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M60050.000572
MCAS EL TORO
SSIC #5090.3

the IT group

June 27, 2000

Ms. Bozier H. Demaree
Contracting Officer
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5187

Attention: Ms. Lynn Hornecker

Subject: Excerpts from On-Scene Coordinator Report (OHM, 1998): Figures and Final Construction Monitoring Report
Contract N68711-93-D-1459, Delivery Order 075,
IRP Sites 2, 17 and 24, MCAS El Toro, California

Dear Ms. Hornecker:

Attached is a copy of the following excerpts from the May 29, 1998 On-Scene Coordinator Report:

Figure 1-3: Biological Habitat at IRP Sites 2 and 17
Figure 2-1: Site Plan with the Site 2 Aerial Photographs
Figure 2-2: Aerial Photograph Detailing IRP Sites 2 and 17
Appendix I: Final Construction Monitoring Report, MCAS El Toro Landfill Sites 2 and 17 (Helix, 1997)

These copies are supplied in request for this information to support the work being performed by John Lovio, and a copy of these attachments is being transmitted directly to Mr. Lovio, by your request.

If you have any questions or need additional information please call or e-mail me.

Sincerely,

William Sedlak
Sr. Project Manager

cc: L. Holloway, COTR
John Lovio, Code 5GPN.JL, SWDIV, 1220 Pacific Highway
OHM PMO File
Project File, B.01

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

OHM TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT N68711-93-D-1459 **DOCUMENT CONTROL NO: SW8790**

TO: Contracting Officer
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Southwest Division
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1220 Pacific Highway
San Diego, California 92132-5190

Date: 29-Jun-00

D.O.: 75

Location: MCAS EL TORO

FROM: Stewart Bornhoft, Program Manager — Edwin G. Bond, Contracts Manager

DESCRIPTION OF ENCLOSURE: ***Excerpts from On-Scene Coordinator Report (OHM, 1998): Figures and Final Construction Monitoring Report, dated June 27, 2000***

TYPE: Contract Deliverable ( ) ($) D. O. Deliverable (**X**) (Tech) Request for Change ( ) Other ( )

VERSION: N/A **REVISION:** 0

ADMIN RECORD: Yes ( ) No (**X**) Category ( ) Confidential ( )

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D-3

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EXCERPTS FROM:

On-Scene Coordinator Report

For Time-Critical Removal Actions at
Installation Restoration Program Sites 2 and 17
Marine Corps Air Station
El Toro, California

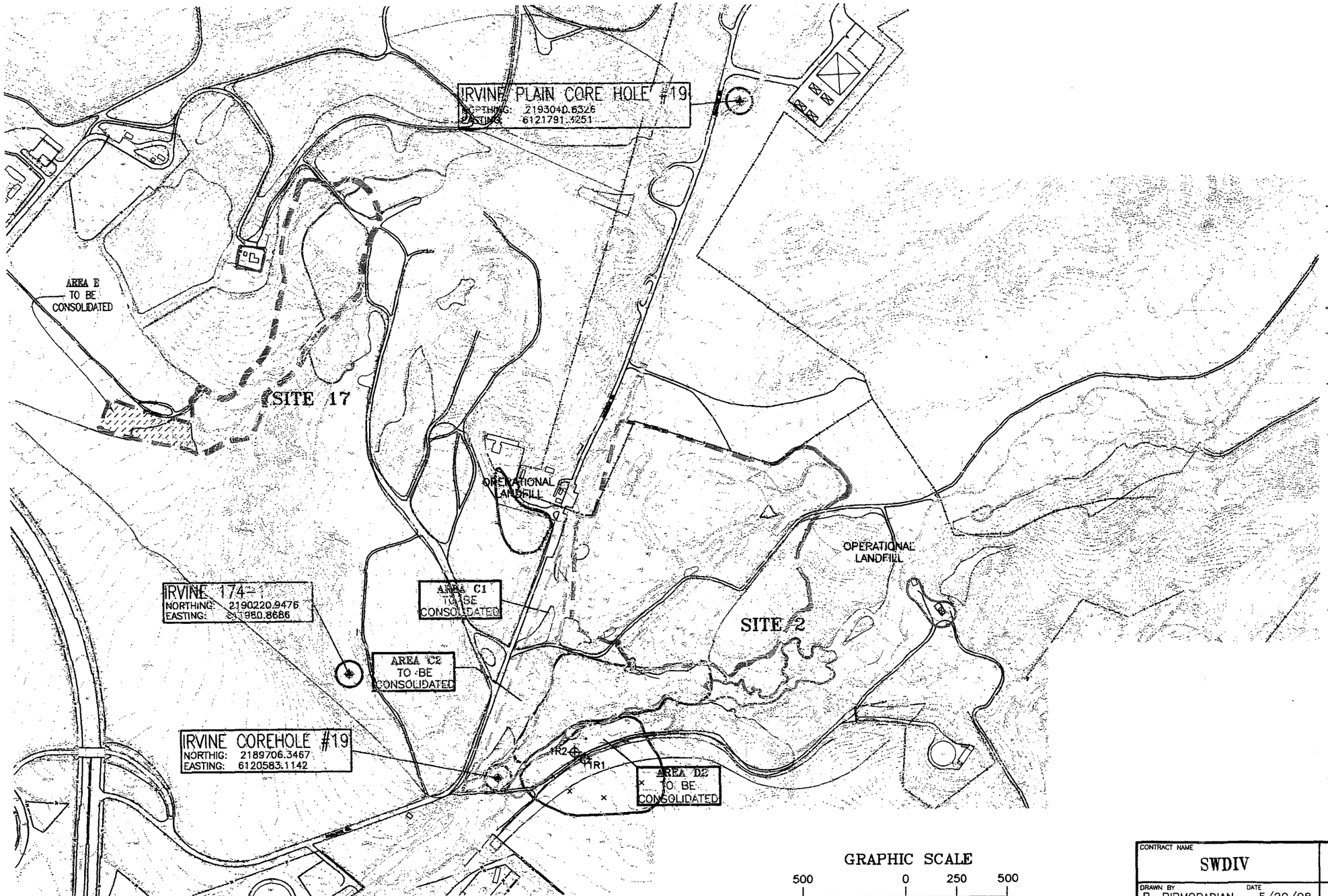
SWDIV Contract No. N68711-93-D-1459, Delivery Order No. 0075
OHM Project No. 18793
Document Control No. SW5188
Revision 0
May 29, 1998

OHM Remediation Services Corp.

1202 Kettner Boulevard
San Diego, California 92101

Approved by:

William L. Sedlak, P.E.
Senior Project Manager



GRAPHIC SCALE

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(IN FEET)

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01	96436-072.DWG (SAME AS 436-072) BY CALVADA	10/21/97	
02	OHM DRAWING 18793037.DWG BY R. PIRMORADIAN	01/04/97	

CONTRACT NAME: SWDIV				OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA	
DRAWN BY: R. PIRMORADIAN	DATE: 5/29/98			BIOLOGICAL HABITAT AT IRP SITES 2 AND 17	
CHECKED BY	DATE				
APPROVED BY	DATE			MARINE CORPS AIR STATION EL TORO, CALIFORNIA	
PROJECT MANAGER	DATE: 5/27/98				
AUTOCAD FILE No.: 18793037.DWG					
SCALE: AS NOTED	SHEET: 1	OF: 1	DOCUMENT CONTROL No.: SW5188	OHM PROJECT No.: 18793	DRAWING No.: FIG 1-3

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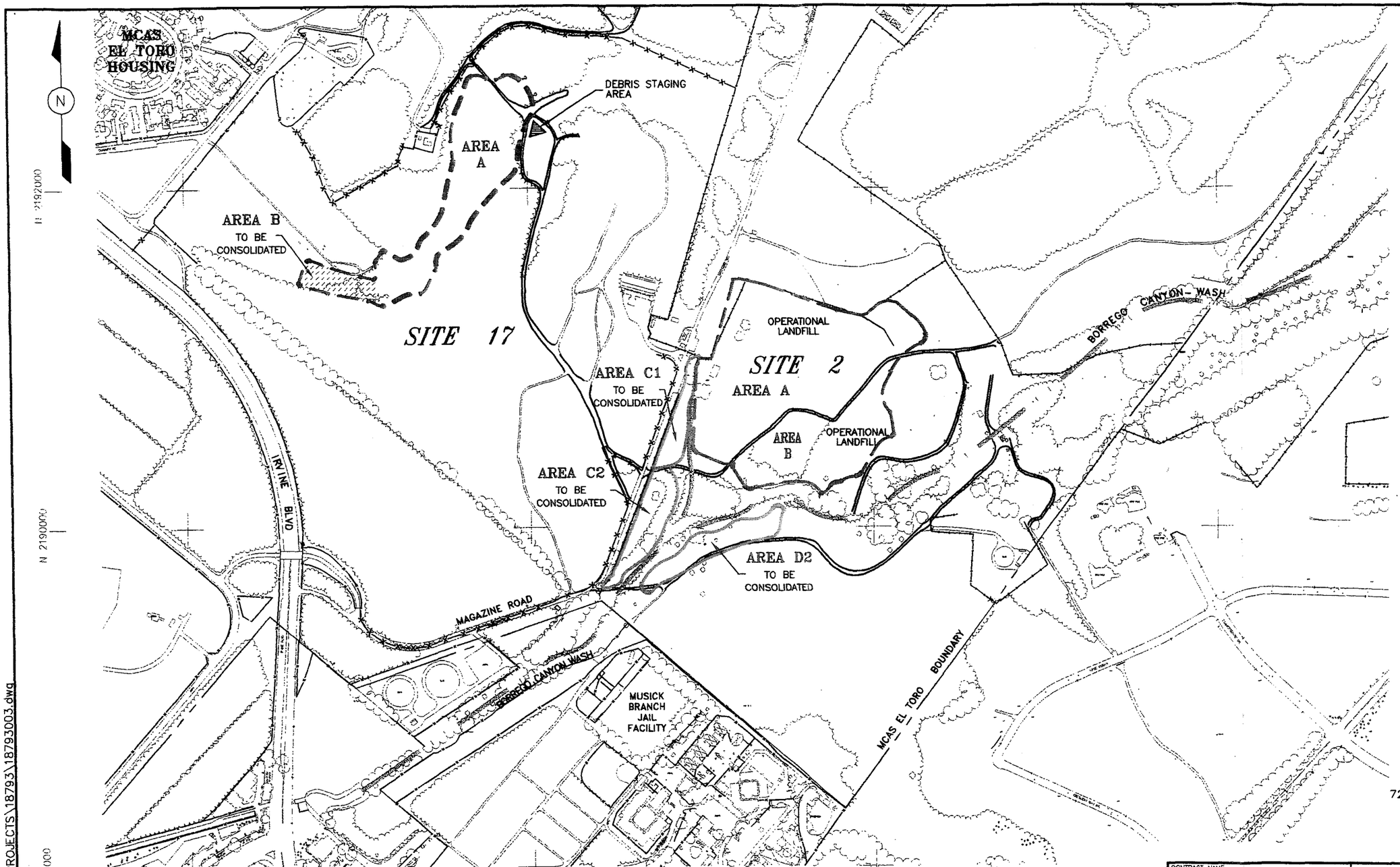

EXPLANATION

- ROAD IMPROVEMENTS
- -X-X- EXISTING FENCE
- -X-X- FENCE INSTALLED BY OHM

GRAPHIC SCALE

7200 0 3600 7200

(IN FEET)

— — APPROXIMATE OPERATIONAL LANDFILL WASTE BOUNDARY

APPROXIMATE LIMITS OF UNCONTROLLED DUMPING

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

CONTRACT NAME	SWDIV
DRAWN BY	R. PIRMORADIAN
DATE	05/06/98
CHECKED BY	
DATE	
APPROVED BY	
DATE	5/27/98
PROJECT MANAGER	
DATE	5/27/98
AUTOCAD FILE No.	18793003.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

SITE PLAN WITH WASTE BOUNDARY AND FENCE LINES
IRP SITE 2 AND 17

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
AS NOTED	1	1	SW5188	18793	FIG 2-1

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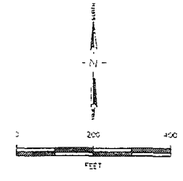

AREA A AND AREA B AT SITE 2 WERE GRADED TO REDUCE PONDING AND DRAIN WATER AWAY FROM RIPRAP.

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT	SWDIV
DRAWN BY / DATE	M.YANEZ 12/24/97
CHECKED BY / DATE	
APPROVED BY / DATE	5/27/97
PROJECT MANAGER / DATE	5/27/98
AUTOCAD FILE No.	18793140.DWG

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AERIAL PHOTOGRAPH DETAILING IRP SITES 2 AND 17

MCAS
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
AS NOTED	1	1	SW5188	18793	FIG 2-2

MCAS El Toro Landfill Sites 2 and 17

Final Construction Monitoring Report Installation Restoration Program

HELIX
environmental planning, inc.

MCAS El Toro Landfill Sites 2 and 17

FINAL CONSTRUCTION MONITORING REPORT INSTALLATION RESTORATION PROGRAM

November 5, 1997

Prepared for:

OHM REMEDIATION SERVICES
2031 Main Street
Irvine, California 92714

Prepared by:

HELIX ENVIRONMENTAL PLANNING, INC.
8100 La Mesa Boulevard, Suite 290
La Mesa, California 91941-6452

Jeffrey L. Lincer, Ph.D.
Consulting Biologist

Scott I. Taylor
Gnatcatcher Biologist

MCAS El Toro Landfill Sites 2 and 17
Final Construction Monitoring Report
Installation Restoration Program

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INTRODUCTION

This Final Construction Monitoring Report presents the results of monitoring by HELIX Environmental Planning, Inc. (HELIX) in conjunction with recent construction at Marine Corps Air Station (MCAS) El Toro. The monitoring was conducted due to the presence of a significant population of the federal-listed threatened coastal California gnatcatcher (*Polioptila californica californica*) within MCAS El Toro, as well as a large amount of its habitat (Venturan/Diegan transitional coastal sage scrub). This report describes the federal action and the results of construction monitoring, as required by the U.S. Fish and Wildlife Service (Service) Biological Opinion (BO) (USFWS 1997a). The BO and regulatory background information are summarized below.

El Toro MCAS is located in south central Orange County, California, along the Santa Ana Mountain foothills between Interstate 5 and the Foothill Transportation Corridor encompassing approximately 4,700 acres (Figures 1 and 2). The facility is bordered on the northwest, south, and west by the City of Irvine and on the east by the City of Lake Forest. The Landfill Project (Operable Unit 2) consists of two landfill locations (Figure 2): Installation Restoration Program (IRP) Site 2 (approximately 44 acres) and IRP Site 17 (approximately 20 acres). Both landfill sites are part of an approximately 1,000-acre conservation area in the western half of the MCAS.

IRP Site 2 is located in the lower end of the Borrego Canyon drainage basin at an approximate elevation of 500 feet above mean sea level (MSL) (OHM Remedial Services 1996). Most of this site is flat with active stream channels along the west and east. It is also bisected by a man-made drainage channel that trends in a northeast-southwest direction. It is bounded by Borrego Canyon Wash to the east, citrus groves to the southwest, industrial and residential areas to the south and northeast, and MCAS El Toro IRP Site 17 and base housing to the west.

IRP Site 17 is located on a hill and adjacent floodplain west of IRP Site 2. A substantial portion of this site contains an unlined drainage channel that drains the relatively flat north end of the site. The elevation of IRP Site 17 ranges from 450 to 600 feet MSL (BNI 1996).

Existing condition information for the project area was provided in a letter submitted last year to OHM Remediation Services (SEB 1996). The sites support four sensitive vegetation types, including Venturan/Diegan transitional coastal sage scrub, mule fat scrub, southern coast live oak riparian forest, and freshwater marsh. The coastal California gnatcatcher occurs throughout the coastal sage scrub (CSS).

DESCRIPTION OF FEDERAL ACTION

The proposed action consisted of several activities at the two sites: 1) completing the fencing of the IRP sites (Sites 2 and 17; Figure 2); 2) improving the access road through the central portion of Site 17 and rerouting the surface runoff around the site through a man-made drainageway; and 3) stabilizing stream banks in the Borrego Canyon Wash including its tributaries on Site 2. The road work at both sites was to improve access to hazardous material areas, and the wash stabilization and rerouting addressed the excessive erosion along the edge of a former landfill that had occurred recently, probably attributable to the upstream urbanization and resultant increased runoff.

The action will also include mitigation in the form of replacement and/or restoration of the sensitive biological resources affected by the project. Mitigation details will be provided in a restoration plan to be prepared subject to the Service's approval. The following general guidelines will be incorporated

into the plan: a 2:1 replacement/revegetation ratio for permanent impacts to gnatcatcher habitat; and revegetation of all areas temporarily impacted (1:1 ratio).

REGULATORY BACKGROUND

Work activities at IRP Sites 2 and 17 at MCAS El Toro were conducted to reduce the potential for human exposure to surface landfill debris, prevent the erosion of landfill materials along runoff channels, and be consistent with the long-term remedy for the sites to the maximum extent practicable in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act, and the National Oil and Hazardous Substances Pollution Contingency Plan 40 Code of Federal Regulations (CFR) 300 (OHM Remedial Services 1996). Sites 2 and 17 are in Phase II of the Remediation Investigation/Feasibility Study process, conducted under the Comprehensive Long-term Environmental Action Navy (CLEAN) II contract.

Early coordination meetings between the applicant and the Service were held to address the federally listed gnatcatcher. As a result of an August 19, 1996 meeting, relating to emergency remediation action (MCAS, El Toro 1996), the following measures were agreed to:

"1. Prior to implementation of the emergency remediation actions, the location of activities shall be reviewed and concurred by the Service.
   a. The landfill collection, staging areas, and field office facilities shall be located in previously disturbed areas away from occupied habitat.
   b. The widening of the gravel roads shall avoid gnatcatcher habitat to the maximum extent possible.

2. Habitat disturbed by the removal of debris, placement of rip-rap, and/or the road widening shall be compensated for by revegetation/restoration of disturbed/cleaned sites at a ratio of two acres restored coastal sage scrub for each acre of habitat that is disturbed.
   a. The restoration plan shall be developed as part of the formal consultation on the emergency remedy and subject to Service approval. If the final IRP precludes an adequate on-site restoration option, then off-site restoration shall be implemented.

3. The emergency activities shall be conducted outside the gnatcatcher breeding season (February 30 through August 30) to the maximum extent practicable."

During a January 27, 1997 meeting and site visit, the following measures were also agreed to, relative to site 17:

"4. The footprint for the surface water diversion channel will be reduced to a width [of] 110 feet and cleared according to the August 19, 1996 (sic) measures. The vegetative matter cleared will be salvaged.

5. The channel was divided into three sections [based on biological sensitivity]; section 1 will be realigned to reduce impacts to coastal sage scrub, section 2 construction can start since it is not within habitat nor reasonably near any gnatcatcher pairs, section 3 construction will commence upon completion of formal consultation.

6. The haul road will utilize an existing road [rather than using an old road (the original proposal) which had grown over with some quality habitat]."

Conditions 1, 3,4, 5, and 6 have been accomplished.

The Service prepared a biological opinion (1-6-97-F-14) in accordance with the legal requirements set forth under Section 7 of the Endangered Species Act (ESA) of 1973, as amended (U.S. Fish and Wildlife Service 1997a). The Service anticipated that two pairs of gnatcatchers at site 17 and two pairs of gnatcatchers at site 2 might be taken in the form of harassment due to indirect effects of noise and activities and direct continued impacts to habitat as a result of the remediation project. They added that six more pairs might be taken in the form of harassment due to indirect effects of noise and construction activities as a result of the remediation project. The effect of take was considered a minor disruption of breeding and foraging behavior. The total maximum amount of coastal sage scrub habitat impacts was projected to be 6.12 acres for site 17 and 3.63 acres for site 2. This amount of disturbance was considered to be the areal extent of take due to harassment. It was the opinion of the Service that the proposed action would not likely jeopardize the continued existence of the coastal California gnatcatcher. The Service concluded that the following Reasonable and Prudent Measures would be necessary to minimize the impact of the incidental take to gnatcatchers.

"(1) The Navy/Marine Corps will minimize impacts to gnatcatcher habitat to the greatest extent possible.
(2) The Navy/Marine Corps will minimize disturbance during the gnatcatcher breeding season to the greatest extent possible."

To be exempt from the prohibitions of Section 9 of the ESA, the Navy/Marine Corps was required to comply with the following Terms and Conditions for measure number:

"1.1 The Navy/Marine Corps will continue to follow the August 19, 1996 and January 27, 1997 measures, except for the construction of the surface water diversion channel as provided for in this biological opinion.

1.2 The Navy/Marine Corps will continue to flag and monitor the extent of activities to ensure that it does not exceed the total maximum impact (6.12 acres for site 17 and 3.63 acres for site 2). The monitor will be a qualified biologist with experience with gnatcatcher ecology.

1.3 The Navy/Marine Corps will submit habitat monitoring reports to the Service every week during the gnatcatcher breeding season (February 30 through August 30) and monthly during the non-breeding season for the term of the remediation activities."

Those Terms and Conditions which this report responds to, for measure number two, are as follows:

"2.1 The Navy/Marine Corps will continue to follow the August 19, 1996, and January 27, 1997 measures, except for the construction of the surface water diversion channel as provided for in this biological opinion. This term and condition may be filled concurrently to term and condition number 1.1.

2.2 The Navy/Marine Corps will continue to flag and monitor the extent of activities to ensure that it does not exceed the total maximum impact. Monitoring will include nesting activity, timing, and location. The monitor will be a qualified biologist with experience with gnatcatcher ecology. This term and condition may be filled concurrently to term and condition number 1.2.

2.3 The Navy/Marine Corps will submit gnatcatcher monitoring reports to the Service every week during the gnatcatcher breeding season. This term and condition may be filled concurrently to term and condition number 1.3.

2.4 The Navy/Marine Corps will limit, to the maximum extent practicable, loud activities (60 decibel) from the construction of the surface diversion channel to after 11 a.m. If this is not practicable, temporary sound barriers will be used on the edges of the surface diversion construction area if the noise level exceeds 60 decibels."

HABITAT AND SPECIES INFORMATION

The following paragraphs summarize the biological resources within IRP Sites 2 and 17. Additional details can be found in the Environmental Protection Plan (Appendix F of the Construction Work Plan; OHM Remediation Services 1996).

Vegetation

The predominant vegetation on the uplands of the study area consists of Venturan/Diegan transitional coastal sage scrub (CSS) and ruderal vegetation, while mule fat scrub and freshwater marsh (Gray and Bramlett 1992) dominate the drainage areas.

The CSS is scattered in many locations and dominated by California sagebrush (*Artemisia californica*). A variety of other shrub species also occurs within the sage scrub community. The number and cover of annual species is limited, however, because of the relatively dense and tall cover of the shrub component. CSS is considered a sensitive habitat by several resource agencies (Holland 1986) because it supports a number of state and federally listed endangered, threatened and rare vascular plants as well as several bird and reptile species that are federally listed or are candidate species for federal listing. Of particular importance is the federal listed as threatened coastal California gnatcatcher (*Polioptila californica californica*).

Ruderal vegetation, including black mustard (*Brassica* sp.), ripgut grass (*Bromus diandrus*), brome species (*Bromus* spp.), wild oat (*Avena* sp.) and filaree (*Erodium* spp.) occurs over disturbed portions. Ruderal vegetation is not considered sensitive.

The mule fat plant community is dominated by its namesake, mule fat (*Baccharis salicifolia*). Minor plant associates include black willow (*Salix goodingii*), coyote brush (*Baccharis pilularis*) and tree tobacco (*Nicotiana glauca*). Mule fat scrub is considered a sensitive plant community by the resource agencies because it is a riparian habitat.

Freshwater marsh typically includes cat-tails (*Typha* sp.), spike sedge (*Eleocharis* sp.), rush (*Juncus* sp.) and umbrella sedge (*Cyperus* sp.). It occurs in three small isolated pockets in a side tributary to Borrego Canyon Wash and is dominated by cat-tails. Like mule fat scrub, freshwater marsh is considered sensitive by the resource agencies because it is a riparian habitat.

Wildlife

El Toro MCAS supports a wide variety of wildlife species, including representatives from nearly all major vertebrate groups (reptiles, amphibians, birds and mammals). Undoubtedly the diversity of invertebrate species is at lease commensurate.

Several sensitive species are known from El Toro MCAS, but only one that is federal listed is being affected by the project, the coastal California gnatcatcher.

Coastal California gnatcatcher (*Polioptila californica californica*)
Listing: USFWS; FT; CDFG; CSC.
Distribution: Southern Los Angeles, Orange, western Riverside, and San Diego counties south into Baja California, Mexico.
Habitat: Coastal sage scrub vegetation composed of relatively low-growing drought deciduous plant species such as California sagebrush, black sage, purple sage (*S. leucophylla*), white sage (*S. apiana*), laurel sumac (*Malosma laurina*), coast encelia (*Encelia californica*), California buckwheat (*Erigonium fasciculatum*) and yellow-flowered bush penstemon (*Keckiella antirrhinoides*).
Status on site: See below: Construction Monitoring section.

METHODS

Our field activities at MCAS El Toro consisted of construction monitoring/habitat loss determination, gnatcatcher monitoring, and noise monitoring. Field work was conducted by Dr. Jeff Lincer, Mr. Scott Taylor (PRT-778195), Mr. Peter Allen, and Mr. Mike Komula as shown in Table 1. A description of methods for each activity conducted is provided below.

Construction Monitoring and Habitat Loss Determination

Construction monitoring at El Toro MCAS was conducted on a weekly and an on-call basis. The goal of the monitoring was to assure that construction activities 1) would not create excessive noise and/or dust that would affect the gnatcatchers on site and 2) would not involve impacts to a nest so that a gnatcatcher abandoned it.

Although unscheduled site visits were also conducted, weekly monitoring generally took place on Tuesdays and Thursdays of each week and was conducted by one or two biologists. During each of these monitoring events, construction activity was checked against agreed-to limits and flagging. On-call monitoring entailed responses to requests by OHM to be on site during specific construction activities. Monitoring reports were submitted to the Service weekly during the gnatcatcher breeding season, per the BO.

Habitat loss determinations were made after completion of construction activities in a given area. The area of impact was paced off and estimated in the field. Upon project completion, as-built maps were generated (using an Auto-CADD system) by CalVada Surveying. These were electronically overlain over the habitat maps generated by HELIX and the habitat loss was calculated. These habitat loss areas and calculated losses were then compared with previous field notes and habitat loss estimates for quality assurance purposes.

Gnatcatcher Monitoring

The primary purpose of the gnatcatcher monitoring was to assure that any gnatcatchers or gnatcatcher nests within vicinity of the construction activity were not jeopardized. The biologist(s) observed gnatcatcher pairs to monitor behavior and to assure that construction activities did not directly impact active nests.

Coastal California gnatcatcher nests within 500 feet of work areas were generally located by Scott Taylor (PRT 778195). Taped coastal California gnatcatcher vocalizations were played but used sparingly to initially locate birds. Once a gnatcatcher responded to the tape, the bird was silently observed for as long as necessary to document the number, age and sex of all gnatcatchers present in the vicinity and find any nests. Binoculars of approximately 8 X 40 power were used to aid in the observation of birds.

Gnatcatcher monitoring conducted by non-permitted personnel (Jeff Lincer and Peter Allen) was generally limited to silent observation of gnatcatchers to monitor behavioral responses to construction activities.

Noise Monitoring

HELIX acoustician Mike Komula collected baseline noise data during construction of the surface diversion channel in order to comply with the above measure 2.4 (avoiding activities above 60 decibels from the construction of the surface diversion channel). Mr. Komula was available to measure the noise level of all construction equipment (see Appendix A); and the cumulative noise of a typical operation (involving several different pieces of equipment) was measured at a distance comparable to the nearest likely gnatcatcher nest.

RESULTS

Habitat Loss

Per the Service's BO, anticipated loss of coastal sage scrub was 3.63 acres for site 2 and 6.12 acres for site 17, for total of 9.75 acres. The actual loss was 2.70 acres for site 2 and 3.97 acres for site 17, for a total loss of 6.67 acres (Figures 3 and 4). Therefore the actual loss of coastal sage scrub was 3.08 acres or 32 percent less than anticipated.

Coastal California Gnatcatcher Observations

Ten pairs and two territorial males were monitored on Sites 2 and 17 in 1997.

Site 2

While checking an area of proposed construction (which did not occur), two pairs of gnatcatchers and two territorial males were observed in early April, 1997 on Site 2 (Figure 5). One of the pairs appeared to be feeding young. No other reproductive data were collected at this site because most construction activity was completed prior to the breeding season on Site 2. Therefore, gnatcatcher observations were not as intensive at this site as they were at Site 17, where nesting and construction activity occurred at the same time.

Site 17

Because the location of construction work areas varied from visit to visit, our weekly observations were made in different parts of the site. In order to present as clear a graphic as possible, the numbered observations in Figure 5 are consolidations of multiple observations made over time. During a single visit, the most gnatcatcher pairs observed were five family groups and a female with a fledgling. However, the sightings made over the course of the year represent a total of eight pairs (Pairs 1-7; 12). This total pair number is consistent with observations made during past studies (SEB 1994, 1996; KEA 1996).

The earliest nest observed was constructed on April 4, 1997 and had fledged young by May 15, 1997. Through the season, we located four additional nests within the 500 foot distance from work areas. The last nest observed was located on June 12, 1997 and had fledged by June 19, 1997.

Gnatcatcher breeding on MCAS El Toro seemed to be finished in mid-June. Pairs observed throughout July were either feeding young or foraging together, with no signs of nesting behavior. The last gnatcatcher observations were made on August 21, when at least one male on site was noted to be in post-breeding plumage.

Noise Monitoring

No gnatcatchers appeared to exhibit altered behavior clearly in response to construction activity. When construction noise exceeded 60 decibels (see Appendix A), no gnatcatchers were nesting within the 60 decibel isoline. Therefore, the use of temporary sound barriers was not necessary (as specified in Measure 2.4 of the BO.

CONCLUSIONS

In conclusion, the activities conducted to date at MCAS El Toro under Phase II of the Remediation Investigation/Feasibility Study complied with standards set forth in the Biological Opinion (1-6-97-F-14). The total loss of coastal sage scrub allowed in the BO was not exceeded and was actually lower than anticipated. A final task, preparation of the restoration plan and revegetation of all areas impacted, will need to be implemented to complete compliance with the BO.

REFERENCES

BNI. 1996. *Draft Phase II Remedial Investigation Report, Operable Unit 2B-IRP Site 17, Marine Corps Air Station, El Toro, California,* prepared for Southwest Division Naval Facilities Engineering Command (Contract No. N68711-92-D-4670, CTO-0076-0119). March.

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SEB. 1994. 1994 Surveys for Coastal California Gnatcatcher and San Diego Cactus Wren, Orange County Central and Coastal NCCP Subregions. Unpub. document for Orange County and The Irvine Company.

SEB. 1996. Letter regarding the biological constraints within Marine Corps Air Station El Toro Landfill Site to William L. Sedlak, OHM Remedial Services Corp. September 13, 1996.

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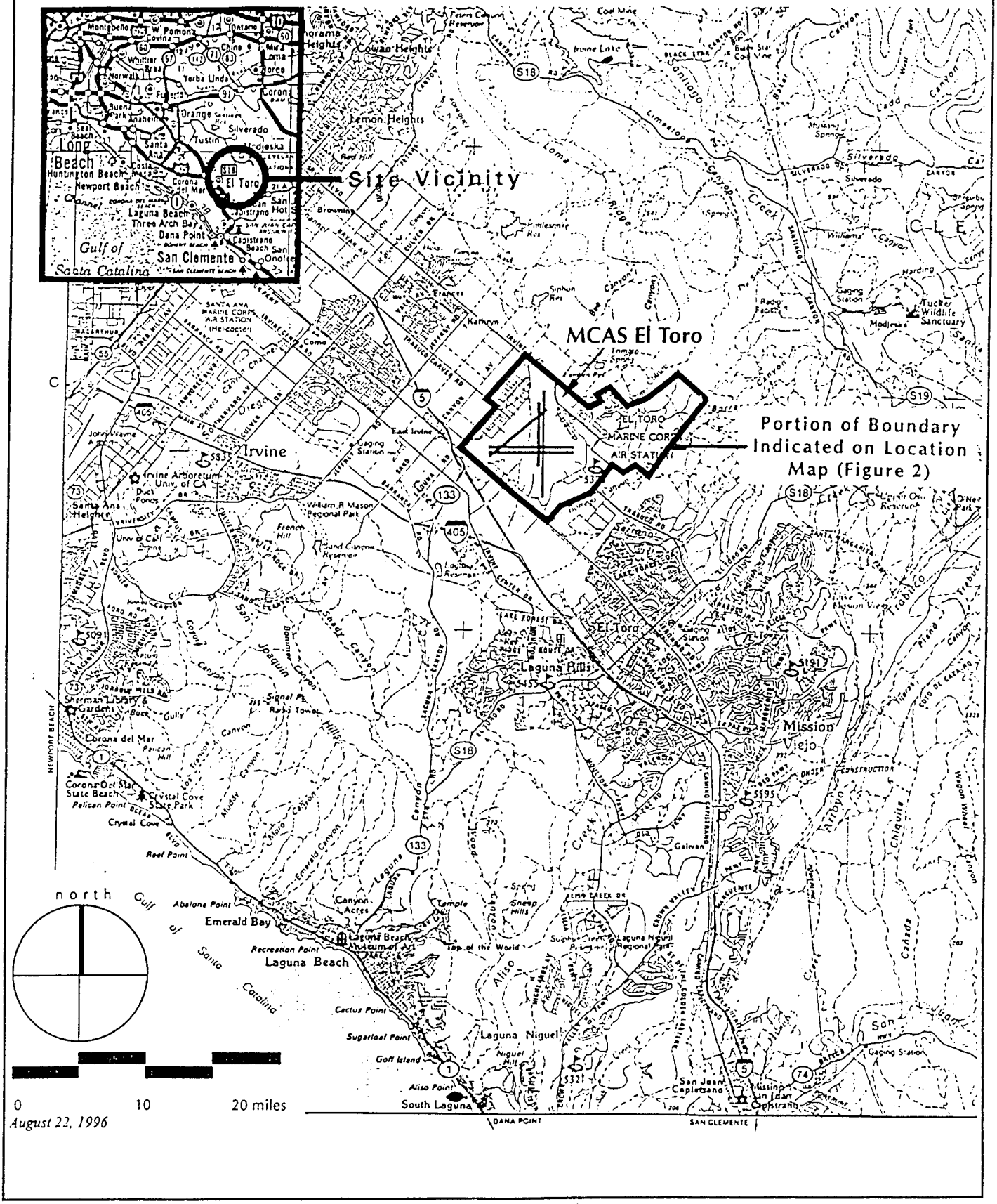
KEA. 1996. Gnatcatcher Survey Report for the Conservation Area at Marine Corps Air Station, El Toro, Orange County, California. August 28, 1996.

Figures

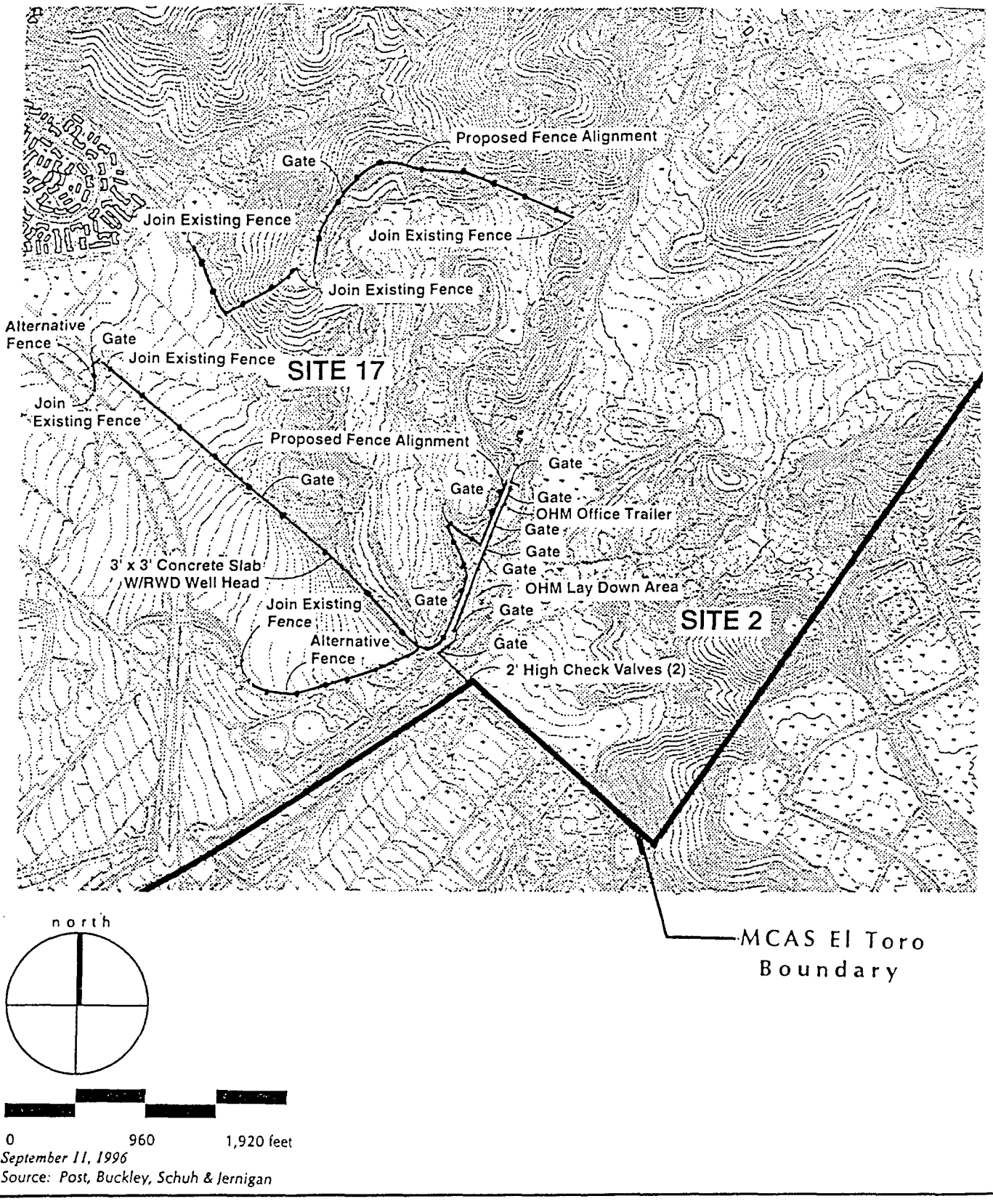


Vicinity Map

HELIX

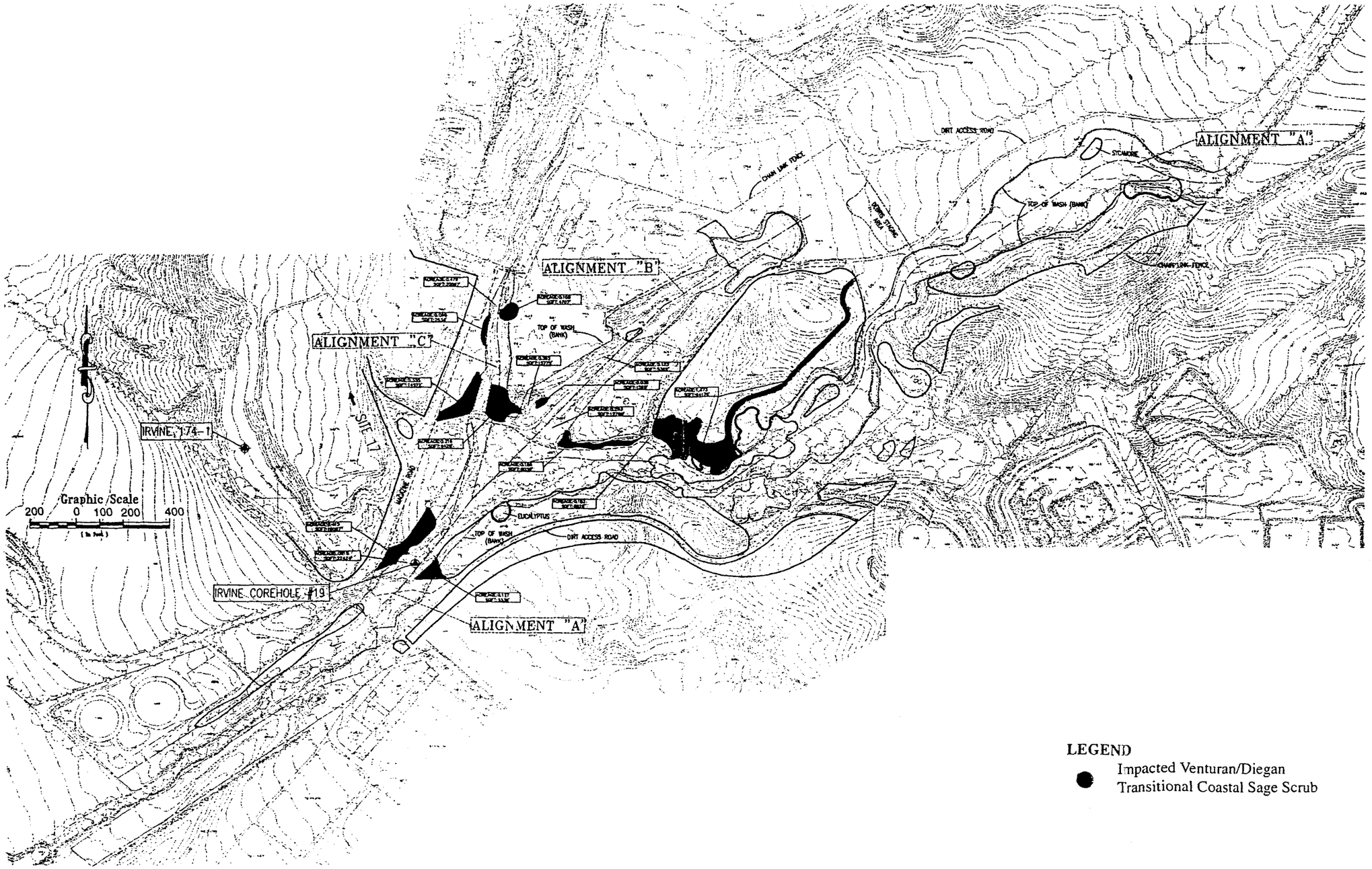
MCAS EL TORO CONSTRUCTION MONITORING REPORT

Figure 1



Location Map

HELIX MCAS EL TORO CONSTRUCTION MONITORING REPORT Figure 2



Source: CAL VADA Surveying, Inc.
Date: October 15, 1997

Coastal Sage Scrub Loss - Site 2

HELIX

MCAS EL TORO CONSTRUCTION MONITORING REPORT

Figure 3

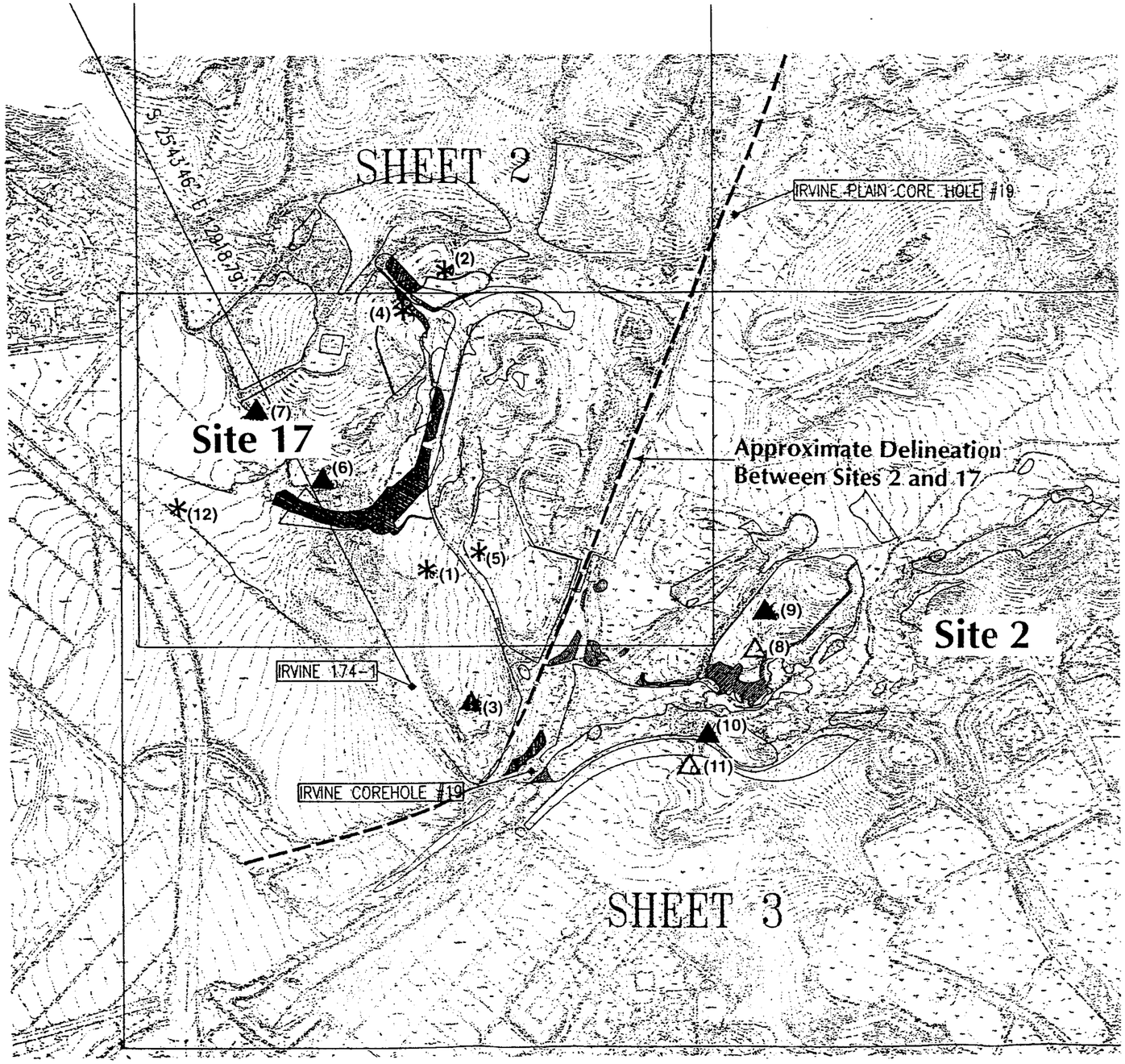
LEGEND

● Impacted Venturan/Diegan Transitional Coastal Sage Scrub

Graphic Scale
150 0 75 150 300
(In Feet)

Source: CAL VADA Surveying, Inc.
Date: October, 15, 1997

Coastal Sage Scrub Loss - Site 17



Coastal California Gnatcatcher Nest & Pair Locations - Sites 2 & 17

MCAS EL TORO CONSTRUCTION MONITORING REPORT

figure 5

Tables

Table 1

SURVEY SCHEDULE

Date	Purpose[1]	Weather Conditions	Site	Personnel[2]
9/9/96	HLD	N/A	17	JL
9/16/96	HLD	N/A	17	JL
9/17/96	HLD	N/A	17	JL
12/9/96	HLD	N/A	17	JL
12/12/96	HLD	N/A	17	JL
1/9/97	HLD	N/A	17	JL, ST
3/18/97	HLD	N/A	17	JL
3/20/97	GNAT	<5-8 mph; clear-sl. overcast; 80-86° F	17	JL
4/4/97	GNAT	3-5; partly cloudy; 64-70° F	2 & 17	JL
4/11/97	GNAT	calm; clear-partly cloudy; 59-63° F	2 & 17	JL
4/15/97	GNAT	<5 mph; clear; 59-79° F	2 & 17	JL, PA
4/18/97	GNAT	<5 mph; overcast-clear; 59-70° F	2 & 17	JL
4/28/97	GNAT	<5 mph; partly cloudy; 68-75° F	17	ST
4/29/97	GNAT	<5 mph; overcast; 72-75° F	17	JL
5/15/97	GNAT	<5 mph; ptly. overcast-clear; 78-83° F	17	JL
5/22/97	GNAT	<5 mph; overcast; 72-83° F	17	JL, ST
5/29/97	GNAT	<3 mph; clear; 78-88° F	17	JL, ST
6/5/97	GNAT	3-5 mph; overcast; 72-75° F	17	JL
6/12/97	GNAT	calm; overcast; 65-73° F	17	JL, ST
6/17/97	CONST	N/A	17	JL, MK
6/19/97	GNAT	calm; clear; 66-84° F	17	JL, ST
6/24/97	CONST	N/A	17	JL
6/25/97	CONST	N/A	17	JL
7/1/97	CONST, HLD, GNAT	calm; clear; 72-82° F	17	JL
7/3/97	GNAT	calm; clear; 68-86° F	17	JL, ST
7/8/97	CONST	N/A	17	JL
7/10/97	GNAT, HLD	calm; clear; 73-87° F	17	JL, ST
7/15/97	CONST, HLD	N/A	17	JL
7/17/97	GNAT, CONST, HLD	≤ 5 mph; overcast-clear; 69-75° F	17	JL, ST
7/22/97	CONST, HLD	N/A	17	JL
7/24/97	CONST	N/A	17	JL
7/29/97	CONST	N/A	17	JL
7/31/97	CONST	N/A	17	JL
8/5/97	CONST	N/A	17	JL
8/6/97	GNAT, CONST	calm; clear; 72-81° F	17	JL, ST
8/12/97	GNAT	0-2 mph; overcast-clear; 70-78° F	17	ST, PA
8/14/97	GNAT	calm; overcast-clear; 70-79° F	17	PA
8/21/97	GNAT, CONST	calm; overcast-clear; 68-78° F	17	JL, ST
8/22/97	CONST	N/A	17	JL
8/28/97	CONST	N/A	17	JL
9/26/97	CONST, HLD	N/A	2 & 17	JL

[1]HLD = Habitat loss determination; GNAT = Gnatcatcher monitoring; CONST = Construction monitoring

[2]JL = Jeffrey Lincer; ST = Scott Taylor; PA = Peter Allen; MK = Mike Komula

Appendix A

NOISE LEVEL MONITORING

MEMO

To: Dave Claycomb
From: Mike Komula
Date: July 7, 1997
Re: El Toro MCAS -- Construction Noise Monitoring

Noise measurements were conducted for various pieces of construction equipment and during various construction activities on June 17 and 19, 1997 at El Toro MCAS. The purpose of the noise measurements was to determine the maximum noise level generated by various types of construction equipment, and to determine if noise from the construction activities would exceed the 60 dB one-hour average noise level standard for California gnatcatchers at nesting sites.

The maximum noise level generated by various pieces of construction equipment was measured at distances between 50 to 100 feet from the construction equipment. The one-hour average noise level has been estimated for the construction equipment based on the measured maximum noise levels and observed construction activities.

With the exception of the excavator, the one-hour average noise level is estimated to be approximately seven to ten dB less than the maximum noise level generated by the equipment. The maximum noise level and the one-hour average noise level associated with the excavators are nearly the same because the excavators are generally confined to a smaller work area; whereas the dozer, wheel loader, compactor and dump trucks move around in a larger work area. Also, it should be noted that the maximum and average noise levels will vary somewhat depending on the material that is being worked, and the number of pieces of equipment that are working in an area.

For the noise measurements that were conducted at distances other than 50 feet, the measured construction equipment maximum noise levels have been normalized to a distance of 50 feet for comparison purposes. The noise levels generated by the Volvo dump trucks are approximately three dB less than noise levels generated by the Terex dump trucks. Table 1 summarizes the results of the noise measurements and the estimated one-hour average noise levels associated with the construction equipment and activity.

Currently, there are no California gnatcatchers nesting at the site. Therefore, construction activities are not required to meet the one-hour average 60 dB noise standard at this time.

In addition, a noise measurement was made near a recently abandoned California gnatcatcher nest site. The closest construction equipment was located at a rock pile area located approximately 1200 feet north of the noise measurement site. The construction equipment consisted of a wheel loader, a compactor, a track dozer and several dump trucks. The measured average noise level was 49 dB. There were no military aircraft flights overhead during the noise measurement. The maximum noise level associated with the construction work area was typically less than 45 dB at the noise measurement location. Haul trucks generated maximum

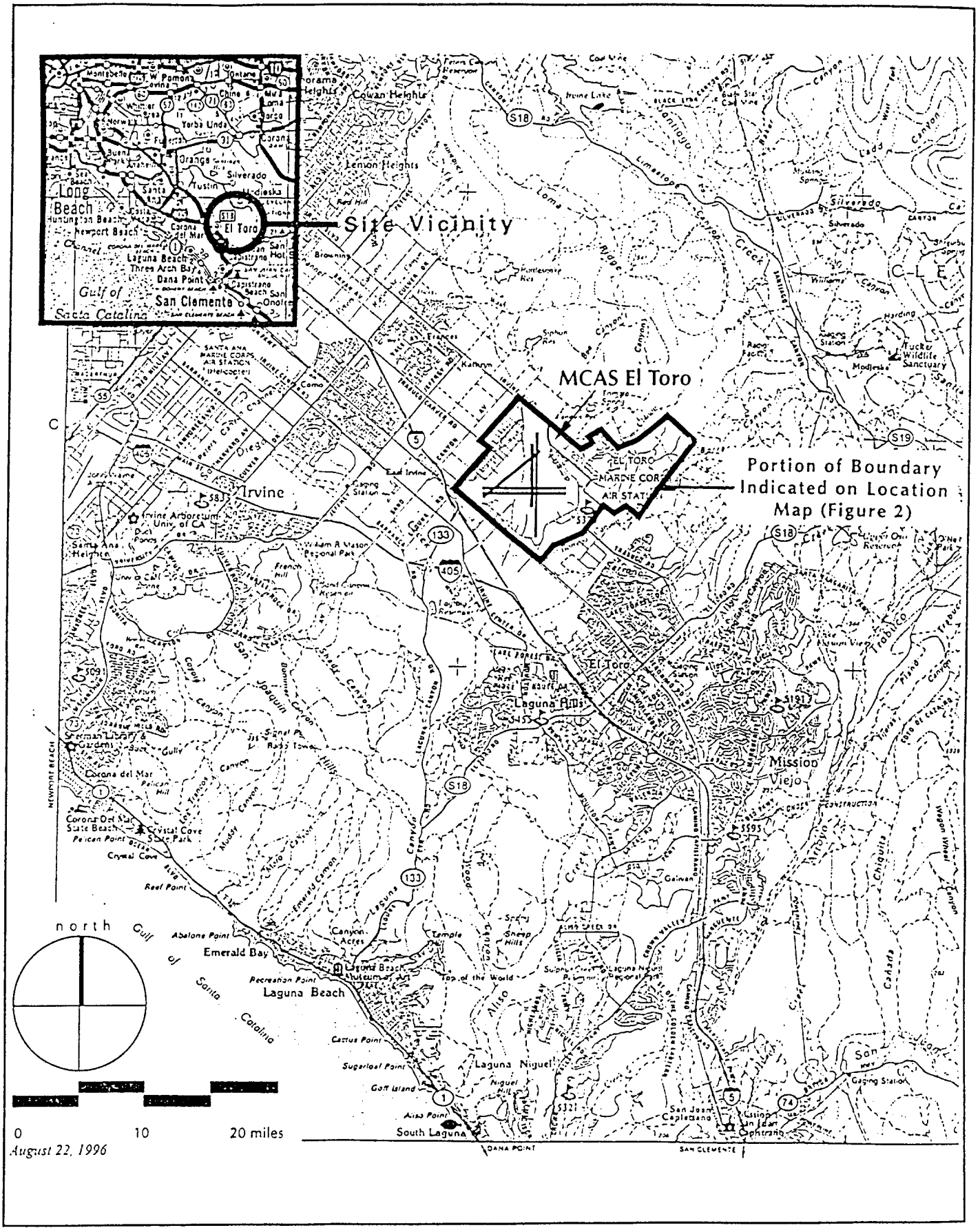
noise levels between 53 and 58 dB during the noise measurement. The haul road is located approximately 300 feet from the noise measurement site.

Table 1

CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Maximum Noise Level	One-Hour Average Noise Level	Observed Activity
Caterpillar D8R track dozer	88 dB[2]	81/75 dB[3]	Grading road
Caterpillar 330 Excavators	74 dB[1]	72/66 dB[1]	Excavating/loading
Caterpillar 966F wheel loader	89 dB[2]	79/73 dB[1]	Loading rocks/dirt
Caterpillar 815F compactor	83 dB[2]	75/69 dB[3]	Compacting road
Volvo and Terex dump trucks	75 to 81 dB[1]	63/57 dB[3]	Hauling dirt/rock

[1] Measured at a distance of 50 feet.
[2] Normalized to a distance of 50 feet based on noise measurements made at distances other than 50 feet.
[3] Noise level at 50'/100'



Vicinity Map