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OFFICE OF THE DEPUTY SECRETARY
JOANNE DYAKON

April 28, 1995

Joel:

The Deputy received the attached book when he visited California earlier this year. Thought you might like to have it for your files.

For your
Ft
Katherine :
For your Files
— Joel

AMERICORPS
USDA
NATURAL RESOURCES CONSERVATION SERVICE
Lancaster Field Office
44811 N. Date Ave Suite G
Lancaster, CA 93534
(805) 945-2604

AMERICORPS ACTIVITIES

1. **Photo-Log of Americorps Field Activities**
   - Clean up and sandbagging effort in high risk flooding areas in Altadena / Pasadena and Laguna Beach.
   - Neighborhood safety walk to inform residents on emergency preparedness in Altadena and Pasadena.
   - Talked to local residents in Altadena, Pasadena, and Laguna Beach as part of the field investigation in high risk flooding areas.
   - EWP investigation to inspect sediment control structures in watersheds and debris basins, and to inspect flood and erosion damaged areas.
   - Worked with different agencies from the State, County, and City, and with homeowner association groups.

2. **Recommendation Report for the Altadena / Kinneloa Fire Area**
   - Put together by AmeriCorps (Phillip Sam and April Jurgen) and NRCS staff.

3. **Recommendation Report for the Laguna Beach Burn Area**
   - Put together by NRCS staff and AmeriCorps staff (Sandy Haynes, Phillip Sam, April Jurgen).

4. **Letters of Appreciation From the Governor's Office of Emergency Services and the Eaton Canyon Recovery Alliance**

5. **AmeriCorps Articles from the ECRA Update Newsletter**
   - Written by AmeriCorps staff Phillip Sam and Sandy Haynes.

6. **Other AmeriCorps News Artilcles**

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
L. ROBERT DEAN
District Conservationist
44811 North Date Ave.
Suite G
Lancaster, CA 93534
Ph. 805/945-2604
Fax 805/942-5503

Natural Resources Conservation Service
Serving Antelope Valley Resource
Conservation District In L.A. County
Agricultural / Urban Support

Introducing AmeriCorps members, Sandy Haynes and Phillip Sam, from the NRCS Lancaster Field Office.

Introducing AmeriCorps member, April Jurgen, from the NRCS Lancaster Field Office.

Phillip Sam and Sandy Haynes cleaning up mud damage at a business along Laguna Canyon Rd. in Laguna Beach. 1/21/95

Sandy Haynes and Phillip Sam assisting local residents with sandbagging in the Sun Valley community in Laguna Beach. 1/21/95

Sandy Haynes and Phillip Sam assisting Altadena residents with sandbagging at Rubio Debris Basin in Altadena. 1/10/95

Phillip Sam and Sandy Haynes doing emergency sandbagging to prevent mud and water from getting in a house on Kinneloa Canyon Rd. in Pasadena. 1/10/95

Phillip Sam inspecting a debris flow channel in the back a resident's home on Alzada Dr. in Altadena with members from the L.A. County Fire Department. 1/14/95

Phillip Sam informing Altadena resident on the potential danger of mud and debris flow and passing out L.A. County Engineering Advice and other important information. L.A. County Fire Department was also observing the neighborhood for any mud slide problems. 1/14/95

Sandy Haynes inspecting a storm drain in the backyard of a resident on High Street in Laguna Beach. 1/19/95

Sandy Haynes talking to a long time resident on the erosion cause by the storm at the El Morro Trailer Park in Laguna Beach. 1/18/95

AmeriCorps and NRCS staff inspecting flood damage along the boardwalk at downtown Laguna Beach along with members from OES and Laguna Fire Department. 1/18/95

Phillip Sam looking at the powerful destruction caused by the flood water in downtown Laguna Beach. 1/18/95

AmeriCorps and NRCS staff, and members from FEMA, OES, and Laguna Beach Fire Department, inspecting flood damage areas in Laguna Beach. 1/21/95

Sandy Haynes inspecting a house which is endangered of sliding down into the creak in Laguna Beach. 1/21/95

AmeriCorps and NRCS staff doing EWP investigation at the El Morro Trailer Park in Laguna Beach. 1/18/95

AmeriCorps and NRCS staff doing EWP investigation in Laguna Beach. 1/18/95

Sandy Haynes being interviewed by USDA video and photographers from Washington D.C. about AmeriCorps. 1/17/95

Phillip Sam being interviewed by USDA video and photographers from Washington D.C. about AmeriCorps. 1/17/95

EATON CANYON RECOVERY ALLIANCE
AFFILIATED WITH COMMUNITY PARTNERS
Supported by the Community Disaster Recovery & Preparedness Center
3746 Foothill Boulevard, Pasadena, California 91107
Telephone 818.583.7245
Fax 818.583.7288

January 12, 1995

Mr. Phillip Sam
Ms. Sandy Haynes
AMERICORPS
c/o NATURAL RESOURCES CONSERVATION SERVICE
44811 N. Date Ave., Ste G
Lancaster, CA 93534

Dear Phillip and Sandy:

Thank you for attending our Emergency Preparedness Committee meeting on Jan. 9. We appreciate that you not only made a round-trip drive that evening, but then returned the next day to fill sandbags in Kinneloa Canyon and Altadena all day during the storm!

Per our discussion at the EP meeting, on behalf of the Alliance, we request that you continue to make neighborhood safety walks in the areas not yet covered. These can be done on weekdays or weekends, depending upon your scheduling.

We understand that you'll visit with residents who have received an Engineering Advice from the L.A. County Department of Public Works and provide handouts to them and other residents. This information would include information about permanent protection measures homeowners can take to guard their property, the location of sand and bags for emergencies, as well as tips on preparedness and how to organize a neighborhood association.

We request that you coordinate your walk schedule directly with Virginia Kimball of the OES Community Liaison Office, so that homeowner associations can be notified when you will be in the area, and join you, if possible.

We appreciate your commitment to your mission and our community and look forward to continuing to work with you during the storm season and beyond.

Sincerely,

Dick Baumer
Vice Chair

cc Virginia Kimball, OES
Mike Bohlander, LA Co. Dept. of Public Works
SGT Eric Mills, Pasadena Police Dept.

OES COMMUNITY LIAISON OFFICE
3746 Foothill Blvd., Pasadena, CA 91107
(818) 304-7890; FAX: (818) 304-7073

December 3, 1994

L. Robert Dean, District Conservationist
USDA, Natural Resources Conservation District
44811 North Date Ave. Suite G
Lancaster, CA 93534

Dear Bob:

I want you to know how much we appreciate the AmeriCorps' participation in our neighborhood "sandbag walk" today. Phillip Sam and Sandy Haynes were very effective in meeting people face to face to share information about protecting homes from floods and mud. Three residents, Mike Bohlander, Phillip, Sandy, and I spent a rewarding morning in Altadena. The response was usually very favorable, with people appreciating the visit and the information shared. Some interesting issues emerged:

- Many people have taken the recommended measures already, or told us that they intend to do so soon. Some indicated that they had planned to do something, but weren't sure whether they were going to replace the sandbags, build a pipe & timber barrier, or install a block wall. They were pleased to get the "specs" for a block wall and pipe & timber barrier, and pleased to learn that the county will waive building fees.

- The most common reason cited for putting off the installation of more permanent measures was cost.

- A few people intend to gamble -- or are in denial. "I just don't think it'll be that bad." "It wasn't that bad last year." "I don't want to look at another sandbag!"

- There's quite a bit of misinformation floating around: The storm drains will take care of whatever comes down. The K-rails will act as a dam and hold everything behind them. Old, rotting sandbags are as good as new ones. The county brought these sandbags in; the county should take them away.

- The neighbors generally hate the sandbags. They're ugly, messy, and smelly.

I think today's efforts were valuable, both for the residents we reached, and for us to get a sense of the issues and challenges ahead. It was great to have Phillip and Sandy with us.

Sincerely,

Virginia

Virginia Kimball

Eaton Canyon Recovery Alliance

Affiliated with COMMUNITY PARTNERS

Update

DECEMBER 1994

Supporting residents and homeowners' associations in Altadena, Eaton Canyon, Kinneloa Ranch, Kinneloa Estates, Kinneloa Mesa, Sierra Madre Villa, Pasadena Glen, and other foothill communities damaged by the Firestorm on October 27, 1993

MEETINGS

Meetings indicated with a checkmark (✔) are held at the OES Community Liaison Office, 3746 Foothill Boulevard, Pasadena, (818) 304-7890.

ECRA INSURANCE COMMITTEE

Tuesday, Dec. 6, 7:00 p.m.
HighPoint Academy
1720 Kinneloa Cyn. Rd., Pasadena

Insurance problems? You can benefit from some valuable experience and information at the upcoming ECRA Insurance Committee meeting. The committee works closely with homeowners to resolve common and individual problems.

✔ PUT HOLIDAY STRESS TO REST!

Thursday, December 8, 7:00 - 8:30 p.m.
Saturday, December 10, 9:30 - 11:00 a.m.

Fire survivors are invited to learn to lessen holiday stress and color our "blues" with another hue. Two workshops will be offered by Foothill Family Service through Project REBOUND at the OES Community Liaison Office. Refreshments will be served.

BUILDERS' POINT OF VIEW

Mondays Dec., 5 & 19, 6:30 - 8:30 p.m.
Church of Christ
1727 Kinneloa Cyn. Rd., Pasadena

If you're rebuilding, or plan to rebuild soon, don't miss out on this great opportunity to learn hands-on building tips! These workshops are part of a continuing series that will help you learn how to build it, or to ask the right questions of your construction team.

✔ ECRA STEERING COMMITTEE

Wednesday, Dec. 14, - 7:00 p.m.

Here's a chance to share news about the community's progress and concerns. Neighborhood associations will also report on their activities. Your participation is needed as we plan ways to make our neighborhoods safer during the rainy season.

CABLE T.V. PRESENTATION ECRA Cable Show

Monday, Dec. 12 & Saturday, Dec. 17
2:30 and 6:30 p.m.

Keep up-to-date! Watch "*On Alert*" and catch the latest fire recovery news and disaster preparedness information. On Crown Cable, Channel 56, this ECRA-produced cable show provides news specifically geared to the local Altadena/Kinneloa area. The show is presented twice on Monday and Saturday.

HOLIDAY SCHEDULE

Please Note: During the holiday season, the OES Community Liaison Office will be closed Dec. 24-26, and Dec. 31-Jan. 2.

POTENTIAL DANGER OF DEBRIS AND MUDSLIDES: "...WORSE THAN LAST YEAR"

***By Phillip Sam,* Natural Resources Conservation Service/AmeriCorps**

The Altadena-Kinneloa fires on October 27, 1993, destroyed many homes and properties, and burned off vegetation on 5,700 acres along the foothills. Now, the still denuded canyons and watersheds in the mountains pose a danger of mud and debris flows impacting the urbanized areas. Most of the dry vegetation on the hillsides are mustard plants which do not provide adequate soil stabilization due their non-fibrous root system. In fact, the mustard and other new vegetation has penetrated the hydrophobic layer of the soil, breaking up the crust, and caused increased erosion in hills and canyons. Thus, the potential danger of debris and mudslides is now expected to be worse than last year.

Cont'd. on page 8

ONE-STOP CENTER UPDATE AND THOUGHTS -- ONE YEAR LATER

by Bruce Hooper, District Engineer
One-Stop Manager, L.A. County Public Works

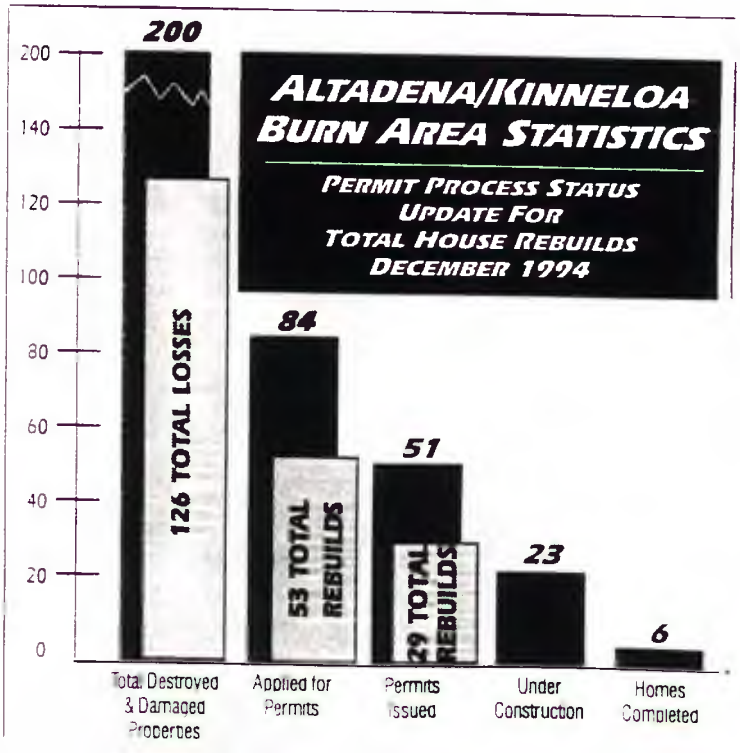
As of November 22, the Los Angeles County One-Stop Information and Permit Center in Arcadia had plan checked 84 building plans for the fire area. We have issued 51 building reconstruction permits.

The Altadena-Kinneloa Fire affected many lives in the community. Rebuilding projects have interacted with various levels of county, state and federal government. In this entire process, there has been a wonderful spirit of cooperation.

Cont'd. on page 3

FIRE SURVIVORS' NOTES:

Many first class letters directed to fire survivors are being returned to the sender, because the post office will not forward mail after one year. If you notice or suspect that you are not receiving all of your mail, this might be the problem. Contact the U.S. Post Office to clarify your situation.



EATON CANYON RECOVERY ALLIANCE
Affiliated with COMMUNITY PARTNERS
OES Community Liaison Office
3746 Foothill Boulevard
Pasadena, California 91107

Bob Dean
44811 N Date Ave #G
Lancaster, CA

Potential Danger From Debris

(Cont'd. from page 1)

At the request of the Eaton Canyon Recovery Alliance (ECRA) and the Office of Emergency Services (OES), the Natural Resources Conservation Service (NRCS)/AmeriCorps at the Lancaster field office has completed an inventory of measures and recommendations on flood protection for residents for the current rainy season.

In doing the report, "Summary of the 1993-94 Flood Prevention and Recommendations for 1994-95 Rainy Season," NRCS and AmeriCorps staff made field surveys and recommendations for residential flood protection, and debris basins and sediment control structures. Areas covered in the report and on the maps are: Chiquita Canyon, Loma Alta, Rubio Canyon, Altadena East, Kinneloa, Pasadena Glen, Hastings Ranch, and Sierra Madre.

The report lists people who received mitigation last year and/or residents who received engineering advice from the Los Angeles County Department of Public Works. Information in the tables includes: address, engineering advice, type of structures installed last year, dimensions of structures, description, priority, and recommendation for action. In making the recommendations, NRCS and AmeriCorps staff visually checked for existing or removed sandbags at each location. If the sandbags are still present but deteriorating, we recommended that the sandbags be repaired. If the sandbags were removed, we recommended they be replaced. Each location was rated with a low, medium or high priority which reflected the potential of flooding at that location.

OES provided maps of the areas covered in the report. Maps show the address of the residents with mitigation, and the approximate location of sandbags and various structures. The number on the maps match the map numbers indicated on each page of the residents' list.

NRCS and AmeriCorps staff recommend that residents bring the level of protection to their properties up to or to exceed the level provided for during last year's rainy season. In order to achieve the level of protection needed for the current rainy season, there must be a collective effort from communities and neighborhoods.

For a complete copy of the recommendation report or for other information, please contact the OES Community Liaison Office, 3746 Foothill Blvd., Pasadena, (818) 304-7890. For further information about the report, please contact the USDA Natural Resources Conservation Service (NRCS)/AmeriCorps at the Lancaster field office, (805) 945-2604, and ask for Phillip Sam, Sandy Haynes, or

ECRA COMMITTEES

CHAIR	Ursula Hyman	213/891-7906
COMMUNICATIONS	Frank Griffith	818/798-2281
COMMUNITY	Larry Winslow	818/398-8860
EMERGENCY PREPAREDNESS	Dick Baumer	818/798-7689
GOVERNMENT AFFAIRS & PERMIT STREAMLINING	Nancy Goldsworthy	818/355-3750
INSURANCE	Allen Corbett	213/684-1084
	Bert Tibbett	818/797-0007
FINANCE	Jeff Foster	818/798-0512
SECRETARY	Ken Girvetz	818/794-4822
OES RECOVERY CENTER	Virginia Kimball	818/304-7890
	Fred Messick	818/304-7890

NOTE FROM THE TOWN COUNCIL

(Council Chairperson, Walter Martin sent this letter to Ursula Hyman, Chairperson of the ECRA):

"At our last regularly scheduled meeting, October 18, the Altadena Town Cown Council unanimously passed the following motion:

> *That a letter be sent to the Eaton Canyon Recovery Alliance to convey our appreciation for the recovery work that the Alliance has done in the last year and to pledge our support of its continuing recovery work and its efforts in the area of preparedness.*

Please continue to keep the Council aware of your activities in the area of recovery and preparedness, and any manner in which we may be of assistance to your effort."

DON'T HESITATE TO CALL

If you encounter any problems during any stage of your rebuilding process, please contact the OES Community Liaison Office at 3746

Eaton Canyon Recovery Alliance

Affiliated with COMMUNITY PARTNERS

Update

JANUARY 1995

Supporting residents and homeowners' associations in Altadena, Eaton Canyon, Kinneloa Ranch, Kinneloa Estates, Kinneloa Mesa, Sierra Madre Villa, Pasadena Glen, and other foothill communities damaged by the Firestorm on October 27, 1993

1994 Accomplishments and 1995 Goals

By Ursula Hyman, Chair - ECRA

At the beginning of the New Year it is always good to reflect on what we've accomplished and to set our sights on the next year. The ECRA Steering Committee felt the same way and recently established its goals for 1995. However in doing so it might be

ECRA Committee Report On Emergency Preparedness Activities During 1994

By Dick Baumer, Chair - Emergency Preparedness

With a partnership of community residents, neighbors and volunteers, we were able to accomplish the following steps

EATON CANYON RECOVERY ALLIANCE
Affiliated with COMMUNITY PARTNERS

OES Community Liaison Office
3746 Foothill Boulevard
Pasadena, California 91107

PLAN A "SAFETY WALK" IN YOUR NEIGHBORHOOD

On December 3, 1994, AmeriCorps members, Phillip Sam and Sandy Haynes, participated in a neighborhood "sandbag walk" along with Virginia Kimball from the OES Community Liaison Office, Mike Bohlander from L.A. County Public Works, Stephenie Frederick from Mount Wilson Toll Road Homeowners' Association, and local residents, Sandy Rice and Shirley White from the Woodglen area.

The areas covered were along Pinecrest, Crescent, Bowring, Skyview, Woodglen, and Winterhaven. We visited residents who received sandbag mitigation measures last year after the Altadena/ Kinneloa Fire. We informed residents about the potential danger of debris and mud flows from the hillsides. We also provided information about sandbag distribution locations, pipe and timber deflector wall cost estimates, a new county policy to waive building permit fees on retaining walls, and a standard design specification sheet on retaining walls.

The response from most residents was very favorable; people seemed to appreciate our visit and the information we made available. Many residents have taken measures and installed new sandbags, pipe and timber deflectors, or retaining walls. On the other hand, some residents did not feel there was much risk since the area avoided major problems last year. There was misinformation about who is responsible for the sandbags, about storm drains being able to handle whatever comes down, and about K-rails being able to hold everything behind them. Stephenie made note of these issues and will bring them up at the next Mt. Wilson Toll Road Association meeting Thursday, Jan. 12, 7:00 p.m. at the OES Community Liaison Office, to better inform and educate the local residents.

Overall, the neighborhood sandbag walk was quite successful in informing local residents about the need to take safety precautions. As AmeriCorps members, we would like to contribute our time to work closely with the neighborhood and the community. We would like to offer our services to other homeowner associations or individual residents who would like to arrange similar neighborhood sandbag walks for their area.

To arrange a date, please contact Phillip Sam or Sandy Haynes at the Natural Resources Conservation Service (formerly Soil Conservation Service), Lancaster Field Office, (805) 945-2604; or fax ((805) 942-5503. To obtain a copy of the information given to residents, please call the OES Community Liaison Office, (818) 304-7890.

ECRA COMMITTEES

CHAIR	Ursula Hyman	213/891-7906
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OES RECOVERY CENTER	Virginia Kimball	818/304-7890
	Fred Messick	818/304-7890

VOLUNTEERS NEEDED!

You are cordially invited to help with the upcoming newsletter mailing!

WHAT: Folding, stapling and stamping the *ECRA Update Newsletter.*

WHEN: Two dates are open: Monday, Jan. 30, 2-5:00 p.m. *or* Tuesday, Jan. 31, 9 a.m. - 12 noon

WHERE: OES Community Liaison Office, 3746 Foothill Blvd., Pasadena

REFRESHMENTS: Provided!

Please call the OES office at (818) 304-7890 to arrange a time to volunteer. Thank you!

THANK YOU SO MUCH!

The Eaton Canyon Recovery Alliance wishes to express its gratitude to:

- ***Foothill Family Service*** -- for providing a delightful dinner and evening of fellowship, December 3, for fire veterans and volunteers who helped the community in the past year;
- ***Allen Corbett and Daira Grencions*** -- for organizing and hosting a holiday party at the OES Community Liaison Office, December 16, for persons who lost their homes in the firestorm; and
- ***Ken Anderson of C.G. Anderson and Associates, Inc.*** -- for providing space adhjacent to the OES offices for the well-attended party.

NEWS RELEASE

Contact: Bob Dean
Steve Jewett
Anita Brown

AMERICORP TACKLES SOUTHLAND FIRE REHAB AND HIGH DESERT WINDS

LANCASTER and VENTURA, Calif., Sept. 13--What does Bill Clinton's community service program look like on a local level? Five AmeriCorps workers with the U. S. Department of Agricultue's Soil Conservation Service (SCS), will work with Pasadena and Ventura residents to restore their fire-damaged landscapes. In the windswept high desert area near Lancaster, the team will work with residents to develop windbreaks.

AmeriCorps is President Clinton's national service initiative composed of diverse groups of Americans who will begin performing critical service to meet human, environmental, public safety, and educational needs in return for a $12,000 stipend and a $4,725 educational voucher.

"These are community-oriented, conservation programs that we have wanted to support, but just didn't have the time or people to devote," said SCS conservation cluster captain, Bob Dean. "These young people are full of energy and ideas that can benefit the communities, and in turn the AmeriCorp workers will get a practical feel for how conservation is done on the ground level."

Dean, and Steve Jewett, his Ventura county coworker, expect the AmeriCorps workers in the fire regions to develop their rehabilitation plan by working with the public to understand the local needs. The challenge will then be to pursue the funds and technical expertise to build the appropriate structures, basins, plantings etc. to protect the communities from flooding and mudflows.

The five-member team will also work in Antelope Acres where high winds have long threatened residents' property and air quality. The AmeriCorp team, under guidance from Dean, will work with 350 area families to understand high wind conditions and to take precautions such as installing trees as windbreaks.

Work is slated to begin on Sept. --. Each worker is eligible for one year of service. Successful community projects will be able to apply for replacement workers to continue conservation services.

The team includes------

Four additional Americorps cluster groups are working on conservation programs with the Soil Conservation Service in California in the Sierra foothills, the San Francisco Bay area, Apple Valley and the San Bernadino Mountains. Projects include community outreach on reducing fire fuel loads, restoring fish habitat, surveying soils and natural communities, controlling erosion control.and assisting with rural development projects.

###

California AmeriCorps Workers Tackle a Myriad of Watershed Restoration Projects

by Anita Brown, SIO, Davis

From restoring fish habitat in Santa Rosa to coordinating fire prevention and restoration work in the Sierra and High Desert, to assisting with rural development in Auburn and Apple Valley, 30 AmeriCorps workers with the Natural Resources Conservation Service (NRCS) in California will be helping communities build healthier landscapes.

AmeriCorps is President Clinton's national service initiative composed of diverse groups of Americans who will begin performing critical service to meet human, environmental, public safety, and educational needs in return for a $12,000 stipend and a $4,725 educational voucher.

The first AmeriCorps NRCS workers in California went to work on Sept. 6 in the agency's Petaluma and Santa Rosa offices and the final six were placed in the foothill communities of Auburn, Grass Valley and Placerville mid - October. NRCS AmeriCorps members were also placed in Apple Valley, Lancaster, Ontario, Redlands, Santa Rosa, Somis and Ukiah. The workers will remain on the projects for one year. Successful community projects are eligible to reapply for new workers next year.

NRCS California AmeriCorps programs include the following:

• A six-member north coast team will work in vineyards, orchards, ranches, forests, dairy farms and fishery habitat areas to provide community outreach and needed ecosystem management to improve water quality and restore salmonoid habitat.

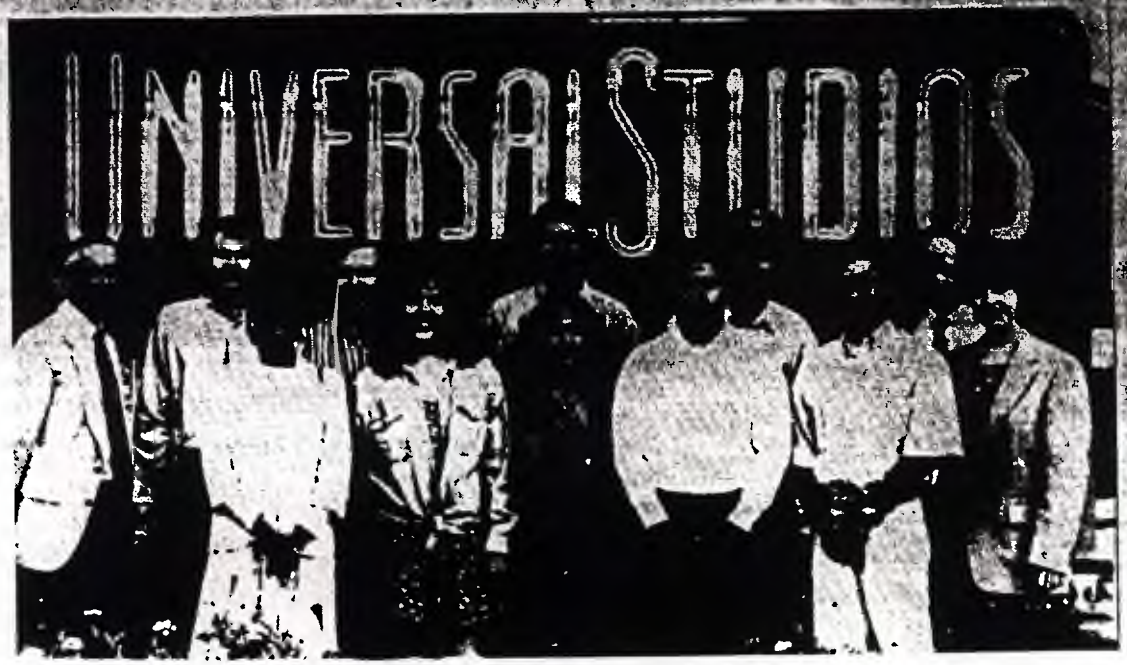
• In Ventura and Los Angeles counties, five AmeriCorpers will work with residential communities devastated by last fall's fires to restore damaged ecosystems and protect residents from flooding and debris flows.

• High Desert projects include installing windbreaks near Lancaster as well as surveying soil conditions and plant and animal communities in Apple Valley. A project in San Antonio Heights will focus on methods and vegetation to prevent fire and erosion on development sites.

• In the San Bernardino Mountains and nearby valley, a team will gather data and public input on projects, including one at Big Bear, to plan and install measures needed to improve water quality, control erosion and prevent flooding.

• A six-person foothill team in Auburn, Grass Valley and Placerville will put foresters, a soil scientist and an engineer to work on forest fuel reduction in the Sierra. There they will help develop forest management plans for relatively small landowners who currently have no management or marketing plan for their overgrown timber stocks.

California is one of 30 states to place AmeriCorps workers through the Natural Resource Conservation Service. ◆



Southern California NRCSers and AmeriCorp members helped kick off the program at Universal Studios in September.

MONDAY, SEPTEMBER 26, 1994

apses as thousands demonstrate, ransack police stations/M

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THE ANTELOPE VALLEY
Daily News
EDITION
SERVING LANCASTER, PALMDALE AND THE HIGH DESERT

Pierce llama program gets recognition

MAIN NEWS

elton, Singer adjust to new

ster council newcomers assert selves as representatives, tackle

Writer

R — Deborah Shel-
ole story to illustrate
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ouncil post, asked to
office a table from a

She was told the table would be inappropriate for an ambassador of the city because it didn't match her existing furniture. An appropriate table would be found, she was told.

Other attempts to get a table were greeted with the same response — you need to have a matching table. Shelton finally got her table — by accident. She had asked to use a computer to write her correspondence. The computer was brought in — on a table.

"It doesn't even match, and you know what? It works fine," Shelton said. "I'm having to learn about the mind-set of bureaucracy. That's one reason why I feel like an alien."

Shelton and Singer, city government outsiders, were swept into office five months ago in an election in which two incumbents, Arnie Rodio and George Root, were defeated. Singer finished first, followed by Councilman Henry Hearns and Shelton.

"The biggest mandate is to involve citizens directly in government," Shelton said of the election. "Some citizens felt pushed out. There is a valid perception that certain citizens get special treatment above other citizens. There's a mandate to make it a more level playing field for all citizen involvement."

One of her first actions was to get the council to agree to hold its biweekly pre-council agenda study session in the City Council chambers instead of a smaller upstairs

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"The biggest mandate is to in-

session in the City Council chambers instead of a smaller upstairs

See COUNCIL / Page 3

s fall!

David Crane/Daily News

at Saint Andrew's Abbey for the Valyermo Fall Festival. About 20,000 people were expected.

s crowds abbey

Friar Maur signs a figurine for Abby Cano of Montebello while others

expected an overall crowd of
t 20,000.
think there were other events
kept people away (Satur-
." said Abbot Francis, the
astery superior, as he hawked
irts at the festival entrance.
been a wonderful spirit. A lot
usic and exhibits. The people
to be real happy."
ne second day of the festival
n with hourlong Masses at 7
Afterward, participants wan-

Battling flooding, high winds

AmeriCorps to help plant trees in A.V.

By Karen Maeshiro
Daily News Staff Writer

LANCASTER — Six members of President Clinton's AmeriCorps community service program will work with Antelope Acres residents this fall to plant trees as windbreaks against dust storms.

In addition to installing windbreaks in the west end of the Antelope Valley, the team will help residents in fire-ravaged areas of Leona Valley, Pasadena and Ventura County protect their property against flooding, mudslides and soil erosion, officials said.

"I think it's a great opportunity for us," said Bob Dean, district conservationist with the U.S. Department of Agriculture's Soil Conservation Service in Lancaster. "What they are doing is to further our work. With our limited staff, they are picking up on items we would like to do but don't have time to do."

The AmeriCorps program, approved by Congress last year, is a $360 million effort to encourage high school and college graduates to perform a year or two of public service.

Under the program, the AmeriCorps members will work with various organizations for about $6.66 an hour, plus vouchers to help pay for college or job training, officials said. Dean's six-member team will work with the Soil Conservation Service.

A clerk is already at work in the Soil Conservation office in Lancaster and three other crew members at a district office in Somis in Ventura County. He expects to have two more applicants at work in Lancaster by next week.

Each member receives a $12,000 stipend for 45 weeks of full-time work. In addition, each will receive free health care and a $4,275 educational voucher for each year o work.

The money can be used toward their college tuition, job training o

See AMERICORPS / Page 3

David Crane/Daily News

rounds of Saint Andrew's, browsing the booths Sunday.

nd Joe Davison of Lan-
ght four of the clay figu-
n they said they had seen
outhern California stores

ting

rts said. "As mayor, my
o make sure that doesn't

questions whether Sing-
ton have a true mandate
. Key factors in their
oberts said, was a gener-
mbency feeling through-
e and Singer's and Shel-
ne recognition from
ds for the council.

sure the mandate is that
erts said.
said he believes Singer
n will prove to be good
mbers.

ncil newcomers have ta-
sometimes from those
upported their cam-
r example, both were
or voting for a redevel-
ncy agreement that in-
rovision to give more
00 in moving expenses
the local McDonald's
ranchise offices.

that sell religious artwork.

"They're primitive. I don't know, they speak to us," said Coleen Davison, whose purchase included a St. Christopher figurine for her son.

AmeriCorps to help plant trees

AMERICORPS / From Page 1

to pay off college loans. Each recruit is limited to two years' service.

Dean said AmeriCorps members will target the 350 households in Antelope Acres whose homes and cars have been damaged by dust storms.

"It's an area with little vegetation," Dean said. "High winds are picking the soil up, and it goes airborne. Windstorms in the past have peeled paint off cars."

The AmeriCorps members will set up meetings with homeowner groups and the Town Council and help them plan where to plant the trees and what kind to use, Dean said.

"The services will be made available to anyone who wants it," Dean said.

In fire-damaged areas, the corps members would work with residents in planning redesign of landscapes to create natural barriers, Dean said.

CALENDAR

TODAY

Overeaters Anonymous — HOW Concept will meet at 7 p.m. at the Palmdale Cultural Center, 704 E. Palmdale Blvd. Information: 285-8787.

Expectant parents may tour the Antelope Valley Hospital Medical Center obstetrical department and get information on what to expect during hospitalization at sessions starting at 4:30, 6 and 7 p.m. Visitors meet in the main lobby at the hospital, 1600 W. Ave. J, Lancaster.

Narcotics Anonymous meets at 7 a.m. at Council on Alcoholism and Drug Dependency, 1543-F Palmdale Blvd.; at 7 p.m. at Palmdale Hospital Medical Center, 1212 E. Ave. S., and at 7 p.m. at Church of Christ room 10, 1655 E. Lancaster Blvd. Information: 273-0868.

TUESDAY

The Antelope Valley Literacy Council offers English as a Second Language classes from 10 to 11:30 a.m. in classroom 101 at the Antelope Valley Adult School, 45110 Third St. E, Lancaster. Information: 948-3000.

Sweet Adelines, a women's barbershop harmony singing group, will meet from 7:30 to 10 p.m. at Lutheran Church of the Master, 725 E. Ave. J, Lancaster. Information: 942-3447 or 948-6768. Guests are welcome. The group is not affiliated with the church.

BRIEFLY

Detectives probe construction-site fire

PALMDALE — Los Angeles County Sheriff's arson detectives were investigating the cause of an early morning fire Sunday that destroyed six homes under construction.

The fire was reported at about 1:35 a.m. at a construction site on Ivory Court near Coral Court, fire officials said. Six wooden frames of homes were destroyed, causing about $310,000 damage, officials said.

There were no reported injuries.

— Daily News

Judicial candidate plans reception

LANCASTER — A reception allowing voters to meet Antelope Municipal Court judge candidate

HOROSCOPE

JOYCE JILLSON

Today / September 26, 1994

If your birthday is September 26: Property, money and status are yours to have and enjoy. Partners back your schemes in October and November. By December, business opportunities turn up at a holiday gathering. A spectacular romance in January and February leads to love in April. Ask for a raise in March. Real-estate deals in November earn you a castle of your own. Your lucky numbers are 2 and 17.

ARIES (March 21-April 19). An inheritance is on the horizon. Be smart with windfalls — put your cash to work. A bank loan or a partner's resources start your business going strong. Crackling love overheats if tempers flare.

TAURUS (April 20-May 20). A romantic wave crests — and intimate talk re-heats ecstasy with an older lover. Satisfaction is guaranteed. Legal counsel from a professional resolves a crisis of a personal nature. A romantic error turns into an advantage and builds a deeper trust in love. Place classified ads for fast results.

LIBRA (Sept. 23-Oct. 23). A prestigious invitation raises your confidence quotient. Accepting an auspicious date makes higher social status easy to secure. Map out travel plans based on what you love and what you can learn along the way.

SCORPIO (Oct. 24-Nov. 21). Fidgeting over a fiscal dilemma finally sparks your nerve — a courageous money move puts you back in the black. Bone up on legal facts — educating yourself saves you cash. An adventurous foreigner brings romance.

SAGITTARIUS (Nov. 22-Dec. 21). Dreamscapes beckon. Turn your futuristic vision into art, and earn barrels of green. Buff up your resume — a potential employer wants proof you can perform. Married love is stronger after a heart-to-heart chat.

CAPRICORN (Dec. 22-Jan. 19). A

SUMMARY OF 1993-94 FLOOD PREVENTION
AND
RECOMMENDATIONS FOR 1994-95 RAINY SEASON

Altadena / Kinneloa Fires

USDA

Natural Resources Conservation Service / AmeriCorps

In Cooperation With Antelope Valley Resource Conservation District

CONTENTS

USDA Natural Resources Conservation Service / AmeriCorps

Lancaster Field Office (805) 945-2604

November 11, 1994

- Report put together by Phillip Sam & April Jurgen, NRCS / AmeriCorps.
- Summary information on 1993-94 flood prevention measures provided by David Lundin, NRCS.
- Field survey and recommendations on debris basins & structures done by Laura Lundin, NRCS, and Phillip Sam, AmeriCorps.
- Field survey and recommendations on Residents flood protection done by Phillip Sam & April Jurgen, AmeriCorps, and Laura Lundin, NRCS.
- Maps (11" x 17") provided by Steve Champeau, OES.
- Engineering Advice provided by LA County Department of Public Works.
- Mitigation information was based on records of SCS and OES.

SUMMARY OF 1993-94 FLOOD PREVENTION MEASURES

On October 27, 1993, the Kinneloa Fire began. Before it was over, 5,700 acres of urban-interface and wildland area had been blackened, and approximately 130 homes in the foothill areas of Altadena, Pasadena and Sierra Madre had been damaged or destroyed. With the denuded watersheds in the mountains, the threat of debris flow and flooding impacting the urbanized areas suddenly became apparent to all.

The USDA Soil Conservation Service (SCS) which is now called Natural Resources Conservation Service (NRCS), USDA Forest Service, Los Angeles County Fire Department, Los Angeles County Department of Public Works, and many others began to tackle the enormous task of protecting residences and people from the mud, debris, and water which would soon be flowing out of the mountains with the winter rains. With the cooperation of the Eaton Canyon Recovery Alliance (ECRA), Los Angeles County Fire Department, the Cities of Pasadena and Sierra Madre, and the community of Altadena, over 62,500 sandbags were installed, as well as the construction of new sediment and erosion control structures and the improvement of existing structures.

Luckily, the winter of 1993-94 did not produce a major storm event in the fire area. For the storms which did occur, the level of protection provided by the efforts of the community and the government agencies proved adequate for homes and residents from the mud, debris and water flowing from the mountain watersheds. Two people did lose their lives due to a debris flow in March of 1994 in a natural area upstream from flood control structures.

The rainy season of 1994-95 officially began on October 15. Although the hills are golden with dry grass, the hydrologic condition of the watersheds has not improved greatly, and the potential for increased runoff and major debris flows still exists. Most of the dry grass is from the mustard family which does not provide adequate soil stabilization due to its non-fibrous root system. The mustard and other new vegetation has penetrated the hydrophobic layer of the soil, breaking up the crust. This allows for more penetration of the water during light rainfall. However, as the crust is now broken up, increased soil erosion may be experienced after surface saturation. Additionally, dry ravel in the channel bottoms is nearly equivalent to last fall's accumulation. The potential danger of debris and mud slides for this year is expected to be worst than last year.

The level of protection provided during 1993-94 was adequate for the small storms which were experienced. A major storm event and a potentially more severe debris flow may overwhelm residential flood prevention measures. To provide flood protection to the residents of the foothill areas from smaller storm event, damaged or removed sandbags should be repaired or replaced and sediment and debris control structures should be maintained.

At the request of the ECRA and the Governor's Office of Emergency Services (OES), the USDA NRCS / AmeriCorps at the Lancaster field office has completed an inventory of measures needed to bring the level of protection to residences and properties up to that which was provided for the winter of 1993-94. In order to achieve this level of protection for the 1994-95 rainy season, there must be a community and individual effort in putting out sandbags to protect lives and properties.

The following pages are recommendations for debris basins and structures maintenance and for residences flood protection measures. The maps and the inventory indicated on them are based the records of NRCS and OES and field visits by AmeriCorps and NRCS staff, and are as accurate as possible. The approximate location of sandbags and structures is shown on the maps. The map number indicated on each page refers to the map where the addresses or structures could be found.

Debris Basins & Structures Recommendations

DB = Debris Basin

MAP	RECOMMENDATION
1	**Fair Oaks DB** - A good deal of standing water and some vegetation exist in the bottom of this basin.
1	**Fern DB** - LA County Public Works is presently expanding this basin.
1	**West Ravine DB** - The dewatering tower is not standing at this time. There is standing water and vegetation in the bottom of the basin.
2	**Devonwood DB** - This basin has 3 feet out of 20 feet capacity presently full.
2	**Devonwood, horsetrail to the east** - 6" x 6" waterbars have been removed and should be replaced to prevent erosion and sediment deposits on the road and homes below. The sandbags edging the trail should be repaired.
2	**Las Flores DB** - There is some standing water in the basin.
2	**Pleasant Ridge East Trash Rack** - There is approximately 1 1/2 feet of debris standing behind the rack and about 1/2 foot of debris on the access road. The foundation for the rack has also been undercut about 1/2 foot. Clearing the debris around the trash rack is recommended.
2	**Pleasant Ridge West DB** - The basin is filled within 2" of the bottom rail of the trash rack. Cleaning out the basin is recommended.
3	**Rubio Debris Basin** - This basin looked fine.
3	**Gooseberry DB** - This basin has debris to within 1/2 foot of the bottom rail of the outlet structure. There is also vegetation in the bottom of the basin.
3	**Loma Alta, Zane Grey, Stonehill K-rails** - Looked fine.

Debris Basins & Structures Recommendations

MAP	RECOMMENDATION
5	**Tanoble Rail & Timber** - Looked fine.
5	**Allen DB** - Looked fine.
5	**Glen Allen K-rails** - Dry ravel has built up behind these K-rails. Cleaning out is recommended.
5	**Skyview K-rails** - Dry ravel has built up behind these K-rails. Cleaning out is recommended.
6	**Allen DB** - Looked fine.
8	**Kinclair Pipe & Timber** - The lower structure has one damaged timber; otherwise the structures looked O.K.
10	**Kinneloa East DB** - The debris in this basin is 1 1/2 feet deep out of 20 feet capacity.
10	**Kinneloa Mesa Trash Rack** - Looked fine.
10	**Kinneloa West DB** - Looked fine.
10	**Kinneloa West Rail & Timber** - This structure failed in last years storms, losing the main middle section. The structure that is left can not provide any storage capacity. The small grade control structure below the Rail & Timber is bowing downstream.
10	**Wilcox Canyon Channel** - Looked fine.
10	**Pasadena Glen Debris Barriers** - The barrier adjacent to the Winifred channel has a pole that has been bent. This structure can not be assembled until this pole has been replaced.
10	**Pasadena Glen Trash Racks** - Upper rack looked fine. The Lower rack is missing one I-beam "tooth"

Debris Basins & Structures Recommendations

MAP	RECOMMENDATION
11	**Pasadena Glen Debris Barriers** - The barrier adjacent to the Winifred channel has a pole that has been bent. This structure can not be assembled until this pole has been replaced.
11	**Pasadena Glen Trash Racks** - Upper rack looked fine. The Lower rack is missing one I-beam "tooth".
11	**Sierra Madre Villa** - Vegetation is growing in the bottom of this basin, and there is some debris in the bottom of the basin.
11	**Ranch Top Rd DB** - This basin looked fine.
13	**Ranch Top Rd DB** - This basin looked fine.
13	**Ranch Top Inlet** - Looked fine.
13	**Carriage House DB** - The debris in this basin is 5 feet deep out of 15 feet capacity. Vegetation is also growing in the bottom of this channel.
13	**Sunny Side DB** - The debris in this basin is 3 1/2 feet deep out of 15 feet capacity. There is also a good deal of vegetation in the bottom of the basin.
13	**Bailey DB** - The debris in this basin is 3 feet deep out of 30 feet capacity; looked O.K.
15	**Bailey DB** - The debris in this basin is 3 feet deep out of 30 feet capacity; looked O.K.
15	**Floral DB** - Basin above looked fine; however, the culver at the bottom of the basin is plugged and cleaning out the culver is recommended. There are no K-rails or sandbags around the culver; installing K-rails and sandbags is recommended..
15	**Carter Debris Basin** - The debris in this basin is 6 feet deep out of 20 feet capacity. Cleaning out the basin is recommended.

USDA Natural Resources Conservation Service / AmeriCorps

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s = sandbags
s-nylon = nylon sandbags
kr = K-rails
pt = pipe and timber
pt-hvy = heavy pipe and timber
rg = rock gabion
E.A. = Engineering Advice
e = evacuation
w = wall
H = high priority
M = medium priority
L = low priority

MAP 1

	Eng. Advice		Type							94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Date	Description	Priority	Recomm	Done
3736 , 3744, 3758 Alzada Dr	s	w	s	176 ft	3 bags	2 bags	12/15/94		H	Replace	
3744 , 3758, 3772 Alzada Dr			s	200 ft	2 bags	2 bags	12/15/94		M	Replace	
3736 Alzada Drive	s	w	s	40 ft	2 bags	2 bags	12/15/94		H	Replace	
	s	w	s	20 ft	2 bags	2 bags	12/15/94		H	Replace	
3772 Alzada Drive			s	15 ft	2 bags	2 bags	12/15/94		M	Replace	
			s	25 ft	2 bags	2 bags	12/15/94		M	Replace	
3796 Alzada Drive	s, pt	w	s	23 ft	2 bags	2 bags	12/15/94		H	Replace	
3808 Alzada Drive	s		s	54 ft	2 bags	2 bags	12/15/94		M	Replace	
3828 Alzada Drive	s, pt		s	18 ft	3 bags	2 bags	12/15/94		H	Replace	
	s, pt		s	26 ft	4 bags	2 bags	12/15/94		H	Replace	
4005 Alzada Drive			s	150 ft	3 bags	1 bag	03/23/94		L	Replace	
4011 Alzada Drive	e, s, pt		s	50 ft	2 bags	1 bag	03/23/94		H	Replace	
3800B Canon Blvd			s	200 ft	4 bags	1 bag			H	Replace	
3608 Canon Blvd.	s		s-nylon	70 ft	4	1	03/11/94		H	repair	
3631 Canon Blvd.	s	w	s	30 ft	3 bags	1 bag	03/11/94		H	Replace	
3641 Canon Blvd.			s	70 ft	2 bags	1 bag	03/11/94		H	Replace	
3676 Canon Blvd.			s	90 ft	2 bags	1 bag	03/11/94		L	repair	
3518 Hollyslope Road	s	pt	s	300 ft	3 bags	2 bags			H	repair	
3552 Hollyslope Road		pt	pt	150 ft	3			Two 8' section board in wald way is out	H	repair	
3554 Hollyslope Road	s		s	150 ft	4 bags	2 bags			M	repair	
3560 Hollyslope Road	s		s	150 ft	3 bags	2 bags			L	Replace	
249 Jaxine Drive	s		s	25 ft	3 bags	2 bags	12/15/94		M	repair	
262 Jaxine Drive	s		s	75 ft	3 bags	3 bags	12/15/94		M	repair	
3611 Skylane Drive	pt	pt	s	12 ft	4 bags	1 bag	03/14/94		M	Replace	
	pt	pt	w	30 ft	4		03/14/94		H	repair	
3613 Skylane Drive	s, pt	pt	s	30 ft	4 bags	3 bags	03/14/94		H	repair	
318 Vinehill Drive	s	pt	s	50 ft	3 bags	2 bags	03/14/94		H	repair	
340 Vinehill Drive	s	pt	s	40 ft	4 bags	2 bags	03/14/94		H	Replace	
	s	pt	s	15 ft	4 bags	2 bags	03/14/94		H	repair	
	s	pt	s	25 ft	2 bags	1 bags	03/14/94		H	repair	
341 W. Loma Alta Drive	s		s	200 ft	1 bag	1 bag	03/25/94		L	Replace	

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MAP 1

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Date	Description	Priority	Recomm	Done
3749 Alzada Rd	s, pt				3 bags	1 bag					
3972 Alzada Rd	pt	pt			3 ft						
4009 Alzada Rd	e,s	w			3 bags	1 bag					
3560 Hollyslope Rd	s				3 bags	1 bag					
356 Vinehill	s				3 bags	1 bag					

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MAP 2

	Eng. Advice		Type				Date			94 -'95	Project
Address	**Temp**	**Perm**	**Installed**	**Length**	**Height**	**Depth**	**Installed**	**Description**	**Priority**	**Recomm**	**Done**
475 Devonwood Drive	s	pt	s	50 ft	2 bags	1 bag	03/11/94	along horse path behind home	H	repair	
500 Devonwood Drive	s		s	80 ft	3 bags	1 bag	03/11/94		H	repair	
3339 Ellington Villa Drive	s		s	150 ft	3 bags	1 bag			L	**Replace**	
3379 Ellington Villa Drive	s, pt		s	50 ft	2 bags	1 bag			H	**Replace**	
3390 Ellington Villa Drive	s	pt	s	50 ft	2 bags	1 bag			H	**Replace**	
3400 Ellington Villa Drive	pt		pt	50 ft	3				H	**Replace**	
3435 Ellington Villa Drive	s	pt	s	50 ft	1 bag	1 bag			H	**Replace**	
506 E. Loma Alta Drive	s		s	75 ft	4 bags	1 bag	03/11/94		M	**Replace**	
524 E. Loma Alta Drive	s		s	110 ft	4 bags	1 bag	03/11/94		M	Replace	
	s		s	110 ft	2 bags	1 bag	03/11/94		M	**Replace**	
572 E. Loma Alta Drive	s		s	100 ft	4 bags	1 bag	03/11/94		L	**Replace**	
600 E. McWilton Place	s		s	50 ft	2 bags	1 bag	03/10/94		M	**Replace**	
3311 Lake Avenue	s		s	50 ft	2 bags	1 bag	03/10/94		L	repair	
3319 Lake Avenue	s		s	30 ft	1 bags	1 bag	03/10/94		L	repair	
3331 Lake Avenue	s		s	30 ft	2 bags	1 bag	03/10/94		L	repair	
3357 Lake Avenue	s		s	20 ft	5 bags	1 bag	03/10/94		L	repair	
3365 Lake Avenue	s		s	20 ft	5 bags	1 bag	03/10/94		L	repair	
3373 Lake Avenue	s		s	30 ft	3 bags	1 bag	03/10/94		L	repair	
3383 Lake Avenue	s	pt	s	110 ft	3 bags	1 bag	03/10/94		H	repair	
3649 Monterosa Road			s	30 ft	3 bags	1 bag	03/11/94		L	repair	
3652 Monterosa Road			s-nylon	40 ft	1 bags	1 bag	03/11/94	two 8' section of pt removed	L	repair	
3656 Monterosa Road	e, pt	pt	pt	30 ft	5		03/11/94		H	repair	
	e, pt	pt	s-nylon	10 ft	1 bags	1 bag	03/11/94		H	repair	
	e, pt	pt	s-nylon	20 ft	1 bags	1 bag	03/11/94		H	repair	
	e, pt	pt	pt	60 ft	5		03/11/94		H	repair	
	e, pt	pt	s	100 ft	2 bags	2 bags	03/11/94	along horse path above home	H	repair	
	e, pt	pt	pt	30 ft	5		03/11/94		H	repair	
3660 Monterosa Road	s		s	60 ft	3 bags	1 bag	03/11/94		M	**Replace**	
1296 Pleasantridge Drive			s	30 ft	12 bags	2 bags	03/10/94		M	**Replace**	
			s	75 ft	10 bags	2 bags	03/10/94		M	**Replace**	

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MAP 2

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1310 Pleasantridge Drive	s		s	75 ft	5 bags	1 bags	03/10/94		M	Replace	
1324 Pleasantridge Drive	s		s	75 ft	3 bags	1 bags	03/10/94		M	Replace	
3445 Rubio Crest Drive			s	8 ft	3 bags	1 bags	03/10/94		L	Replace	
3470 Rubio Crest Drive			s	20 ft	5 bags	1 bags	03/10/94		L	Replace	
3515 Rubio Crest Drive			s	20 ft	2 bags	1 bags	03/10/94		L	Replace	
3521 Rubio Crest Drive			s	20 ft	2 bags	1 bags	03/10/94		L	Replace	
3531 Rubio Crest Drive			s	15 ft	5 bags	1 bags	03/10/94		L	Replace	
			s	12 ft	5 bags	1 bags	03/10/94		L	Replace	
1220 Rubio Vista Drive			s	30 ft	2 bags	1 bag	03/10/94		M	Replace	
1244 Rubio Vista Drive	s	pt	s	20 ft	6 bags	1 bag	03/10/94		H	Replace	
1262 Rubio Vista Drive	s, pt		s	6 ft	6 bags	1 bag	03/10/94		H	Replace	
1276 Rubio Vista Drive	s	pt	s	20 ft	4 bags	1 bag			H	Install	
1288 Rubio Vista Drive	s		s	20 ft	4 bags	1 bag			M	Install	
1304 Rubio Vista Drive	s		s	20 ft	4 bags	1 bag			M	Install	
1316 Rubio Vista Drive	s		s	20 ft	4 bags	1 bag			M	Install	
1330 Rubio Vista Drive			s	6 ft	3 bags	3 bags	03/10/94		H	Replace	
1342 Rubio Vista Drive	s		s	10 ft	5 bags	1 bags	03/10/94		H	Replace	
	s		pt	40 ft	3		03/10/94		H	Replace	
	s		s	20 ft	10 bags	2 bags	03/10/94		H	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
491 Devonwood	s	w			3 bags	1 bag					
526 Devonwood	s				2 bags	1 bag					
3300 Lake AVe	s				2 bags	1 bag					
327 W. Loma Alta Dr	s				3 bags	1 bag					
341 W. Loma Alta Dr	s				3 bags	1 bag					
500 E. Loma Alta Dr	s				3 bags	1 bag					
540 E. Loma Alta Dr	s				2 bags	1 bag					

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Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
556 E. Loma Alta Dr	s				3 bags	1 bag					
500 E. Loma Alta Dr	s, pt				3 bags	1 bag					
3603 Monterosa Dr	pt				2 ft						
3658 Monterosa Dr	s				2 bags	1 bag					
3660 Monterosa Dr	s				2 bags	1 bag					
600 E. Mc Wilton Pl	s				3 bags	1 bag					
1205 Pleasant Ridge Dr	e	pt			4 ft						
1221 Pleasant Ridge Dr	e	pt			4 ft						
1226 Pleasant Ridge Dr	e	pt			4 ft						
1324 Pleasant Ridge Dr	s				3 bags	1 bag					
3359 Rubio Canyon Rd	e										
3378 Rubio Crest Dr	s				2 bags	1 bag					

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MAP 3

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recomm	Project Done
1353 E. Loma Alta Drive			s-nylon	20 ft	3 bags	1 bag	03/23/94		L	repair	
1415 E. Loma Alta Drive			s-nylon	20 ft	4 bags	1 bags	03/10/94			ok	
			s-nylon	25 ft	4 bags	1 bags	03/10/94			ok	
1450 E. Loma Alta Drive			kr	4 ft			03/10/94	across back alley from residence	M	repair	
			s	10 ft	2 bags	2 bags	03/10/94		M	repair	
1465 E. Loma Alta Drive			s	20 ft	1 bags	1 bags	03/10/94		L	**Replace**	
1475 E. Loma Alta Drive	s, pt		s	12 ft	3 bags	1 bag	03/10/94		H	**Replace**	
1560 E. Loma Alta Drive			s	20 ft	3 bags	1 bag	03/08/94		M	repair	
			s	20 ft	8 bags	8 bag	03/08/94		M	repair	
1574 E. Loma Alta Drive			s-nylon	20 ft	3 bags	1 bag	03/08/94		M	repair	
			s-nylon	125 ft	3 bags	1 bag	03/08/94		M	repair	
1696 E. Loma Alta Drive	s	pt	s	30 ft	3 bags	2 bags			H	repair	
1830 E. Loma Alta Drive	s	pt	s-nylon	40 ft	8 bags	2 bags	03/05/94		H	repair	
	s	pt	s-nylon	90 ft	4 bags	1 bag	03/05/94		H	repair	
	s	pt	s-nylon	25 ft	3 bags	1 bags	03/05/94		H	repair	
1835 E. Loma Alta Drive			kr	2 ft			03/05/94	blocking debris channel		ok	
			kr	16 ft			03/05/94	between Skyview & Glen Allen		ok	
1848 E. Loma Alta Drive	pt	pt	s	50 ft	1 bag	1 bag	03/05/94		H	repair	
	pt	pt	s	175 ft	3 bag	1 bag	03/05/94		H	repair	
1905 E. Loma Alta Drive			kr	14 ft			03/05/94	begin north of 1905 driveway			
1906 E. Loma Alta Drive			s	60 ft	1 bag	1 bag	03/05/94		H	repair	
1962 E. Loma Alta Drive	pt	pt	s-nylon	80 ft	5 bags	1 bag	03/05/94			ok	
1976 E. Loma Alta Drive	pt	pt	s	180 ft	4 bags	1 bag	03/05/94		H	repair	
2770 Porter Avenue			s-nylon	30 ft	4 bags	1 bag	03/08/94		L	repair	
2785 Porter Avenue			s-nylon	75 ft	2 bags	1 bag	03/08/94		L	**Replace**	
			s-nylon	12 ft	4 bags	1 bag	03/08/94		L	**Replace**	
2828 Stonehill Drive	s	pt	s	25 ft	5 bags	1 bag	03/10/94		H	**Replace**	
2840 Stonehill Drive	s	pt	s	35 ft	3 bags	1 bag	03/10/94		H	**Replace**	
2850 Stonehill Drive	s	pt	s	20 ft	5 bags	3 bag	03/10/94		H	**Replace**	
	s	pt	s	30 ft	2 bags	1 bag	03/10/94		H	**Replace**	

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MAP 3

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2858 Stonehill Drive			s	40 ft	3 bags	1 bag	03/10/94		M	**Replace**	
2870 Stonehill Drive			s	50 ft	2 bags	1 bag	03/10/94		M	**Replace**	
2880 Stonehill Drive			s	40 ft	2 bags	1 bag	03/10/94		M	**Replace**	
2885 Stonehill Drive			s	40 ft	2 bags	1 bag	03/10/94		M	**Replace**	
2902 Stonehill Drive			s	30 ft	2 bags	1 bag	03/10/94		M	**Replace**	
2820 Stonehill Drive (across from)			s	20 ft	10 bags	1 bag	03/10/94		M	**Replace**	
2820 Stonehill Drive (across from)			kr	5 ft			03/10/94				
1314 Sunnyoaks Circle	s	pt	s	80 ft	4 bags	1 bag	03/10/94		H	repair	
0 Windfall Avenue (above)			s	75 ft	10 bags	4 bags				**Replace**	
			s	50 ft	2 bags	1 bag				**Replace**	
			rg	8 ft			12/15/93	above end of road, below Woodglen Lane		**ok**	
			rg	8 ft			12/15/93	above end of road, below Woodglen Lane		**ok**	
			rg	8 ft			12/15/93	above end of road, below Woodglen Lane		**ok**	
			rg	8 ft			12/15/93	above end of road, below Woodglen Lane		**ok**	
2855 Zane Grey Terrace			s	100 ft	2 bags	1 bag	03/10/94		L	**Replace**	
			s	100 ft	2 bags	1 bag	03/10/94		L	**Replace**	
0 Zane Grey Terrace & Loma Alta Drive			kr	6 ft			03/10/94			ok	
0 Zane Grey Terrace (above)			s	10 ft	2 bags	2 bags	12/15/93	beyond end of road	L	Replace	
			s	20 ft	2 bags	2 bags	12/15/93	beyond end of road	L	Replace	
			s	33 ft	2 bags	2 bags	12/15/93	beyond end of road	L	Replace	
			s	15 ft	2 bags	2 bags	12/15/93	beyond end of road	L	Replace	
			s	25 ft	2 bags	2 bags	12/15/93	beyond end of road	L	**Replace**	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1395 E. Loma Alta Dr	s				2 bags	1 bag					
1463 E. Loma Alta Dr	s				3 bags	1 bag					
1530 E. Loma Alta Dr	s, pt				3 bags	1 bag					

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MAP 3

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1724 E. Loma Alta Dr	s	pt			3 bags	1 bag					
1933 E. Loma Alta Dr	s				3 bags	1 bag					
1962 E. Loma Alta Dr	pt	pt			3 ft						
3507 N. Marengo	pt	w			2 ft						
2941 Stonehill Dr	s				2 bags	1 bag					
2943 Stonehill Dr	s, pt				2 ft						
1302 Sunny Oaks	s, pt				2 ft						
1308 Sunny Oaks	pt	pt			3 ft						
2876 Windfall Ave		pt			3 ft						
2750 Winrock Ave	s, pt				3 bags	1 bag					
2780 Winrock Ave	s, pt				3 bags	1 bag					
2934 Zane Grey Terrace	s	pt			2 bags	1 bag					
3017 Zane Grey Terrace	s				2 bags	1 bag					

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MAP 4

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recommend	Done

NONE

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MAP 5

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recomm	Project Done
1886 Glen Allen Lane			s	100 ft	2 bags	1 bags	03/05/94		M	Replace	
1910 Glen Allen Lane			s-nylon	130 ft	2 bags	1 bags	03/05/94		M	Replace	
0 Glen Allen Lane (north side)			kr	40 ft			03/05/94	unstable slopes above		clean out	
1781 Skyview Drive	pt		pt	100 ft	4			along flow channel behind house	H	repair	
1940 Skyview Drive	s		s	12 ft	8 bags	2 bags	03/01/94	across driveway	L	Replace	
0 Skyview Lane			kr	15 ft						Clena out	
2855, 2859, 2869 Winterhaven			s		3 bags	2 bags			H	Replace	
2855 N. Winterhaven Lane			s	12 ft	3 bags	1 bag			H	Replace	
			w	15 ft	2			masonry wall	H		
2858 N. Winterhaven Lane			pt	15 ft	2				H	Replace	
			s	15 ft	3 bags	1 bag			H	Replace	
2869 N. Winterhaven Lane			s	40 ft	2 bags	1 bag			H	Replace	
2874 N. Winterhaven Lane			s	20 ft	2 bags	1 bag			H	Replace	
0 Woodglen Lane			s	20 ft	2 bags	1 bag	03/29/94				
			s	50 ft	1 bag	1 bag	03/29/94				
			s	50 ft	1 bag	1 bag	03/29/94				
0 Woodglen Lane			s	50 ft	1 bag	1 bag	03/29/94				
			s	50 ft	1 bag	1 bag	03/29/94				
			pt	18 ft	4		03/29/94				
			pt	18 ft	4		03/29/94				
			s	30 ft	3 bags	1 bag	03/29/94				
			s	30 ft	4 bags	2 bags	03/29/94				
1602.5 Woodglen Lane		pt	w	20 ft	2		03/10/94	masonry wall, directs flow to drain	M	repair	
1603 Woodglen Lane	pt	w, pt	s	25 ft	6 bags	1 bag	03/10/94		H	Replace	
	pt	w, pt	s	20 ft	3 bags	2 bags	03/10/94		H	Replace	
	pt	w, pt	pt	12 ft	4		03/29/94		H	Replace	
	pt	w, pt	pt	12 ft	4		03/29/94		H	Replace	
	pt	w, pt	pt	12 ft	4		03/29/94		H	Replace	
	pt	w, pt	pt	12 ft	4		03/29/94		H	Replace	
1604 Woodglen Lane			s	20 ft	6 bags	1 bag	03/10/94		M	Replace	

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L = low priority

MAP 5

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1605 Woodglen Lane			s	30 ft	3 bags	1 bags	03/10/94		M	Replace	
1608 Woodglen Lane			s	50 ft	2 bags	2 bags	12/15/93	north of road above residences	H	Replace	
			s	40 ft	3 bags	1 bag	03/10/94		H	Replace	
			s	15 ft	4 bags	1 bag	03/10/94		H	Replace	
			pt	8 ft	4		03/29/94		H	Replace	
			s	200 ft	2 bags	1 bag	03/29/94		H	Replace	
1612 Woodglen Lane		pt	s	75 ft	6 bags	2 bags	03/10/94	big bags	H	repair	
1624 Woodglen Lane	pt		s-nylon	50 ft	3 bags	1 bag			H	repair	
	pt		s	50 ft	4 bags	1 bag		large, potato sack sandbags	H	repair	
	pt		s	100 ft	4 bags	1 bag		big, potato sack sandbags	H	repair	
1739 Woodglen Lane	s		s	50 ft	2 bags	2 bags			M	Replace	
0 Woodglen Lane (along)			s	45 ft	2 bags	2 bags	12/15/93	north of road above residences	L	Replace	
			s	52 ft	2 bags	2 bags	12/15/93	north of road above residences	L	Replace	
			s	75 ft	2 bags	2 bags	12/15/93	north of road above residences	L	Replace	
			s	30 ft	3 bags	2 bags	12/15/93	north of road above residences	L	Replace	
			s	40 ft	2 bags	2 bags	12/15/93	north of road above residences	L	Replace	
0 Woodglen Lane (along)			s	25 ft	3 bags	2 bags	12/15/93	north of road above residences	L	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2061 Glen Springs	s, pt	pt			2 bags	1 bag					
2079 E. Skyview	e, s	w			4 bags	1 bag					
2091 Skyview	e										
1611 Woodglen Lane	pt	pt			3 ft						

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MAP 6

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1746 Alta Crest Drive		pt	s	60 ft	4 bags	1 bags			H	repair	
1730 Alta Wood Drive			s	170 ft	4 bags	2 bags			M	**Replace**	
1747 Alta Wood Drive	s	w	s	50 ft	2 bags	1 bags			H	**Replace**	
	s	w	s	30 ft	2 bags	1 bags			H	**Replace**	
1750 Alta Wood Drive	s	pt	s	200 ft	2 bags	1 bags			H	**Replace**	
	s	pt	s	30 ft	4 bags	1 bags			H	**Replace**	
1752 Altadena Drive		pt	s	30 ft	4 bags	1 bags	03/08/94		H	Replace	
		pt	s	30 ft	4 bags	2 bags	03/08/94		H	Replace	
		pt	s	30 ft	3 bags	1 bag	03/08/94		H	**Replace**	
1855 Altadena Drive	s	pt	s	20 ft	3 bags	1 bag	03/01/94	above storm drain	H	**Replace**	
	s	pt	s	15 ft	3 bags	1 bag	03/01/94		H	**Replace**	
2646 Bowring Drive	s		s	100 ft	3 bags	1 bag	03/01/94		L	repair	
1910 Brae Burn Road	s		s	40 ft	1 bags	2 bag	03/08/94		L	**Replace**	
2144 Crescent Drive			s	100 ft	2 bags	1 bag	03/01/94		L	repair	
2161 Crescent Drive			s	100 ft	3 bags	1 bag	03/01/94		L	repair	
2166 Crescent Drive			s	100 ft	2 bags	1 bag	03/01/94		L	repair	
1751 Homewood Drive			s	10 ft	2 bags	1 bags	03/08/94		M	**Replace**	
1890 Homewood Drive			s	60 ft	2 bags	1 bag	03/08/94		L	**Replace**	
???? Mendocino Street			s	50 ft	2 bags	1 bags	03/08/94		M	**Replace**	
			s	60 ft	4 bags	2 bags	03/08/94		M	**Replace**	
1722 Mendocino Street			s	20 ft	2 bags	2 bags	03/08/94		H	**Replace**	
1734 Mendocino Street	s		s	60 ft	6 bags	2 bags	03/08/94		H	repair	
1744 Mendocino Street			s	50 ft	4 bags	2 bags	03/08/94		H	**Replace**	
1774 Mendocino Street			s	40 ft	5 bags	1 bags	03/08/94		H	repair	
1796 Mendocino Street			s	40 ft	3 bags	1 bags	03/08/94		M	**Replace**	
1810 Mendocino Street			s	50 ft	3 bags	1 bags	03/08/94		M	**Replace**	
1818 Mendocino Street			s	60 ft	3 bags	1 bags	03/08/94		M	repair	
1930 Mendocino Street	s		s	200 ft	3 bags	1 bag	03/08/94		M	repair	
1860 Pinecrest Drive	s		s	60 ft	4 bags	1 bag	03/01/94		L	**Replace**	
	s		s	25 ft	5 bags	1 bag	03/01/94		L	**Replace**	

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MAP 6

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1860 Pinecrest Drive	s		s	25 ft	4 bags	1 bag	03/01/94		L	**Replace**	
1884 Pinecrest Drive	s		s	30 ft	4 bags	1 bag	03/01/94		L	**Replace**	
1910 Pinecrest Drive	s		s	8 ft	3 bags	1 bag	03/01/94	deflecting flow from driveway	L	repair	
	s		w	25 ft	1		03/01/94	planks between permanent masonry columns	L		
1919 Pinecrest Drive			s	25 ft	2 bags	1 bag	03/05/94	northeast corner of Noyes School	L	repair	
			s-nylon	15 ft	3 bags	1 bag	03/05/94	Noyes School- Loma Alta Drive side	L	repair	
			s-nylon	10 ft	4 bags	1 bag	03/05/94	Noyes School- Loma Alta Drive side-northmost gate	L	repair	
			s-nylon	30 ft	4 bags	1 bag	03/05/94	Noyes School- southmost gate on Loma Alta Drive	L	**repair**	
1942 Pinecrest Drive	s	pt	s	100 ft	4 bags	1 bags	03/01/94		H	**Replace**	
1962 Pinecrest Drive	pt	pt	s	20 ft	3 bags	1 bags	03/01/94		H	repair	
	pt	pt	s	40 ft	3 bags	1 bags	03/01/94		H	repair	
1968 Pinecrest Drive	pt	pt	s	20 ft	6 bags	1 bags	03/01/94		H	repair	
	pt	pt	s	20 ft	4 bags	1 bags	03/01/94		H	repair	
2000 Pinecrest Drive	pt	pt	s	150 ft	4 bags	1 bags	03/01/94		H	repair	
2016 Pinecrest Drive	s, pt	w, pt	s	90 ft	4 bags	1 bag	03/01/94		H	repair	
2030 Pinecrest Drive	s	pt	s	100 ft	4 bags	1 bag	03/01/94		H	**Replace**	
2062 Pinecrest Drive	e, s	pt	s	50 ft	3 bags	1 bag	03/01/94		H	repair	
2080 Pinecrest Drive	e, s, pt	pt	s	100 ft	4 bags	1 bag	03/01/94	sandbags on top of low masonry wall	H		
2100 Pinecrest Drive	s		s	100 ft	4 bags	1 bag	03/01/94		M	**Replace**	
2107 Pinecrest Drive	s, pt		s	50 ft	2 bags	2 bags			H	**Replace**	
2120 Pinecrest Drive	s	pt	s	120 ft	4 bags	1 bag	03/01/94		H	repair	
2159 Pinecrest Drive	pt		s	40 ft	4 bags	1 bag			H	**Replace**	
2180 Pinecrest Drive	pt	pt	s	200 ft	6 bags	1 bag	03/01/94		H	**Replace**	
2480 Tanoble Drive	s		s	50 ft	4 bags	1 bag	03/10/94		M	repair	
	s		s	20 ft	10 bags	2 bag	03/10/94		M	repair	
2542 Tanoble Drive	s		s	60 ft	2 bags	1 bags	03/08/94		M	**Replace**	
2553 Tanoble Drive	s		s	15 ft	2 bags	1 bags	03/08/94		M	**Replace**	
2554 Tanoble Drive	s		s	15 ft	4 bags	5 bags	03/08/94		M	**Replace**	
2555 Tanoble Drive	s		s	60 ft	2 bags	1 bags	03/08/94		M	**Replace**	
2556 Tanoble Drive	s		s	20 ft	4 bags	1 bag	03/08/94		M	**Replace**	
	s		s	75 ft	5 bags	1 bag	03/08/94		M	**Replace**	

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MAP 6

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2857 Tanoble Drive			s	60 ft	4 bags	1 bag	03/10/94		M	repair	
2883 Tanoble Drive			s	110 ft	4 bags	1 bag	03/10/94		M	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1747 E. Alta Crest Dr	s				2 bags	1 bags					
1720 E. Altadena Dr	s	pt			5 bags	1 bag					
1850 E. Altadena Dr	s				3 bags	1 bag					
1880 E. Altadena Dr	s				3 bags	1 bag					
1892 E. Altadena Dr	s				2 bags	1 bag					
1906 E. Altadena Dr	s				2 bags	1 bag					
1751 Homewood Dr	s				2 bags	1 bag					
1752 Homewood Dr	s				3 bags	1 bag					
1890 E. Homewood Dr	s				2 bags	1 bag					
1884 Pinecrest Dr	s				3 bags	1 bag					
1860 Pinecrest Dr	s				3 bags	1 bag					
1942 Pinecrest Dr	s	pt			5 ft						
1962 Pinecrest Dr	pt	pt			2 ft						
1968 Pinecrest Dr	pt	pt			5 ft						
2000 Pinecrest Dr	pt	pt			5 ft						
2016 Pinecrest Dr	s, pt	w, pt			2 ft						
2202 Pinecrest Dr	s				4 bags	1 bag					
2030 Pinecrest Dr	s	pt			4 bags	1 bag					
2052 Pinecrest Dr	s				3 bags	1 bag					
2061 Pinecrest Dr	s, pt				3 ft						
2062 Pinecrest Dr	e, s	pt			3 ft						
2080 Pinecrest Dr	e, s, pt	pt			3 ft						
2115 Pinecrest Dr	e	w									
2127 Pinecrest Dr	pt										
2140 E. Pinecrest Dr	s	pt			3 ft						
2870 Tanoble St	s				2 bags	1 bag					

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MAP 7

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2046 N. Allen Avenue	s,pt	pt	s		3 bags	1 bag	03/08/94	Burbank School	H	Replace	
			w		2			Burbank School, plywood against low chainlink fen	H	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2501 N. Allen Avenue	s				2bags	1bag					
2560 N. Allen Avenue	s				2bags	1 bag					
1910 E. Brae Burn Rd	s				2bags	1 bag					

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MAP 8

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recommend	Project Done
1998 Cricklewood Path			s-nylon	60 ft	2 bags	1 bag	02/28/94		L	repair	
			s-nylon	30 ft	1 bags	1 bag	02/28/94		L	repair	
2002 Cricklewood Path			s-nylon	75 ft	1 bag	1 bag	02/28/94		L	**Replace**	
2024 Cricklewood Path	s		s-nylon	100 ft	1 bag	1 bag	02/28/94		L	**Replace**	
2044 Cricklewood Path			s-nylon	120 ft	3 bags	1 bag	02/28/94		L	**Replace**	
2064 Cricklewood Path	s	pt	s-nylon	20 ft	4 bags	1 bag	02/28/94		H	repair	
1963 Kinclair Drive			s-nylon	20 ft	4 bags	1 bag	02/28/94		M	**Replace**	
1998 Kinclair Drive	s		s-nylon	100 ft	3 bags	1 bag	02/28/94		L	**Replace**	
2150 Kinclair Drive	s		s	200 ft	4 bags	2 bags	03/12/94		L	repair	
2266 Kinclair Drive	s		s	35 ft	3 bags	1 bag	02/28/94		M	repair	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recommend	Done
1955 Kinclair Dr	e										
1985 Kinclair Dr	s				1 bag	1 bag					
2200 Kinclair Dr	s				1 bag	1 bag					
2211 Kinclair Dr	s				3 bag	1 bag					
2020 Kinclair Dr	e										
2031 Kinclair Dr		w									

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rg = rock gabion
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e = evacuation
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M = medium priority
L = low priority

MAP 9

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recommend	Done
1703 Outpost Lane	e, pt		s	12 ft	5 bags	1 bag	02/26/94		H	Replace	
	e, pt		s	40 ft	3 bags	1 bag	02/26/94		H	Replace	
	e, pt		s	10 ft	2 bags	1 bag	02/26/94		H	Replace	
1707 Outpost Lane	s		s	10 ft	6 bags	1 bag	02/26/94		H	Replace	
1711 Outpost Lane	e, pt	pt	s	12 ft	2 bags	1 bag	02/26/94		H	Replace	
	e, pt	pt	s	12 ft	2 bags	1 bag	02/26/94		H	Replace	
	e, pt	pt	s	12 ft	2 bags	1 bag	02/26/94		H	Replace	
	e, pt	pt	s	12 ft	2 bags	1 bag	02/26/94		H	Replace	
1717 Outpost Lane	e, pt	pt	pt	12 ft	3		02/26/94		H	Replace	
1719 Outpost Lane	e, pt		kr	4 ft			02/26/94		H	Replace	
	e, pt		s	75 ft	4 bags	2 bag	02/26/94		H	Replace	

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MAP 10

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recomm	Project Done
2256 Brambling Lane	pt		s	50 ft	1 bag	1 bag	02/28/94		H	**Replace**	
1720 Kinneloa Canyon Road	s		s	120 ft	4 bags	1 bag	02/26/94	High Point Academy	M	repair	
	s		s	30 ft	3 bags	1 bag	02/26/94	High Point Academy	M	repair	
	s		s	30 ft	3 bags	2 bag	02/26/94	High Point Academy	M	repair	
	s		s	100 ft	3 bags	1 bag	02/26/94	High Point Academy	M	repair	
1727 Kinneloa Canyon Road			s-nylon	40 ft	3 bags	1 bag	02/26/94	Church of Christ	L	repair	
1815 Kinneloa Canyon Road			s	16 ft	2 bags	1 bag	02/28/94		L	**Replace**	
			s	12 ft	2 bags	1 bag	02/28/94		L	**Replace**	
1875 Kinneloa Canyon Road	s		s	40 ft	1 bag	1 bag	02/28/94		M	**Replace**	
2064 Kinneloa Canyon Road	s		s-nylon	150 ft	1 bags	1 bag	02/28/94		M	Replace	
	s		s	30 ft	3 bags	1 bag	02/28/94		M	**Replace**	
2090 Kinneloa Canyon Road			s	40 ft	3 bags	1 bags	02/28/94		M	**Replace**	
			w	40 ft	3		02/28/94	12 inch planks	M	**repair**	
2110 Kinneloa Canyon Road	pt	w	s	25 ft	2 bags	1 bags	02/28/94		H	**Replace**	
2190 Kinneloa Canyon Road			w	25 ft	3 bags	1 bag	02/28/94		L	**repair**	
2240 Kinneloa Canyon Road			s	30 ft	3 bags	1 bag	02/28/94	2 ft brake wall	L	ok	
			s	60 ft	3 bags	1 bag	02/28/94	2 ft brake wall	L	ok	
2266 Kinneloa Canyon Road			s-nylon	100 ft	2 bags	1 bag	02/28/94		L	**Replace**	
2292 Kinneloa Canyon Road			s-nylon	50 ft	2 bags	1 bag	02/28/94		L	**Replace**	
2064 Kinneloa Canyon Road (near)			s-nylon	100 ft	1 bags	1 bag	02/28/94		L	**Replace**	
			s-nylon	125 ft	2 bags	2 bags	02/28/94		L	**Replace**	
2247 N. Kinneloa Ranch Road			s	10 ft	2 bags	1 bag	03/05/94		L	**Replace**	
2300 N. Kinneloa Ranch Road	s		s	50 ft	3 bags	1 bag	03/05/94		L	repair	
2340 N. Kinneloa Ranch Road			s-nylon	100 ft	2 bags	1 bag	03/05/94		L	**Replace**	
2020 N. Villa Heights Road			w	65 ft	4		03/05/94	plywood panels against chainlink fence	L	**Replace**	
2030 N. Villa Heights Road			s	75 ft	3 bags	1 bag	03/05/94		L	repair	
2070 N. Villa Heights Road			s	120 ft	2 bags	1 bag	03/05/94		L	**Replace**	
			s	20 ft	2 bags	2 bags	12/15/93		L	**Replace**	
			s	40 ft	3 bags	2 bags	12/15/93		L	**Replace**	
2090 N. Villa Heights Road			s	250 ft	2 bags	1 bag	03/05/94		L	Replace	

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MAP 10

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2090 N. Villa Heights Road			s-nylon	25 ft	1 bags	1 bag	03/05/94		L	**Replace**	
2154 N. Villa Heights Road			s	150 ft	2 bags	1 bag	03/05/94		L	**Replace**	
			s	20 ft	4 bags	2 bags	12/15/93		L	**Replace**	
2224 N. Villa Heights Road			s	25 ft	2 bags	2 bags	12/15/93		L	Replace	
			s	25 ft	2 bags	2 bags	12/15/93		L	Replace	
			s	158 ft	2 bags	2 bags	12/15/93		L	Replace	
			s	85 ft	2 bags	2 bags	12/15/93		L	Replace	
			s	400 ft	2 bags	1 bag	03/05/94		L	Replace	
			s	50 ft	3 bags	2 bags	12/15/93		L	Replace	
			s	200 ft	2 bags	1 bag	03/05/94		L	Replace	
1848 Sierra Madre Villa Avenue			s-nylon	30 ft	2 bags	2 bags	03/05/94		M	**Replace**	
1960 Sierra Madre Villa Avenue	s, pt		s	250 ft	4 bags	2 bags	12/15/93		H	**Replace**	
	s, pt		s	150 ft	3 bags	2 bags	12/15/93		H	Replace	
	s, pt		s	200 ft	3 bags	2 bags	12/15/93		H	Replace	
	s, pt		s	10 ft	3 bags	2 bags	12/15/93		H	Replace	
1960 Sierra Madre Villa Avenue	s, pt		s	75 ft	2 bags	2 bags	12/15/93		H	**Replace**	
1979 Sierra Madre Villa Avenue			s	10 ft	3 bags	1 bags	03/05/94		M	repair	
			s	15 ft	3 bags	1 bags	03/05/94		M	repair	
1990 Sierra Madre Villa Avenue			s	60 ft	2 bags	2 bags	12/15/93		M	repair	
			s-nylon	12 ft	3 bags	1 bags	03/05/94		M	repair	
1991 Sierra Madre Villa Avenue			s-nylon	175 ft	3 bags	1 bags	03/05/94		M	repair	
2070 Sierra Madre Villa Avenue			s	20 ft	2 bags	2 bags	12/15/93		L	**Replace**	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
2250 Brambling Lane	pt				3 ft						
1800 Kinneloa Canyon Rd	e	w									
1805 Kinneloa Canyon Rd	s				2 bags	1 bag					

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MAP 10

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1840 Kinneloa Canyon Rd	s	w									
1860 Kinneloa Canyon Rd	s										
1885 Kinneloa Canyon Rd	s				2 bags	1 bag					
1915 Kinneloa Canyon Rd	e, s	w			4 bags	1 bag					
2020 Kinneloa Canyon Rd	s	pt			4 ft						
2064 Kinneloa Canyon Rd	pt										
2138 Kinneloa Canyon Rd	e, pt										
2300 Kinneloa Canyon Rd	s, pt				3 bags	1 bag					
1980 Picadilly	s				2 bags	1 bag					
1978 Sierra Madre Villa	s	w			2 bags	1 bag					
1980 Sierra Madre Villa	e, s				3 bags	1 bag					
2007 N. Villa Heights Rd	s				2 bags	1 bag					
2090 N. Villa Heights Rd	s				2 bags	1 bag					
2247 N. Villa Heights Rd	s				2 bags	1 bag					
2254 N. Villa Heights Rd	s										
2256 N. Villa Heights Rd	s, pt	pt			3 ft						

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MAP 11

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recom	Project Done
1623 Hastings Heights Lane			s	20 ft	4 bags	3 bags	02/23/94		L	Replace	
1633 Hastings Heights Lane			s	25 ft	3 bags	1 bag	02/23/94		L	Replace	
			s	40 ft	3 bags	1 bag	02/23/94		L	Replace	
1637 Hastings Heights Lane	s		s	25 ft	3 bags	1 bag	02/23/94	blocking storm drain	L	Replace	
	s		w	25 ft	0.5		02/23/94	blocking storm drain	L	Replace	
1651 Hastings Heights Lane	s		s	75 ft	2 bags	1 bags	02/23/94		L	Replace	
1653 Hastings Heights Lane			s	75 ft	2 bags	1 bags	02/23/94		L	Replace	
1655 Hastings Heights Road	s		s	300 ft	3 bags	2 bags	12/15/93	above road, stabilizing slopes	L	Replace	
1641-1647 Hastings Heights Road	s		s	10 ft	2 bags	1 bags	12/15/93		L	Replace	
	s		s	80 ft	2 bags	1 bags	12/15/93		L	Replace	
0 Hastings Heights Road (above)			s	200 ft	2 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	
			s	100 ft	2 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	
			s	200 ft	2 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	
1600 Hastings Heights Road (near)			s	25 ft	2 bags	1 bag	02/23/94	augmenting wooden planking across storm drain	L	Replace	
			s	25 ft	2 bags	1 bag	02/23/94	augmenting wooden planking across storm drain	L	Replace	
			w	25 ft	0.75		02/23/94	wooden planking across storm drain	L	Replace	
			w	25 ft	0.75		02/23/94	wooden planking across storm drain	L	Replace	
			w	25 ft	0.75		02/23/94	wooden planking across storm drain	L	Replace	
			s	25 ft	2 bags	1 bag	02/23/94	augmenting wooden planking across storm drain	L	Replace	
0 Kinneloa Mesa Road (along)			s	110 ft	2 bags	2 bags	02/26/94		M	repair	
			s-nylon	400 ft	2 bags	1 bag	02/26/94		M	repair	
3100 Mesaloa Lane			s	12 ft	1 bags	1 bags	03/02/94		M	Replace	
3120 Mesaloa Lane			s	40 ft	2 bags	1 bags	03/02/94		M	Replace	
3136 Mesaloa Lane			s	18 ft	4 bags	1 bags	03/02/94		M	repair	
			s	150 ft	3 bags	1 bags	03/02/94		M	repair	
			s	12 ft	2 bags	1 bags	03/02/94		M	repair	
3036 Meyerloa Lane			s	20 ft	2 bags	2 bags	03/02/94		L	Replace	
1667 Old Grove Road	e, pt	pt	pt	15 ft	2		02/25/94	across driveway	H		
	e, pt	pt	w	40 ft	2		02/25/94		H		
1689 Old Grove Road	e	pt	pt	30 ft	4		02/25/94		H		

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MAP 11

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recom	Done
1689 Old Grove Road	e	pt	pt	20 ft	3		02/25/94		H		
	e	pt	pt	15 ft	2		02/25/94		H		
1700 Old Grove Road	e	pt	s	12 ft	2	2	02/25/94		H		
1736 Old Grove Road	e		w	25 ft	3		02/25/94	doorway blocked with sandbags	H		
1762 Old Grove Road			s	20 ft	3 bags		02/25/94		H		
			pt	20 ft	1.5		02/25/94		H		
1766 Old Grove Road	e	pt	pt	25 ft	4		02/25/94		H		
1776 Old Grove Road			pt	35 ft	3		02/25/94		H		
1780 Old Grove Road	e		s	20 ft	8 bags		02/25/94	on top of low stone wall	H		
1585 Pasadena Glen Road	e, pt	pt	pt	15 ft	4		02/25/94		H		
	e, pt	pt	s	30 ft	12 bags	12 bags	02/25/94		H		
1600 Pasadena Glen Road	e	pt	w	25 ft	3		02/25/94		H		
	e	pt	w	20 ft	3		02/25/94		H		
	e	pt	pt	12 ft	1.5		02/25/94		H		
1601 Pasadena Glen Road	e, pt	pt	pt	20 ft	4		02/25/94		H		
	e, pt	pt	pt	20 ft	1.5		02/25/94		H		
1613 Pasadena Glen Road			pt	50 ft	1.5		02/25/94		H		
			pt	30 ft	3 bags	2	02/25/94		H		
1616 Pasadena Glen Road	e	pt	pt	20 ft	1.5		02/25/94		H		
	e	pt	w	20 ft	3		02/25/94		H		
	e	pt	w	20 ft	3		02/25/94		H		
1617 Pasadena Glen Road	e, pt	pt	pt	40 ft	1.5		02/25/94		H		
1635 Pasadena Glen Road	e, pt	pt	pt	20 ft	3		02/25/94		H		
	e, pt	pt	pt	25 ft	1.5		02/25/94		H		
1640 Pasadena Glen Road	e, pt	pt	pt	15 ft	3		02/25/94	across driveway	H		
	e, pt	pt	pt	20 ft	3		02/25/94	across car port	H		
	e, pt	pt	w	40 ft	2		02/25/94		H		
1653 Pasadena Glen Road	e, s, pt	pt	w	40 ft	2		02/25/94		H		
	e, s, pt	pt	pt	12 ft	1.5		02/25/94	across driveway	H		
1658 Pasadena Glen Road	e, pt	pt	pt	100 ft	3		02/25/94		H		
1661 Pasadena Glen Road	e, pt	pt	pt	50 ft	1.5		02/25/94	next to p/t is permanent stone wall	H		

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MAP 11

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recom	Done
1713 Pasadena Glen Road	e, s	pt	pt	20 ft	1.5		02/25/94	across driveway	H		
	e, s	pt	s	20 ft	1		02/25/94	augmenting wood & stone wall	H		
1716 Pasadena Glen Road	e, pt	pt	s	45 ft	6 bags	1 bag	02/25/94		H		
1716 Pasadena Glen Road	e, pt	pt	pt	20 ft	1		02/25/94		H		
1723 Pasadena Glen Road	e, pt	pt	s	30 ft	8 bags	4 bags	02/25/94		H		
	e, pt	pt	pt	20 ft	1.5		02/25/94		H		
	e, pt	pt	s	25 ft	3 bags	2 bags	02/25/94		H		
	e, pt	pt	pt	30 ft	1.5		02/25/94		H		
1734 Pasadena Glen Road	e, pt	pt	pt	25 ft	1.5		02/25/94		H		
	e, pt	pt	s	25 ft	3 bags	1 bag	02/25/94		H		
1746 Pasadena Glen Road			pt	40 ft	1.5		02/25/94		H		
1746 Pasadena Glen Road (near)			pt-hvy	35 ft	4		02/25/94		H		
			s	20 ft	6 bags	3 bags	02/25/94		H		
			s	20 ft	6 bags	3 bags	02/25/94		H		
			pt	50 ft	4		02/25/94		H		
1794 Pasadena Glen Road	e, s	pt	pt-hvy	30 ft	4		02/25/94		H		
	e, s	pt	w	25 ft	5		02/25/94		H		
	e, s	pt	s	30 ft	10 bags		02/25/94		H		
1802 Pasadena Glen Road	s		pt-hvy	150 ft	4		02/25/94		H		
	s		s	150 ft	10 bags	3 bags	02/25/94		H		
1830 Pasadena Glen Road	e, s	pt	w	20 ft	3		02/25/94	vertically & horizontally oriented 10' diameter timbe	H		
1928 Pasadena Glen Road			w	40 ft	3		02/25/94		H		
			s	40 ft	2 bags	1 bag	02/25/94	atop masonry wall	H		
2076 Pasadena Glen Road	e, s		s	50 ft	2 bags	1 bag	02/25/94		H		
2100 Pasadena Glen Road	e	w	s	30 ft	3 bags	1 bag	02/25/94		H		
	e	w	pt	30 ft	1		02/25/94	in conjunction with sandbags	H		
1881 Pasadena Glen Road (near)			pt-hvy	12 ft	4		02/25/94	across road, removeable	H		
			pt-hvy	20 ft	4		02/25/94		H		
2036 Pasadena Glen Road (near)	e, s	pt	pt-hvy	20 ft	4		02/25/94		H		

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MAP 11

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recom	Done
1624 Hastings Heights Lane		w, pt			3 ft						
1660 Hastings Heights Lane	e, pt	w			3 ft						
1746 Old Grove Rd	e, s	pt			3 ft						
1786 Old Grove Rd	e										
1804 Pasadena Glen Rd	e										
1818 Pasadena Glen Rd	e										
1820 Pasadena Glen Rd	e, s	w			4 ft						
1834 Pasadena Glen Rd	e, s	w, pt									
1966 Pasadena Glen Rd	s, pt										
1976 Pasadena Glen Rd	s, pt										
1630 Pasadena Glen Rd	e, pt	pt									

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MAP 12

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	94 -'95 Priority Recomm	Project Done
0 New York Drive near Bradley			kr	6 ft			03/02/94	500' west of Bradley Street, center island	H	
3100 New York Drive (near)			kr	200 ft	1-6 bags	1 bag	03/02/94	tapers up to height of 6 bags in the middle, center island	H	

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MAP 13

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1645 Carriage House Road			s	100 ft	2 bags	1 bag	02/23/94		L	Replace	
1655 Carriage House Road			s	100 ft	3 bags	2 bag	02/23/94		M	Replace	
1660 Carriage House Road			s	20 ft	2 bags	1 bag	02/23/94	above storm drain	L	Replace	
			s	20 ft	2 bags	1 bag	02/23/94	above storm drain	L	Replace	
1665 Carriage House Road			s	100 ft	3 bags	2 bag	02/23/94		M	Replace	
4077 Park Vista Drive			s	15 ft	3 bags	1 bag	02/23/94		M	Replace	
4101 Park Vista Drive	s		s	75 ft	4 bags	1 bag	02/23/94		M	Replace	
3500 Ranch Top Road			w	20 ft	0.5		02/23/94		L	Replace	
			s	100 ft	4 bags	2 bag	02/23/94		L	Replace	
3503 Ranch Top Road			s	10 ft	2 bags	1 bag	02/23/94	augmenting wood over storm drain	L	Replace	
			w	10 ft	0.5		02/23/94	wood over storm drain	L	Replace	
3526 Ranch Top Road			s	250 ft	2 bags	1 bag	02/23/94		L	Replace	
3535 Ranch Top Road	s		w	20 ft	0.5		02/23/94	blocking storm drain	L	Replace	
	s		s	20 ft	2 bags	1 bag	02/23/94	above wood blocked storm drain	L	Replace	
3650 Ranch Top Road			s	25 ft	2 bags	1 bag	02/23/94		L	Replace	
3660 Ranch Top Road			s	15 ft	2 bags	1 bag	02/23/94		L	Replace	
			s	15 ft	2 bags	1 bag	02/23/94		L	Replace	
3880 Startouch Drive	s		s	25 ft	3 bags	1 bag	02/23/94		L	Replace	
	s		s	8 ft	5 bags	2 bags	02/23/94		L	Replace	
0 Shaw Ranch Road (above)			s	265 ft	4 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	
			s	150 ft	4 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	
			s	100 ft	3 bags	2 bags	12/15/93	above or between roads stabilizing slopes	L	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
1680 Carriage House Rd	s				3 bags	2 bags					
4101 Park Vista Dr	s				3 bags	1 bag					
4104 Park Vista Dr	s				2 bags	1 bag					
4113 Park Vista Dr		w									

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kr = K-rails
pt = pipe and timber
pt-hvy = heavy pipe and timber
rg = rock gabion
E.A. = Engineering Advice
e = evacuation
w = wall
H = high priority
M = medium priority
L = low priority

MAP 14

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recommend	Done

NONE

USDA Natural Resources Conservation Service / AmeriCorps

Lancaster Field Office
(805) 945-2604

s = sandbags
s-nylon = nylon sandbags
kr = K-rails
pt = pipe and timber
pt-hvy = heavy pipe and timber
rg = rock gabion
E.A. = Engineering Advice
e = evacuation
w = wall
H = high priority
M = medium priority
L = low priority

MAP 15

Address	Eng. Advice Temp	Eng. Advice Perm	Type Installed	Length	Height	Depth	Date Installed	Description	Priority	94 -'95 Recomm	Project Done
520 Sierra Meadow Drive	s		s	75 ft	3 bags	1 bag			H	Install	
540 Sierra Meadow Drive	s	pt	s	45 ft	3 bags	1 bag			H	Install	
	s	pt	s	15 ft	3 bags	1 bag			H	Install	
574 Sierra Meadow Drive	s		s	60 ft	2 bags	1 bag			H	Install	
	s		s	8 ft	3 bags	4 bag			H	Install	
580 Sierra Meadow Drive	s		s	15 ft	3 bags	2 bags			H	Install	
	s		s	120 ft	4 bags	1 bag			H	Install	
581 Sierra Meadow Drive	s		s	60 ft	2 bags	1 bag	03/05/94		H	Replace	
	s		s	40 ft	2 bags	1 bag	03/05/94		H	Replace	
600 Sierra Meadow Drive	s	pt	s	30 ft	3 bags	1 bags			H	Install	
650 Sierra Meadow Drive	s		s	30 ft	2 bags	1 bags			H	Install	
	s		s	40 ft	2 bags	1 bags			H	Install	
655 Sierra Meadow Drive	s		s	50 ft	1 bags	1 bags			H	Install	
	s		s	15 ft	1 bags	1 bags			H	Install	
665 Sierra Meadow Drive	s		s	30 ft	2 bags	1 bags			H	Install	
	s		s	40 ft	2 bags	1 bags			H	Install	
670 Sierra Meadow Drive			s	35 ft	4 bags	1 bags			H	Install	
			s	15 ft	3 bags	1 bags			H	Install	
680 Sierra Meadow Drive (near)			kr	5 ft				8' k-rails	H	Replace	
			kr	5 ft				8' k-rails	H	Replace	
			s	5 ft	6 bags	6 bags			H	Replace	
			s	5 ft	6 bags	6 bags			H	Replace	
300 Wistaria Way	s		s	40 ft	3 bags	1 bags			H	Replace	

Residences With Engineering Advice Not On Mitigation List

Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recomm	Done
625 Sierra Meadows	s				2 bags	1 bag					
660 Sierra Meadows	s				3 bags	1 bag					
675 Sierra Meadows	s, pt				3 ft						

USDA Natural Resources Conservation Service / AmeriCorps

Lancaster Field Office
(805) 945-2604

s = sandbags
s-nylon = nylon sandbags
kr = K-rails
pt = pipe and timber
pt-hvy = heavy pipe and timber
rg = rock gabion
E.A. = Engineering Advice
e = evacuation
w = wall
H = high priority
M = medium priority
L = low priority

MAP 16

	Eng. Advice		Type				Date			94 -'95	Project
Address	Temp	Perm	Installed	Length	Height	Depth	Installed	Description	Priority	Recommend	Done

NONE

STREET INDEX

STREET INDEX

STREET	MAP
655 Sierra Meadow Dr	15
660 Sierra Meadows	15
665 Sierra Meadow Dr	15
670 Sierra Meadow Dr	15
675 Sierra Meadows	15
680 Sierra Meadow Dr	15
3880 Startouch Dr	13
2820 Stonehill Dr	3
2902 Stonehill Dr	3
2941 Stonehill Dr	3
2943 Stonehill Dr	3
1302 Sunny Oaks	3
1308 Sunny Oaks	3
1314 Sunny Oaks	3
T	
2480 Tanoble Dr	6
2542 Tanoble Dr	6
2553 Tanoble Dr	6
2554 Tanoble Dr	6
2555 Tanoble Dr	6
2556 Tanoble Dr	6
2857 Tanoble Dr	6
2870 Tanoble St	6
2883 Tanoble Dr	6
U	
V	
2007 N. Villa Hts. Rd	10
2020 N. Villa Hts. Rd	10
2030 N. Villa Hts. Rd	10
2070 N. Villa Hts. Rd	10
2090 N. Villa Hts. Rd	10
2154 N. Villa Hts. Rd	10
2224 N. Villa Hts. Rd	10
2247 N. Villa Hts. Rd	10
2254 N. Villa Hts. Rd	10
2256 N. Villa Hts. Rd	10
318 Vinehill Dr	1
340 Vinehill Dr	1
356 Vinehill	1
W	
0 Windfall Ave	3
2750 Winrock Ave	3
2876 Windfall Ave	3
2780 Winrock Ave	3
2855 N. Winterhaven Ln	5
2858 N. Winterhaven Ln	5
2859 N. Winterhaven	5
2869 N. Winterhaven Ln	5

STREET	MAP
2874 N. Winterhaven Ln	5
300 Wistaria Way	15
0 Woodglen Ln	5
1602.5 Woodglen Ln	5
1603 Woodglen Ln	5
1604 Woodglen Ln	5
1605 Woodglen Ln	5
1608 Woodglen Ln	5
1611 Woodglen Ln	5
1612 Woodglen Ln	3
1624 Woodglen Ln	3
X	
Y	
Z	
2855 Zane Grey Terrace	3
2934 Zane Grey Terrace	3
3017 Zane Grey Terrace	3

California Office of Emergency Services

Areas of Increased Mudflow Risk

Woodward-Clyde Consultants

1 inch equals 0.2 miles

KEY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Altadena

Pasadena

Sierra Madre

LA ALTA

LAKE

ALTADENA

NEW YORK

ARROYO SECO CANYON

SIERRA MADRE VILLA

WASHINGTON

NEW YORK

SIERRA MADRE

GRAND VIEW

California Office of Emergency Services

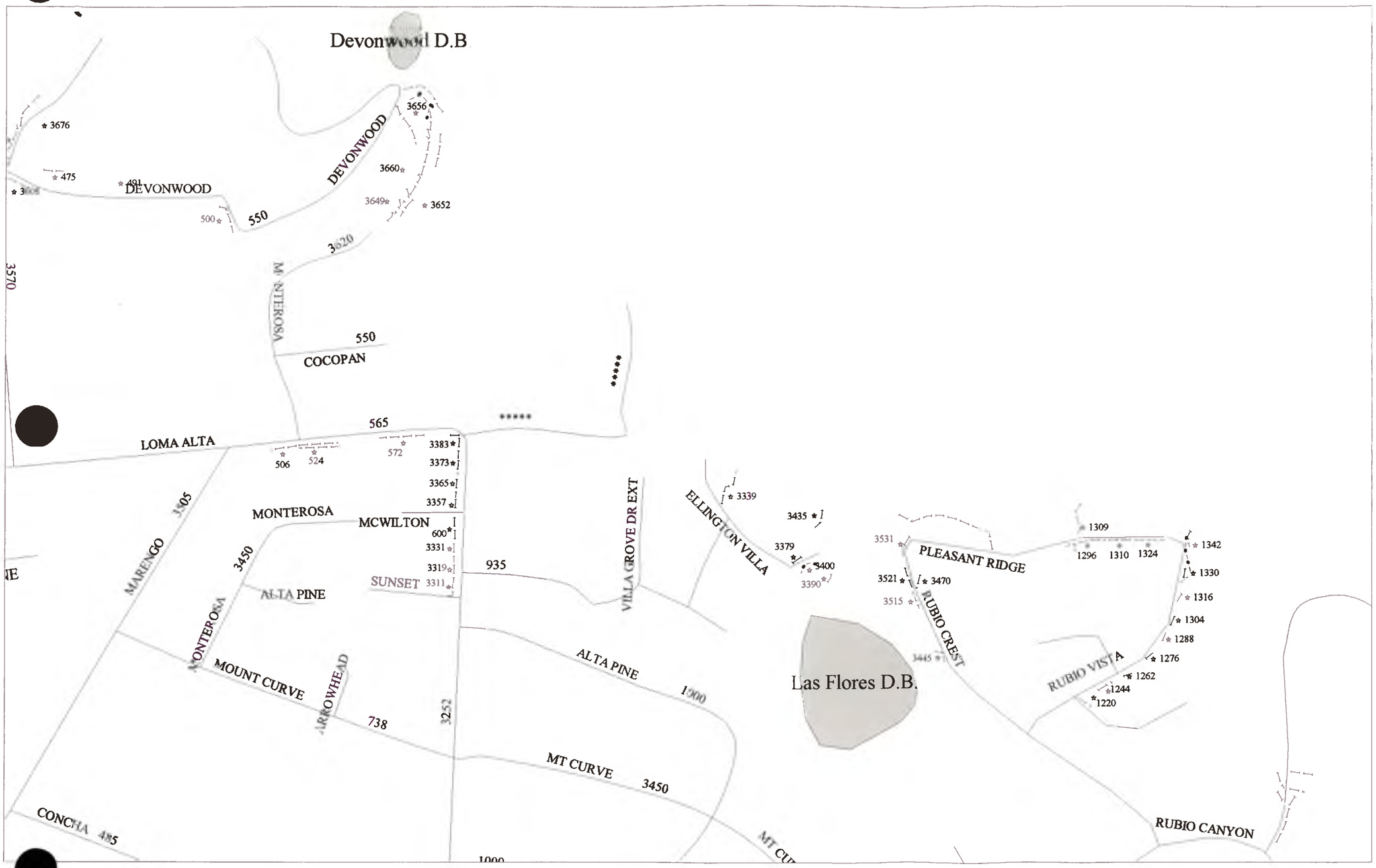
Residence
With Mitigation

Sandbags
Pipe & Timber
Rail & Timber
Walls
K-Rails
Crib Dams
Trash Racks

1 inch
equals
0.125 miles

1

CHANEY
ALZADA
4011
4009
3972
382
380
262
TWILIGHT VISTA
149
SAGE HILL
3750
175
3560
3613
3641
3631
3676
475
3608
3554
3552
3518
3611
VINEHILL
318
340
3470
3570
TAOS
3709
PURPLE SAGE
149
3600
West Ravine D.B.
LEILANI
GLENROSE
HOLLY SLOPE
ANNA MARIA
350
CANON
3460
Fern Canyon D.B.
3545
LOMA CREST
3533
FAIR OAKS
MC NALLY
3478
Fair Oaks D.B.
338
LOMA VIEW
3465
LOMA ALTA
149
PINE

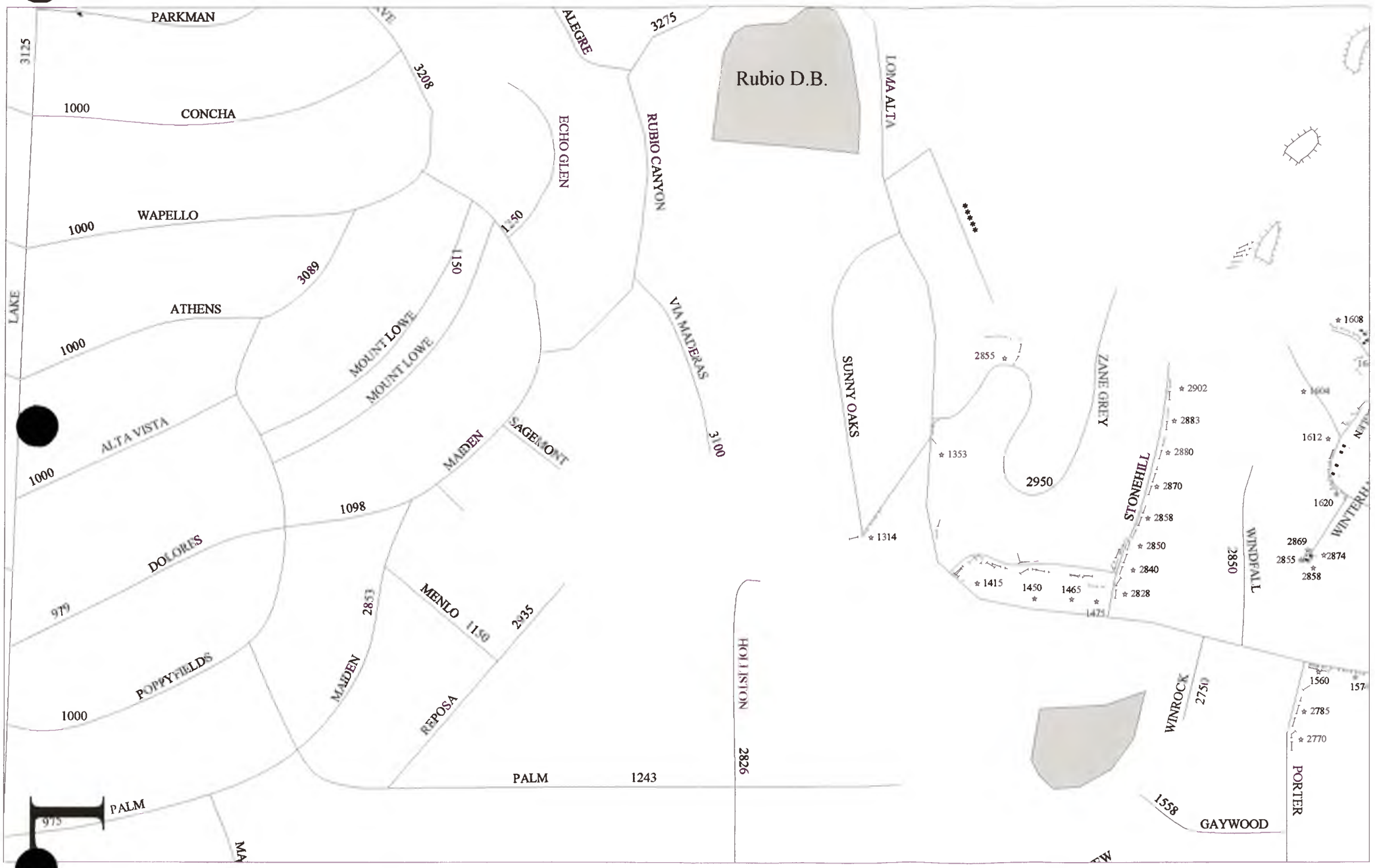


California Office of Emergency Services

- ☆ Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

2

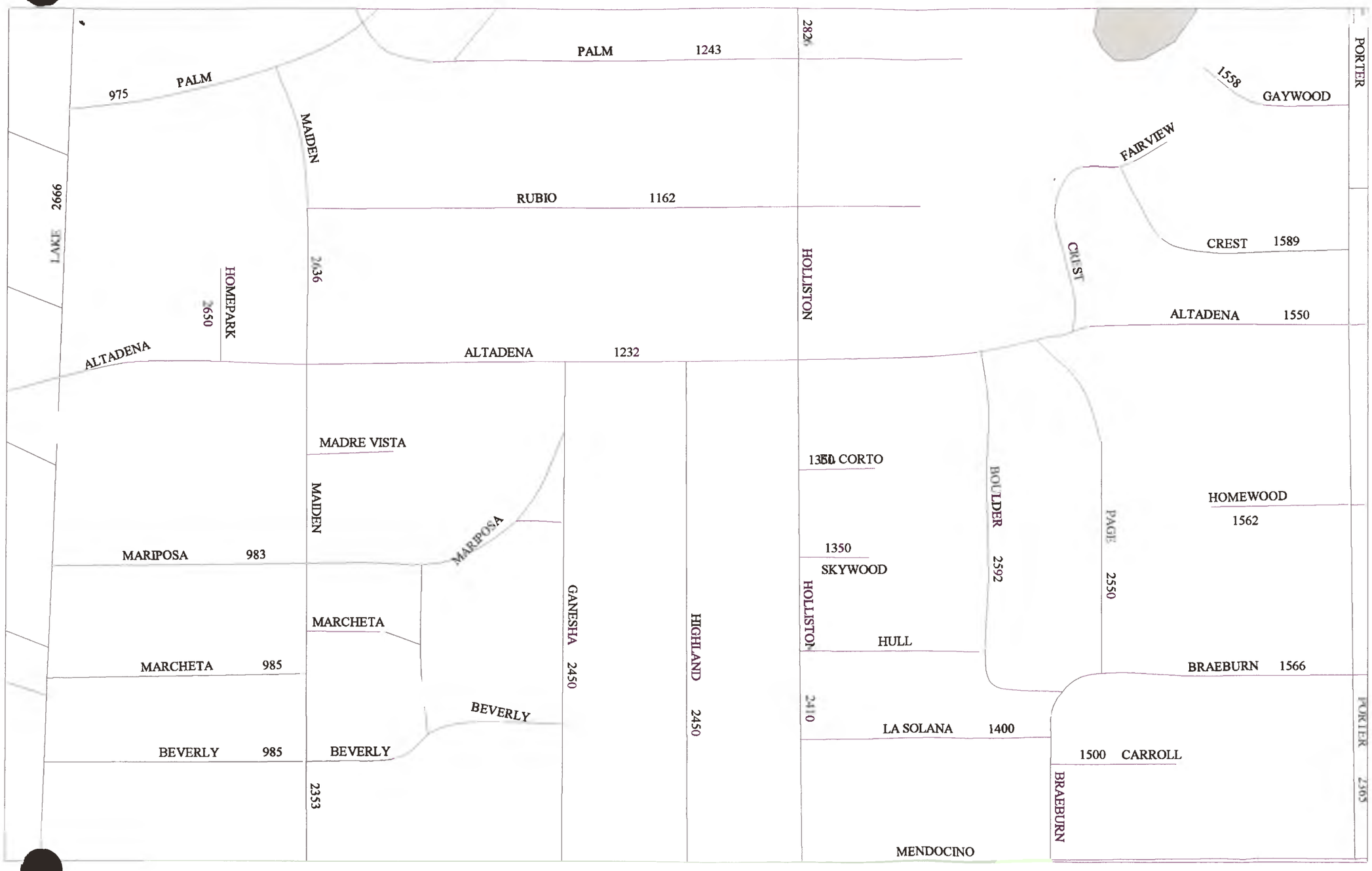


California Office of Emergency Services

- Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

3



California Office of Emergency Services

- Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

4

California Office of Emergency Services

Residence
With Mitigation

Sandbags

Pipe & Timber

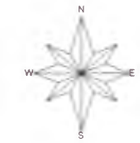
Rail & Timber

Walls

K-Rails

Crib Dams

Trash Racks



1 inch
equals
0.125 miles

5

California Office of Emergency Services

Residence With Mitigation

Sandbags

Pipe & Timber

Rail & Timber

Walls

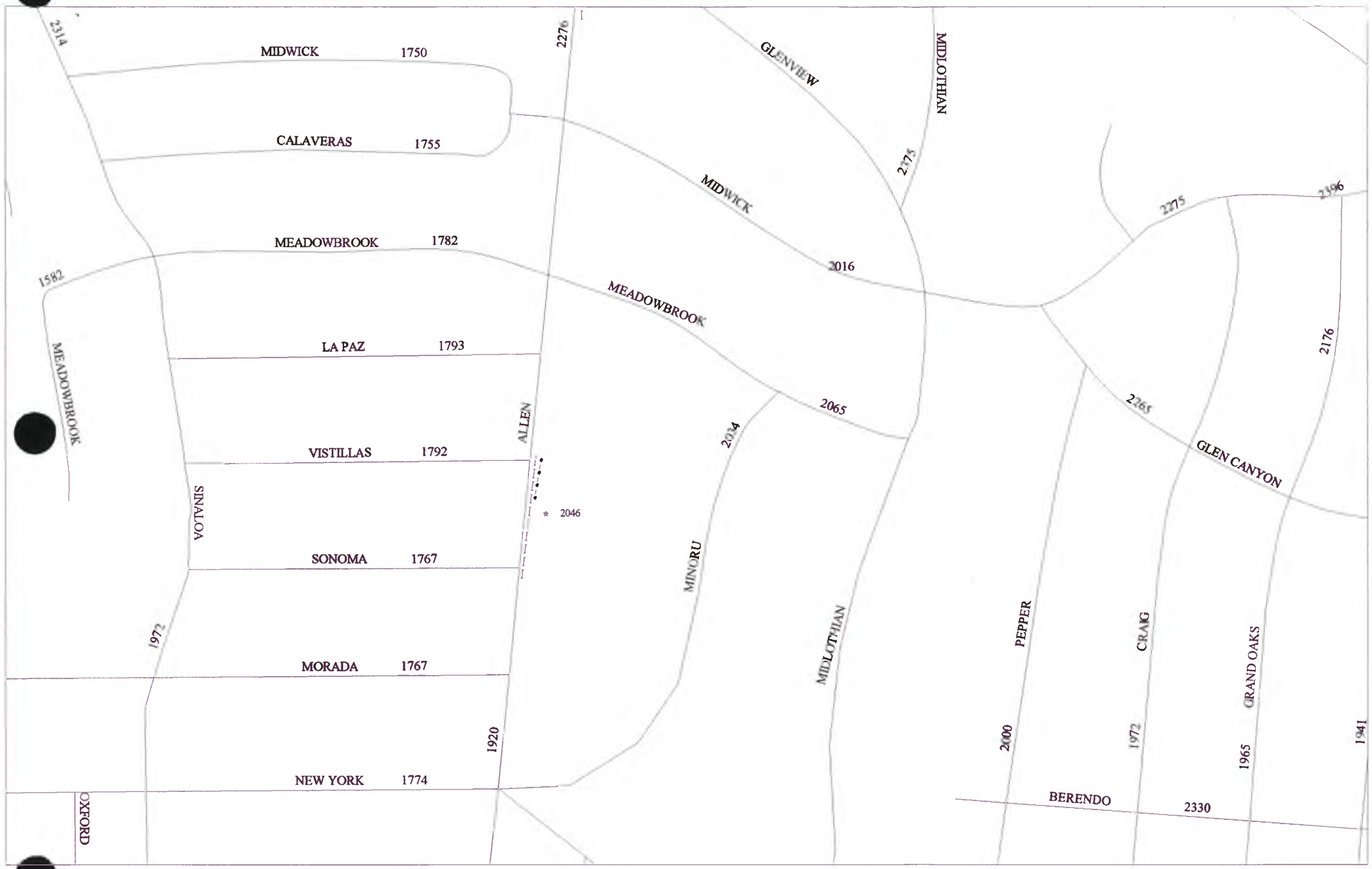
K-Rails

Crib Dams

Trash Racks

1 inch equals 0.125 miles

6

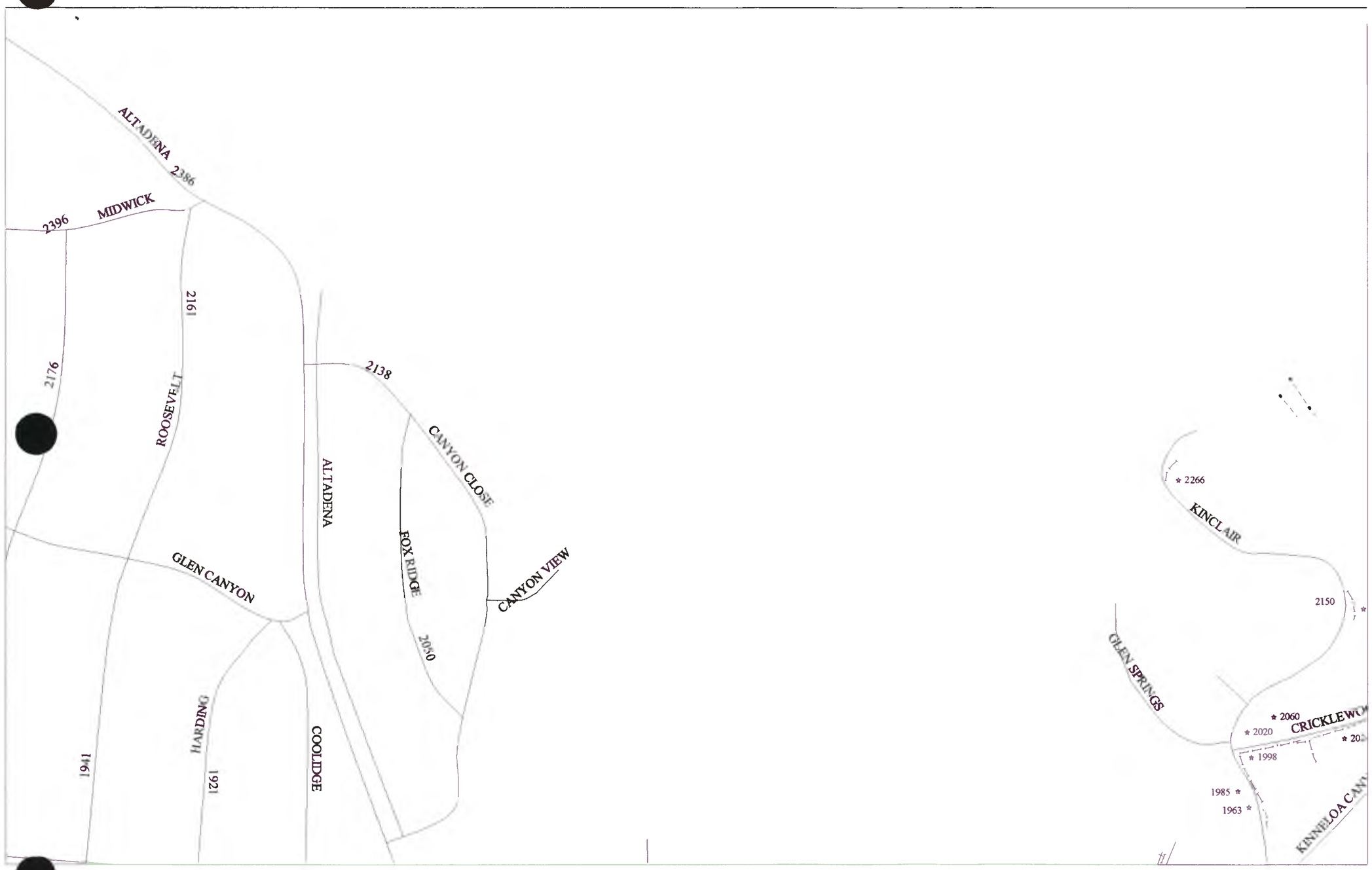


California Office of Emergency Services

- Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

7



California Office of Emergency Services

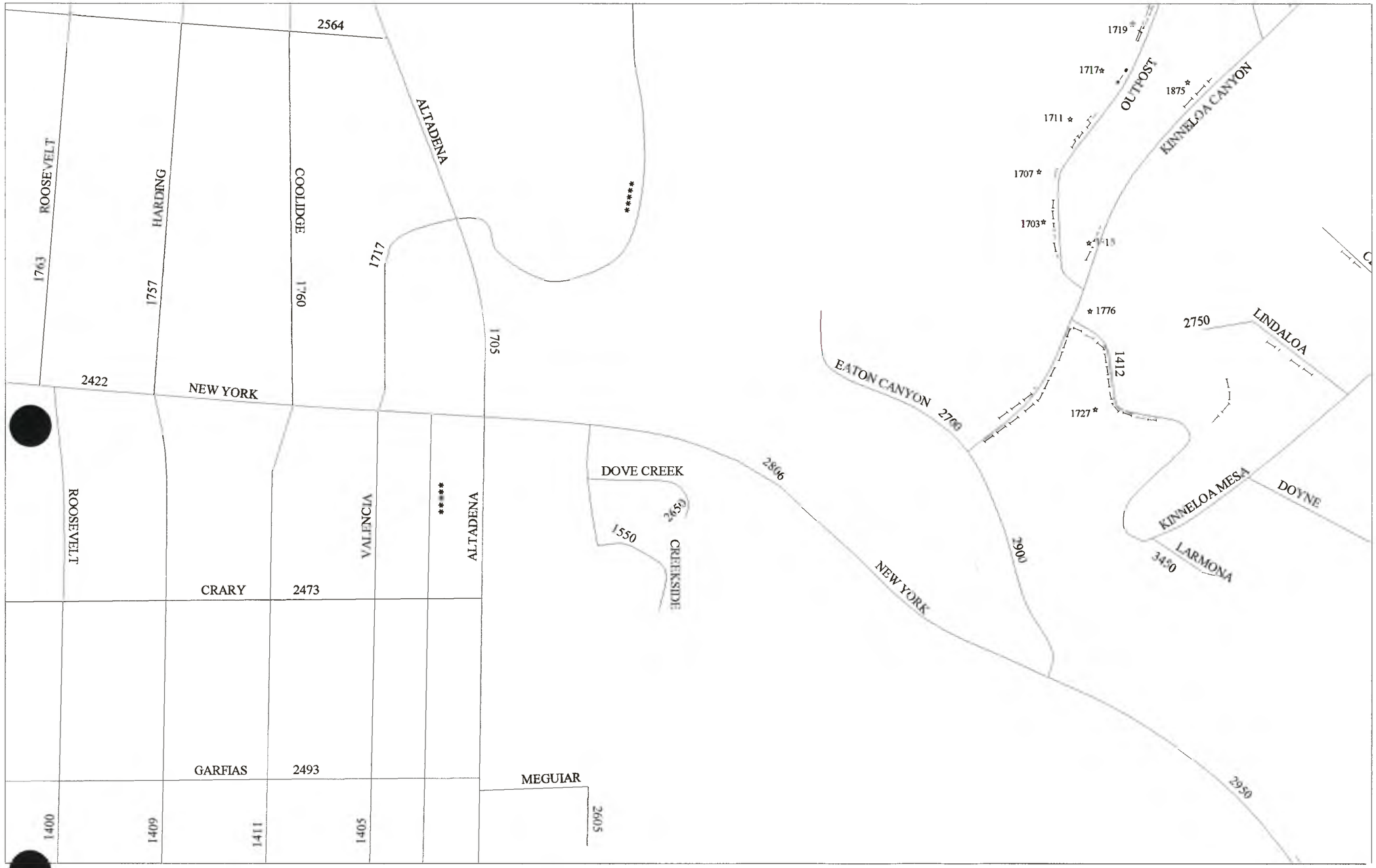
Residence
With Mitigation

Sandbags
Pipe & Timber
Rail & Timber
Walls
K-Rails
Crib Dams
Trash Racks

1 inch
equals
0.125 miles

8

California Office of Emergency Services

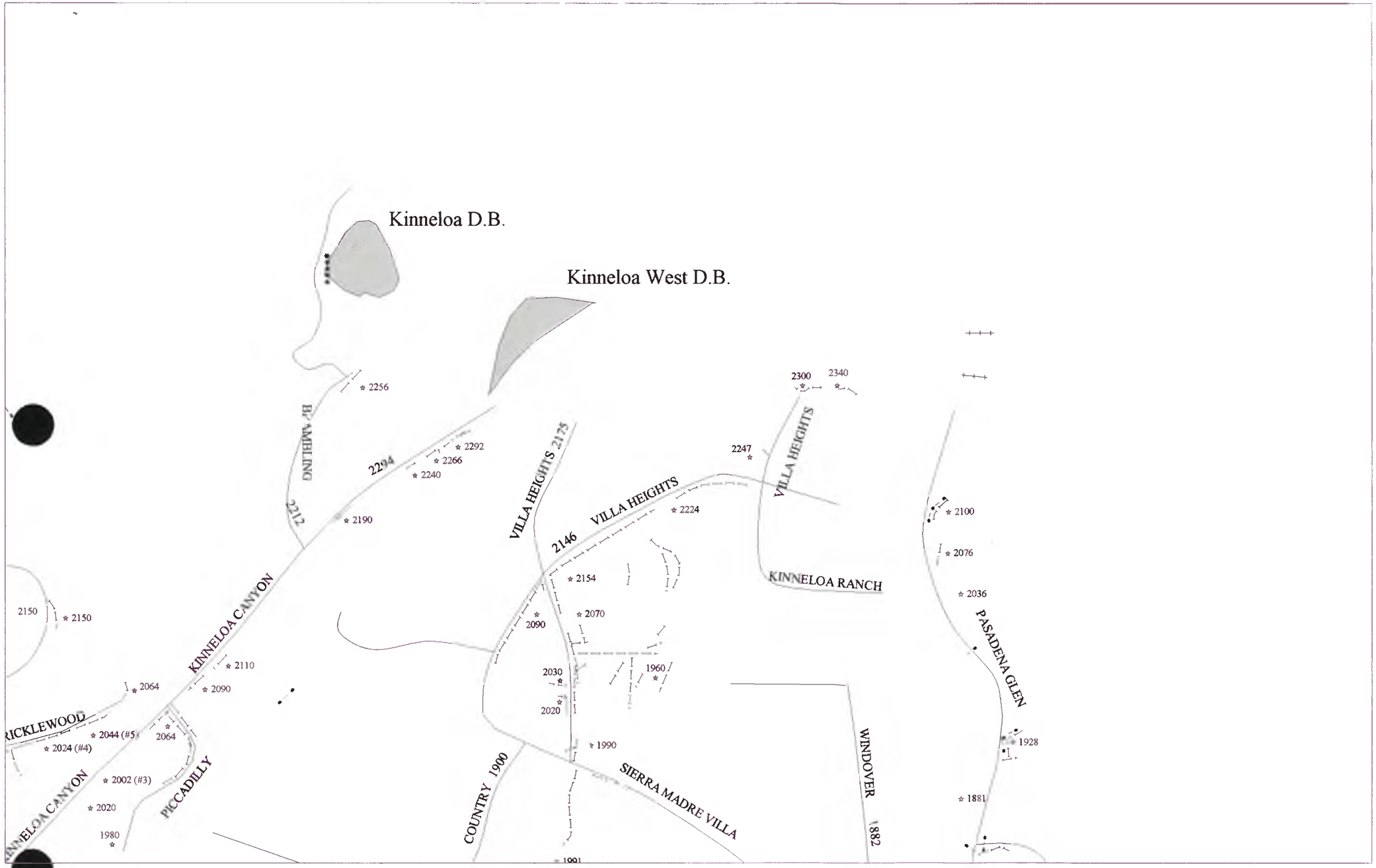


- ☆ Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

N
W
E
S

1 inch
equals
0.125 miles

9



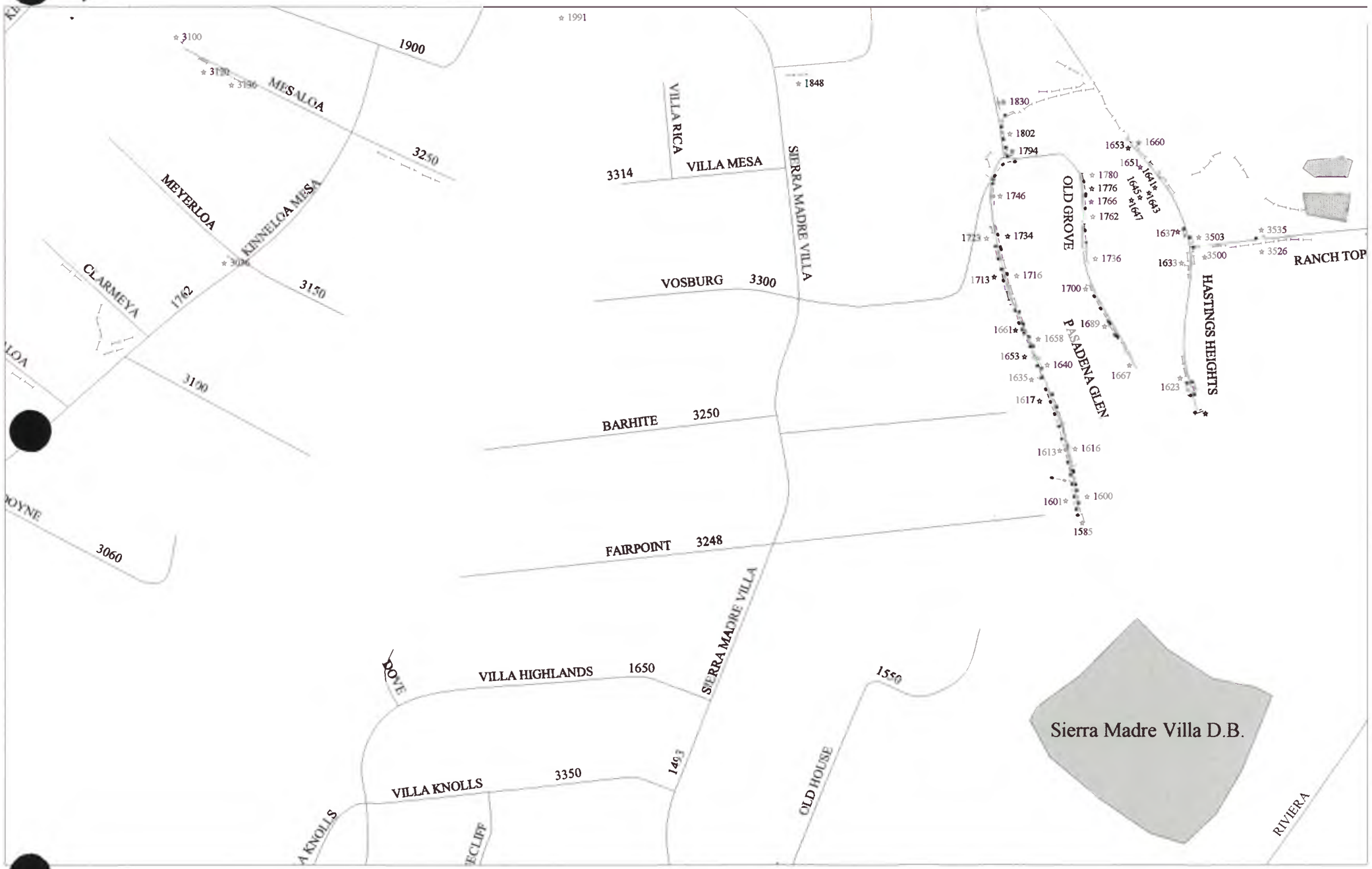
California Office of Emergency Services

- Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

10

California Office of Emergency Services



☆ Residence
With Mitigation

- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch
equals
0.125 miles

11

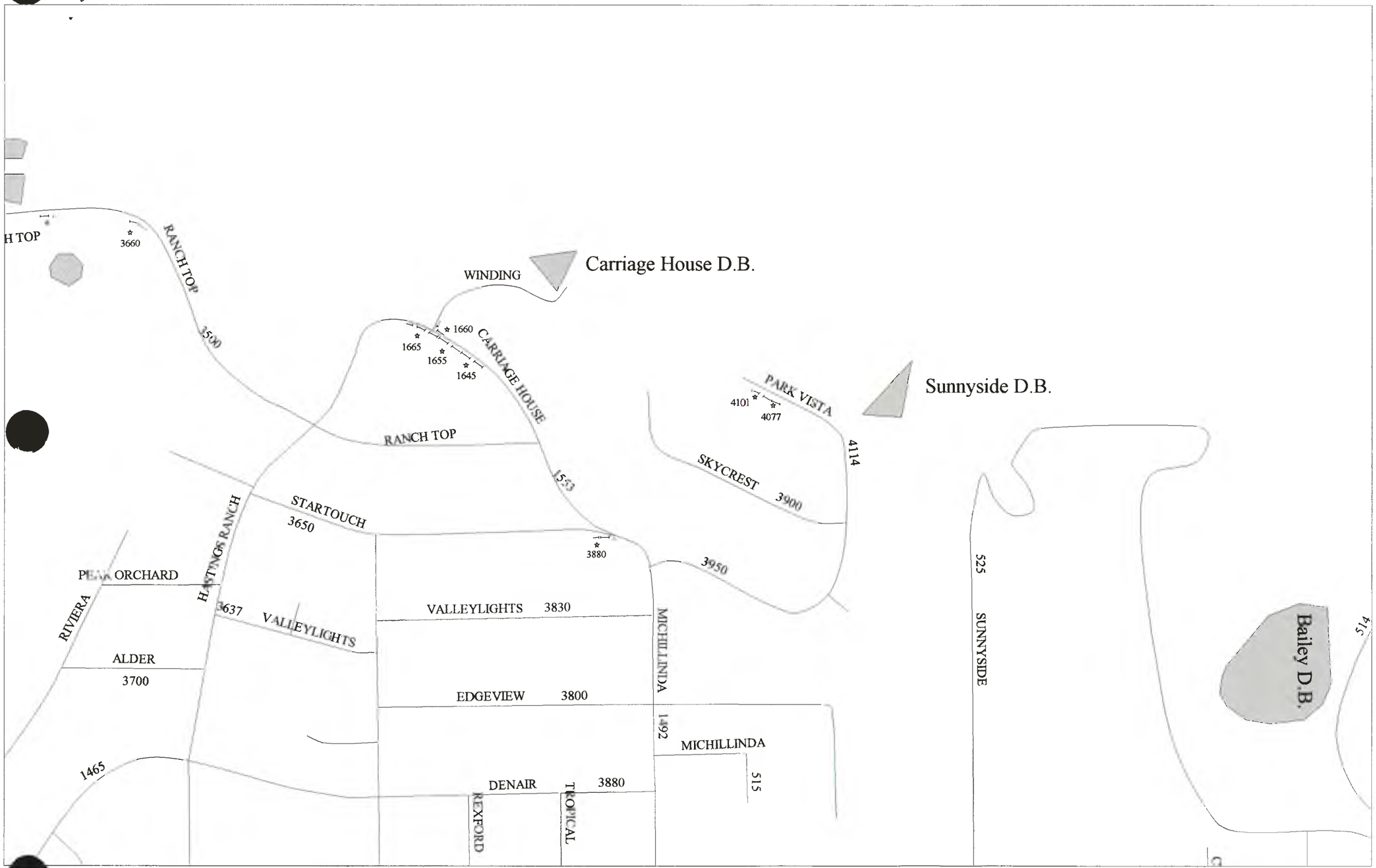
California Office of Emergency Services

- Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

12

California Office of Emergency Services



- ☆ Residence With Mitigation
- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

N
W
E
S

1 inch
equals
0.125 miles

13

California Office of Emergency Services

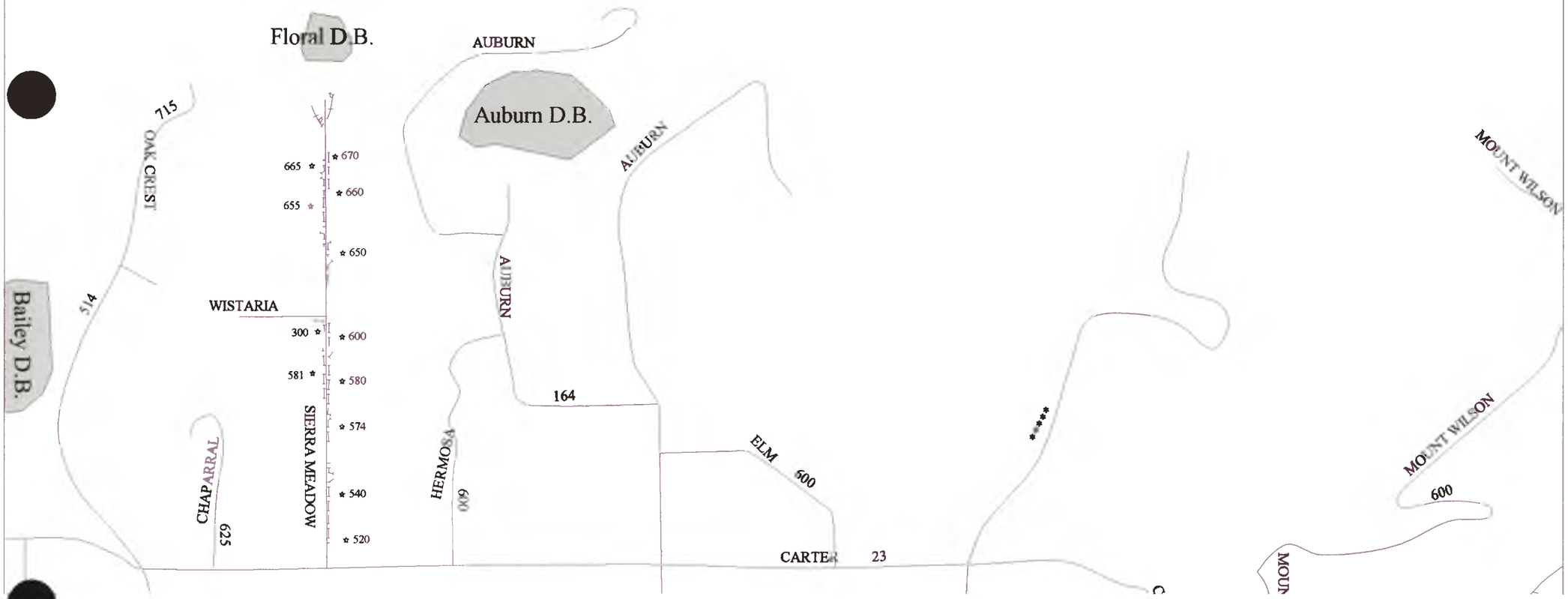
Residence With Mitigation

- Sandbags
- Pipe & Timber
- Rail & Timber
- Walls
- K-Rails
- Crib Dams
- Trash Racks

1 inch equals 0.125 miles

14

California Office of Emergency Services



Residence
With Mitigation

Sandbags
Pipe & Timber
Rail & Timber
Walls
K-Rails
Crib Dams
Trash Racks

1 inch
equals
0.125 miles

15

California Office of Emergency Services

CARTER 23
CARTER 100
MOUNT WILSON
FOREST
STURTEVANT
MIRAMONTE 50
AUBURN 367
OLIVE 50
100 ALEGRIA
ALEGRIA 50
LIMA 420
ADAMS 350
TOYON 344
GROVE
625
520
*****
365 GRAND VIEW 306
GRAND VIEW 50
333
AUBURN
BALDWIN
MOUNTAIN TRAIL
LAUREL 321
LAUREL 50
250
ADAMS 199
HERMOSA 179
VICTORIA 50
177
HIGHLAND 290
150 MERRILL
180
*****
GROVE
*****
73
HERMOSA 102
117
112
77 MONTECITO
****

☆ Residence With Mitigation

Sandbags
Pipe & Timber
Rail & Timber
Walls
K-Rails
Crib Dams
Trash Racks

1 inch
equals
0.125 miles

16

EVALUATION OF WATERSHED CONDITIONS AND HAZARDS

and

RECOMMENDATIONS FOR ADDITIONAL PROTECTIVE MEASURES

for the

LAGUNA FIRE AREA

Orange County, California

January, 1995

Prepared for and in cooperation with

GOVERNOR'S OFFICE OF EMERGENCY SERVICES, STATE OF CALIFORNIA

Prepared by:
USDA, Natural Resources Conservation Service
and
Americorps National Service
Lancaster, California

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose of Study

This report is prepared for the Governor's Office of Emergency Services (OES) and provides an evaluation of the conditions of the Laguna Fire area. The report also discusses the condition of the initial erosion control measures implemented, identifies potential post-fire flood, erosion, and sedimentation hazards, and provides recommendations for additional protection measures.

Other agencies and organizations requesting this report include: City of Laguna Beach Fire Department, City of Laguna Beach Municipal Services, County of Orange Public Works, Laguna Fire Relief Coalition, and Laguna Beach Coalition of Neighborhood Associations.

1.2 Background

On Wednesday, October 27, 1993 a fire began in the southern San Joaquin Hills in the area south of Interstate 5 and west of State Route 133. An estimated 17,000 acres burned, extending from Turtle Rock in the north to the City of Laguna Beach (City) in the south (Appendix A). Approximately 380 homes burned in the residential areas of El Moro Trailer Park, Emerald Bay, North Laguna Beach, Laguna Canyon, Canyon Acres, and Top of the World. The burned wildland areas included Crystal Cove State Park, Laguna Coast Wilderness Park, and Irvine Company Open Space Reserve, unincorporated land owned by the City of Laguna Beach, and the Laguna Laural Ecological Reserve.

In November 1993, the City and the County of Orange (County) requested assistance through the Emergency Watershed Protection Program (EWP) administered through the USDA Soil Conservation Service, now called the Natural Resources Conservation Service (NRCS), under provisions of Section 403, Agricultural Credit Act of 1978. The purpose of the EWP Program is to assist in relieving imminent hazards to life and property from watersheds impaired by natural occurrences. Staff from the NRCS conducted site reviews and prepared Damage Survey Reports for the burned area. These reports identified damages, potential flooding, erosion, and sedimentation hazards, and recommended protective measures. Several of the measures were constructed by the County, however, many of the recommended treatments within City jurisdiction were not implemented. Also, several requests for technical assistance were received from individual landowners regarding erosion and sediment control on their property and appropriate recommendations were provided.

Also in November, the City retained Woodward-Clyde Consultants to assess the erosion and sedimentation hazards within City jurisdiction and to develop a plan addressing those hazards. The plan titled "Phase I Erosion and Stabilization Plan Laguna Beach Fire" (WCC Plan) lists several short-term erosion and sedimentation control alternatives. Several of these measures were immediately implemented by the City and primarily

addressed erosion and sedimentation problems resulting from mild to moderate storms.

The watersheds within the burned areas are large enough to produce significant effects on downstream structures and property value. Laguna Beach has a history of flooding which has resulted in significant structural damage (FEMA 1985). Immediately following the fire, a lack of vegetative cover and the presence of water repellent soils indicated a significant potential for flooding and damage to downstream structures. Prior to implementation of protective measures the area received approximately 0.5 inches of rain, which left mud and debris in residences and on the streets in portions of Laguna Beach (EWPP 1993).

2.0 STUDY AREA

2.1 Scope of Study

The focus of this study is primarily on flood potential and the measures which may be implemented to reduce the damages from flooding. Although erosion and sedimentation will certainly occur and should be addressed, only their contribution to flooding is included in the recommendations of this study.

A map of the study area is provided in Appendix A and includes the following burned areas: Laguna Canyon Road, Canyon Acres, Mystic Hills/Skyline Drive, Park Avenue, Park Avenue/Browncroft, Crystal Cove/Los Trancos, El Moro, Irvine Cove, Emerald Bay, High Street area between Boat Canyon and Laguna Canyon, and Lookout Drive. Orange County Environmental Management Agency (OCEMA) and the OES provided the WCC Plan. Maps displaying the locations and types of initial protective measures were prepared using the OES Geographical Information System (Appendix B).

Field reconnaissance of the burned areas was conducted on November 18, 29, 30, and December 6, 1994, and on January 18, 1995, by staff from the Urban and Community Assistance Team of NRCS and by AmeriCorps members.

2.2 Environmental Setting

2.2.1 Climate

The climate of the study area is typical of the Southern California Coastal Region, with mildly warm, dry summers and moderately cool, rainy winters. The mean annual temperature is approximately 67 degrees F. Average temperatures range from 52 degrees F in the winter to 68 degrees F in the summer (FEMA 1985; USDA 1978). Mean annual rainfall is approximately 12 inches with a minimum of 4 inches and a maximum of 29 inches, for the past 68-year record (OCEMA 1994). Most precipitation occurs during the

winter between November and April. Summer tropical storms are infrequent but tend to have larger rainfall totals (FEMA 1985; USDA 1978).

2.2.2 Soils

The soils of the study area are predominantly derived from sandstone or shale. Soils of the coastal terraces are of the Myford association. Myford soils are moderately well drained sandy loams that have a strongly developed subsoil. They are formed in sandy sediments and occur on marine terraces, older alluvial fans, and terrace remnants in the foothills (USDA 1978).

Soils of the coastal foothills are of the Cieneba-Anaheim-Soper and the Alo-Bosanko associations. These soils formed in weathered sandstone, calcareous shale or weakly consolidated sediments (USDA 1978).

Cieneba soils occur on steep to very steep hillsides, are somewhat excessively drained, and are formed in weathered sandstone. If the soil is bare, runoff is rapid and the erosion hazard is high. Anaheim soils are well drained and are formed in weathered soft sandstone or shale. They occur on moderately steep to very steep north-facing slopes. Soper soils are well drained and occur on 15 to 75 percent slopes (USDA 1978).

The Alo-Bosanko association occurs on strongly sloping to steep coastal foothills. The Alo and Bosanko soils are well drained clays occurring on slopes of 9 to 50 percent (USDA 1978).

2.2.3 Vegetation

The natural vegetation of the study area is mixed chaparral, coastal sage scrub - a phase of the southern coastal scrub, and riparian woodland. The coastal sage scrub occurs on relatively dry sites, usually on the lower slopes of the foothills facing the ocean. Mixed chaparral usually occurs at higher elevations on more mesic, moist, sites. Riparian woodland occurs along perennial stream channels (Barbour and Major 1988).

The coastal sage scrub is a moderately dense community of deciduous shrubs. Characteristic species include California sagebrush (*Artemisia californica*), sage (*Salvia* spp.), California buckwheat (*Eriogonum fasciculatum*), and California encelia (*Encelia californica*). The mixed chaparral is a dense community of needle-leaved and broad-leaved evergreen shrubs. Dominant woody genera include species of ceanothus (*Ceanothus*), chamise (*Adenostoma*), and sumac (*Rhus*). The riparian communities include western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*) and willow (*Salix* spp.) (Barbour and Major 1988; Hickman 1993).

Ephemeral annuals and short-lived perennials will dominate intershrub spaces for a few years after fire. Many of the shrub species in both communities will crown-sprout the first year, however, seedling reproduction usually occurs only after these sprouts have flowered and set seed. (Westman 1981).

2.3 Initial Flood, Erosion, and Sedimentation Control Measures

Immediately following the fire, EWP Program assistance was made available by the NRCS. Through this program, interdisciplinary teams of technical experts began evaluating watershed conditions and recommending protective measures to protect life and property from flooding and debris flows. This information was compiled in Damage Survey Reports, which were used to secure 75% of the funding for the projects through federal funds, with the sponsor contributing the remaining 25%.

The County cooperated with the NRCS to sponsor many of the proposed projects. These projects included several pipe debris barriers, or trash racks, pipe and wire debris fences, rock gabion check dams, a timber debris/sediment barrier, and a sediment detention basin. All of these structures are designed to reduce the probability of flooding by removing medium to large debris and some sediment from the storm water, preventing the blockage of downstream culverts and waterways. These structures are designed to continue their effectiveness, with maintenance, until the hydrologic condition of the watersheds has recovered. Hydromulching was also applied on some critical hillsides to provide a mulch cover and to supplement the natural revegetation.

Several DSR's were completed for areas within the City of Laguna Beach. The City sponsored the construction of pipe debris barriers and a perforated pipe inlet to help protect the Irvine Bowl from flood damage and several acres were hydromulched.

In November 1993, Woodward-Clyde also evaluated the condition of the burned areas, watershed factors, surviving structures, and drainage facilities. With this information, their erosion and stabilization plan was developed. Several short-term erosion and sediment control measures were identified and installed. The primary measures implemented were: hydromulching, silt fencing, gravel bag check dams, straw bale check dams, and concrete traffic barriers or K-rails (WCC 1993).

Hydromulching was primarily applied to the lower slopes of Laguna Canyon and selected slopes in residential areas of Emerald Bay, Park Avenue, Irvine Cove, and High Street. Gravel bag barriers were placed throughout residential areas and along main roadways. Barriers were also installed around homes that were burned and around storm drain inlets to collect debris and sediment. Silt fencing was used in channels as sediment retention structures and also on burned slopes in residential areas to retain debris. Straw bale and gravel bag check dams were used as sediment retention structures and installed in ephemeral stream channels, gullies, and other drainage ways. The K-rails were used in conjunction with gravel bag barriers in areas of potential mud or debris flow to direct the material away from structures or roadways (WCC 1993).

Maps were prepared delineating locations and selected protective measures for the burned area (Appendix B).

3.0 FINDINGS AND RECOMMENDATIONS

3.1 Condition of Burned Areas and Initial Flood, Erosion, and Sedimentation Control Measures

On November 18, 29, 30, and December 6, 1994, and January 17, 1995 staff of NRCS and AmeriCorps conducted field surveys of the burned areas described in Section 1.2. Observations were made of watershed and vegetative conditions, stream channels and other drainage ways, conditions of erosion control structures, storm drain systems, inlet/outlet structures, revegetation efforts, and construction in residential areas.

Precipitation from July 1993 to June 1994 was 9.82 inches with most occurring from January through April (OCEMA, 1994). Although rainfall was below normal, it was enough to produce substantial cover of post-fire annual and perennial herbs and grasses on all burned areas. Crown-sprouting of chaparral and coastal sage scrub was also common, as 50 percent or more of the shrub species of each plant community have crown-sprouting ability (Westman 1981). However, perennial vegetative cover was less than 20% in most burned areas observed. On Irvine Company Open Space Reserve land, the majority of the burned stems and branches of shrubs and trees have been removed.

In early January, 1995, tropical storms separated by days of clear weather have encouraged the growth of annual grasses in many of the areas. Many of the watersheds are now in better hydrologic condition and, after this year, may not require extreme protective measures.

Stream channels with permanent or intermittent flow have largely revegetated with native, woody riparian species. Ephemeral channels have little to no regrowth.

The majority of the gravel or sand bag barriers, straw bales, and straw bale/sand bag check dams have been removed within the jurisdiction of the City. Remaining sand bags were in poor condition. Straw bale/sand bag check dams were still in place in areas under County jurisdiction. Most of these were loose and unstable, and the bales, bags, and anchoring stakes were in various stages of deterioration. Locations of the barriers and dams will be discussed in Section 3.3. of this report.

Certain natural channels and storm drain systems do not have adequate capacity to transport large flows and/or excessive sediment and debris loads. The Laguna Canyon channel has been designed for the 4% (25-year) flood and is inadequate for larger floods (FEMA 1985). Hydrologic analysis indicates that drainage systems in Canyon Acres, Park Avenue, and Irvine Cove have capacity to only carry runoff from the 50% (2-year) storm events (WCC 1993). The downtown area has culverts that are also undersized and historically cause flooding in the business area.

3.2 Discussion of Potential Erosion/Flood Risks

Twelve major watersheds were affected by the fire; five within the study area. The size of the five watersheds is significant - the area east of Laguna Canyon Road has an estimated 700 acres and the area west of Laguna Canyon Road has over 1500 acres.

Fire intensity, soil characteristics, presence of water repellent soils, steepness and length of slope, and duration and intensity of rainfall all affect the amount of erosion after a fire. A good vegetative cover can greatly offset the effect of climate, soil, and topography on erosion, although revegetation may take several years. The amount of erosion also depends on the time elapsed since the fire. Post-fire erosion may be significantly greater than on a well-vegetated watershed.

Increased peak flows created by fire-denuded slopes are responsible for accelerated erosion and flood damage. Scouring out of stream channels and overland flow contribute the greatest sediment yields (Radtke 1983).

The total volume of rainfall and rainfall intensity are both important when considering potential for flooding. In small watersheds such as those in the Laguna Beach fire area, a storm event which produces a large volume of rainfall in a short period of time will likely cause a higher peak runoff rate than a storm which produces the same volume of rainfall over a long period of time.

If the soil in a watershed is saturated by previous storm events, additional rainfall will runoff immediately rather than being infiltrated. This saturated condition increases the total volume of direct runoff and may increase the potential for erosion and debris flows.

A low percentage of vegetative cover will effect flooding by increasing the amount of direct runoff. A lack of vegetative cover on the hillsides also exposes a greater area of soil which is unprotected from erosion, thus increasing the sediment load in the storm flow runoff.

As sediment is added to the direct runoff, through sheet, rill, and gully erosion, as well as streambank and streambed erosion, the total volume of runoff increases, or is bulked. Debris such as rocks, limbs and foreign matter (furniture, shopping carts, etc.) also bulk the storm flow volume. These additions to the storm flow will increase the volume the direct runoff, often overtaxing the storm drain system.

Restrictions in the flowpath such as brushy areas, debris, and undersized culverts and storm drain entrances, reduce the rate at which the storm flow can travel, sometimes completely blocking the flowpath. With the channel restricted, the flow often overtops its banks and floods the surrounding areas. When the restriction suddenly gives way, the surge of storm flow can move very rapidly and with great force, and may cause severe damage downstream.

These five factors, singularly and in combinations, can create the potential for localized and widespread flooding.

All of the study areas exhibit a high potential for localized flooding. Those areas which are expected to experience significant flooding and have the highest potential for damage, include Laguna Canyon Road, Canyon Acres, and Park Avenue/Browncroft. Although significant flooding is also expected in the Emerald Canyon area of Emerald Bay, damage would be minimal.

3.3 Recommended Protective Measures

The following recommendations are based upon a field reconnaissance of the burned area conditions and initial protective measures, review of Damage Survey Reports and the WCC Plan, and discussions with City and County representatives and NRCS personnel initially involved with the EWP program. Protective measures are recommended on an area-wide basis and a site-specific basis for individual burned areas.

For all areas, it is recommended that sandbags are installed to prevent sediment from leaving burned lots that are vacant, unvegetated, or currently under construction. Sandbags should be installed around the lot perimeters and loose piles of soil should be covered and surrounded with sandbags. Loose fill material and other debris can contribute to the sediment load in channels carrying storm runoff.

Many of the straw bales, used last year for debris barriers, are unstable and may move during a storm event. The bales that are loose should be removed and may be spread for mulch on site rather than being hauled off site and disposed.

Recommended protective measures and additional field observations for individual burned areas are as follows:

Laguna Canyon Road Burned Area - Maps 1-6, 12

* General recommendations:

The preferred alternative is to improve and expand the existing drainage system. Drainage should be provided from the north side to the south side of road and continue through the existing businesses and residences in a safe manner. The existing channel on the south side of the road should be extended and expanded to carry larger storm event volumes. This could possibly be done by increasing channel capacity while keeping the stream in as natural a state as possible, but further investigation would need to be completed. This alternative may not be economically feasible for the City and County to accomplish, but would provide the best flood control for the area which has historically experienced flood events during non-burn years.

If the drainage system is not improved, structures located along the south side of the road could be protected by pipe and plywood deflector walls and sandbags. These measures are needed to direct flow between buildings and into the existing flood channel and prevent flow from damaging the structures.

Straw bales and silt fences located along the north side of the road should be removed. The stakes that secured the bales in place have rotted and the

bales have the potential to move during a storm event. The loose bales, if they enter the drainage system, may plug culverts and cause flooding. The hydrologic condition of this area has greatly improved in recent months and the soil has been stabilized by vegetation.

* Specific areas:

Toll Road Construction Site - This site is contributing sediment to the stream channel. Complete construction site erosion control measures should be implemented and maintained during the duration of construction.

Sun Valley (Map 2) - This area was flooded during the storms of January 4th and 10th, 1995, and many of the homes were damaged by flood waters. The channel through this area is undersized and should be expanded to carry a larger flood event. If this is not feasible, the circular metal pipe culvert at the upstream end of the area is undersized and should be replaced with a box culvert or bridge with greater capacity. Homes located adjacent to the stream channel should be well protected with sandbags and pipe and plywood deflector walls.

Art Institute (Map 4) - The east side of the Art Institute should have a permanent drainage system installed to convey flows out to the existing drainage system. This could be located along the north-east edge of the property, diverting flow from the canyon that now floods the parking lot. Structures should be sandbagged to prevent water damage. As a temporary measure, an optional alternative is to install "K-rails" across the north end of the parking lot, creating a temporary storage area for sediment and debris. The rails would provide better protection than existing measures but would need to be cleaned out after every storm event. If nothing else is done, the existing straw bales and sandbags should be repaired or replaced as necessary. Many of the bales are loose and rotted and need to be replaced with new bales. The west side of the Art Institute should have a row of sand bags, 2 wide and 2 high, installed along the existing line of concrete rubble. The area behind this line should be regularly cleaned out to provide maximum protection. Buildings should be sandbagged to prevent damage.

Southern California Edison Morro Substation (Map 6) - K-rails and sandbags have been installed around three sides of the substation, providing a good degree of protection. Damaged sandbags should be replaced as necessary. The silt and chainlink fencing should be removed from the drainage channel. The fencing may fail, plugging downstream culverts and causing flooding.

Act 5 Parking Lot (Map 6)- Silt and chainlink fences should be removed from the channel. All of the fences have failed, allowing water around the sides and causing severe erosion to the channel side slopes. The fences may come loose, plugging downstream culverts and causing flooding. The apron on the gabion structure is being undercut and needs replacing. Future flow will increase the amount of undercutting and could cause structural failure. The trash rack, upstream of the culvert inlet, is in good condition.

Irvine Bowl - The grouted rock apron below the upper trash rack washed out during the January 4th and 10th storm events. The apron should be replaced with large, (24" or greater), loose rock installed in the area the apron was lost. Installation of the rock is crucial to prevent further damage

to the structure. Both racks need to be cleaned out on a regular basis to maintain the maximum storage volume.

Canyon Acres Burned Area - Maps 6 & 7

* General recommendations:

The existing channels in the area should be expanded to increase capacity. All of the channels and culverts are undersized and could flood in a relatively small storm event. Sandbags used as protection for residences last year should be replaced as necessary. Sandbags should also be installed around lots under construction to prevent debris runoff from entering the drainage system. Sandbags placed in any channels should be removed. Many of the sandbag check dams failed in the January storm events, adding material to the debris flows. Remaining bags should be removed to prevent additional debris in future flows.

* Specific areas:

Canyon Acres - A grade control structure should be installed at the upstream end of Canyon Acres to reduce downcutting in the channel bottom. This structure could incorporate a grade drop, small sediment storage basin and a road crossing for access to homes and roads on the north side of the channel. This structure would need to be maintained on a regular basis.

Milligan Avenue - The preferred, long term alternative would be widening the channel to increase capacity and replacing the existing sandbags with K-rails. An optional alternative would be to replace sandbags as needed, though this would not provide the protection channel expansion would.

Canyon Acres Drive and Lewellyn Drive - Remaining black plastic should be removed from the hillsides. The plastic prevents revegetation on the slope and increases runoff by preventing the soil from absorbing and storing the water.

Arroyo Street - All straw bales that are loose and unstable on the hillside above the homes should be removed. These bales may fall down the slope, causing injury, or may plug culverts and induce flooding. Replace or repair sandbags behind houses (along wooden fences) adjacent to the flood control channel to prevent overflow from the channel causing damage.

Mystic Hills/Skyline Drive Burned Area - Map 8

* General recommendations:

Approximately 80% of homes that burned last year are now under construction. Erosion control measures should be implemented during construction, as loose sediment and fill material could be a large contributor to the drainage system during heavy rains. Any lots that are under construction, vacant, or unvegetated should have protection measures installed.

* Specific areas:

Skyline Drive and Samoa Way - Sandbags have deteriorated and are unstable, and should be removed from the hillside below the roadways. They may fall down the hillside, enter the storm drain system, and cause plugging.

Skyline Drive - Sandbags are no longer needed along the road and should not be replaced. Many of the lots, which had been left bare after the wildfire, are now being rebuilt. Bagging along the roads is unnecessary if construction site erosion control measures are installed to control runoff from these lots.

Park Avenue/Browncroft Burned Area - Maps A, 8, & 9

The small watersheds within this burned area have experienced very rapid vegetative recovery and the hydrologic condition has greatly improved.

* Specific areas:

Park Avenue - All straw bales and silt fences adjacent to the roadway should be removed. These are unstable and may move from their present locations. The bales behind the K-rails may fall into the area behind the rails, decreasing storage that may otherwise be used for sediment storage.

Coral Drive and Park Avenue - Remove all sandbags on slope between these roads. Sandbags are unstable and may cause a hazard to motorists.

Griffith Way - This street should have a permanent drainage system installed to direct and control flows that now travel along the roadway. All residential sandbags should be maintained or replaced with pipe and plywood deflector walls along the edge of the roadway. A two foot tall headwall should be installed behind 605 and 610 Griffith Way. An inlet structure located behind these homes is set at an elevation only slightly lower than that of the homes and may plug and cause flooding.

945 Park Avenue - Masonry or pipe and plywood deflector walls should be placed behind the residence on Park Avenue and the doorway should be sandbagged for additional protection. The flow path from the Park Avenue overflow is only three inches below the lower story glass doorway, and water flowing through may cause damage to the home.

Hidden Valley Canyon - All loose and unstable straw bales on the hillside should be removed, as they are a hazard to the residents below. Straw bales may be opened and the straw spread for mulch on site.

High Street Area between Boat Canyon and Laguna Canyon - Map 12

* Specific areas:

Unnamed canyon - Three debris fences that were installed have collected sediment and should be cleaned out. Several straw bale/sandbag/silt fence

check dams were also installed in the canyon. These need to be periodically monitored and maintained. The Irvine Company recently installed sandbags for those that were undermined.

High and Locust Streets - Replace residential sandbags along the roadways to protect homes from flows.

Lookout Drive Burned Area - Map 12

Sandbags and silt fences have been removed by the Fire Department and are no longer necessary.

Emerald Bay Burned Area - Maps 13 & 14

* Specific areas:

Emerald Canyon - The pipe and timber debris/sediment barrier installed in the Emerald Canyon drainage was damaged and buried in the January storms. The channel bottom has stabilized and there is no need for the structure to be repaired.

The chain link fence across the channel near the tennis courts should be removed. It has failed in the January storms and could plug a culvert located downstream. The fence was protecting the culvert that, if it plugs, would cause little damage that would be limited to clean up. The fence could be replaced with a pipe trash rack.

Emerald Bay, North - Sandbags should be replaced at the following residences to provide protection from flood waters: 911 Shamrock, 1423 to 1425 Knockadoon (2 bags high/1 wide), 1005 Knockadoon (2 bags high across driveway, 1 high across curb).

Sandbags should be installed around any lots that are under construction or vacant to prevent runoff from contributing sediment and debris to the drainage system.

Windsor Drive - Residential sandbags should be replaced to prevent damage to the structures.

Pinecrest Drive - Residential sandbags should be replaced at the following addresses: 365 through 395, 401, and 407. Sandbags have been replaced by the Fire Department in the Open Space Reserve area.

Irvine Cove Burned Area - Map 14

* Specific areas:

The silt fence installed at the northeast boundary of the residential area is in good condition and may remain in place. The fence should be inspected regularly and maintained as needed.

Irvine Cove Crest Road - The sediment basin located east of the road should be cleaned out, enlarged to the east and a grouted rock inlet structure added. The sandbags placed across the outlet structure should be removed. They are causing the drop structure to plug and they could fail in the event of heavy debris flows. Sandbags should be installed across driveways and curbs at homes west of Pacific Coast Hwy., downstream of canyon (102 Irvine Cove Dr. and 2501 Monaco). The series of straw bale/sandbag check dams located in the channel above the sediment basin should be removed. Some of these dams have failed while others have deteriorated and headcutting has occurred, increasing the chances of failure of the remaining dams.

El Moro Burned Area - Map 15

* Specific areas:

The temporary trash rack, installed in El Moro Canyon on California State Park land, failed in the January storms. A headcut developed at the Pacific Coast Highway crossing, eroding upstream to the structure in a wedge shape. The cut was up to ten feet deep at the structure, undermining the rack, and causing failure. The State Park agency has requested that the County remove the remains of the structure. Grade stabilization structures may be installed to prevent future headcutting in the channel but a hydraulic and hydrologic study should be conducted before anything is installed in the channel.

Straw bales originally placed adjacent to the stream corridor have been removed and new mobile homes have been installed. Straw bales need not be replaced.

Sandbags at the north and east ends of the trailer park should be replaced, to divert water flow away from homes.

Crystal Cove Burned Area - Map C

This area was heavily damaged by the January 1995 storms. Flows through the channel eroded the side slopes, undercutting five homes, washing out a foot bridge, and undermining the edge of the Pacific Coast Highway expansion. The vehicle bridge has also been undermined and may be in danger of failure from future storm events. Channel side slopes need to be stabilized and protected from future flows and both bridges need to be strengthened and protected. The California State Park agency is aware of the damage and is addressing the problem.

APPENDIX A

FIRE PERIMETER MAP

and

STUDY AREA MAP

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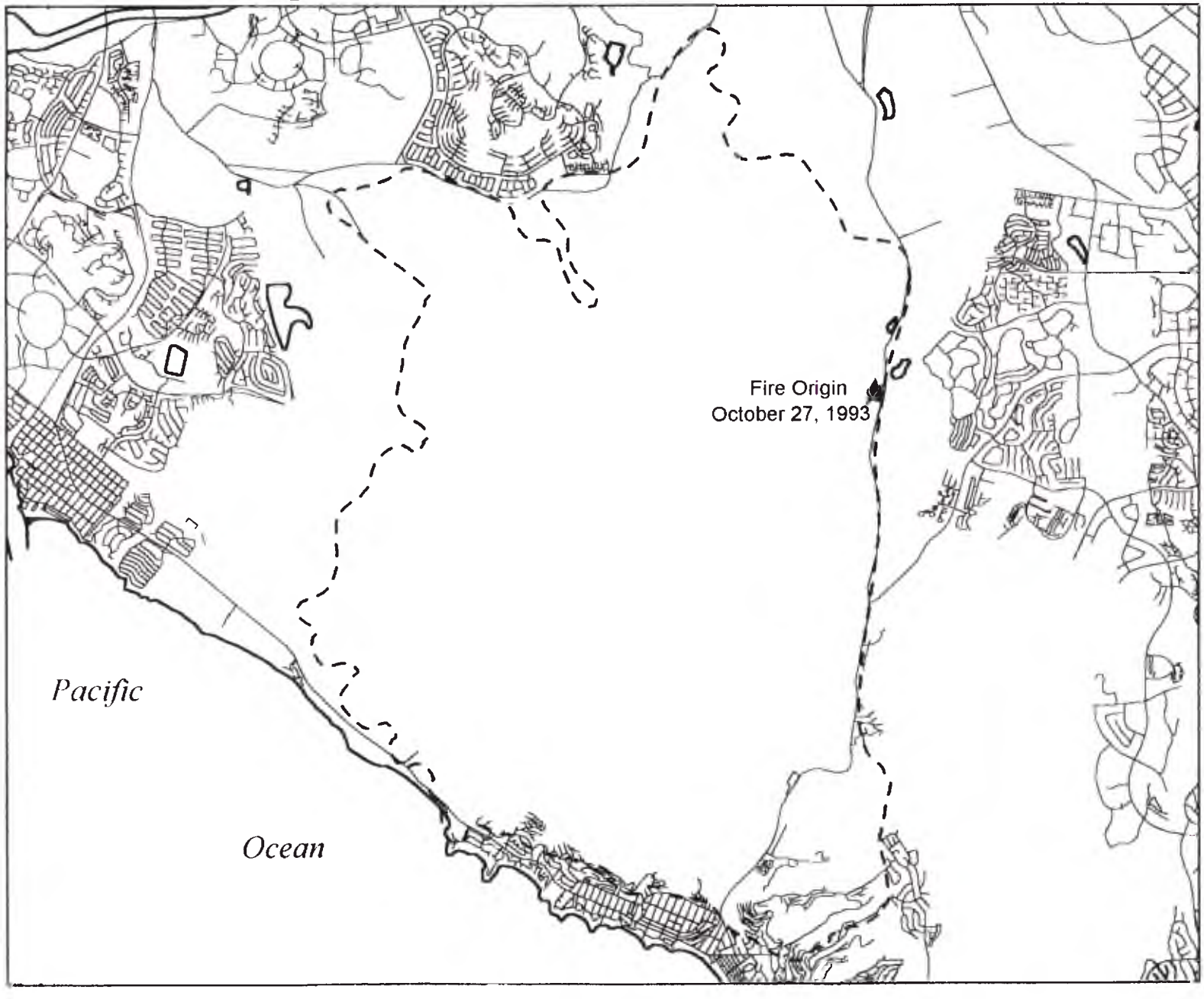
Study Area

Laguna Beach Fire Perimeter October 1993



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- Fire Perimeter
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Fire Perimeter From BLM
Overflight Nov. 5, 1993

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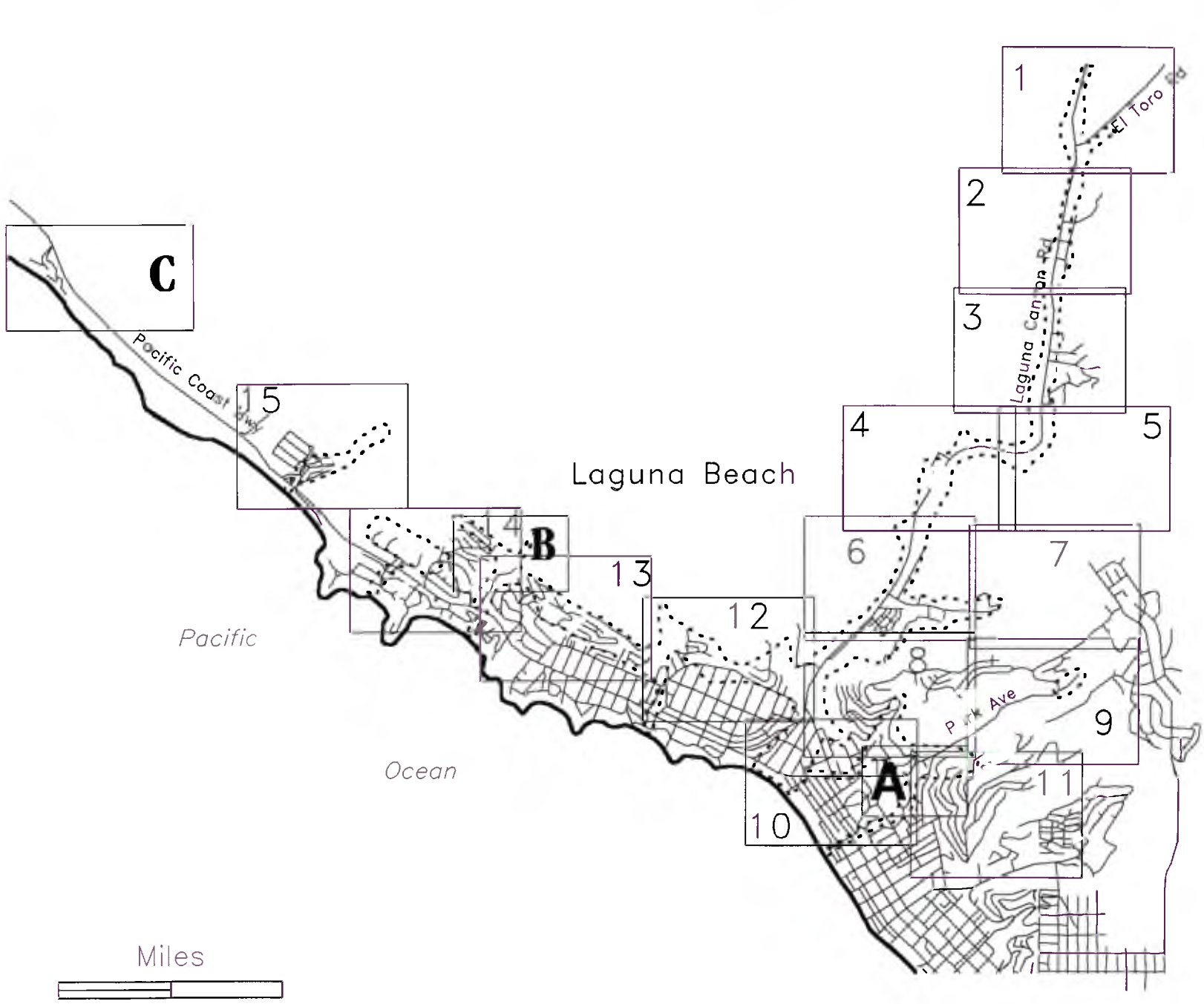
APPENDIX B

MAPS OF INITIAL FLOOD, EROSION AND SEDIMENT CONTROL MEASURES



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High Risk of Flood or Mudflow

High Risk Data Provided by Woodward–Clyde Consultants.

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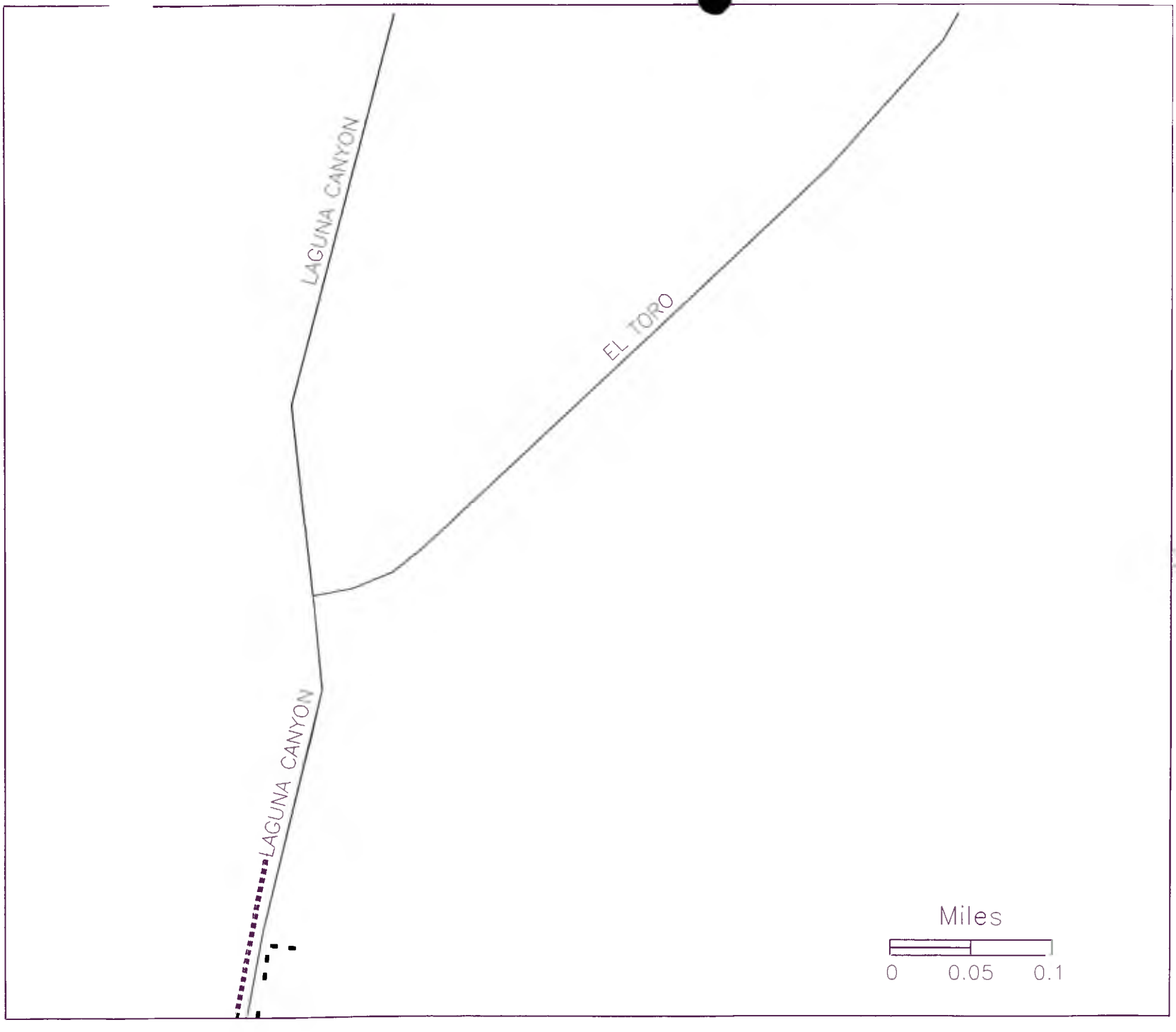

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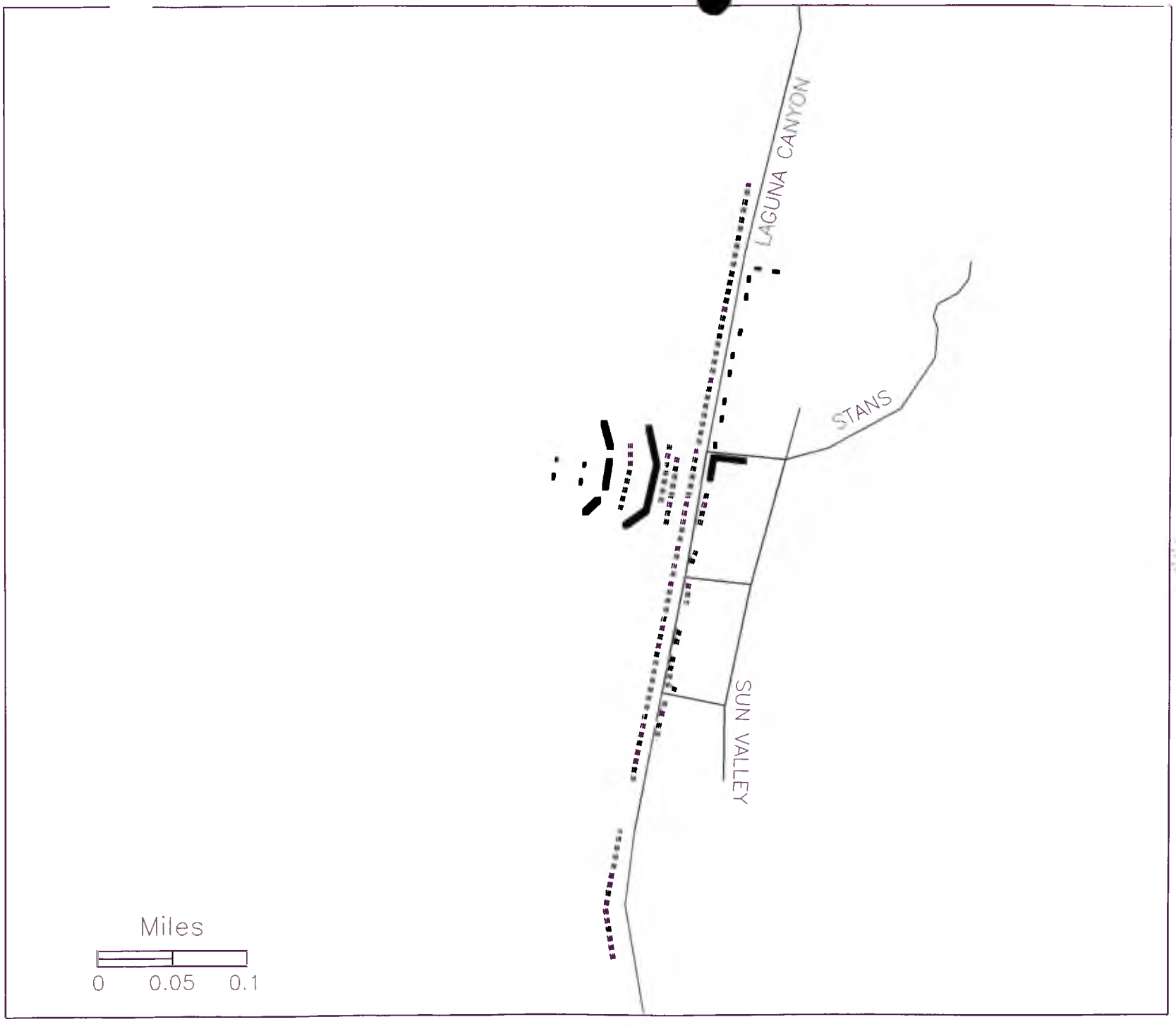

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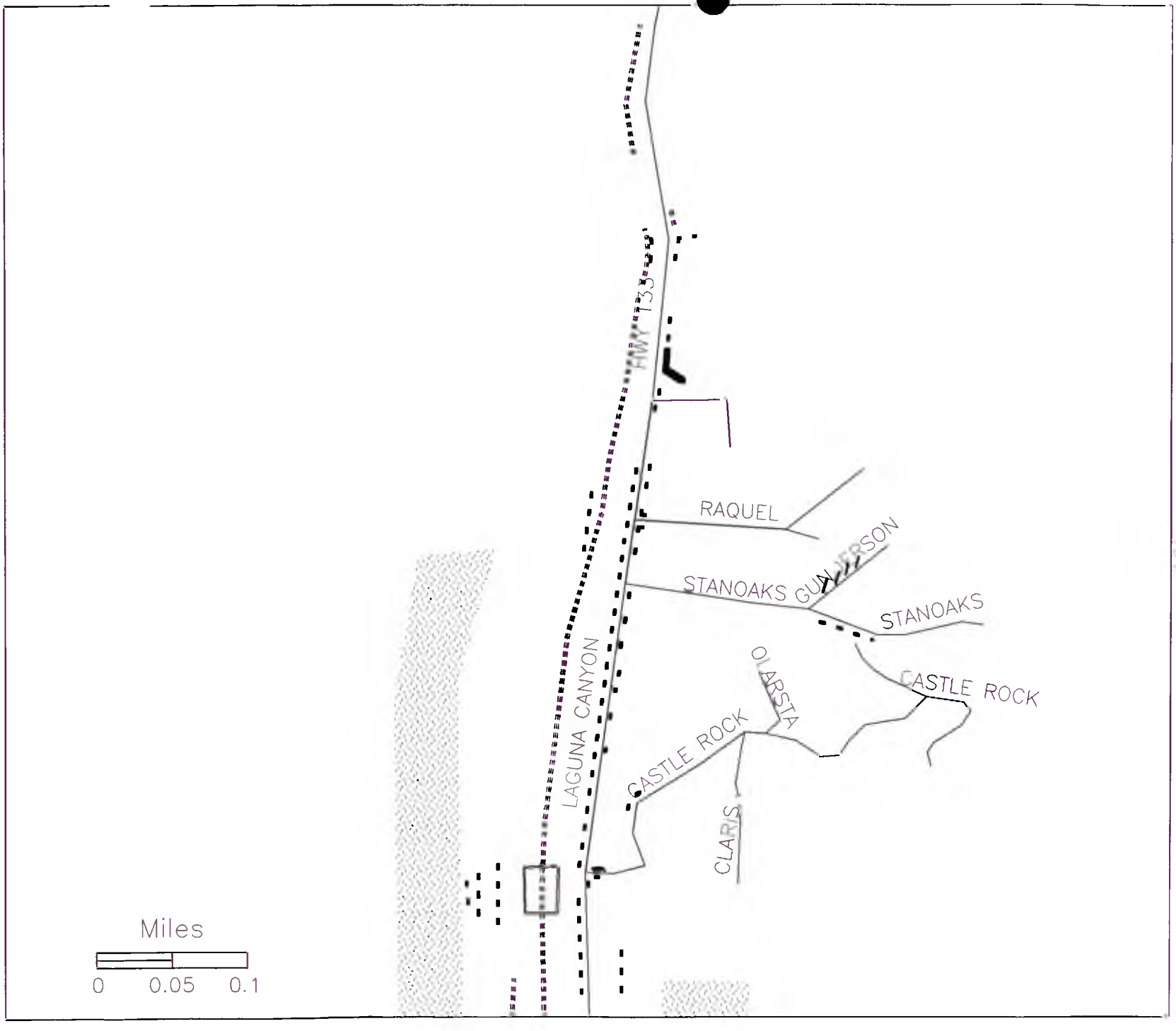

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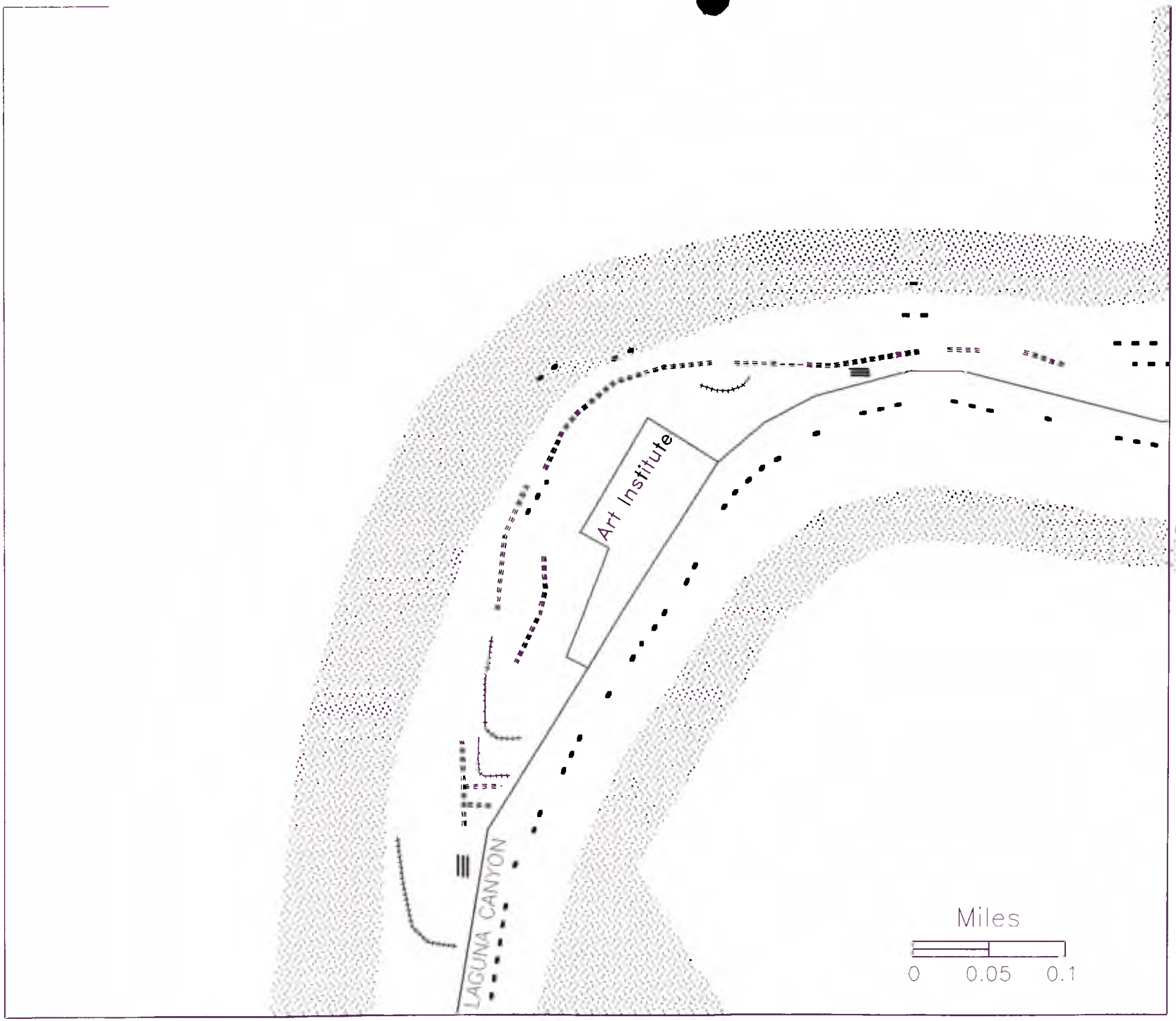

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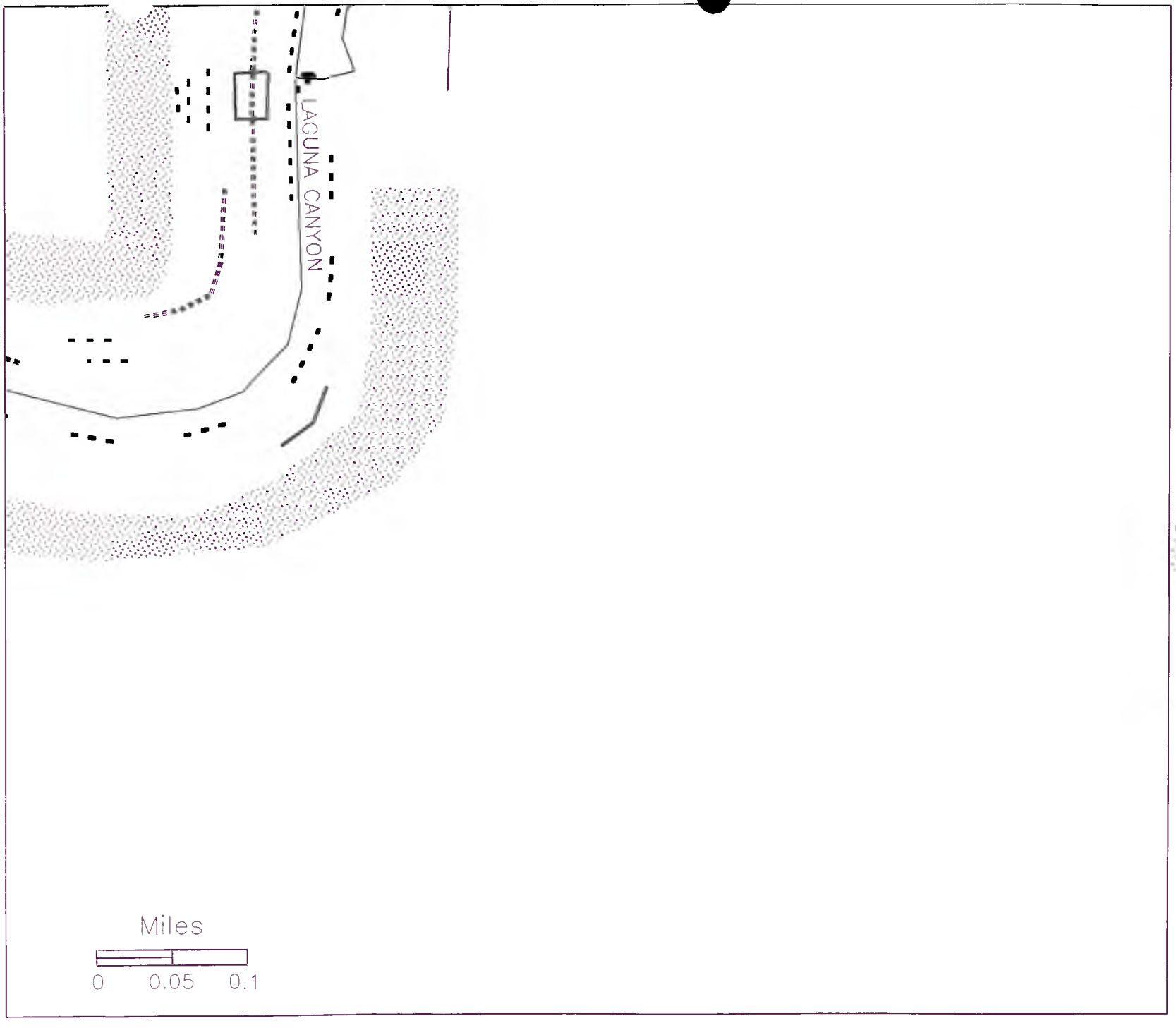

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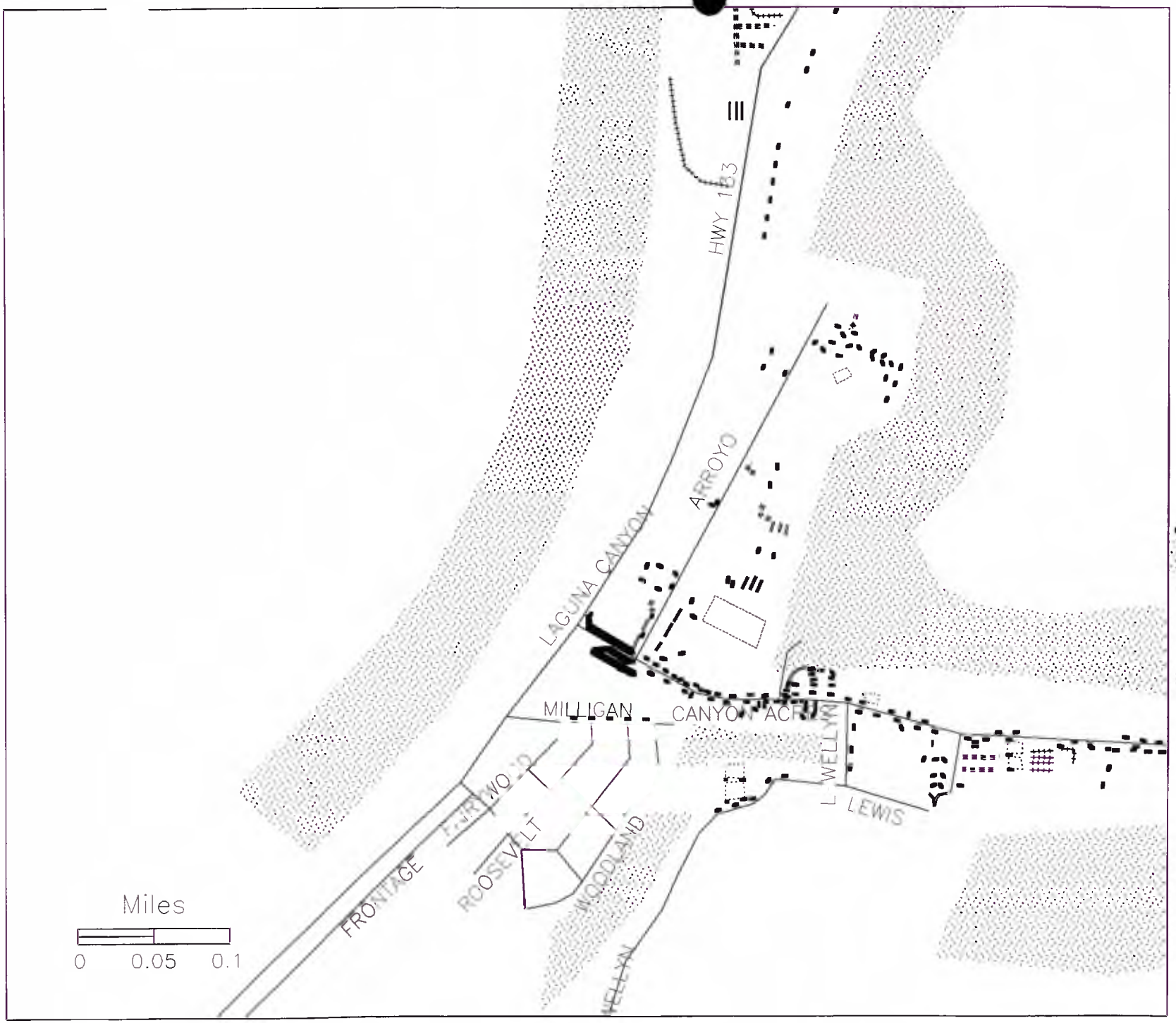

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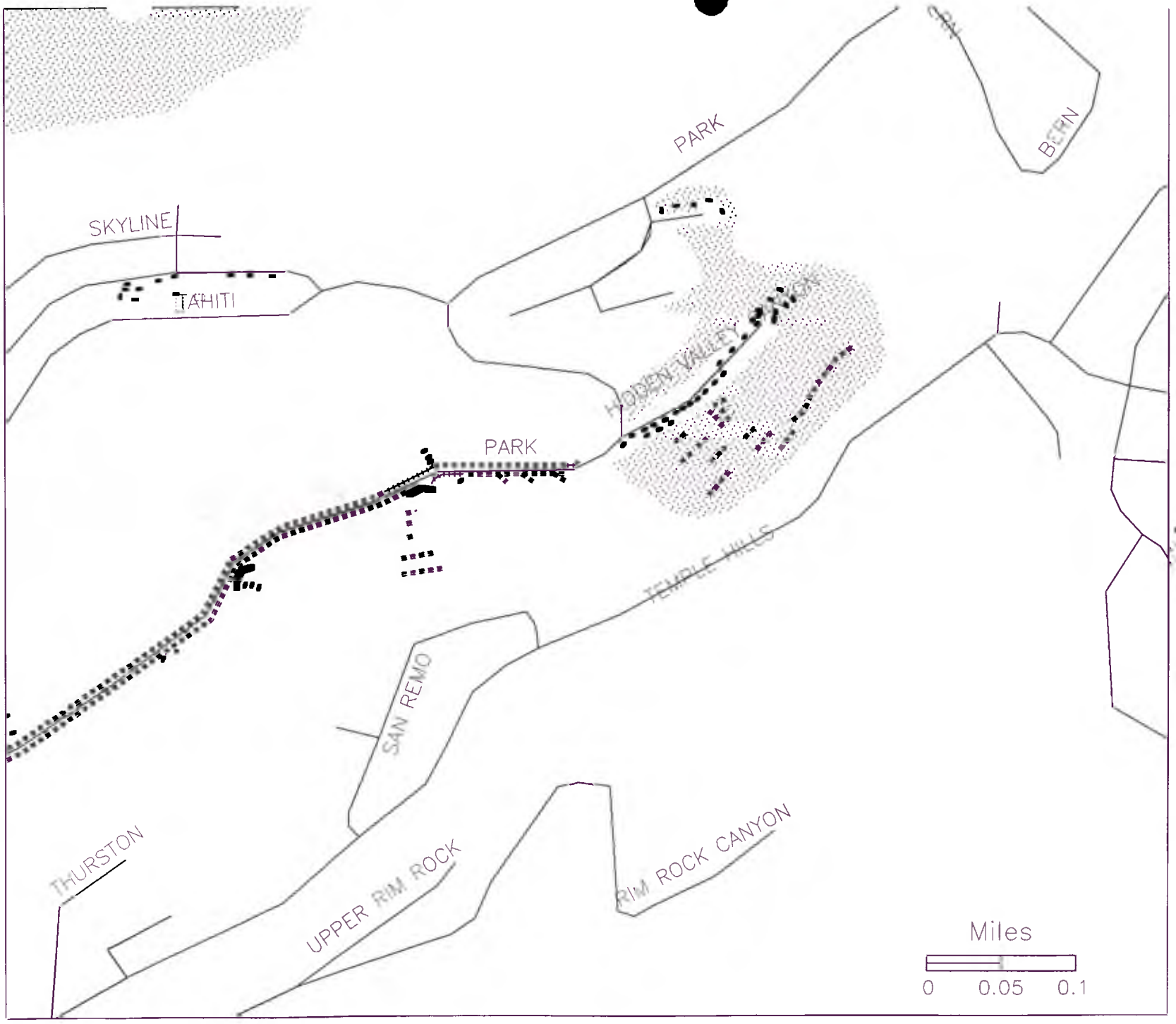

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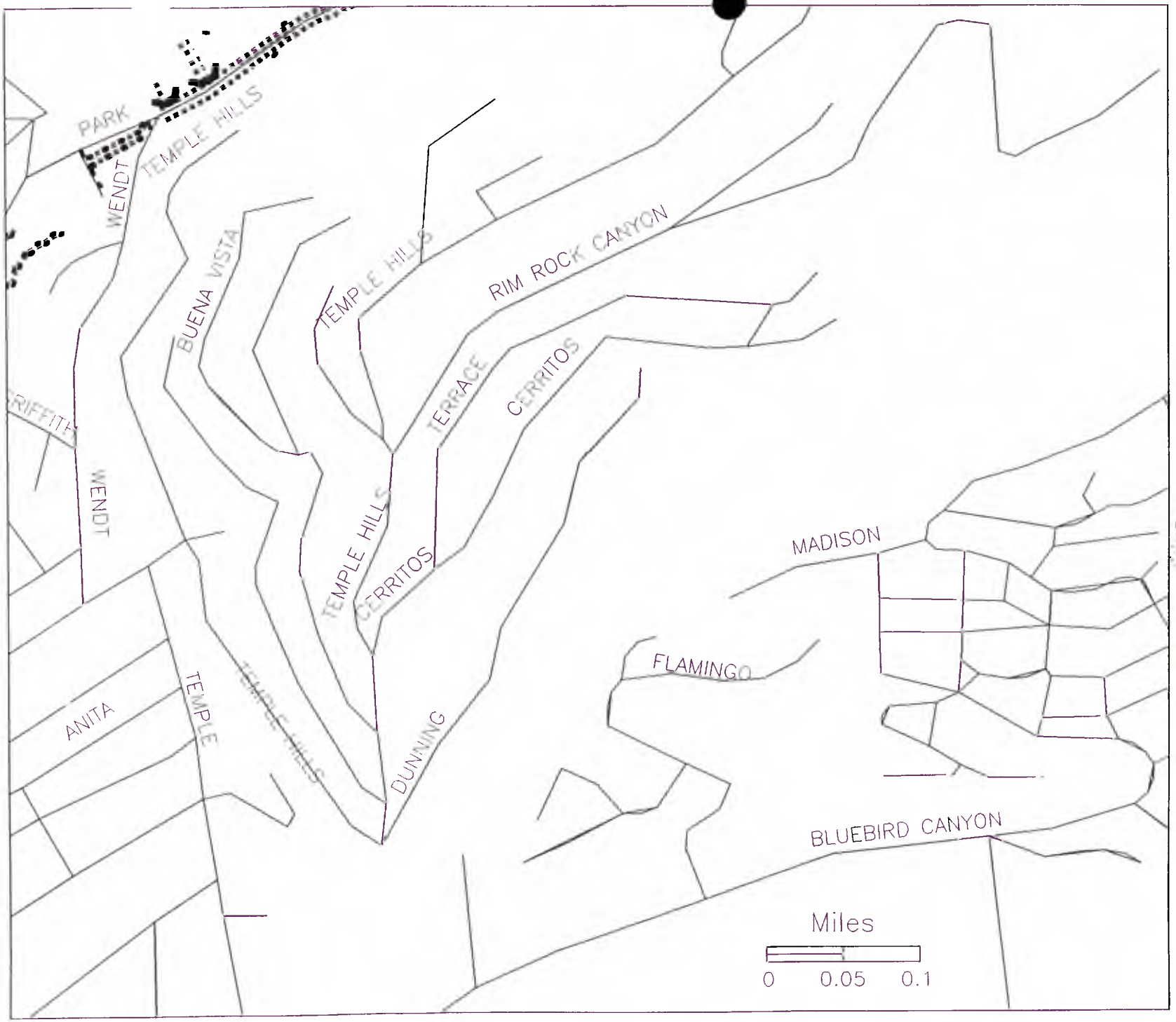

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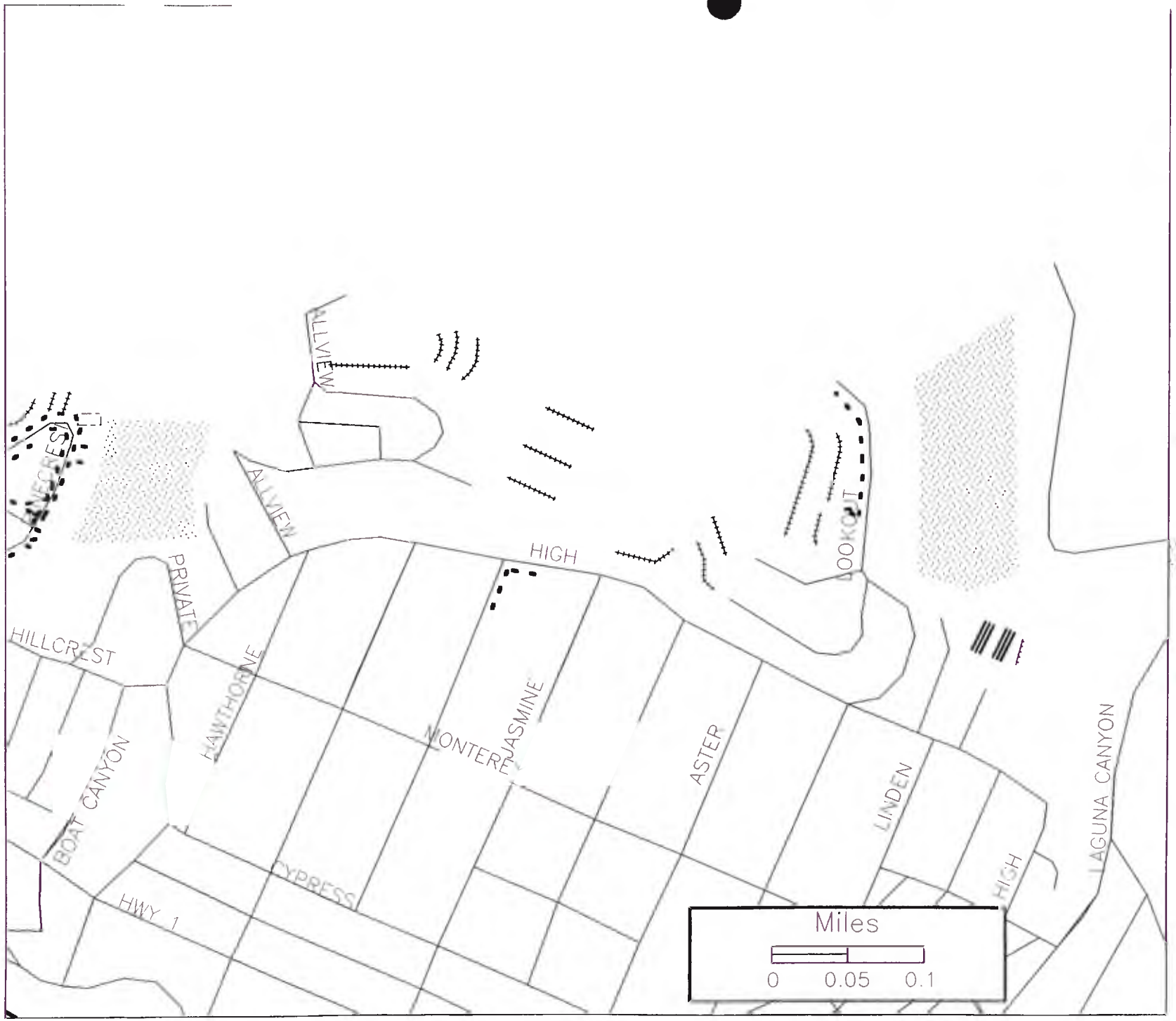

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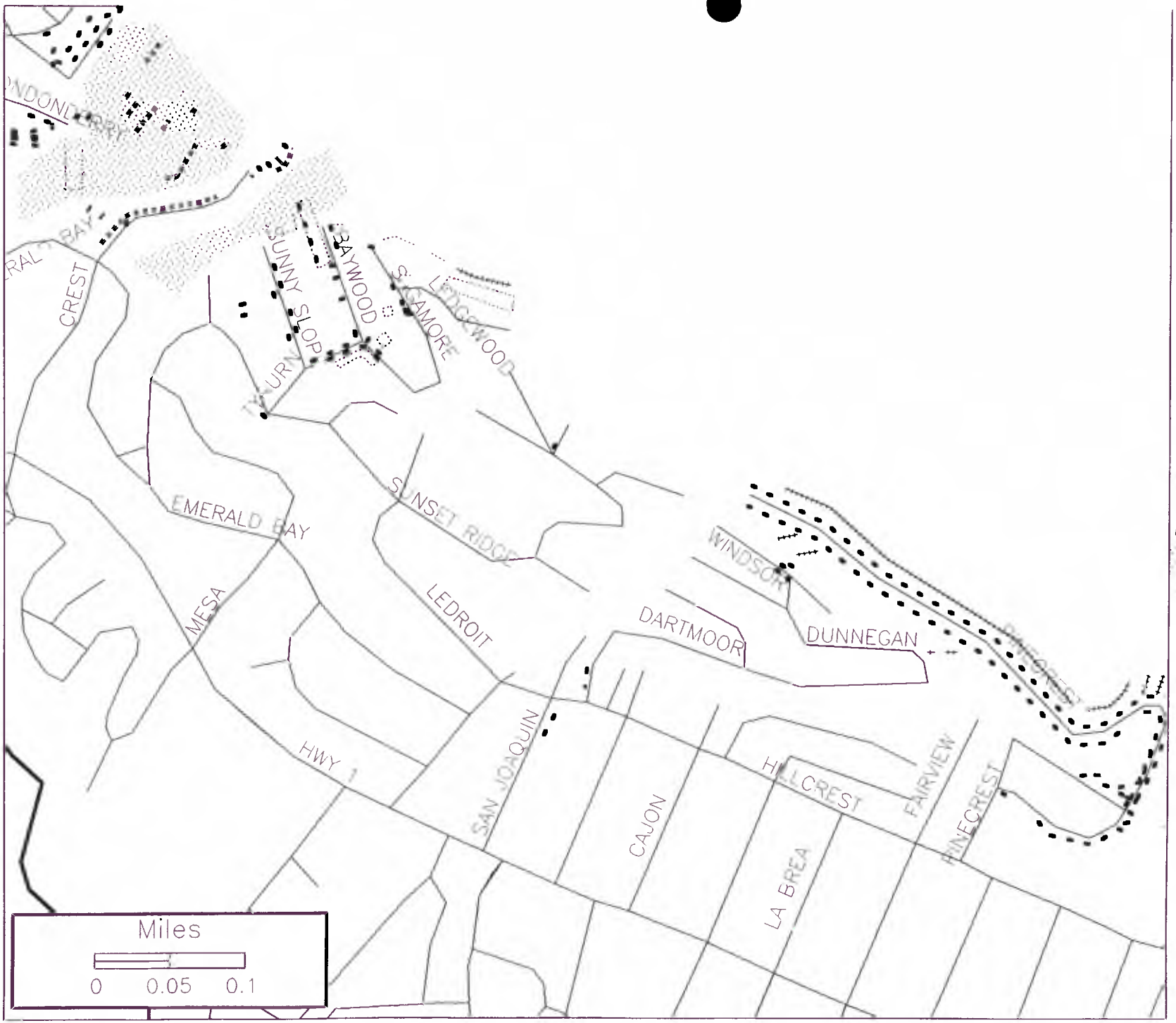

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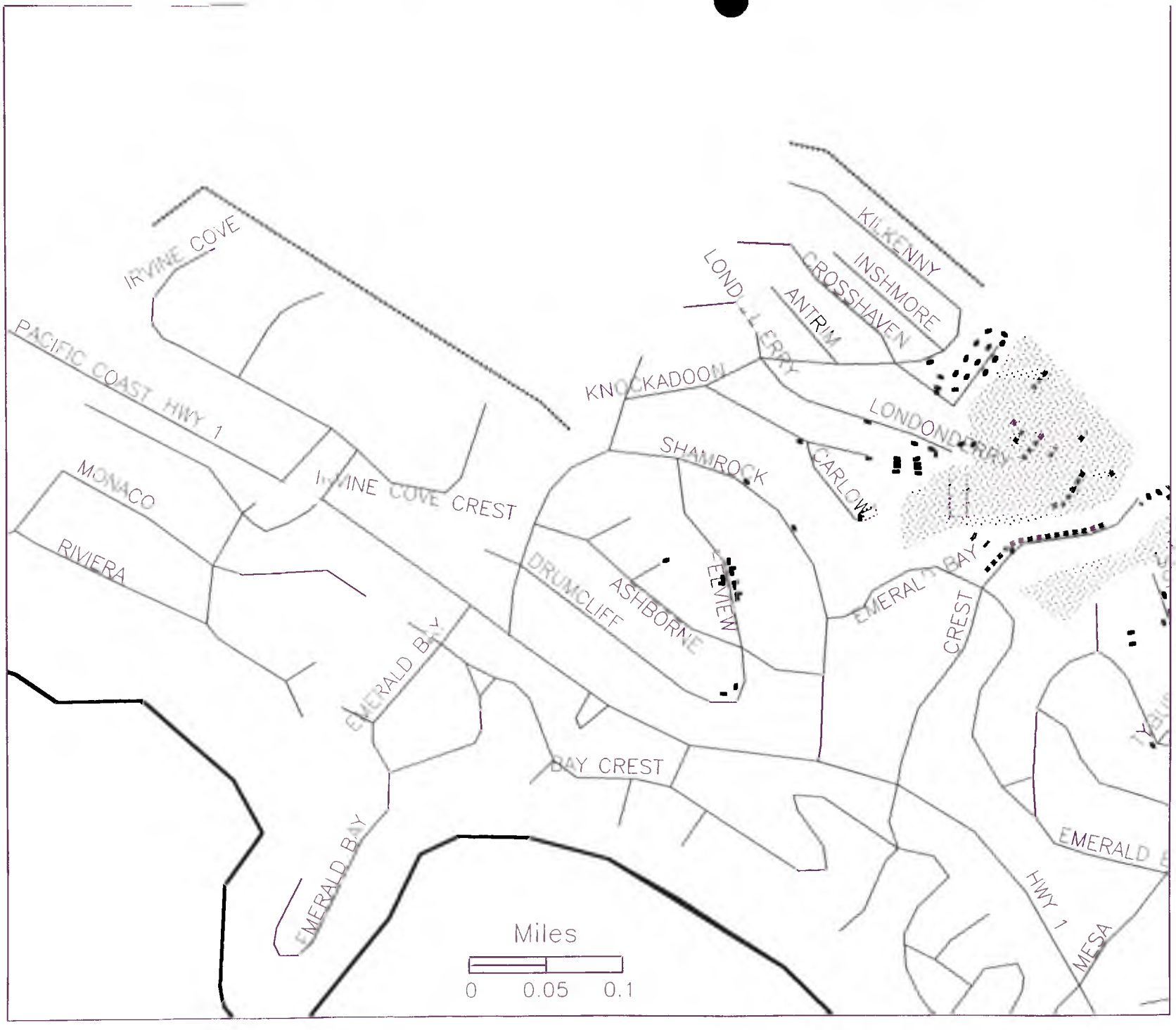

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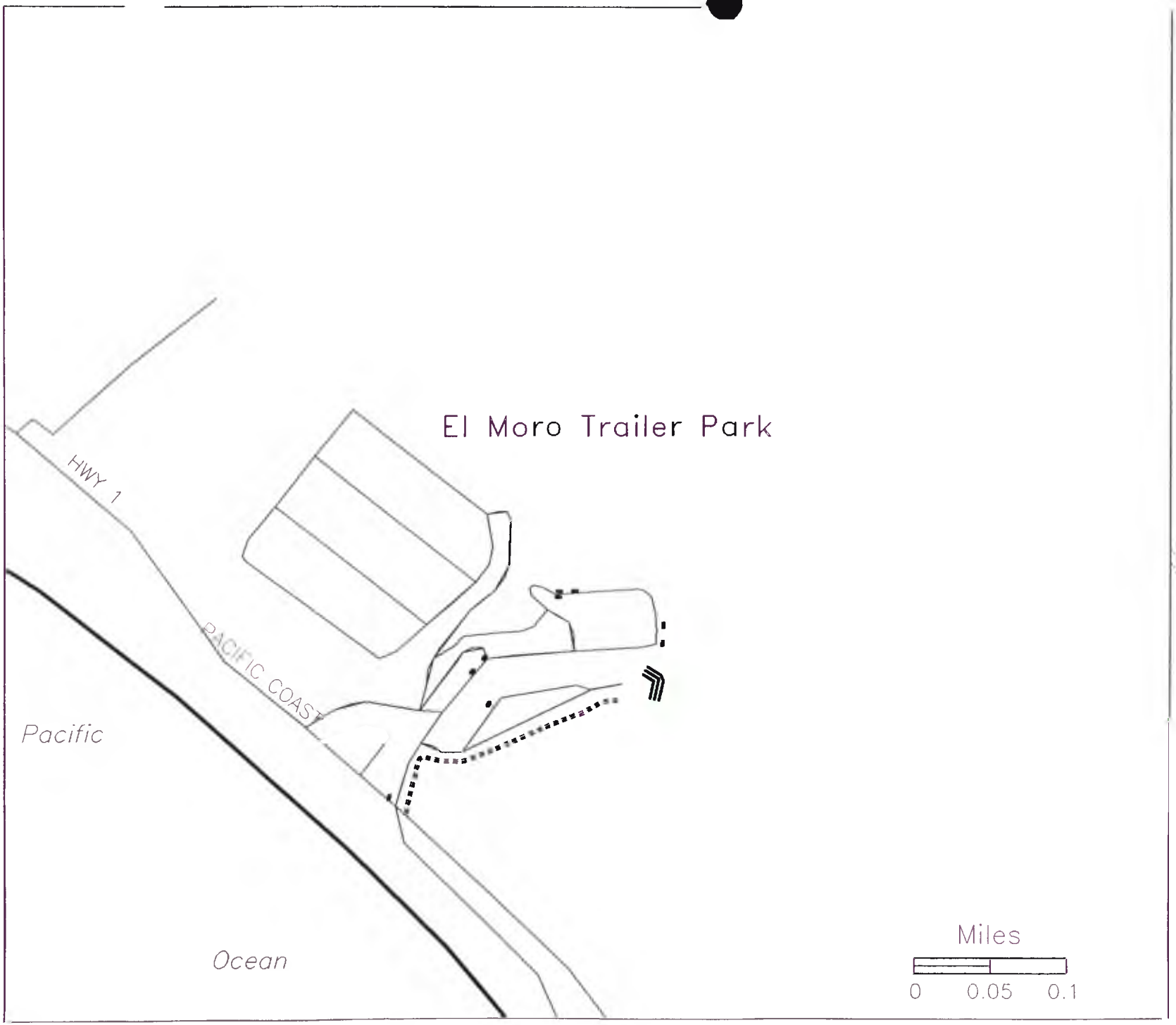

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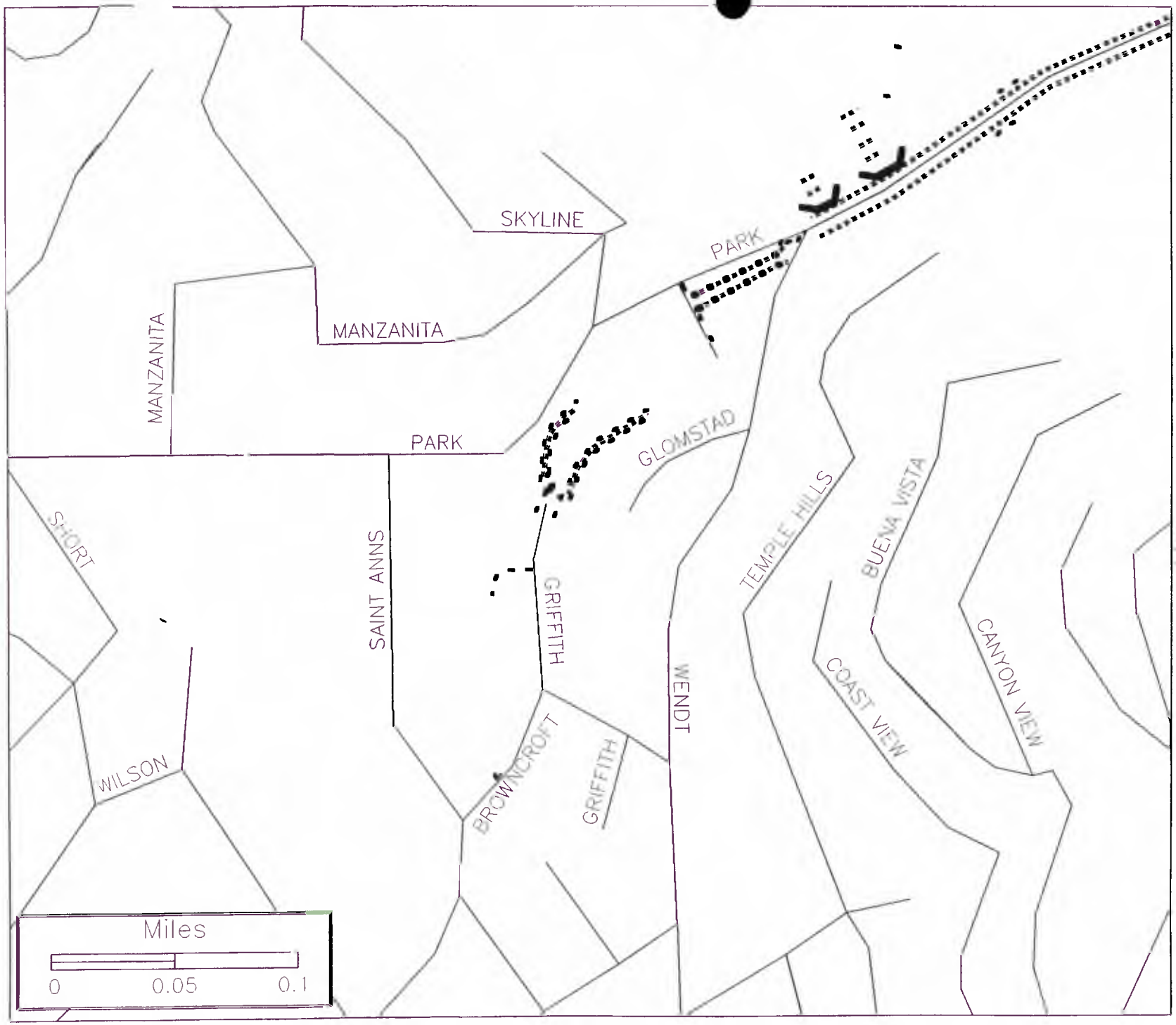

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- Deflector Wall
- K – Rail
- Hydroseeding
- Jute Fabric
- Drain
- Silt Fence
- Trash Rack
- Other

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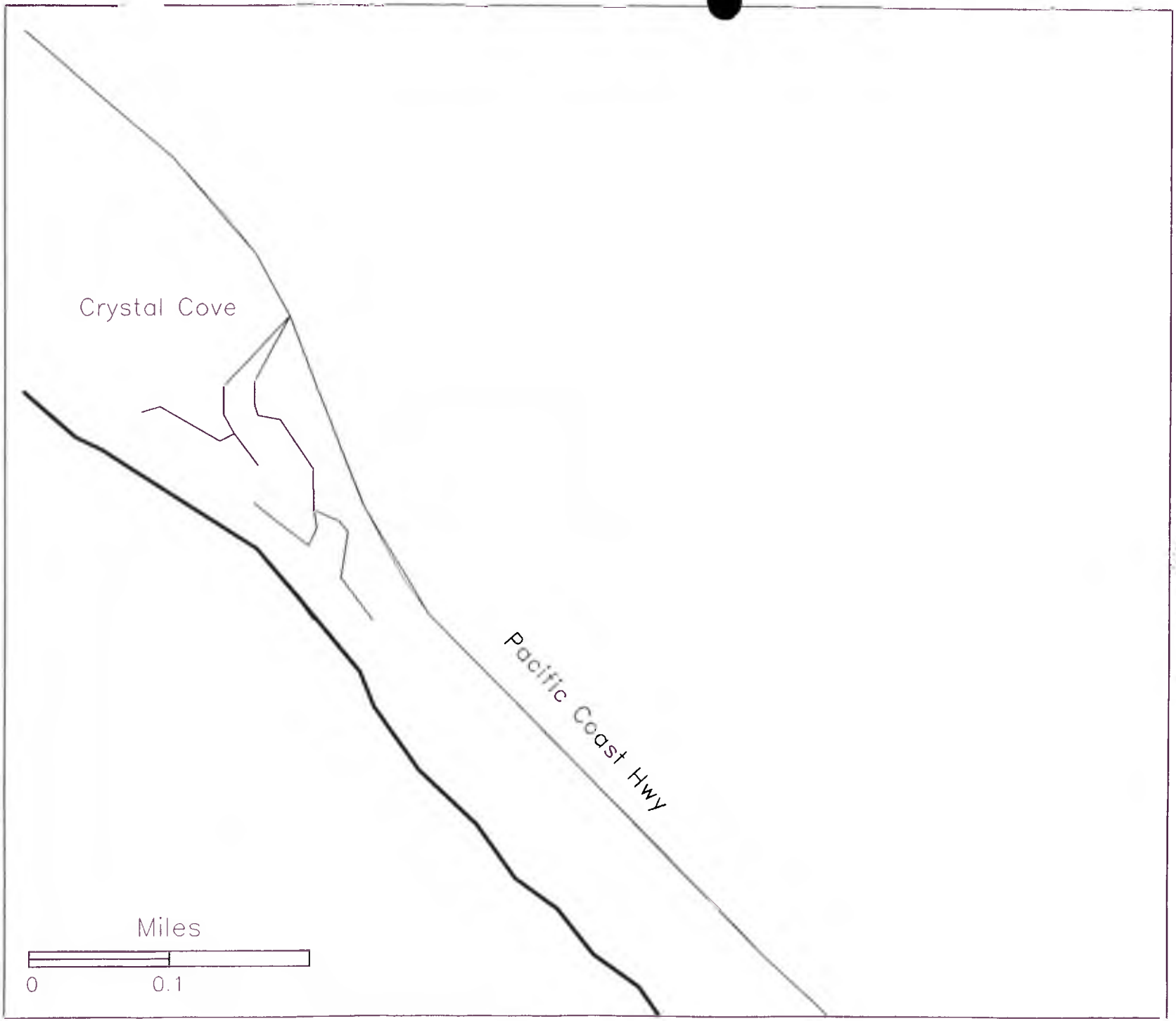

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Legend

- Sandbags
- Haybales
- Tarp
- Tarp & Sandbags
- Deflector Wall
- K – Rail
- Hydroseeding
- Jute Fabric
- Drain
- Silt Fence
- Trash Rack
- Other

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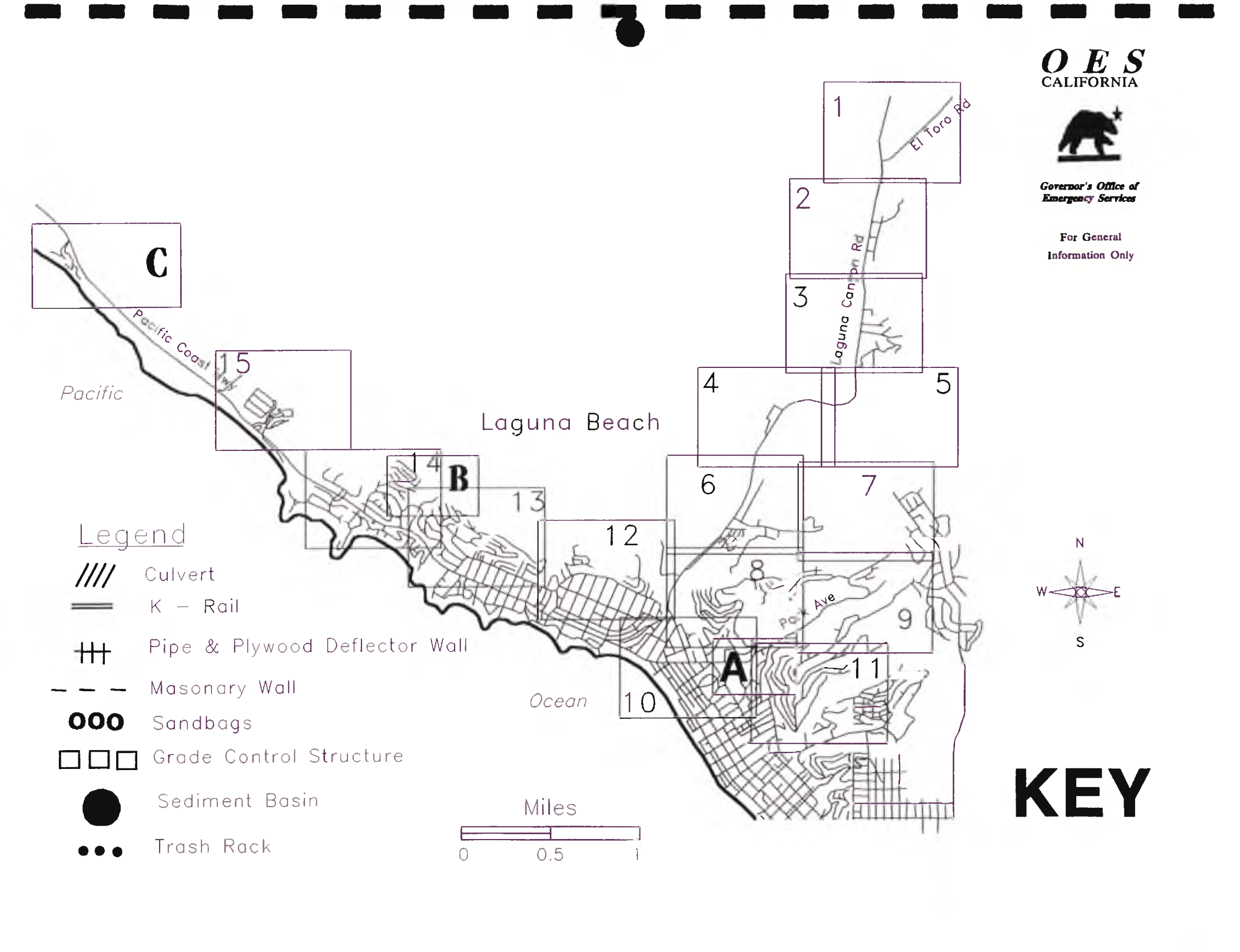
APPENDIX C

MAPS OF RECOMMENDED PROTECTIVE MEASURES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KEY
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Culvert
K – Rail
Pipe & Plywood Deflector Wall
Masonary Wall
Sandbags
Grade Control Structure
Sediment Basin
Trash Rack
Miles
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Pacific Coast Hwy
Laguna Beach
El Toro Rd
Laguna Canyon Rd
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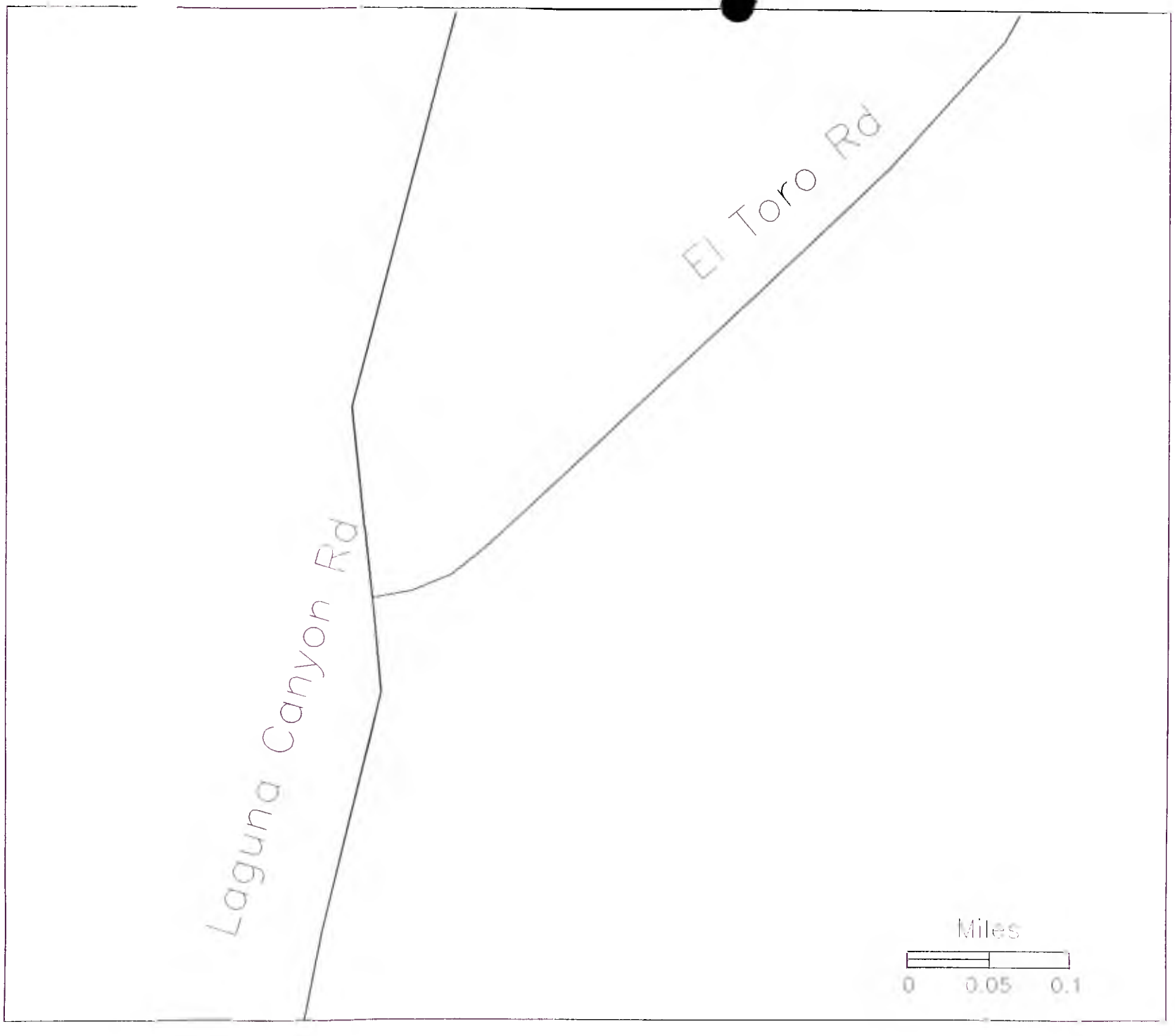

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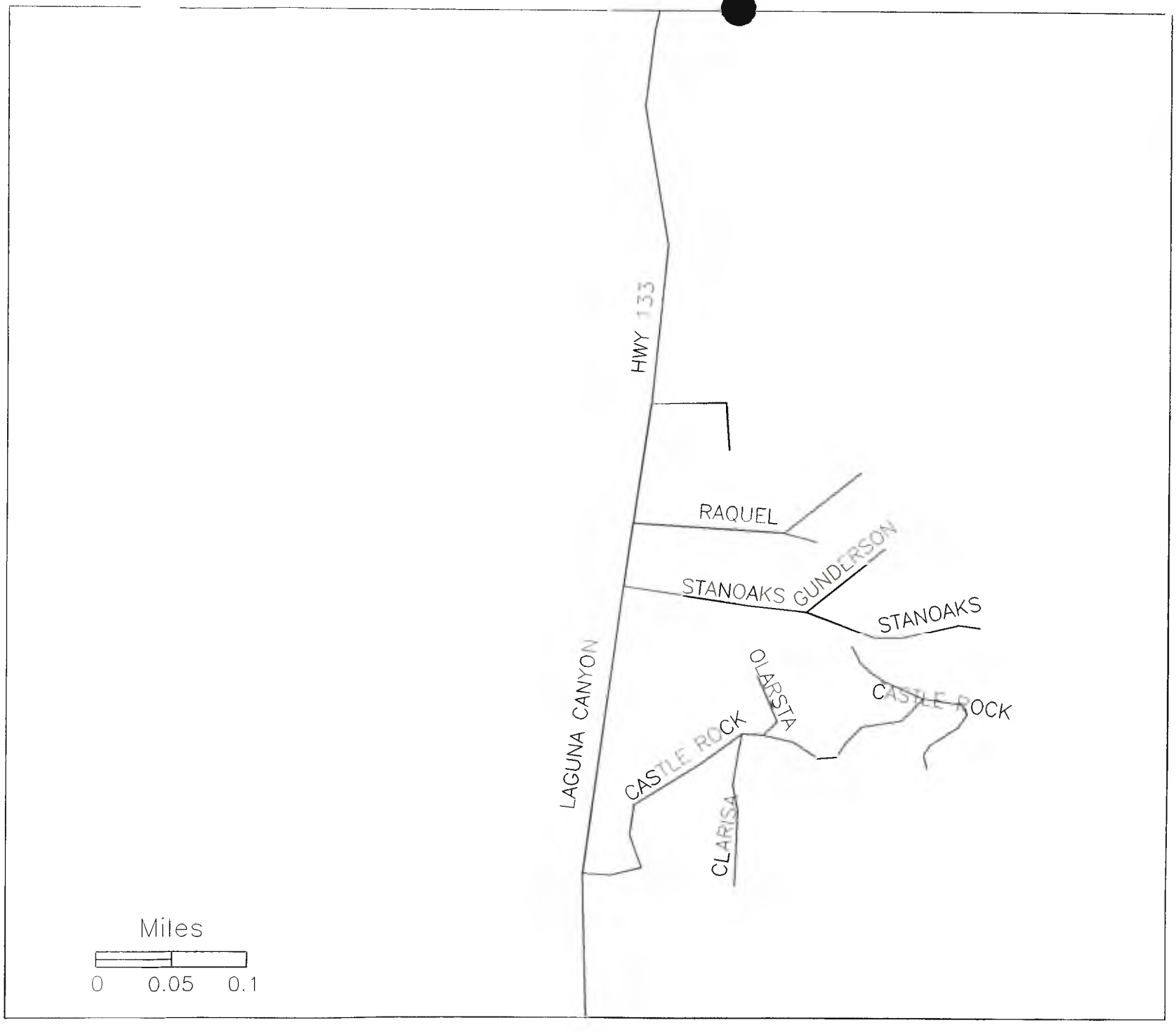

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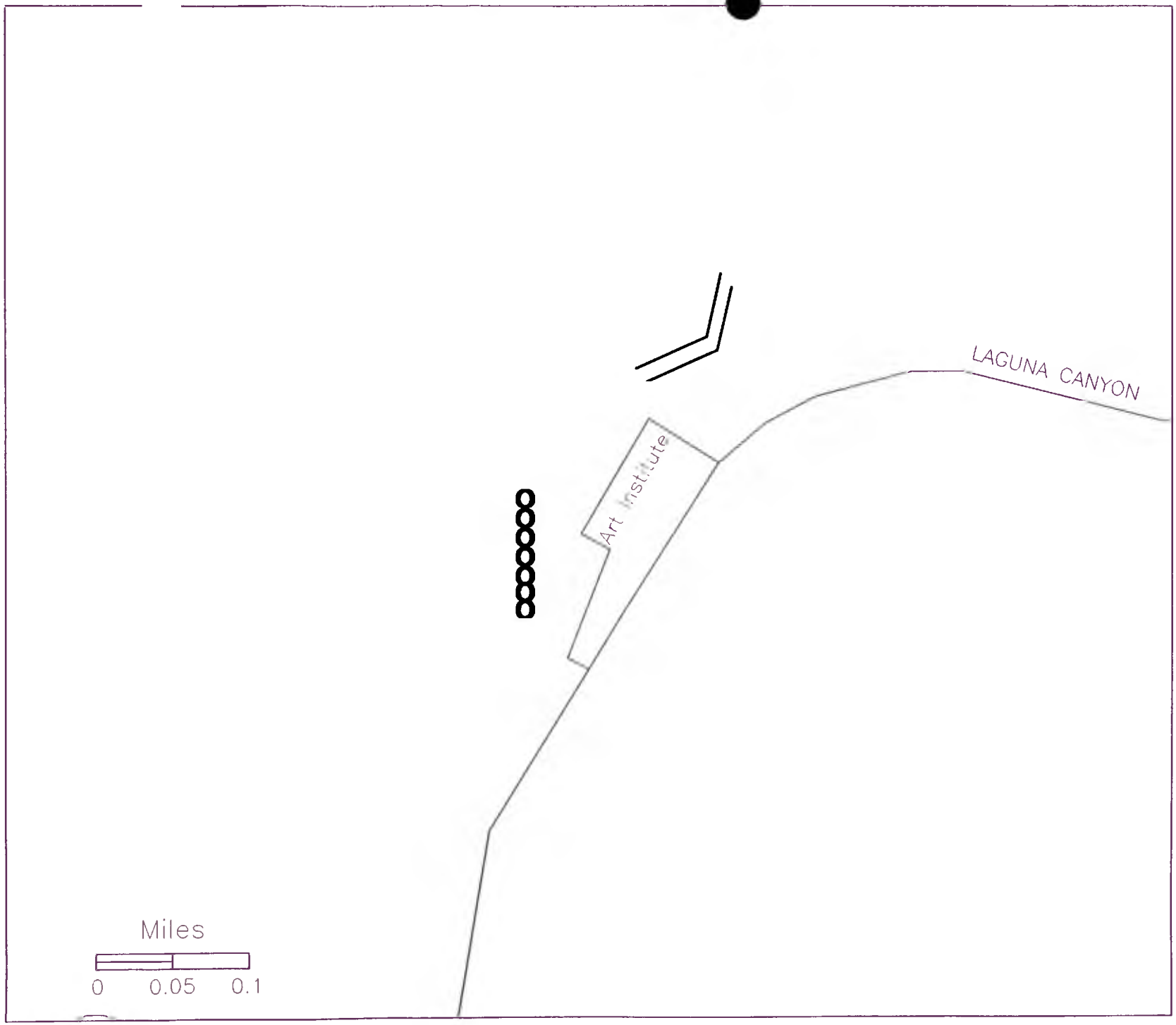

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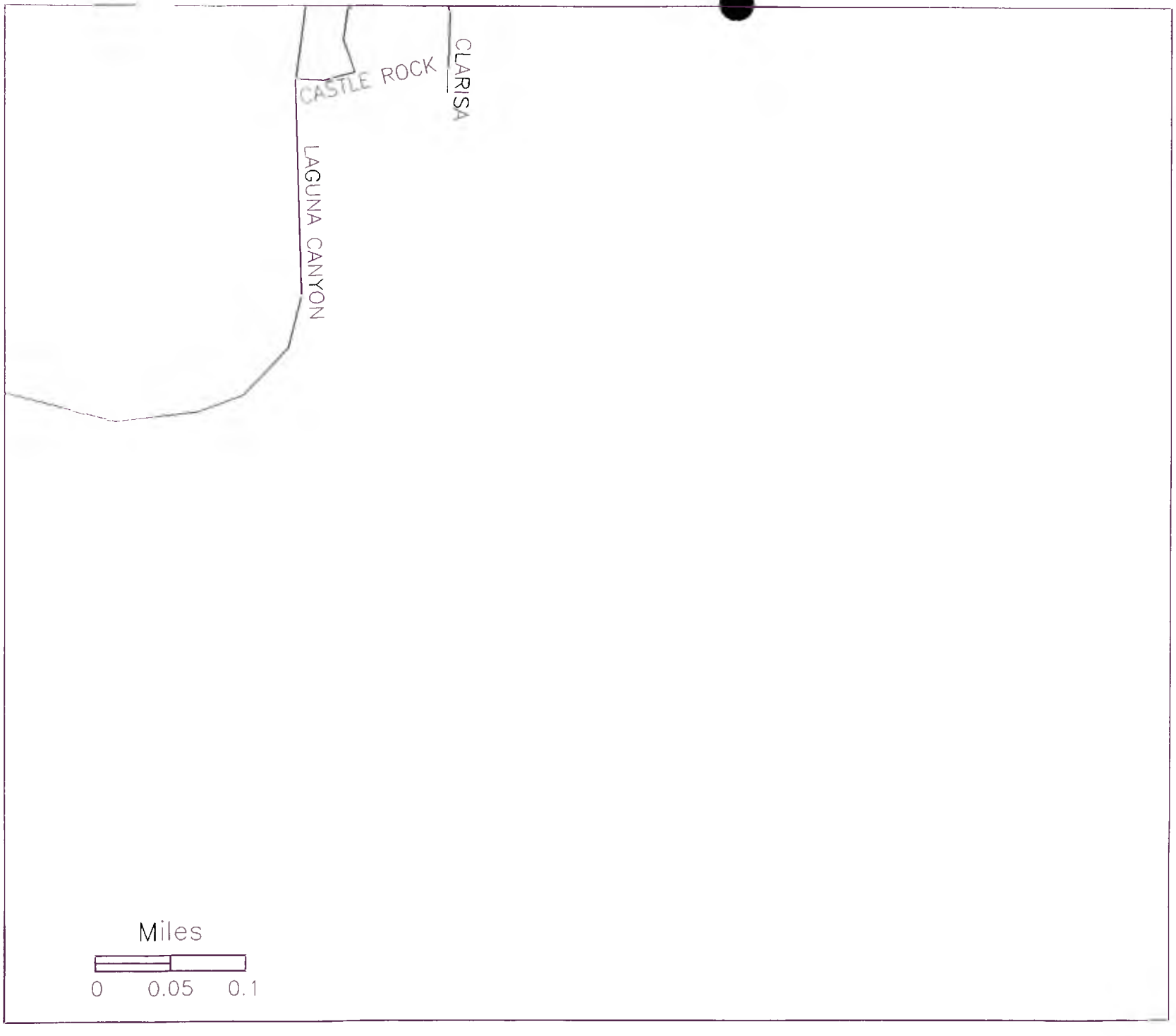

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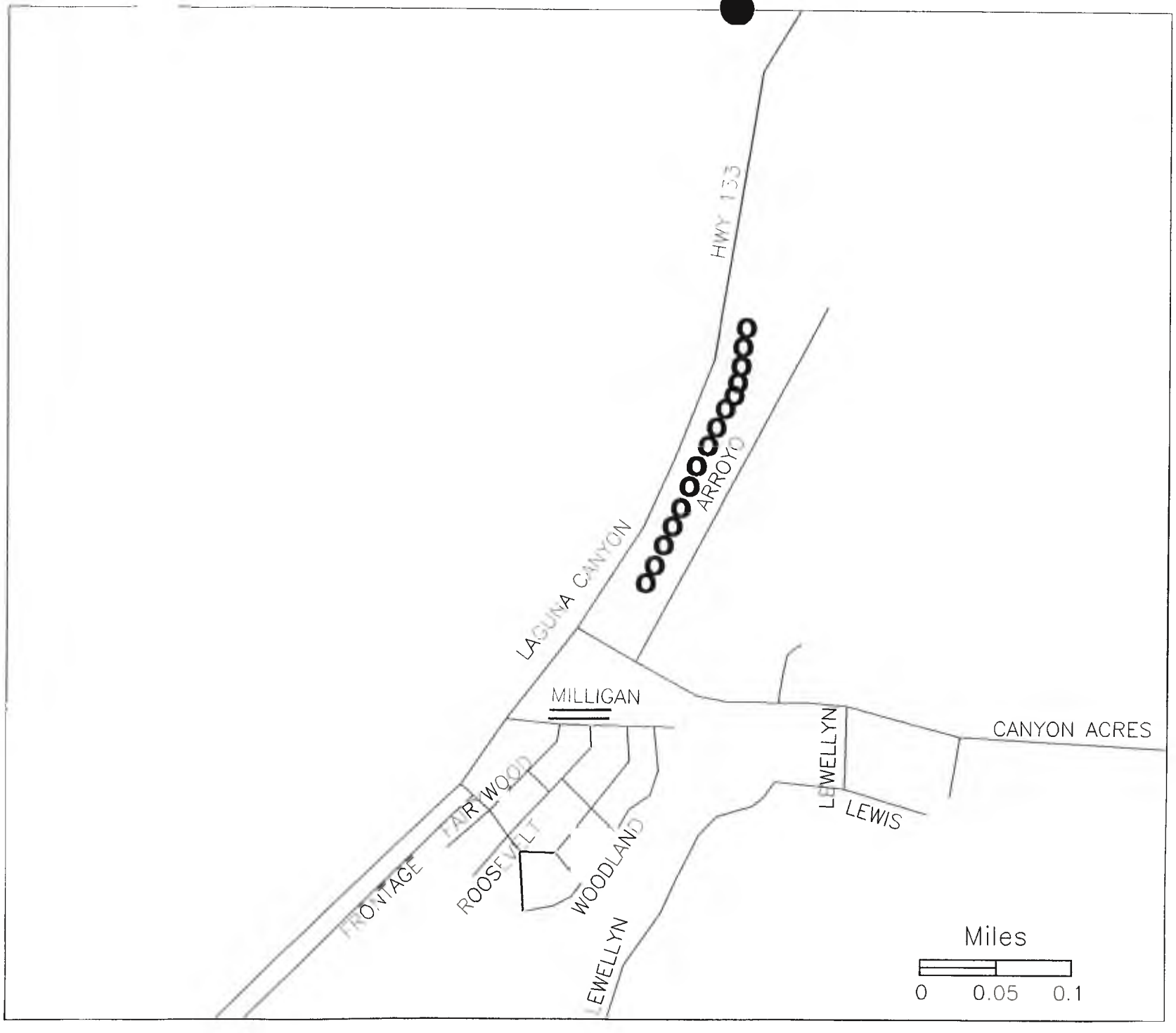

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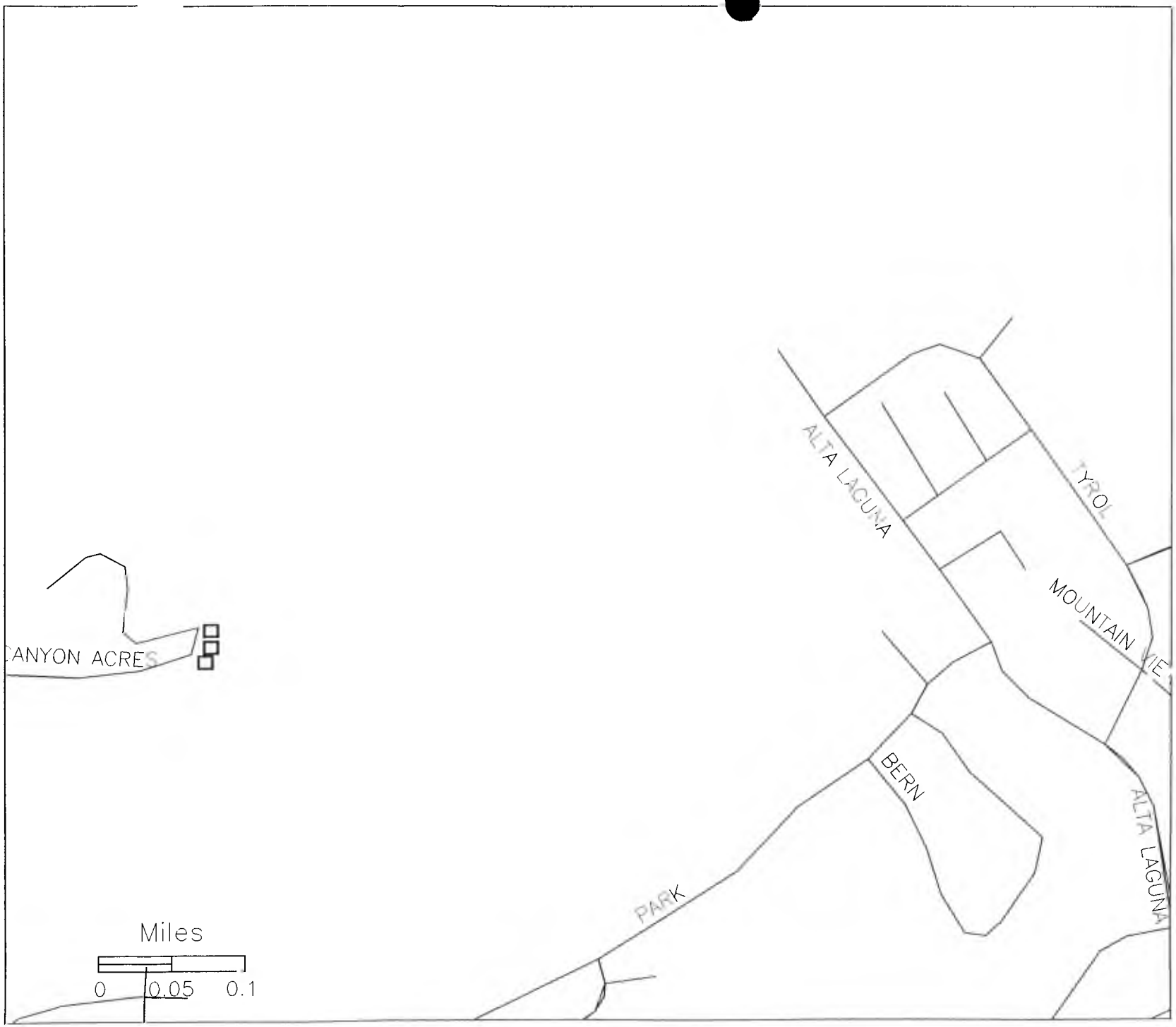

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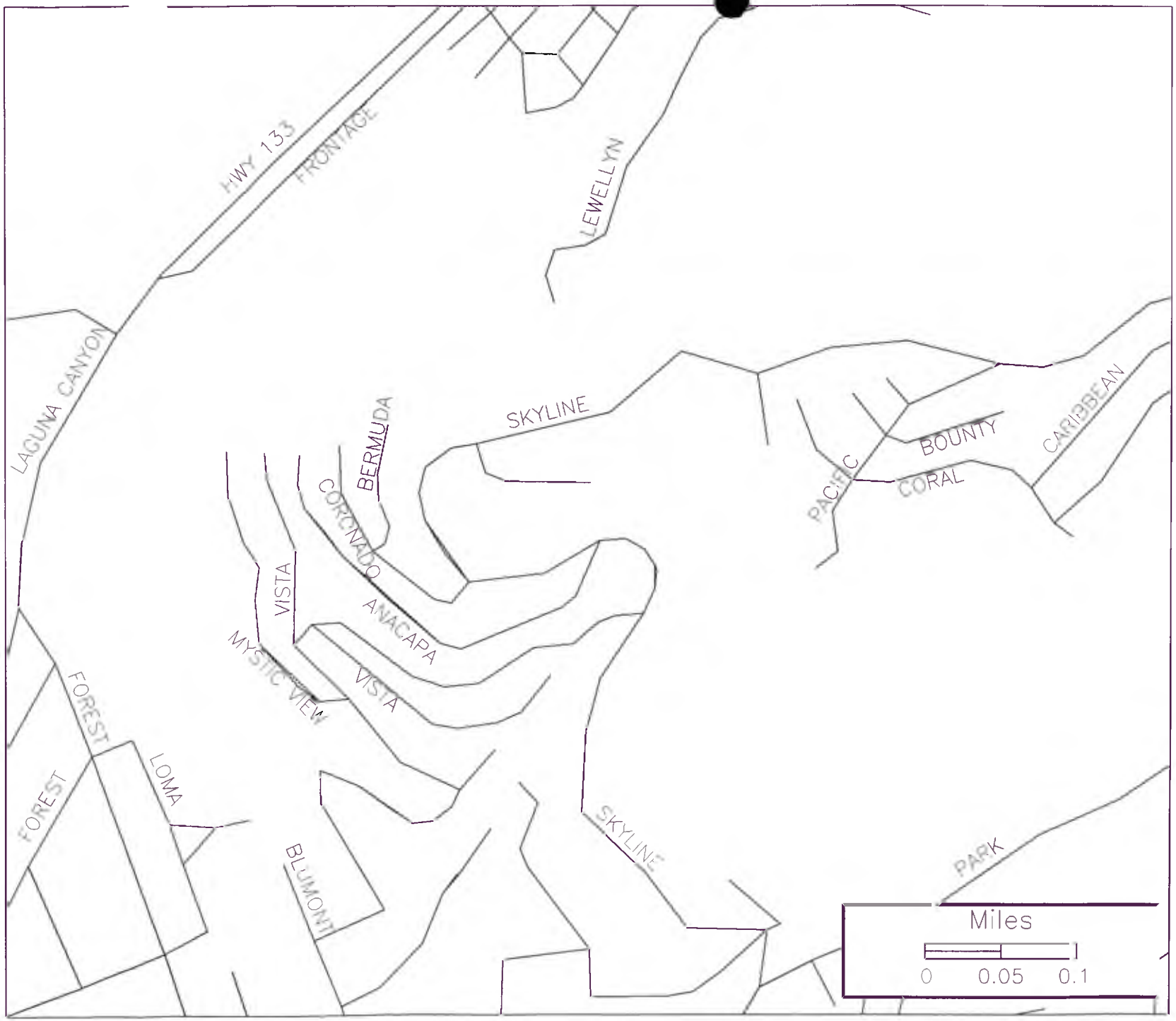

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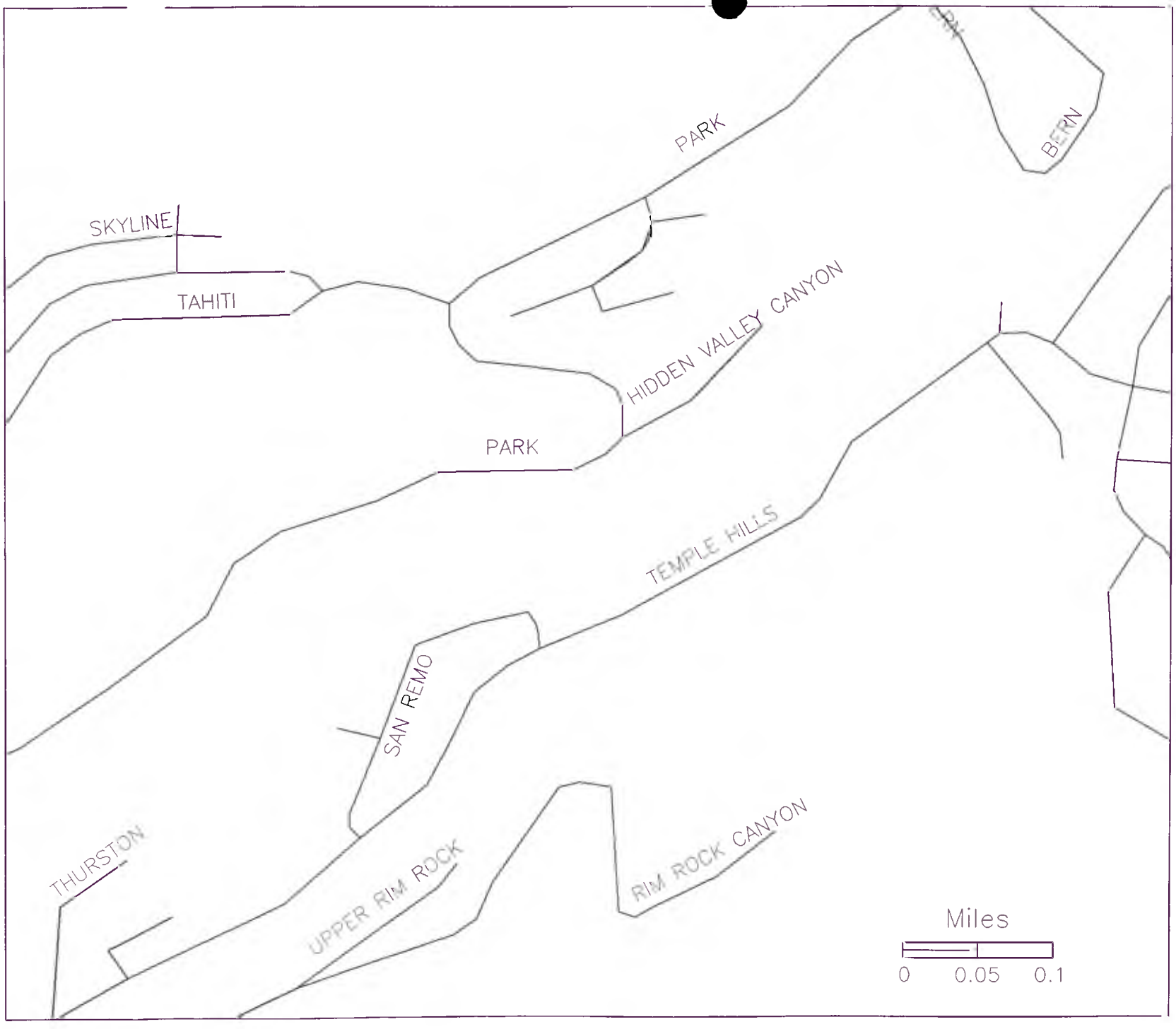

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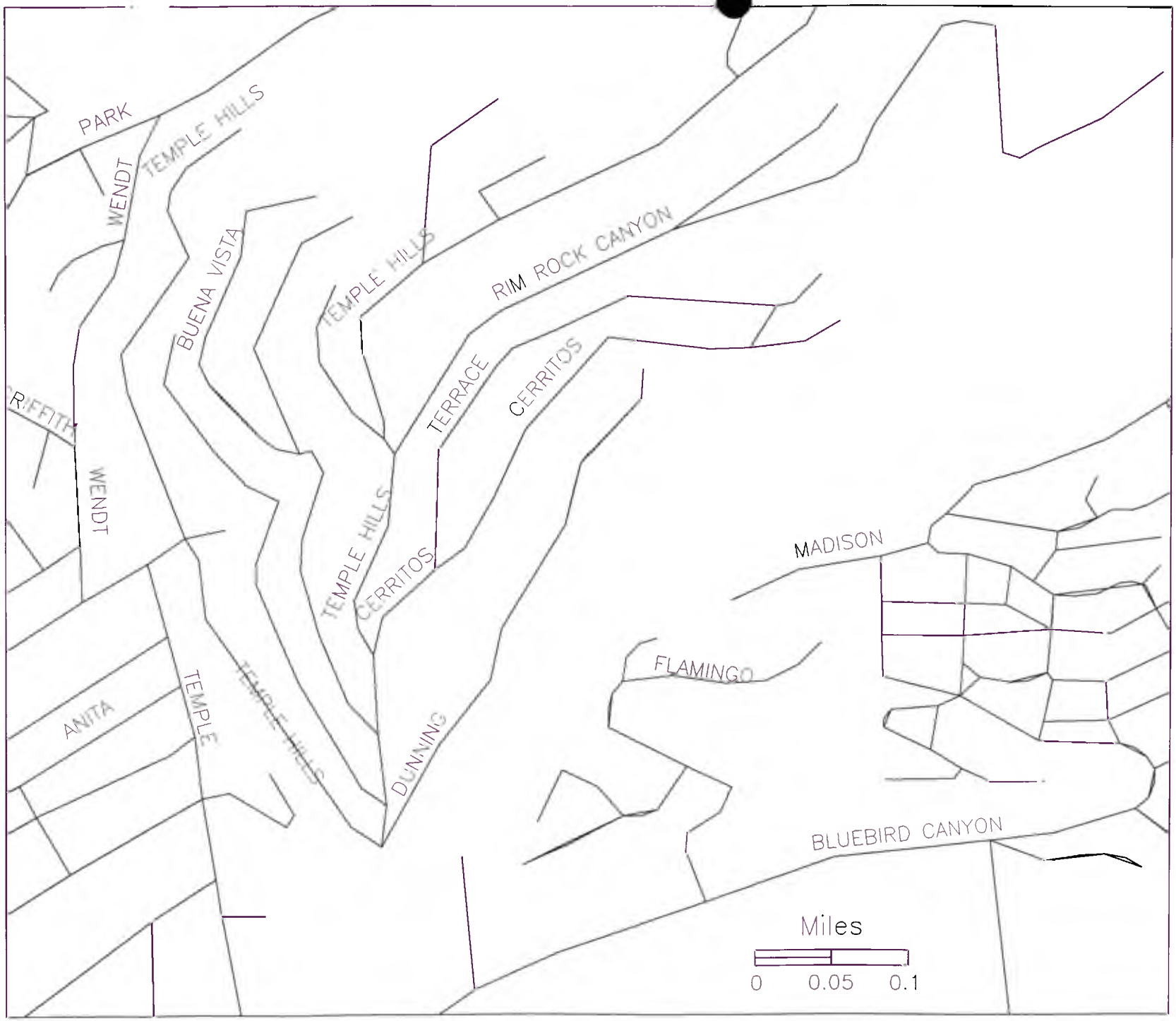

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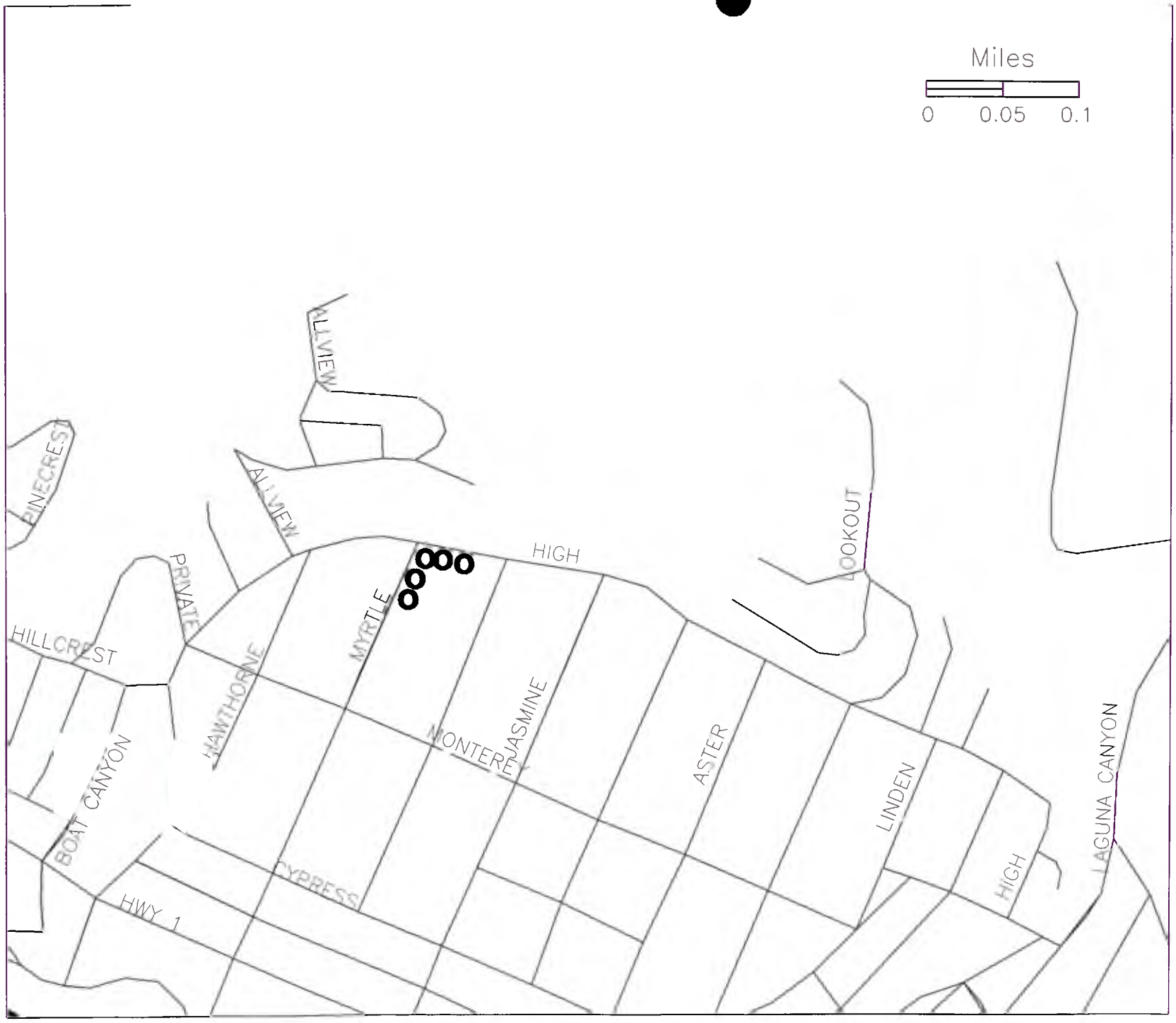

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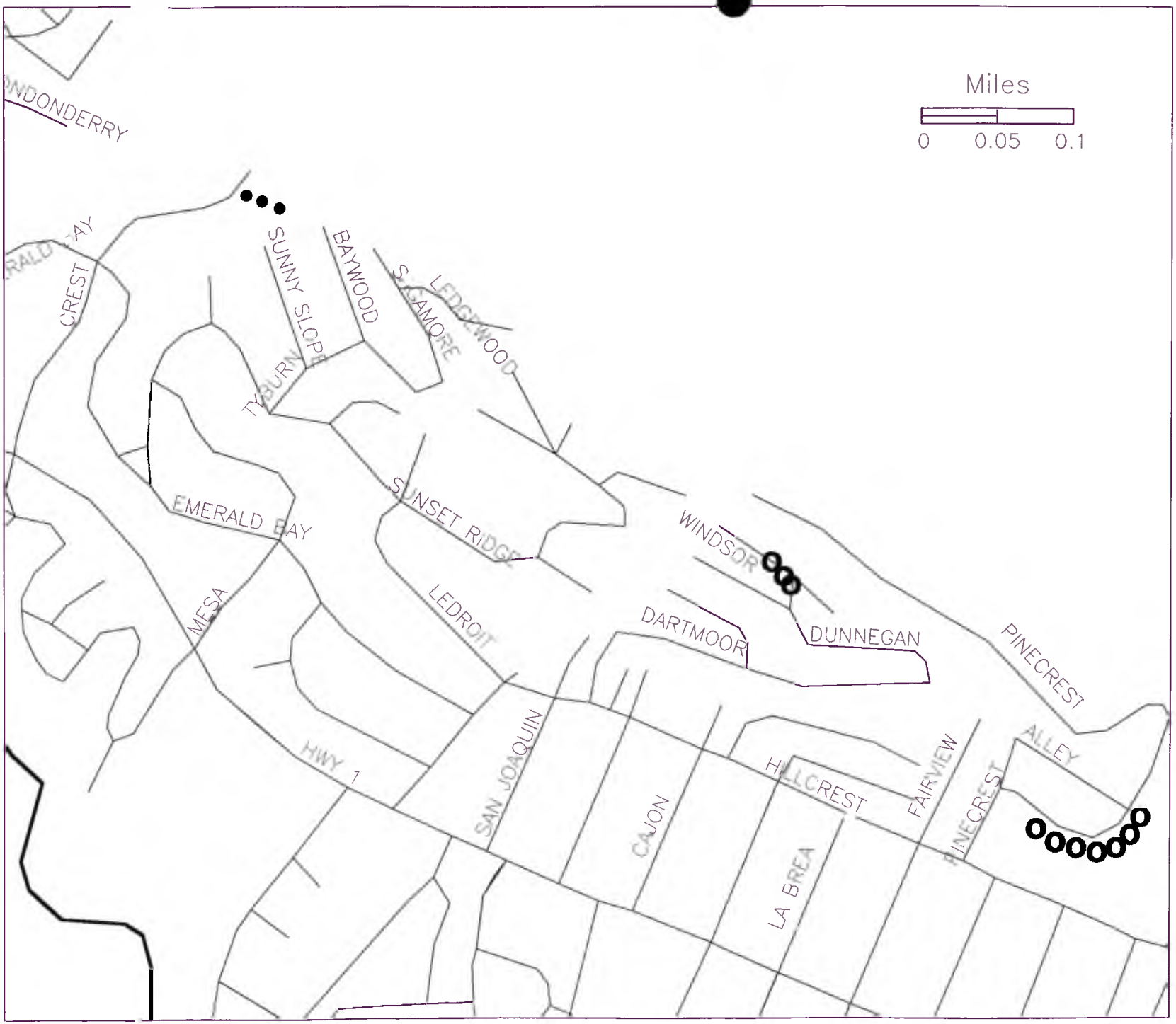

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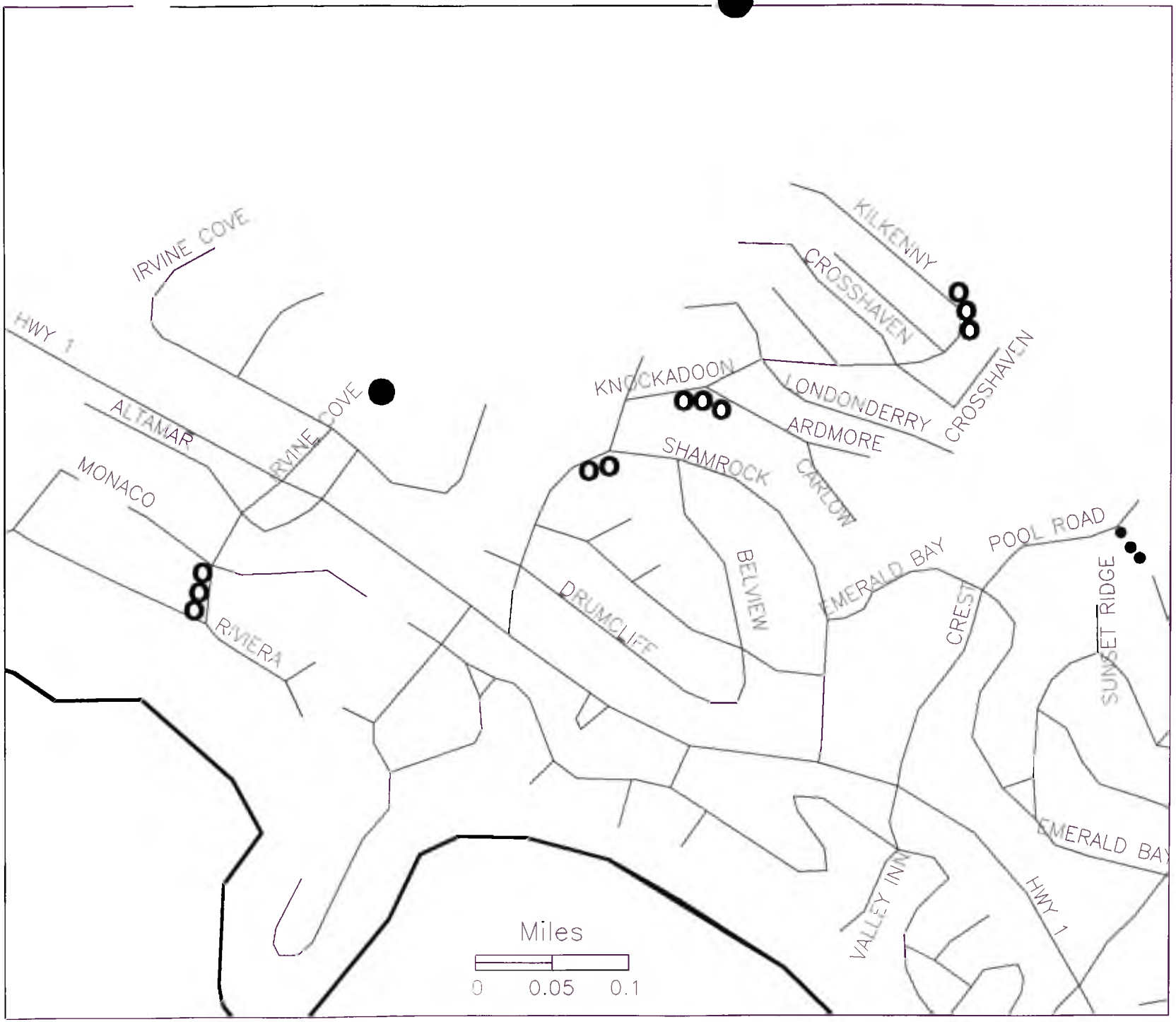

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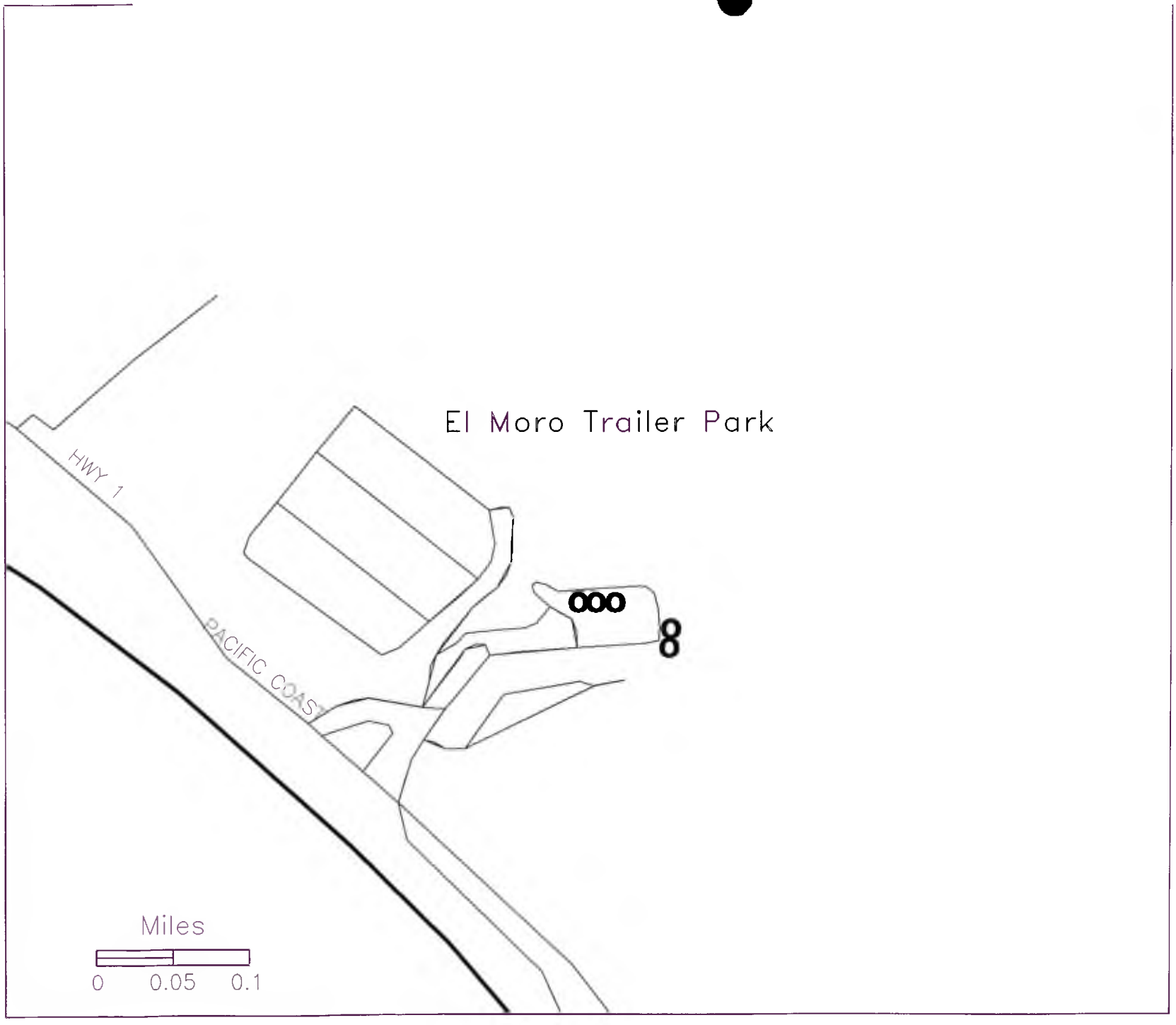

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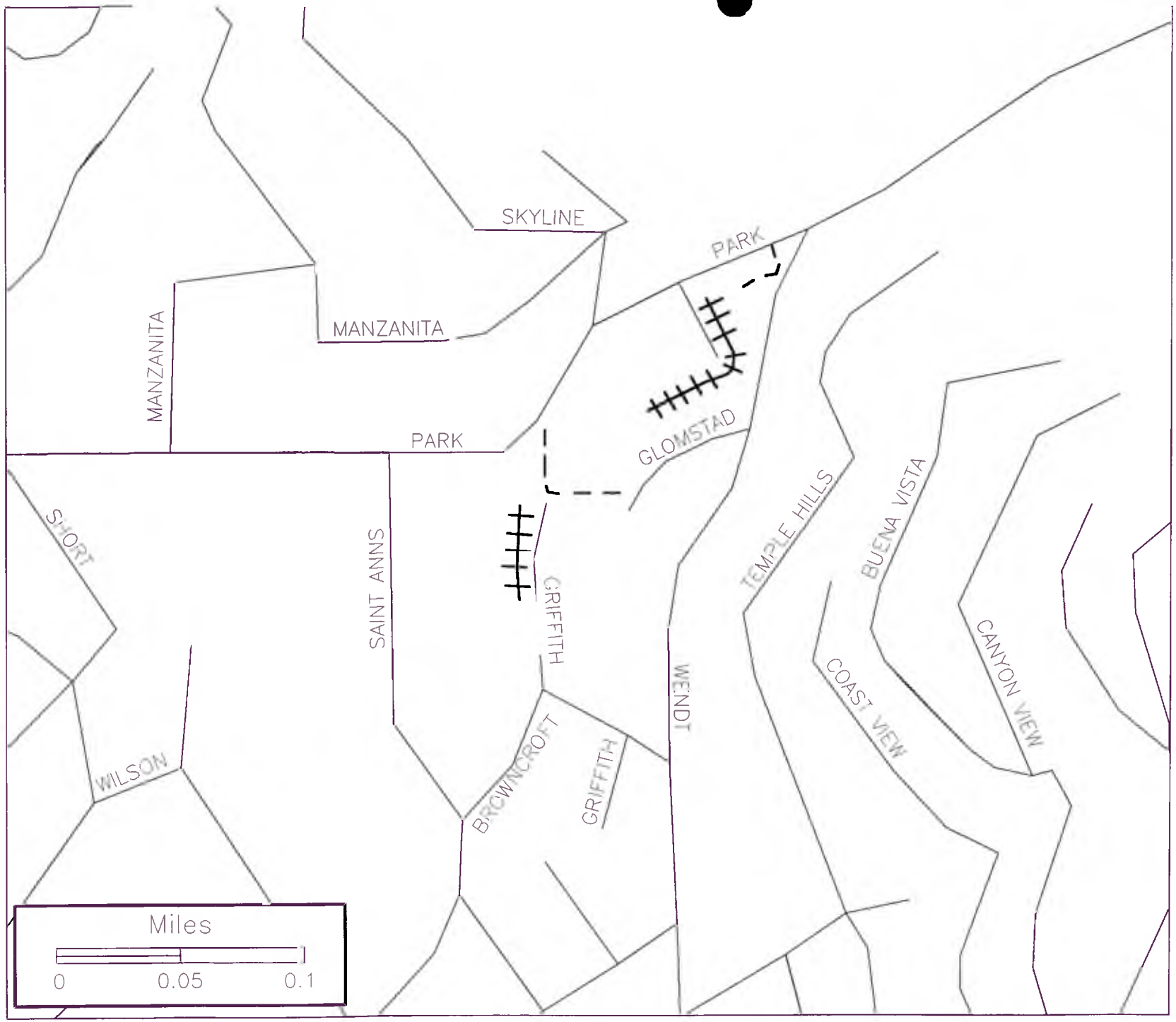

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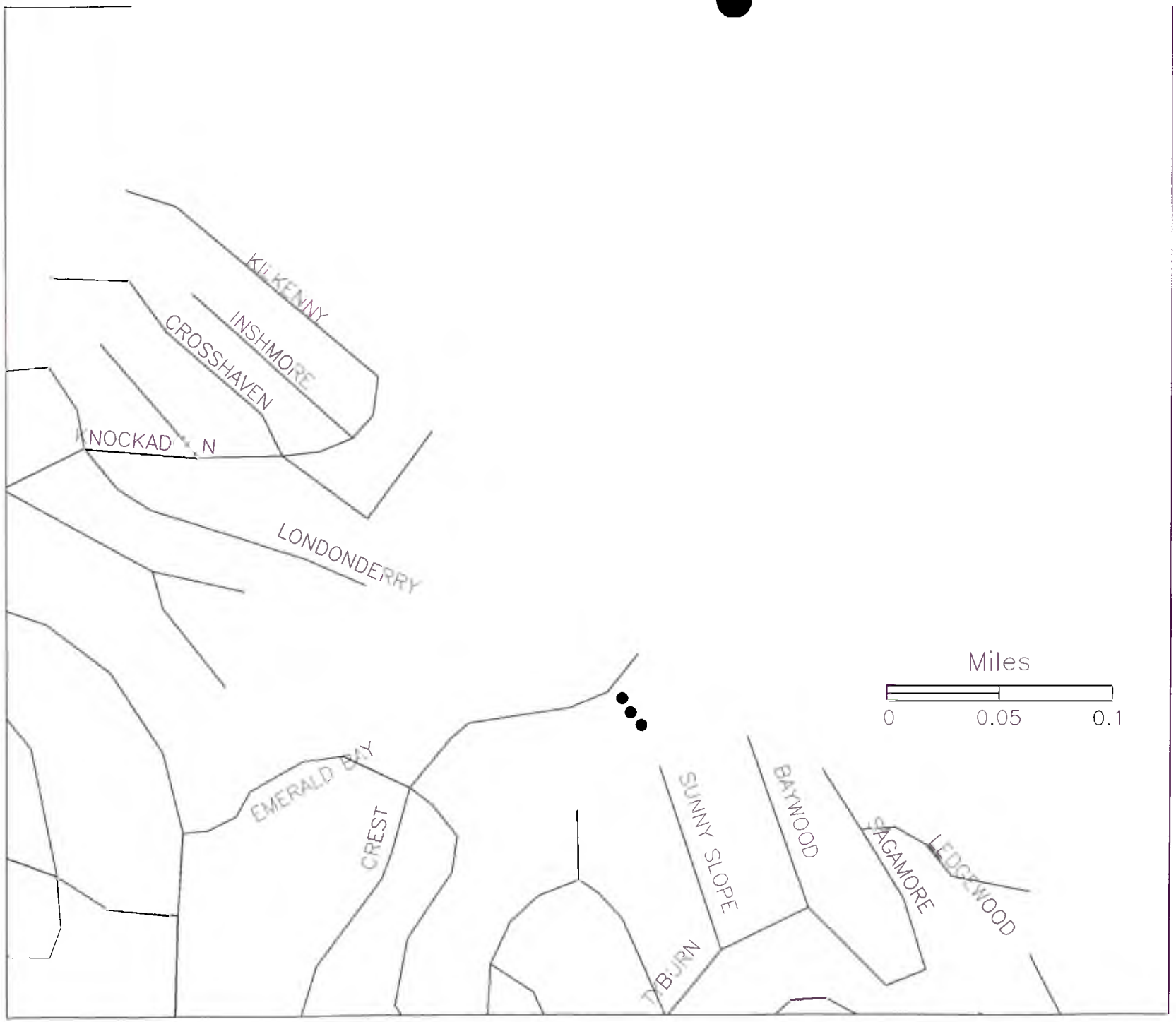

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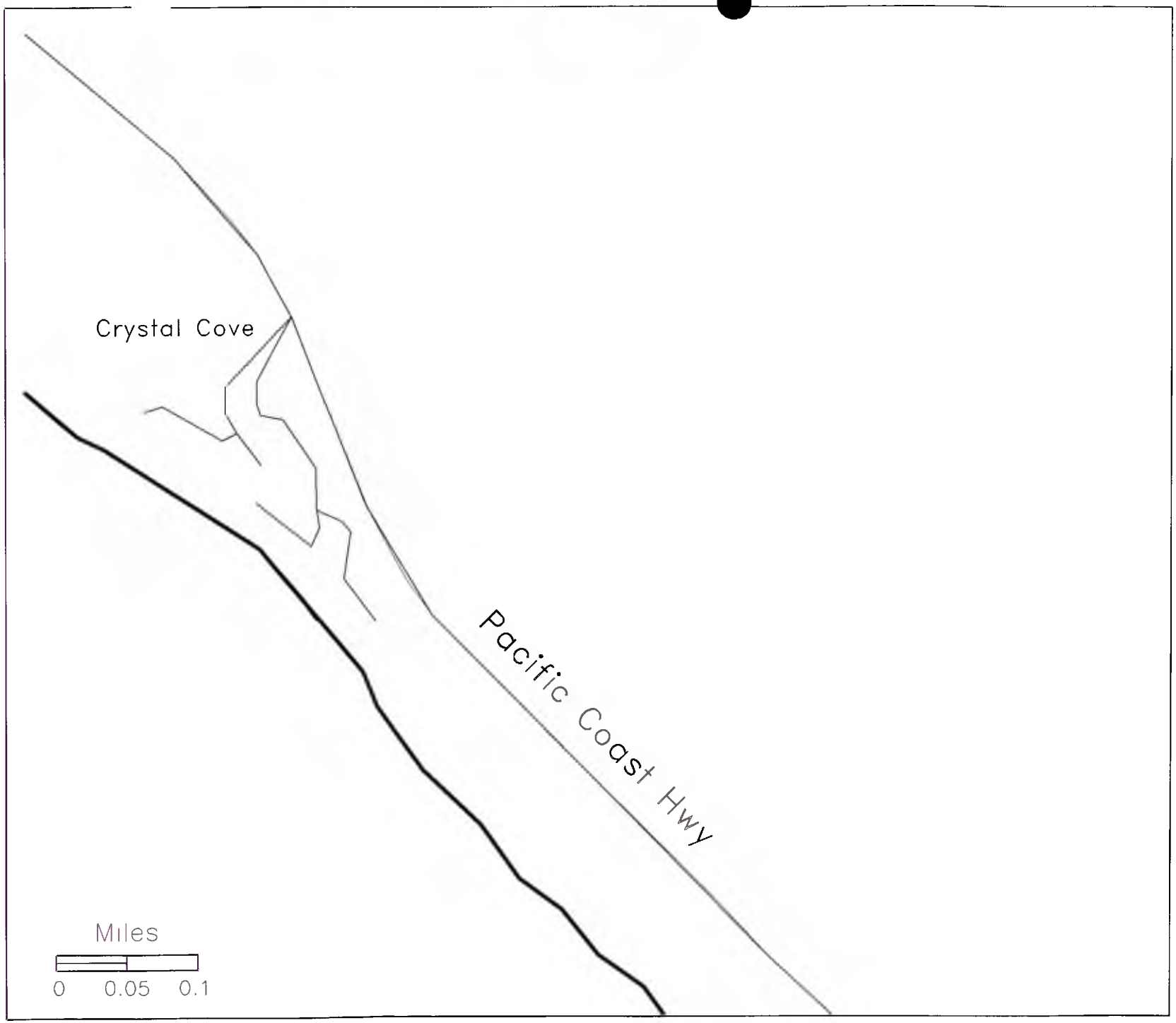

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APPENDIX D

STRUCTURAL DESCRIPTIONS AND DRAWINGS

Structure 1 Pipe and Plywood Deflector Walls

Introduction

This general concept may be applied wherever small flows down roadways or across open areas may threaten homes or businesses.

Description

A deflector wall protects threatened structures by directing flow around them. When placed parallel to a historic flow path, the walls guide the flow and force it to remain in the flow path, reducing the damage to adjacent structures. The walls should not be placed across a flow path to block flow, nor should they be used to contain standing water.

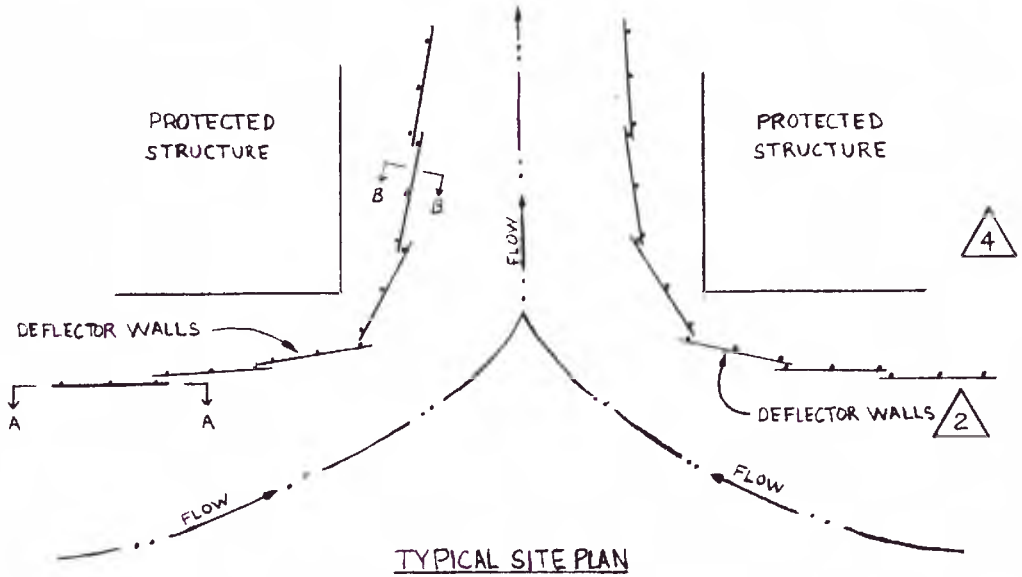
Situation

The wildfires last fall not only reduced the hydrologic condition of the soil, they also destroyed the grasses and brush in the watersheds. As a result, more water will run off those areas than in a normal year and the probability of debris flows will be increased. Areas that normally see some flow along their roadways will probably see increases in the flow amounts until the watersheds recover.

Deflector walls should be placed along routes where flow may occur. They should be placed parallel to flow and be used to direct the flow path past threatened structures. These structures are permeable, and some water is to be expected through them. They will, however, provide a level of protection that sandbags will not. The walls will also take up less space, and be more easily maintained and removed than sandbags.

The attached drawings show, conceptually, how the deflector walls should be constructed. A more permanent structure may have the pipes driven into the ground, while a temporary structure may utilize a sleeve set in concrete that may be removed and replaced as needed. Both alternatives are shown. Pipes must be set into the ground at least as deep as the structure's height out of the ground, otherwise the risk of failure increases.

These walls should be designed separately for each site. The attached drawings are for concept only and are not to be used for bidding or construction purposes.



TYPICAL SITE PLAN
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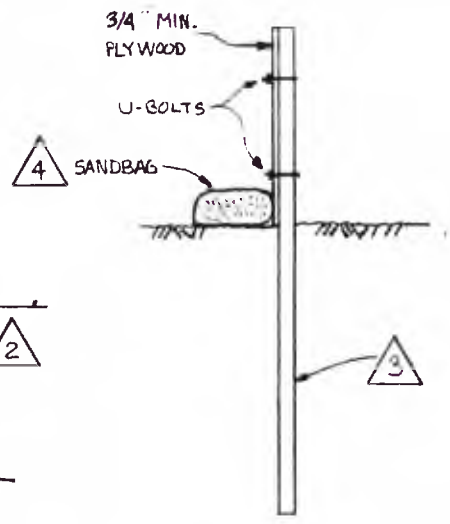

SECTION B
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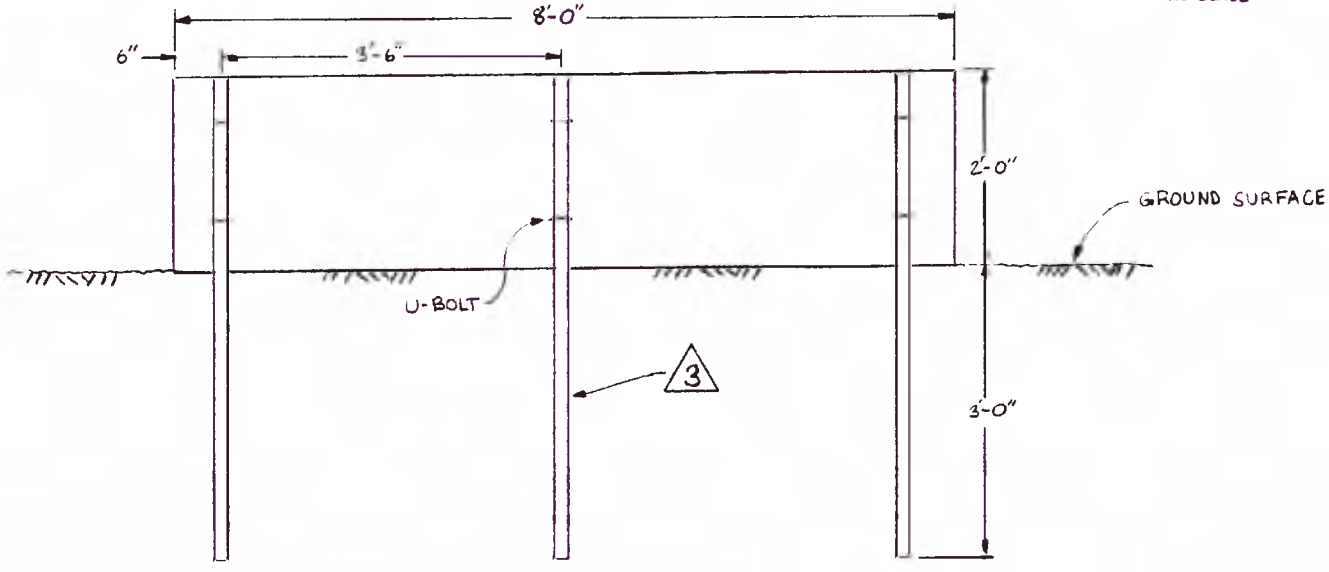

SECTION A
NO SCALE

CONSTRUCTION NOTES

1. These drawings are not for construction or bidding purposes. They are intended for concept only. Pipe and Plywood Deflector Walls must be designed for each specific site.

2. Deflector wall ends to overlap approximately 1 foot, with the upstream section adjacent to the flow.

3. The pipe shall be 2" diameter, schedule 40 steel pipe, driven into the ground. For removable defector walls, pipes may be sleeved and set in concrete footing as in Alternate Section B on sheet 1B.

4. Sandbag layer to be set against plywood to reduce leakage under deflector wall.

PIPE AND PLYWOOD DEFLECTOR WALLS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed D.W. LUNDIN	Date 12/94	Approved by	
Drawn D.W. LUNDIN	12/94	Title	
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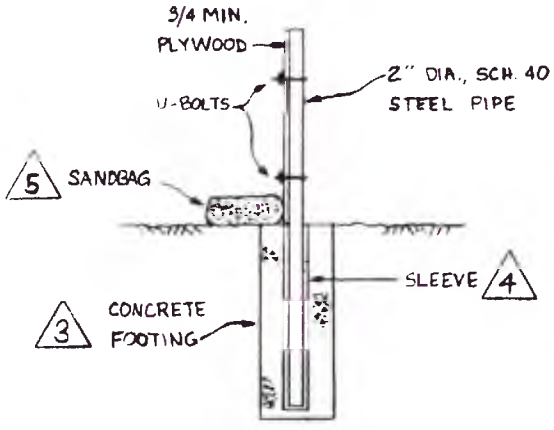

ALTERNATE SECTION B
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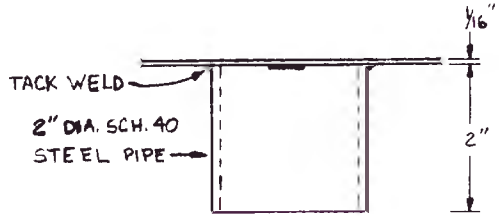
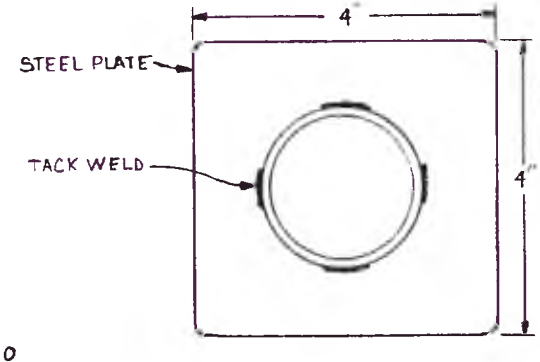
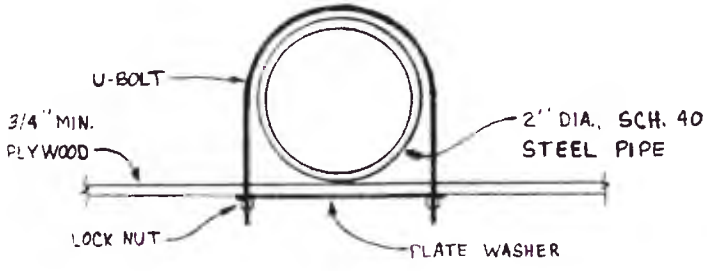


SIDE VIEW



BOTTOM VIEW

SLEEVE CAP DETAIL
NO SCALE



ATTACHMENT DETAIL
NO SCALE

CONSTRUCTION NOTES

1. If it is desired that the Pipe and Plywood Deflector Walls be removable for access, Alternate Section B and the Sleeve Cap Detail should be used.

2. Sleeve cap should be used to cover sleeve when deflector walls are not in place to prevent debris from entering sleeve.

3. The concrete footing is to be standard pre-mixed concrete for fence posts, or a 5-sack concrete mix. Footing diameter is to be approximately 12 inches.

4. The pipe for the sleeve is to be 2 1/2" diameter, schedule 40 steel pipe. The sleeve is to be capped on the bottom end to prevent floating during installation.

5. Sandbag layer to be set against plywood to reduce leakage under deflector wall.

PIPE AND PLYWOOD DEFLECTOR WALLS

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Structure 2 Pipe Trash Rack

Introduction

This general concept may be applied wherever the existing watershed is loaded with debris and sediment and threatens structures downstream.

Description

A pipe trash rack acts by trapping large debris and preventing it from plugging culverts, bridges or other restrictions, and damaging downstream structures. When placed in a channel upstream from a restriction, the rack removes rocks and limbs from the flow and will store some sediment behind it. The rack should be constructed using a concrete footing and steel pipe. For a temporary structure, a low strength, erodible concrete may be used. When the structure is no longer desired, the pipes should be cut off, and the footing allowed to erode.

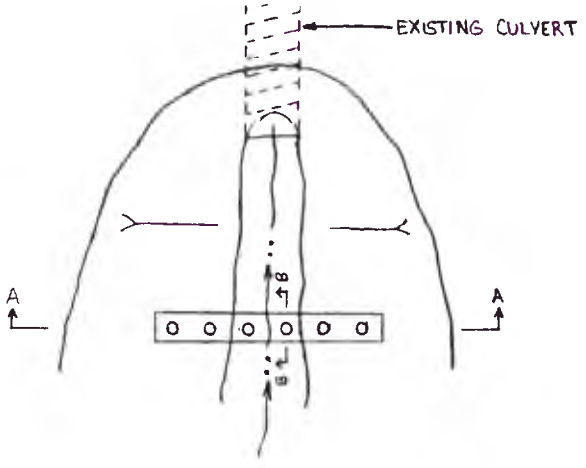
Situation

As a result of the wildfire in the fall of 1993, and the mild rains of the following winter, channels in the burn area are loaded with a great deal of sediment and loose brush. Culverts could plug with debris, including rocks and limbs, causing local or even widespread flooding. Downstream areas are in need of protection from possible debris flow and flooding.

Pipe trash racks should be placed in channels where debris threatens downstream areas. The rack should be placed to provide the maximum amount of protection with as much storage behind it as possible. The site should have stable channel side slopes for the rack to tie into, as well as a stable channel bottom. The rack should be cleaned out on a regular basis to maintain its effectiveness.

The attached drawings show, conceptually, how the pipe trash rack should be constructed. Watershed size, size of debris and the size of the downstream restrictions should be considered when designing the rack height, pipe size, and spacing. The top of the pipes should be low enough to allow the full flow of the stream to pass over the top of the structure, while remaining in the stream channel. The footing depth measurement should be greater than or equal to the above ground structure height and excavation should be as nearly to the neat lines as possible. The footing may consist of a permanent, 5 sack concrete mix or a temporary, erodible 3 sack sand slurry to facilitate removal of the structure when the watershed has fully recovered.

The attached drawings are for concept only. They are not for bidding or construction purposes. The trash rack should be designed specifically for each site.



TYPICAL SITE PLAN
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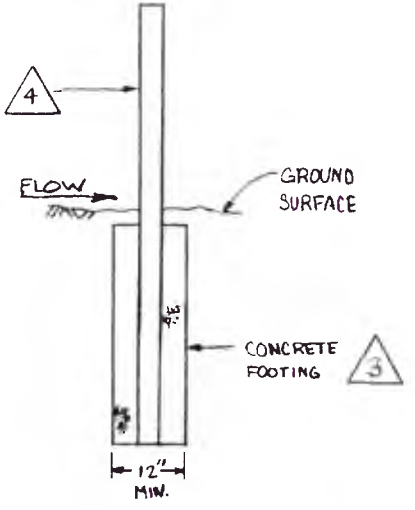

SECTION B
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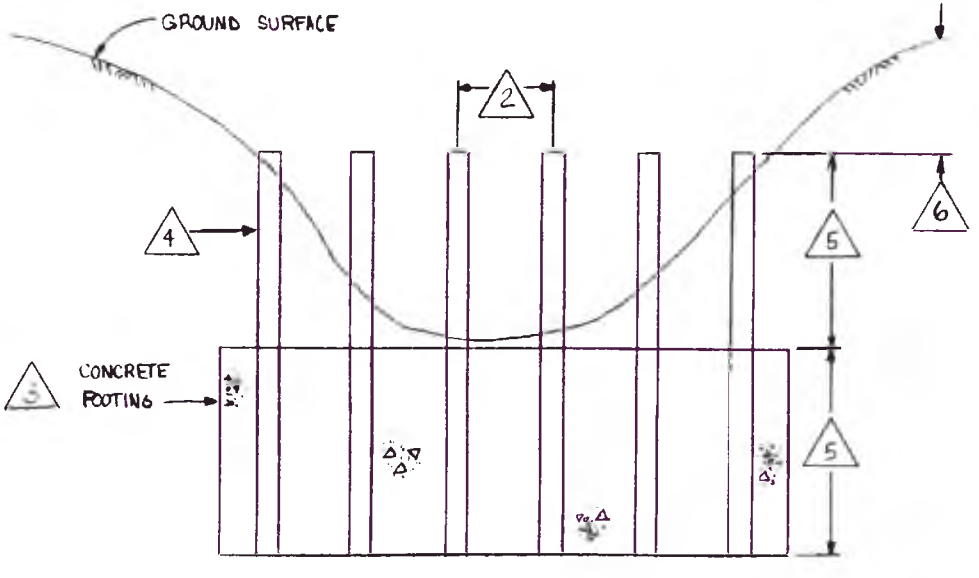

SECTION A
NO SCALE

CONSTRUCTION NOTES

1. These drawings are not for construction or bidding purposes. They are intended for concept only. Pipe Trash Racks must be designed for each specific site.
2. Spacing between vertical pipes should be approximately 1/2 the smallest dimension of the downstream restriction.
3. The footing may be standard 3000 psi concrete or a low strength, erodible concrete for a temporary structure.
4. The pipe shall be 4" diameter, schedule 40 galvanized steel pipe, set in concrete footing.
5. Footing depth measurement should be equal to or greater than pipe height measurement.
6. Enough freeboard should remain such that full flow may pass over the tops of the pipes without overflowing the banks.

PIPE TRASH RACK

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

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Drawn	D. LUNDIN	'95	Title
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Structure 3 Reinforced Masonry Wall

Introduction

This general concept can be applied wherever a permanent structure is needed to protect a home or business from debris flow.

Description

A masonry wall protects threatened structures by deflecting flows and diverting them around the structures. When placed on an engineered foundation, the masonry wall can withstand a greater amount of flow than pipe and plywood walls and offer a greater amount of protection.

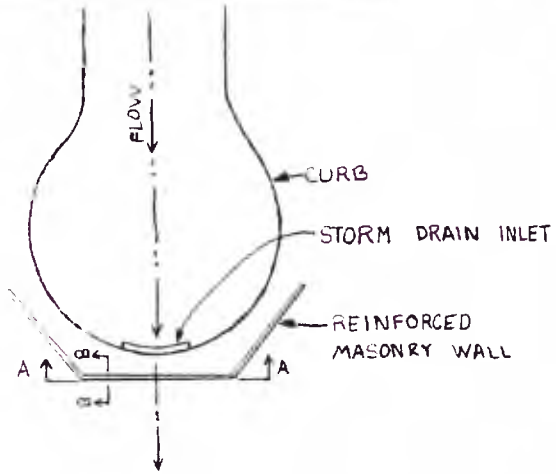
Situation

As a result of the 1993 wildfires last, the probability of increased amounts of runoff and debris flows from the impacted watersheds has increased. Areas that see flows along their roadways during normal years should expect more than usual amounts of water and debris until the watersheds recover fully.

Masonry walls should be placed in areas where flow may occur. They may be placed along historic flood paths to channel flows away from structures. Low masonry walls may be placed to divert flows provided there is a safe outlet for the water. Care must be taken when placing the walls so as not to affect neighboring structures with diverted flows.

The attached drawings show, conceptually, how the masonry walls should be constructed. A trench must be excavated for the footing, reinforcing bar placed, the footing poured and the wall constructed on the footing. A spillway may or may not be required If a spillway is utilized, an energy dissipating apron is needed to prevent undercutting of the wall foundation. This is a permanent structure, therefore, permits may be required by the local governing body before construction begins.

These walls should be designed specifically for each site. The attached drawings are for concept only and are not to be used for bidding or construction purposes.



TYPICAL SITE PLAN
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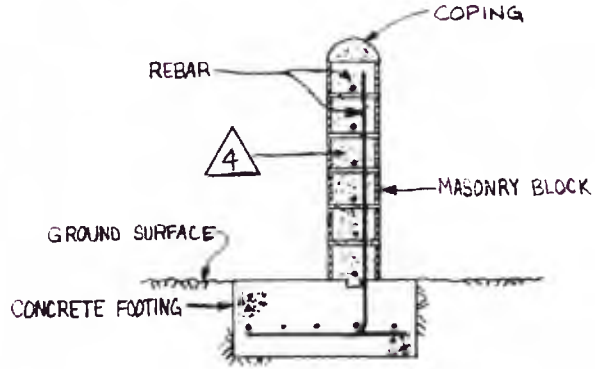
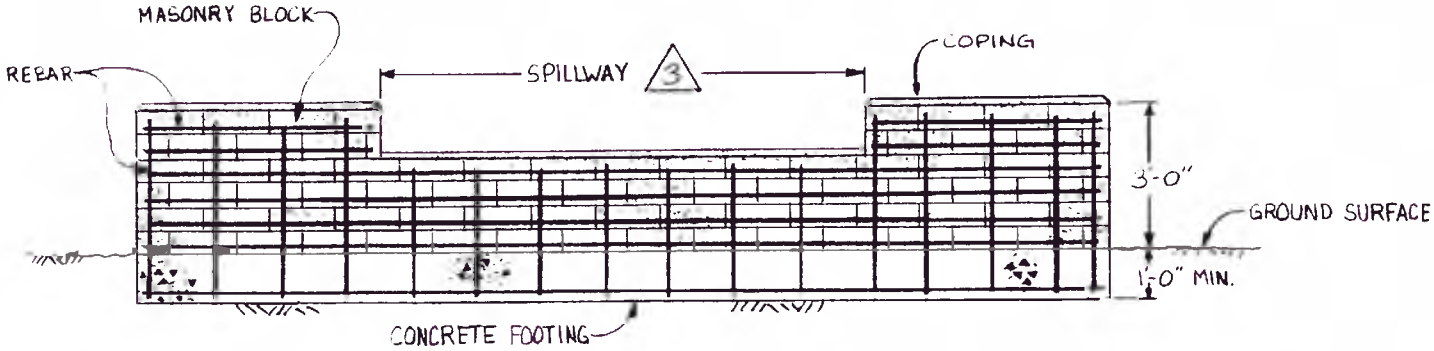


SECTION B
NO SCALE

CONSTRUCTION NOTES

1. These drawings are not for construction or bidding purposes. They are intended for concept only.
2. Wall height, concrete masonry block and concrete footing dimensions, and rebar diameter and spacing must be specifically designed for each Reinforced Masonry Wall site.
3. Spillway may or may not be required. Spillway for overflow outlet must have adequate weir capacity for expected flow and an adequate energy dissipating apron below spillway.
4. All cells to be grouted solid.



SECTION A
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REINFORCED MASONRY WALL

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APPENDIX E

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