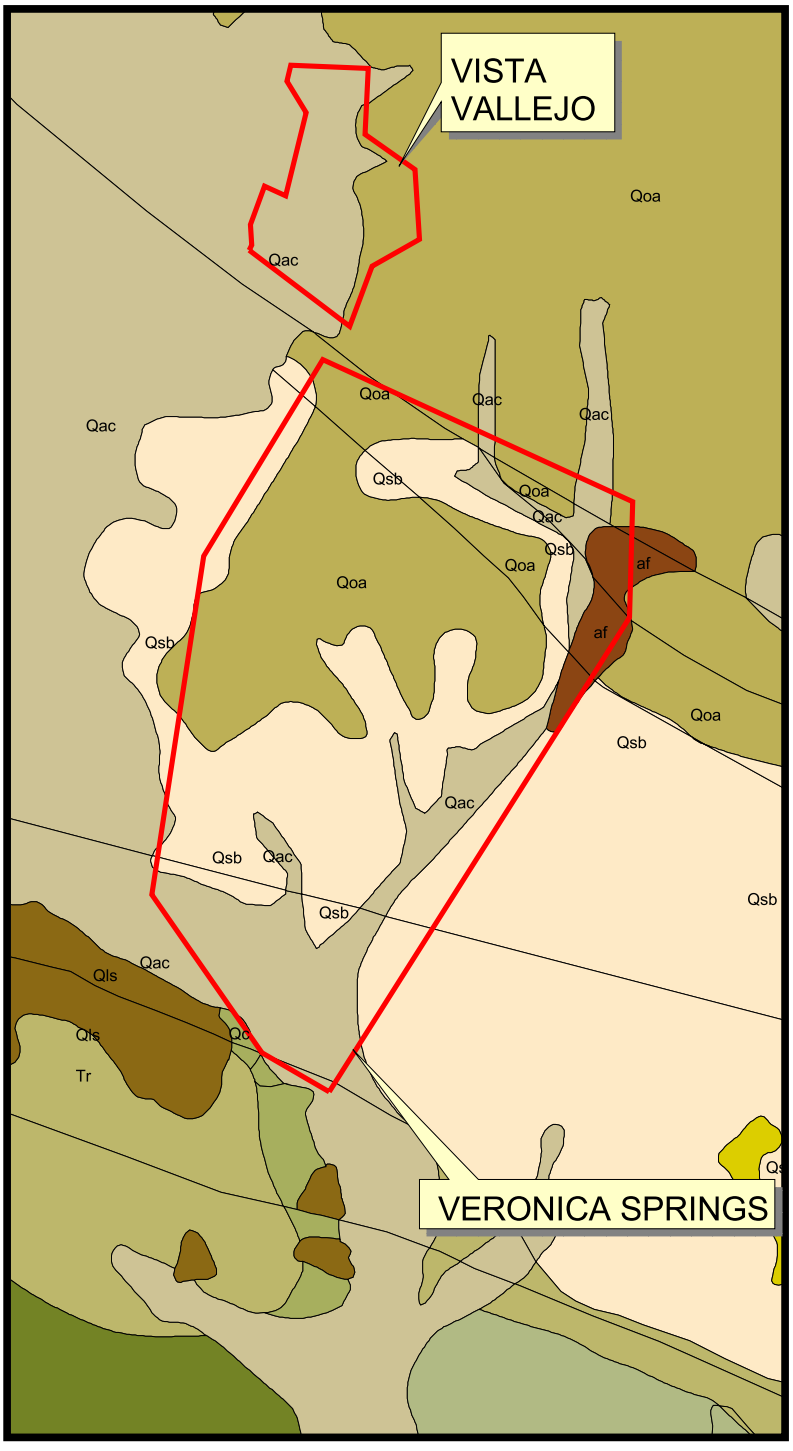
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

VERONICA SPRINGS AND
VISTA VALLEJO FOCUS AREA

APPENDIX
J-11

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
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Trs - Rincon Shale
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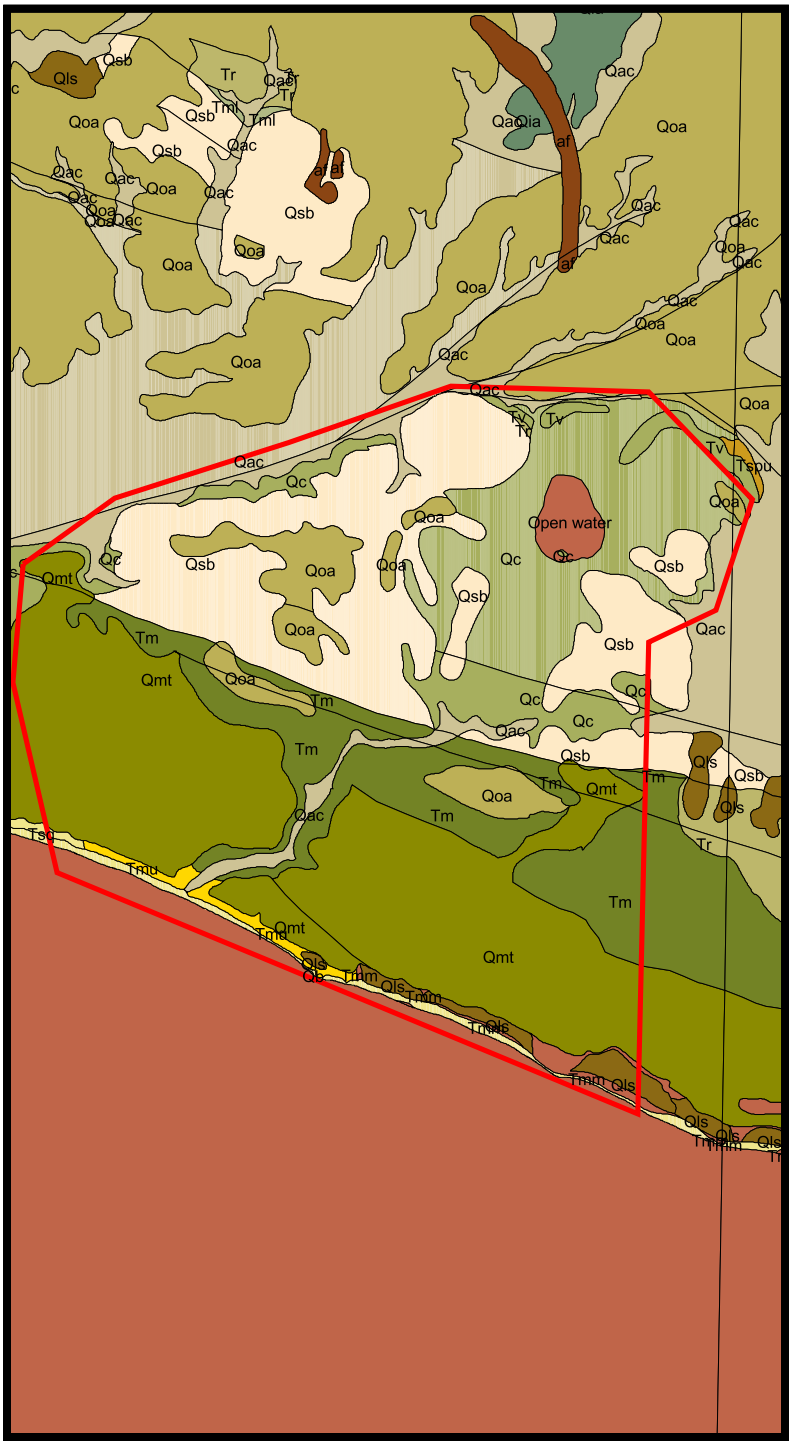
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

HOPE RANCH FOCUS AREA

APPENDIX

J-12

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
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Trs - Rincon Shale
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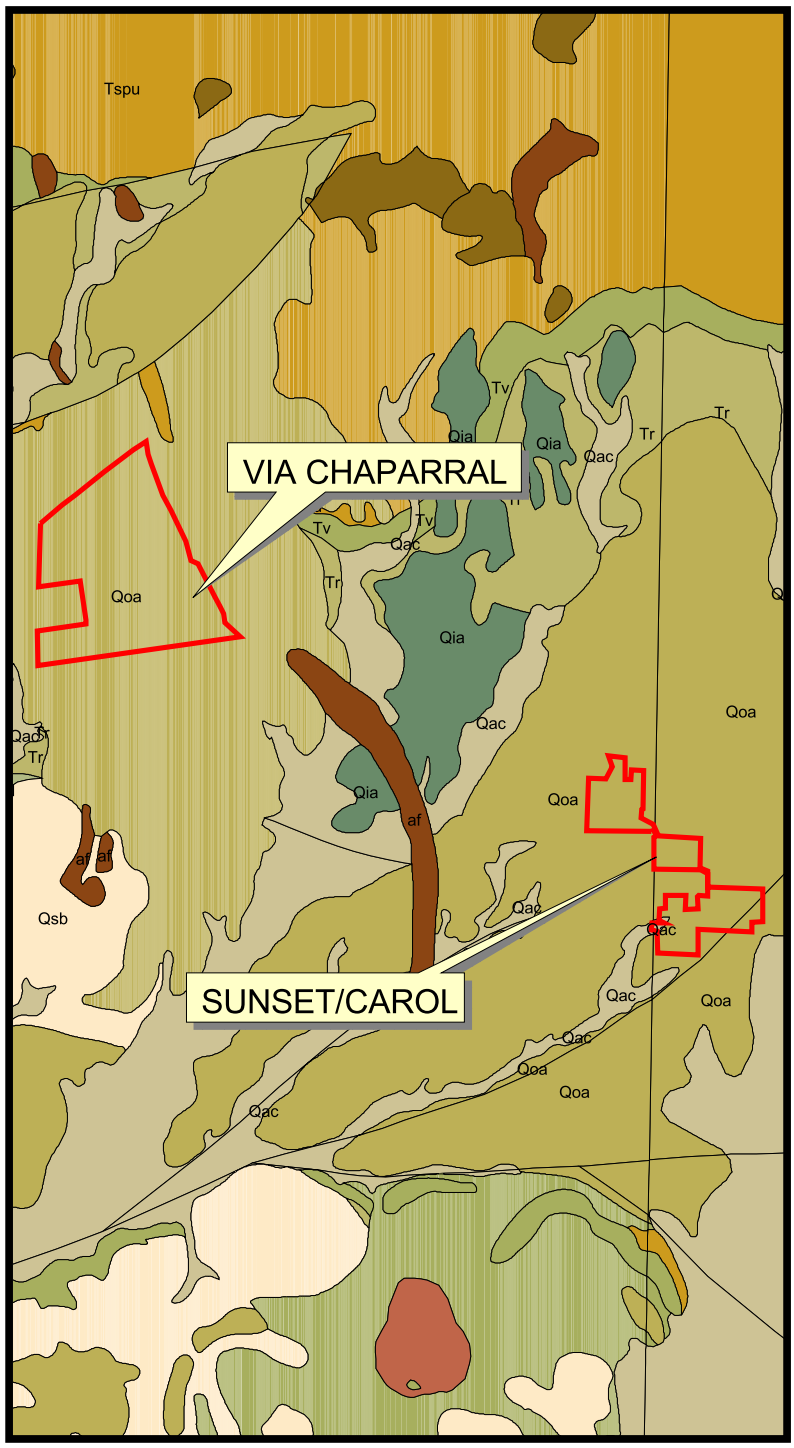
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

VIA CHAPARRAL AND
SUNSET/CAROL FOCUS AREA

APPENDIX
J-13

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
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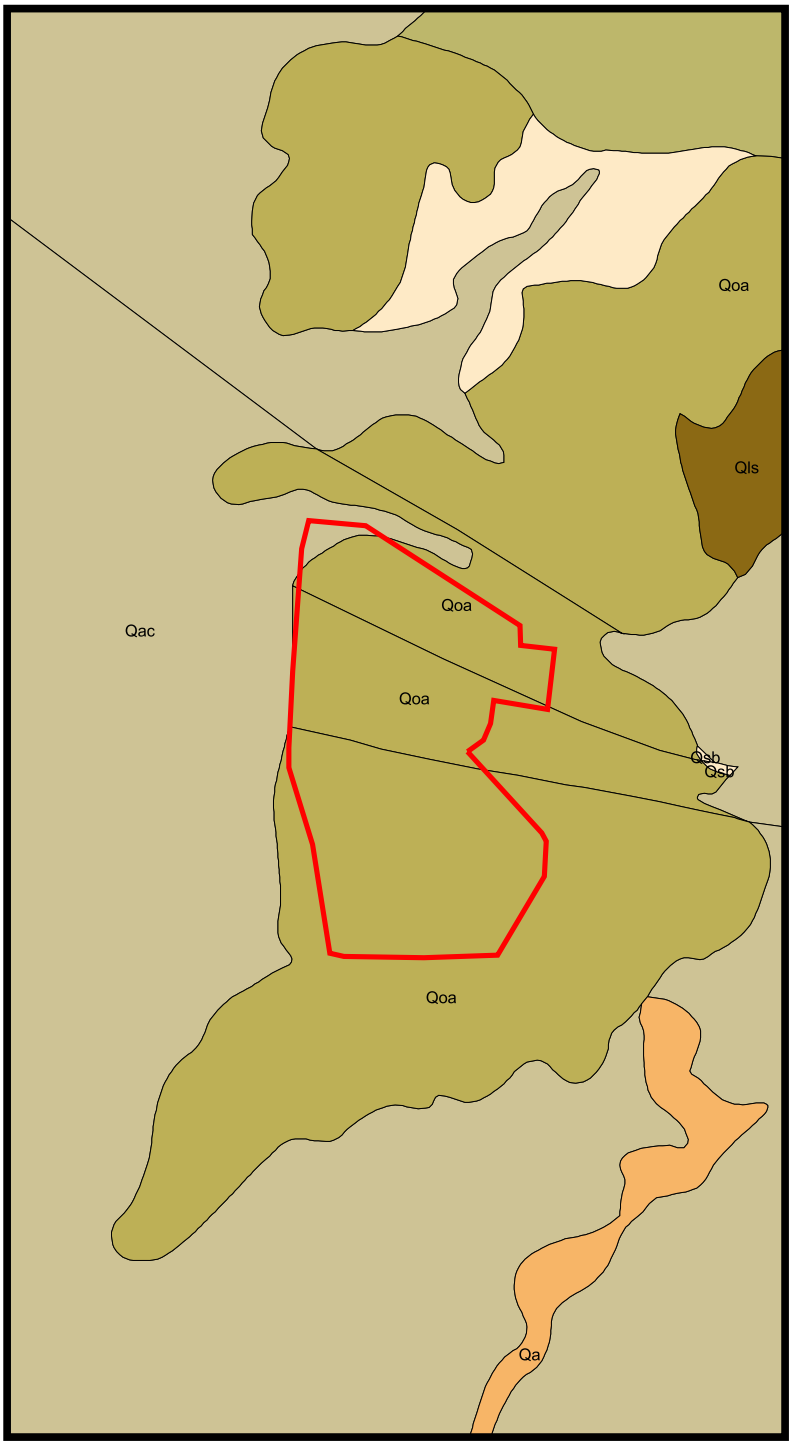
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

LA BUENA TIERRA FOCUS AREA

APPENDIX
J-14

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
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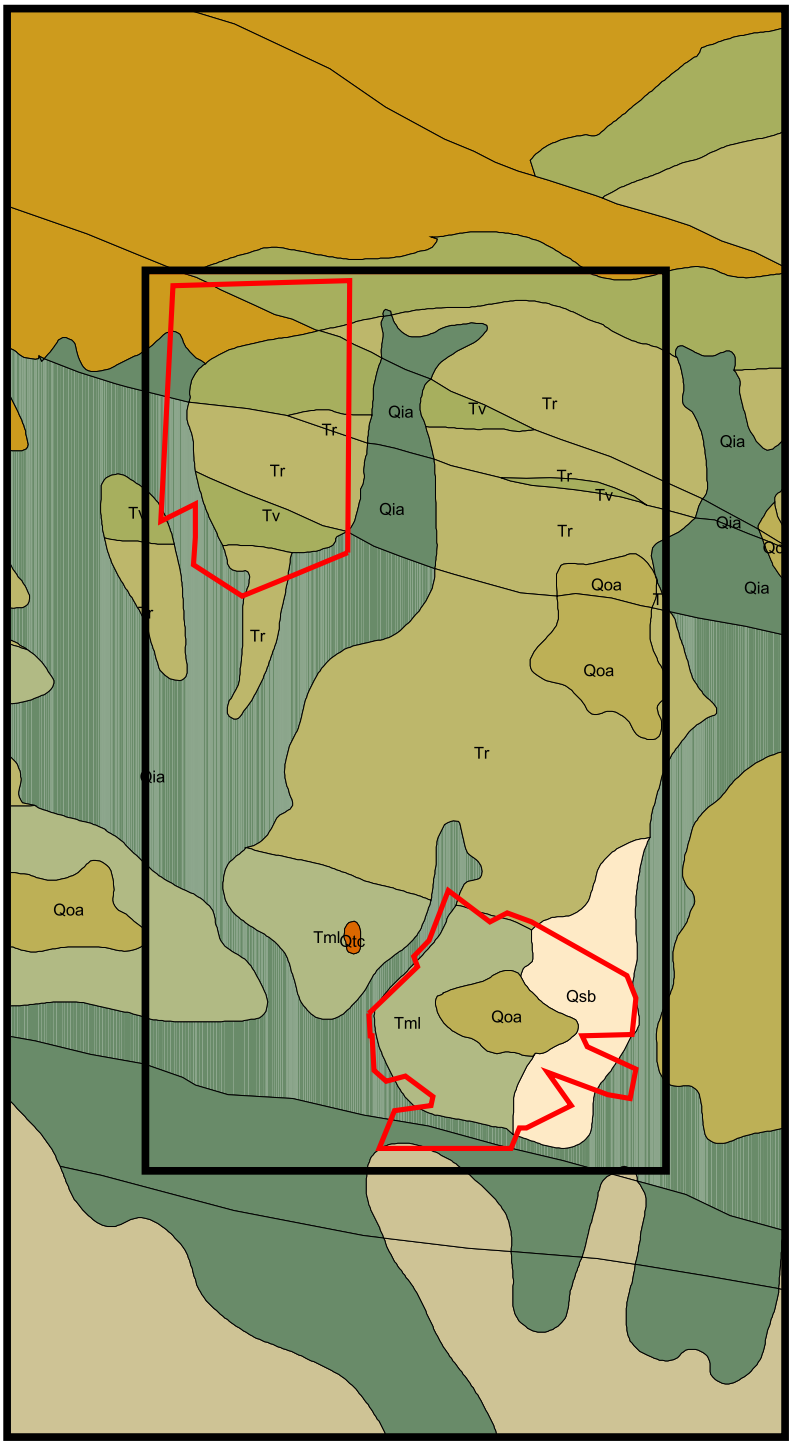
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

UPPER FAIRVIEW FOCUS AREA

APPENDIX

J-15

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
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Qss - Sandstone Unit
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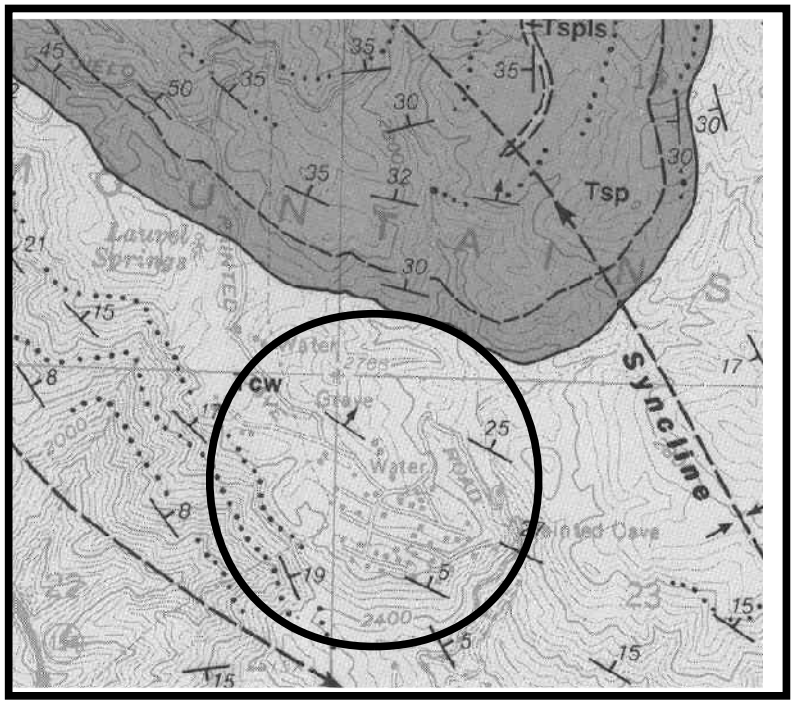
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

PAINTED CAVE FOCUS AREA

APPENDIX

J-16

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
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Tmu - Monterey Formation, upper
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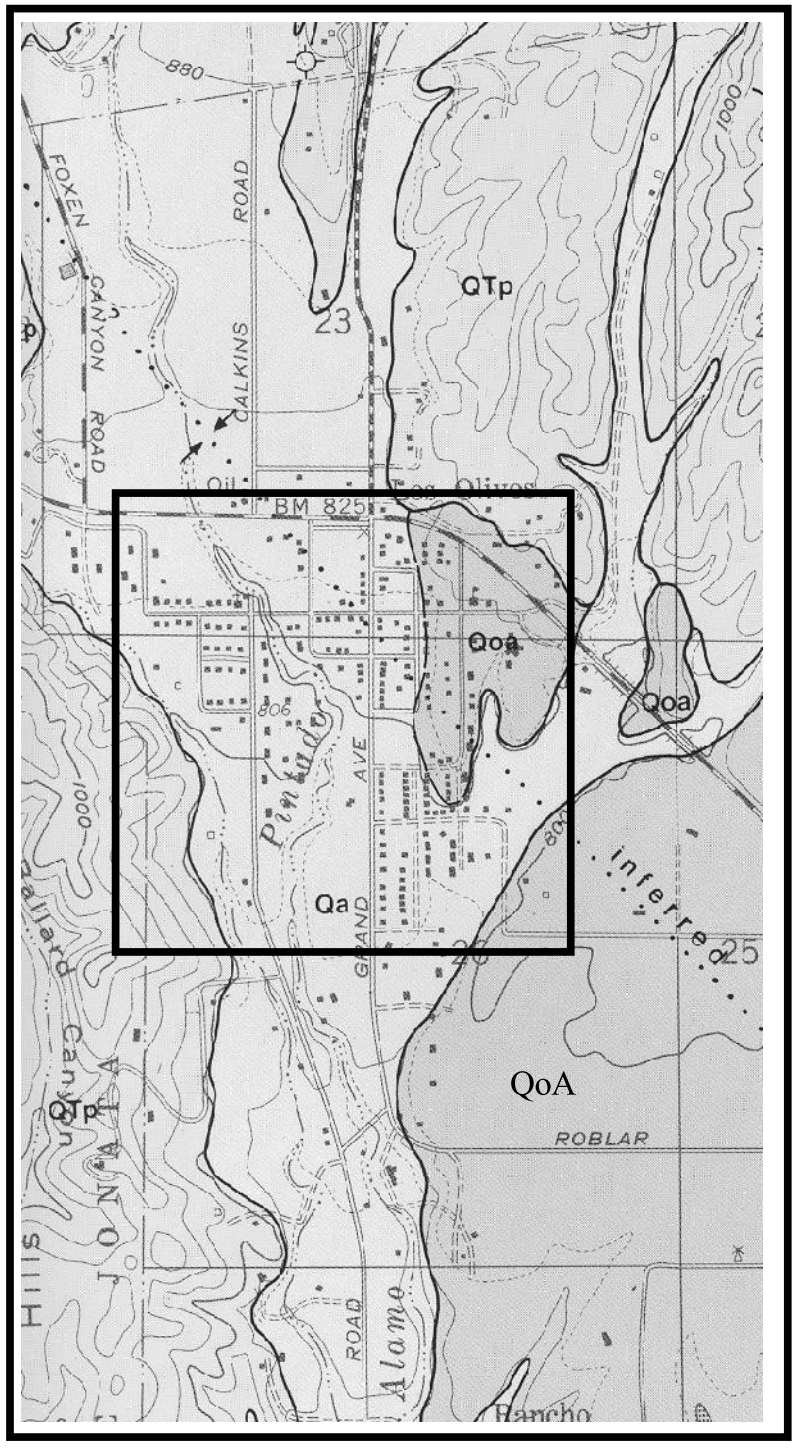
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



GEOLOGY MAP

LOS OLIVOS FOCUS AREA

APPENDIX

J-17

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
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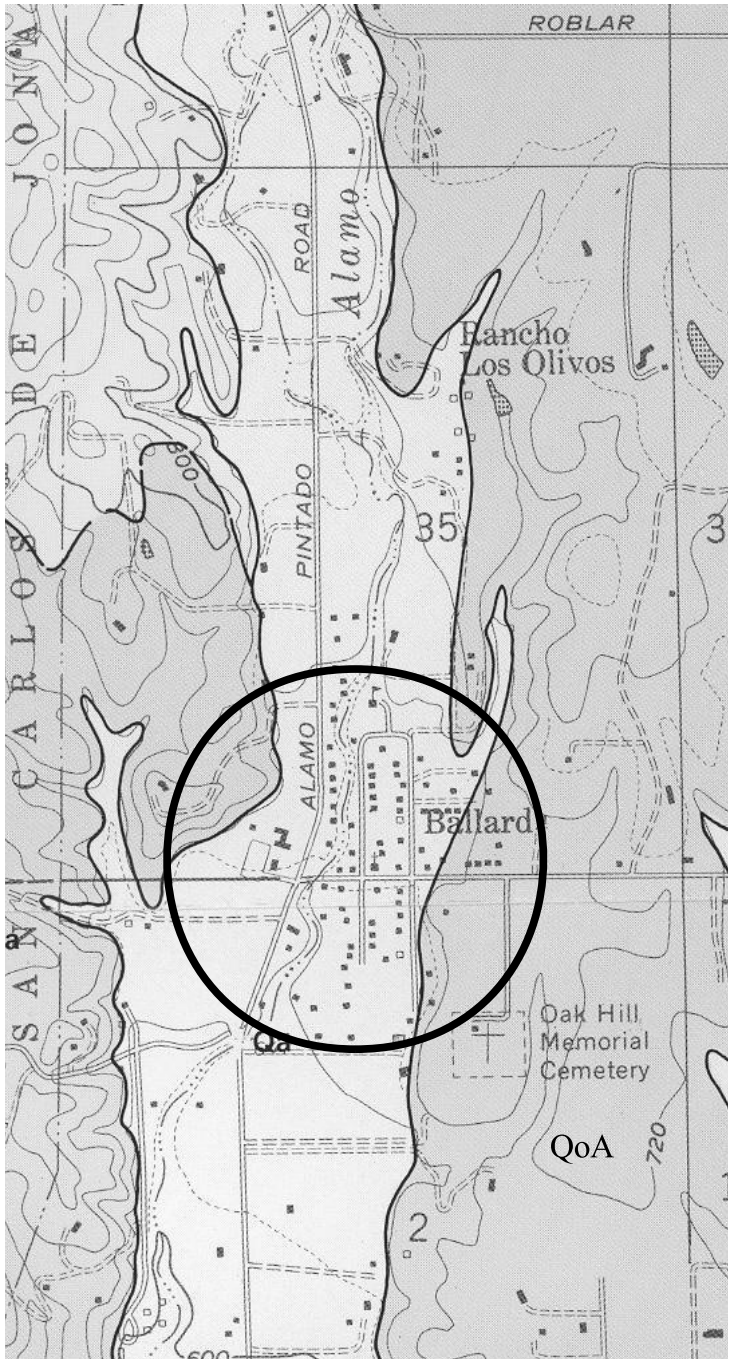
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

BALLARD FOCUS AREA

APPENDIX

J-18

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
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Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
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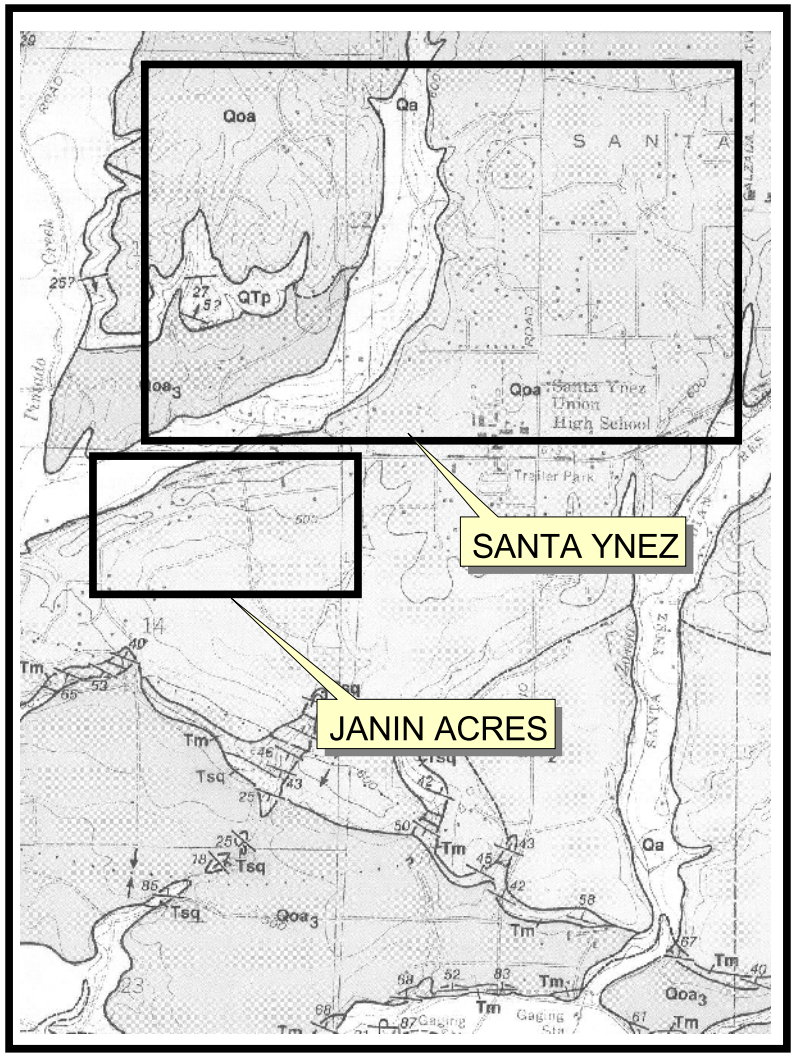
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

SANTA YNEZ AND
JANIN ACRES FOCUS AREAS

APPENDIX
J-19

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
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Qsb? - Santa Barbara Formation (Uncertain)
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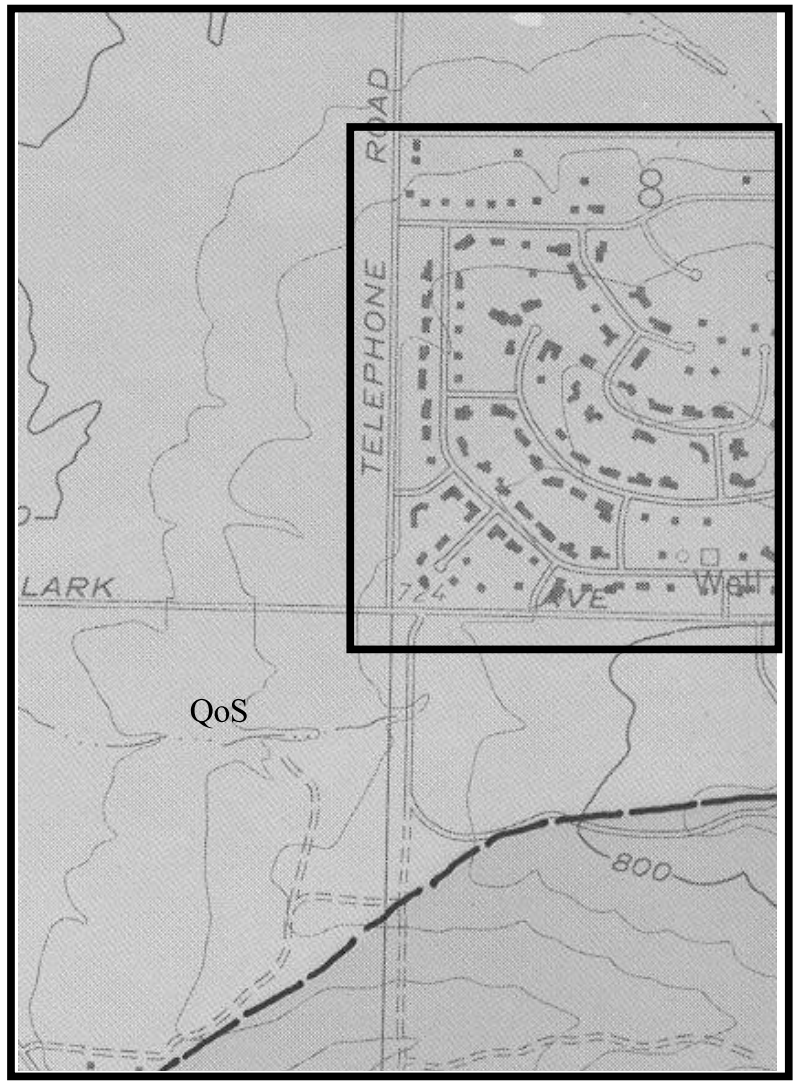
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

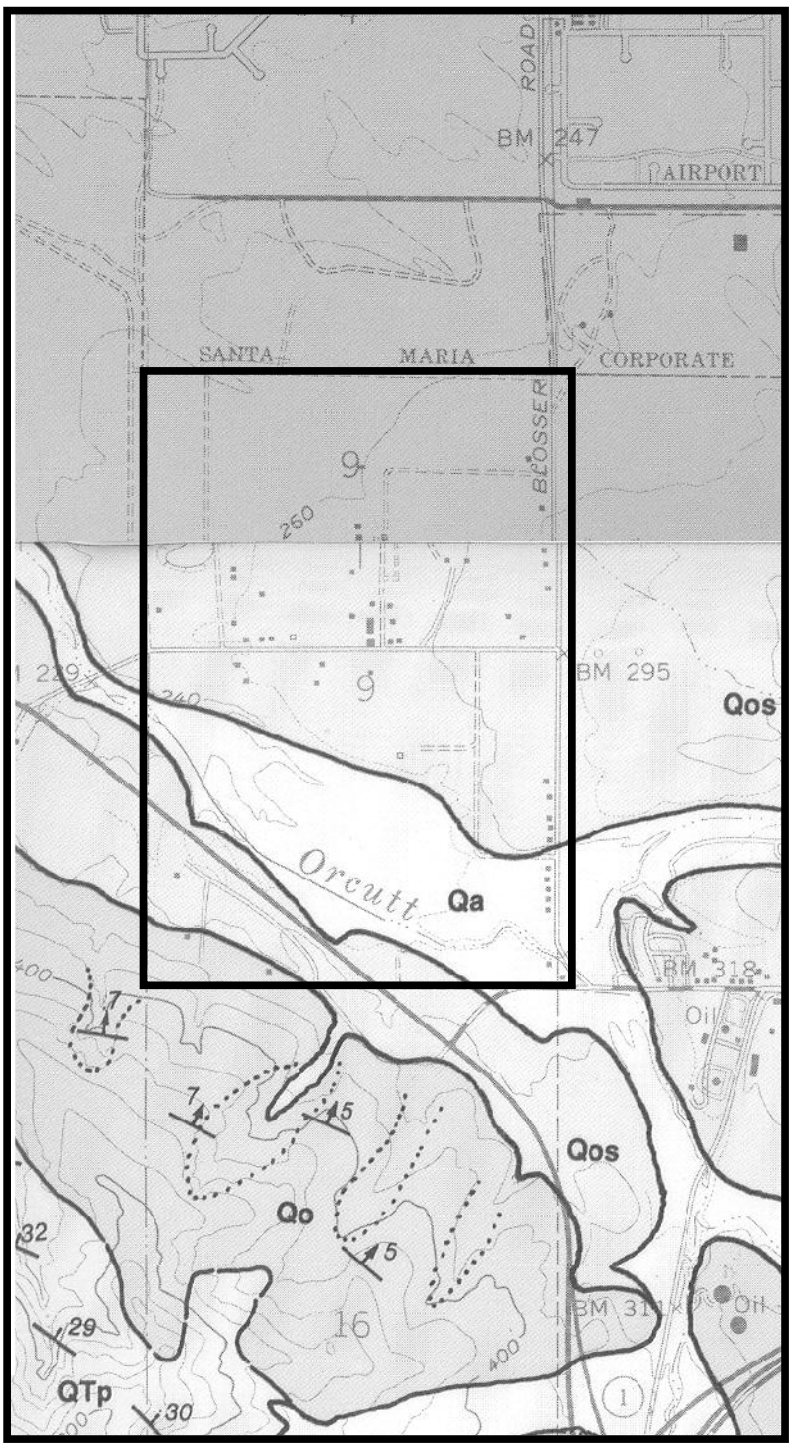
GEOLOGY MAP

LAKE MARIE ESTATES FOCUS AREA

APPENDIX
J-20

GEOLOGY

Open Water
QTst - Siltstone Unit
QTst? - Siltstone Unit (uncertain)
Qa - Younger alluvium
Qac - Younger Alluvium and Colluvium
Qas - Asphalt Deposits
Qb - Beach Deposits
Qc - Colluvium
Qca - Casitas Formation
Qcg - Conglomerate Unit
Qdf - Debris Flow Deposits
Qe - Estuarine Deposits
Qg - Younger Channel Deposits
Qia - Intermediate Alluvial Deposits
Qls - Landslide Deposits
Qmt - Marine Terrace Deposits
Qmt? - Marine Terrace Deposits (Uncertain)
Qoa - Older Alluvial Deposits
Qog - Older Alluvial Deposits - Fanglomerate
Qos - Older Dune Sand Deposits
Qs - Beach Sand Deposits
Qsb - Santa Barbara Formation
Qsb? - Santa Barbara Formation (Uncertain)
Qss - Sandstone Unit
Qtc - Travertine and/or Caliche Deposits
Qtp - Paso Robles Formation
Tcw - Coldwater Sandstone
Tg - Gaviota Formation
Tm - Monterey Formation
Tml - Monterey Formation, lower
Tmm - Monterey Formation, middle
Tmu - Monterey Formation, upper
Tp - Pico Formation
Tr- Rincon Shale
Trs - Rincon Shale
Tspl (Tspss) - Sespe Formation, lower
Tspu (Tsp) - Sespe Formation, upper
Tsq - Sisquoc Formation
Tv - Vaqueros Formation
Unmapped
af - Artificial Fill



QUESTA ENGINEERING CORP.

GEOLOGY MAP

ORCUTT FOCUS AREA

APPENDIX

J-21