Draft

Preliminary Assessment

Naval Weapons Station Seal Beach Detachment Norco, California

Contract Number: N62473-09-D-2622
Contract Task Order: 0075
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February 2016

Prepared for

Department of the Navy Naval Facilities Engineering Command Southwest

Prepared by

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Executive Summary

This Preliminary Assessment (PA) presents the findings of the PA investigation at Naval Weapons Station Seal Beach, Detachment Norco, California (Detachment Norco). This PA assesses aspects of past and present activities with particular focus on five sites reported in the Initial Assessment Study (IAS) (NEESA, 1985).

In 1985, an IAS (NEESA, 1985) was performed for Seal Beach, Fallbrook, and Norco (previously known as Corona Annex). No sites were recommended for further investigation. However, because of concerns from the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), the United States Department of the Navy (Navy) agreed that additional study in the form of a PA is warranted. DTSC submitted the following list of sites of concern identified in the IAS.

1. Missile Systems Department: the IAS states that small quantities of solvents were used for cleaning electronic parts, and soldering was performed.
2. Fuse Department: this department built prototype fuses using small quantities of ordnance compounds. In addition, machine shops (potential waste oil or motor oil) were located in several buildings.
3. Research Department: this department had a beryllium laboratory. Although the Navy claims it was a closed system, no data exist to verify that there is no beryllium dust at the Corona Annex (Detachment Norco).
4. Print shop: this shop had five presses. From the 1950s to 1967, wastes in dumpsters were burned at the incinerator located on the property. The incinerator stopped its operation around 1968.
5. Target Missile Drone Storage: it is reported that fuel was disposed of at an ordnance burn pit and burial pits by the drop test tower.

The PA research included site visits; interviews with personnel familiar with the history of the facilities; and data collection in the administrative record, Naval archives, and at Detachment Norco.

Based on site reconnaissance and interviews with key personnel, a survey of several buildings and a site visit of the entire facility were undertaken. The survey was completed to identify historical operations and chemical or waste handling practices at the IAS sites, reported historical surface disposal sites, and those that raised further inquiry based on interviews. Four reported surface disposal sites were visited, as well as a thorough review of the sites identified by the IAS. All of the IAS sites previously recommended for no further action (NFA) are again recommended for NFA. No evidence of waste handling, storage, or disposal was discovered during the PA. One site, the Target Missile Drone Storage area, was confirmed to not exist at Detachment Norco, but is described in the IAS as a site at Naval Weapons Station Seal Beach, Detachment Fallbrook.

During a records review, 13 underground storage tanks (USTs) were noted on a 1958 general plan map. Two of the thirteen tanks were associated with the Navy Exchange Gas Station and were located on property excessed by the Navy that is now a park. The remaining 11 USTs were on the current Detachment Norco property. No record of removal or closure of these historical USTs can be found. Based on site reconnaissance visits, no evidence of the tanks such as piping or a fuel island was present. No further action is recommended for the former USTs.

One of the four surface disposal sites investigated appears to have received waste from the former hotel and former Naval Hospital, as evidenced by pottery shards coincident with those eras. Melted glass and metal debris at the disposal site suggest the area may have received waste; therefore, further investigation is recommended.

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Acronyms and Abbreviations

AST	aboveground storage tank
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Detachment Norco	Naval Weapons Station Seal Beach, Detachment Norco, also historically referred to as Detachment Corona and Corona Annex
DQO	data quality objective
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
EDR	Environmental Data Resources, Inc.
IAS	Initial Assessment Study
INRMP	Integrated Natural Resources Management Plan
KCH	CH2M HILL Kleinfelder, A Joint Venture
MSTL	Measurement Science and Technology Lab
Navy	United States Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEX	Navy Exchange
NFA	no further action
NSWC Corona	Naval Surface Warfare Center, Corona Division
PA	Preliminary Assessment
RI/FS	Remedial Investigation/Feasibility Study
RV	recreational vehicle
Santa Anna Water Board	California Regional Water Quality Control Board, Santa Anna Region
SI	Site Inspection
SPCCP	Spill Prevention, Control and Countermeasures Plan
TPH	total petroleum hydrocarbons
USEPA	Unites States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

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1.0 Introduction

CH2M HILL Kleinfelder, a Joint Venture (KCH), and Richard Brady and Associates, Inc. have prepared this Preliminary Assessment (PA) report on behalf of the Naval Facilities Engineering Command Southwest, in accordance with Contract Task Order 0075 issued under the Comprehensive Long-Term Environmental Action Navy Program, Contract Number N62473-09-D-2622. This PA report follows requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for facilities subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), related United States Environmental Protection Agency (USEPA) technical guidance (USEPA, 1999), and the United States Department of the Navy (Navy) Environmental Restoration Program Manual (Navy, 2006).

The purpose of this PA is to assess immediate or potential threat wastes at Naval Weapons Station Seal Beach, Detachment Norco (Detachment Norco) that pose a threat to human health or the environment and to collect information to support a decision regarding the need for further action under CERCLA in accordance with Navy and USEPA guidance. This PA also addresses the five sites identified in the Initial Assessment Study (IAS), (NEESA, 1985) as requested for further investigation by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC).

The PA evaluates sites to determine whether there has been a release subject to CERCLA Section 104, or a release or substantial threat of release into the environment of any contaminant that may present an imminent and substantial danger to public health or the environment (Navy, 2006). The PA may result in one of the following outcomes based on the following criteria:

- No further action (NFA) if no release is identified and/or no significant threats are present
- Progression to a Site Inspection (SI) if there is insufficient information to reach an NFA decision
- Removal Action if a significant threat to human health or the environment exists or is imminent
- Remedial Investigation/Feasibility Study (RI/FS) if the Navy determines that a site warrants remediation, the SI can be skipped and the site can go directly to RI/FS.

As specified in the NCP, the Department of Defense (specifically the Navy) is the lead agency responsible for environmental restoration of Navy sites. Detachment Norco is not on the National Priorities List; therefore, the State of California provides the lead regulator that oversees environmental activities. The DTSC is the lead regulatory agency and the California Regional Water Quality Control Board, Santa Anna Region (Santa Anna Water Board) is the support agency regarding groundwater for Detachment Norco's Installation Restoration Program.

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2.0 Background and Site Descriptions

This section provides a general description and historical background of Detachment Norco, and provides individual site descriptions of five PA sites as previously presented in the IAS. Detachment Norco (previously known as Corona Annex) is located in the City of Norco approximately 5 miles north of the City of Corona in Riverside County. Originally encompassing approximately 684 acres, the current naval activities encompass approximately 243 acres (Figure 1-1).

2.1 Operational History

In the early 1920s, Rex B. Clark purchased 15 square miles in Riverside County, including the site currently occupied by Detachment Norco, for development of community-based farming. While drilling a well, mineral hot springs were discovered, which spurred Mr. Clark to change his plans and develop a world-class luxury resort. The Lake Norconian Club opened on February 2, 1929, and included a 5-story luxury hotel, golf course, and a 58-acre man-made lake. Shortly after the opening, the Great Depression began and the club had to close its doors (Lake Norconian Club Foundation, 2013).

The resort was purchased by the Navy on December 8, 1941, with the intent of converting the facility into a naval hospital for casualties of World War II. Construction commenced to convert the hotel into a hospital and provide additional facilities needed by the hospital. The hospital was closed briefly in 1949 but reopened from 1950 to 1957 for the Korean War (Lake Norconian Club Foundation, 2013). During the closure, the Naval Weapons Assessment Center was established on part of the facility; it continues today as the Naval Surface Warfare Center.

Detachment Norco supports the Naval Sea Systems Command’s Naval Surface Warfare Center, Corona Division (NSWC Corona). The Warfare Centers are the Navy's principal research, development, test, and evaluation assessment facilities for surface ship and submarine systems and subsystems. NSWC Corona is the Navy’s technical agent for independent assessment and range systems engineering, as well as its meteorology and calibration agent, with a workforce that includes some 900 scientists, engineers, and support staff, and 400 contractors.

Detachment Norco is home to NSWC Corona’s Joint Warfare Assessment Lab, the Measurement Science and Technology Lab (MSTL), a calibration lab that specializes in force, optics, and dimension, and the Daugherty Memorial Assessment Center. Detachment Norco’s scientific and technical activities require office, laboratory, data processing, and communications facilities. No vehicle maintenance, training, or troop activities are conducted at Detachment Norco.

2.2 Investigation History

In 1985, an IAS was performed for Seal Beach, Fallbrook, and Norco (Corona Annex). No sites were recommended for further investigation at Norco. However, because of concerns from the DTSC regarding some language in the IAS, the Navy agreed that additional study in the form of a PA is warranted. DTSC submitted the following sites of concern at Detachment Norco that were evaluated in this PA.

1. Missile Systems Department: the report states that small quantities of solvents were used for cleaning electronic parts, and soldering was performed.
2. Fuse Department: this department built prototype fuses using small quantities of ordnance compounds. In addition, machine shops (potential waste oil or motor oil) were located in several buildings.
3. Research Department: this department had a beryllium laboratory. The lab handling beryllium was a closed system; however, no data exist to verify there was a release of beryllium dust.
4. Print shop: the shop had five presses. From the 1950s to 1967, wastes in dumpsters were burned at the incinerator located on the property. The incinerator stopped its operation around 1968.
5. Target Missile Drone Storage: it is reported that fuel was disposed of at an ordnance burn pit and burial pits by the drop test tower.

2.3 IAS Site Descriptions

The five sites mentioned above were identified in the IAS as NFA sites; however, at the request of DTSC these sites were evaluated as part of this PA. The descriptions below were excerpted from the IAS (italicized text) (NEESA, 1985). Source citations in the IAS have not been verified and, therefore, are not included in the reference list of this PA. It is assumed that these departments operated between the end of World War II and the Cold War (1991). These departments are currently operated by NSWC Corona.

Two reported historical surface disposal sites, one near the former hotel (now correctional facility) and the other near the recreational vehicle parking area, are thought to have received waste. Although this information has not been substantiated, these sites were identified for site reconnaissance visits. Additionally, the Integrated Natural Resources Management Plan (INRMP) identified potentially hazardous sites, which included two aboveground storage tanks (ASTs), portable generators, sewer lift station failures, and two sodium hypochlorite solution spills originating from the correctional facility (AMEC, 2013). A complete description of these sites and PA findings is presented in Section 5.

2.3.1 Missile Systems Department

The Missile Systems Department operational chronology is unknown.

> *The Missile Systems Department designed electronic equipment for guidance systems. Much of the work involved the use of computers for simulation. Numerous prototypes were built, but production work was never performed. Small quantities of solvent were used for cleaning electronic parts, and soldering was performed.*

2.3.2 Fuse Department

The Fuse Department operational chronology and location were unknown at the initiation of the PA. Additional information was obtained during the site visit, as described in Section 5.

> *The Fuse Department designed and tested the electronic components of missiles. Environmental tests were performed on fuses and other missile components usually in chambers inside buildings. The components were subjected to extremes of temperature, humidity, and other environmental conditions. Most of the work was performed on fuses. Several types of fuses contained small quantities of ordnance compound but most were strictly electromechanical devices. The testing of fuse[s] at the Corona facility consisted only of electrical and mechanical analysis. No ordnance testing was performed.*

2.3.3 Research Department

The Research Department reportedly contained a chemical laboratory and a beryllium laboratory.

> *This department conducted investigations in infrared radiation, computer component polymer chemistry, and other areas of research (FLTAC, 1979). Several projects involved developing new kinds of batteries to power missiles.*
>
> *Building 547 was a chemical laboratory. The laboratory contained three or four fume hoods. On the average, six chemists were employed at the laboratory. The laboratory was closed in 1970. In the mid-1970s, the laboratory equipment was removed and the building interior remodeled for office space.*
>
> *A beryllium laboratory was located in Building 541. Environmental controls on the lab were maintained and the lab was treated as a closed system. A negative air pressure was maintained in the work areas and the air was filtered. All potentially hazardous wastes, including air filters, were collected and disposed of off of the Corona facility in an approved disposal area. In 1969, when the laboratory was being closed, wash down and decontamination was performed in the building. Reportedly, tests by [Naval Weapons Center] China Lake verified that the beryllium dust had been removed. Wastes from the decontamination operation were removed from the Annex and disposed of in an approved disposal area.*

2.3.4 Print Shop

The Print Shop was operational from the late 1950s through 1983.

> *The Print Shop started operation s in the late 1950's with two presses. Every five years or so, another press was added until the mid-1970's when current total of five presses was reached. Since 1983, chemical wastes generated at the Print Shop have been sent to*

NAVWPNSTA Seal Beach for disposal. Prior to 1983, the chemicals were placed in plastic containers and disposed in the dumpsters. From the late 1950's to 1967, wastes in dumpsters were incinerated at the incinerator located on the property excessed to GSA [General Services Administration]. From 1967 to 1975, wastes in dumpsters were collected and disposed of off currently owned Annex property. Since 1975, wastes in dumpsters have been disposed of by a contractor at an off-annex landfill.

Blankrola solvent (75% 200 ppm [parts per million] petroleum naphtha and 25% 100 ppm perchloroethylene) (Scheid, 1976a) has been used to wash press blankets and rollers.

Electrostatic solution containing two percent potassium ferrocyanide, water, glycerin, ammonium phosphate and other non-hazardous material (Scheid, 1976b) has been used to etch plates. In 1984, about 80 to 90 gallons of waste per chemical per year are generated. In the past, less waste was generated because fewer presses were in use.

About four gallons per month of methylene chloride has been used as a deglazing solvent. The methylene chloride is applied on cotton pads and the liquid evaporates during application. No liquid waste is generated.

2.3.5 Target Missile Drone Storage

The location of the Target Missile Drone Storage area was unknown during the Work Plan phase.

In about 1969, approximately 200 AQM37H target missile drones were stored on an asphalt paved area known as the "airstrip" located at General Development Map coordinates F-6. The target missile drones contained inhibited red fuming nitric acid and unsymmetrical dimethylhydrazine fuel. Sniffers were used to detect leaks and three leaking drones were found. An EOD [Explosive Ordnance Disposal] team flushed the leaking drones with water and removed the fuel. Reportedly, on 6 January 1969, the fuel was disposed of at Site 26; Ordnance Burn Pit and Burial Pits by the Drop Test Tower, Building [number redacted for security]. The target missile drones were sent to Rocky Mountain Arsenal, Colorado, in mid- to late 1969. The engines from the leaking drones were probably disposed of by EOD at MCB [Marine Corps Base] Camp Pendleton.

Based on the findings of the PA research, this site was mistakenly identified as a Detachment Norco site. The cited text above from Section 5.3.4.4 of the IAS is presented within the discussion of the Fallbrook Annex. Figure 2-2 of the IAS documents this site on the map of Detachment Fallbrook. The site is illustrated on the General Development Map for Fallbrook (coordinates F-6) included in the IAS. Target missile drones were not stored at Detachment Norco; therefore, this site will not be further discussed in this PA.

3.0 Pathway and Environmental Hazard Assessment

This section describes the local geologic, hydrologic, and hydrogeologic setting and identifies whether a release may have occurred in the past based on site history and descriptions.

3.1 Geology

Detachment Norco is situated in the Peninsular Range geological province. The facility is underlain by Mesozoic peninsular ranges batholith which consists of the Cretaceous age micropegmatite granite of the Gavilan Ring Complex, micropegmatite and granodiorite of the Cajalco Pluton and La Sierra Tonalite overlain by Late/Mid Pleistocene alluvial fan deposits and artificial fill (Figure 3-1) (USGS, 1975). Soils formed above the granitic and fan substrate are primarily sandy loam (USDA, 1971).

In the developed portion of the base (southeast) soils described during geotechnical investigations indicate fill soils (clay, sandy clay and fine to medium sand) to a depth of approximately 4.5 feet below ground surface (bgs) followed by colluvial soil. Colluvial soil (generally fine to medium sand) was encountered immediately below fill and ranged in thickness from 1 to 2.5 feet. Residual soils below colluvial soil were similar in thickness and generally consisted of clay and sandy clay, clayey fine to medium sand, silty fine to medium sand and fine to medium poorly graded sand with clay and coarse, poorly graded sand with silt. Severely weathered tonalite was observed in test pits at depths ranging from 2 to 5.5 feet bgs (Geotechnics Inc., 2000).

3.2 Hydrology

Detachment Norco lies within the Santa Ana River Watershed and is located approximately 1.25 miles southeast of the Santa Ana River. Lake Norconian is a 47-acre man-made lake with no outlet. The lake receives non-potable groundwater from a well field near the Santa Ana River that is blended to meet domestic drinking water standards and is piped in to the upper ponds. The lake also receives water from runoff, precipitation and groundwater seepage (AMEC, 2013). Surface water in the immediate vicinity of Detachment Norco generally flows toward Lake Norconian. A spillway on the west side of the lake is tributary to Temescal Wash and the Santa Ana River. The spillway is only active during exceptionally wet years. Lake Norconian is not used as a drinking water source.

3.3 Hydrogeology

Detachment Norco lies within the Upper Santa Anna Valley Groundwater Basin and is situated between the Chino and Temescal sub basins (Figure 3-2). Depth to groundwater was noted at approximately 14 feet bgs in geotechnical boring logs 700 feet south of Lake Norconian (Woodward Clyde Sherard & Associates, 1965).

Wells installed at the California Rehabilitation Center Maintenance Garage and Power Plant immediately north of Lake Norconian and approximately 1000 feet west of the north gate in 1990 and 2006 encountered groundwater at approximately 45 feet bgs. Static water levels were measured in wells between 18.32 and 13.74 feet bgs. Both wells exhibited static water level rise subsequent to development that was attributed to a confined or semi-confined aquifer condition below 45 feet bgs (AMEC, 2006).

Groundwater sampling from an underground storage tank (UST) site on the southeast side of the facility noted groundwater depths ranging from 26.89 to 29.35 feet below top of casing and a south-southeasterly gradient of 0.006 to 0.014 feet/foot (Thrifty Oil Co., 2007).

4.0 Methodology and Data Quality Objectives

The following sections present the methodology used and data quality objectives (DQOs) followed during PA research and site visits.

4.1 Methodology

Multiple lines of evidence were compiled and reviewed in support of this PA. The PA methodology included the following efforts:

- Review of previous geotechnical and environmental investigations at Detachment Norco.
- Review of as-built engineering drawings for various phases of construction and deconstruction of facility buildings to identify equipment or provide indication of processes that may have included the storage and use of chemicals.
- Interviews with base personnel who have historical knowledge of the industrial operations and chemical use dating back to the 1970s. Interviews investigated past chemical usage and corroborated information obtained in review of historical documents and as-built engineering drawings.
- Integration of data from a 2013 Environmental Data Resources, Inc. (EDR) report, which included a summary of records and a map of hazardous waste or contaminated sites within a 1-mile radius of Detachment Norco, a physical setting source summary, and aerial photos taken each decade starting in 1938.
- Site reconnaissance of facility buildings and areas to visually inspect equipment or historical features (such as, floor drains, former building pads, or storage areas).

4.2 PA Data Quality Objectives

The PA utilized the DQO process as defined by the USEPA to facilitate decision making through the investigation (USEPA, 2006). Although there was no soil, groundwater, or soil gas sampling during this PA, the DQOs guided the PA in collection of appropriate information and helped the team reach objective decisions in order to assess if the sites warrant NFA or inclusion into the Installation Restoration Program and further action under CERCLA.

The problem statement (DQO Step 1) for this PA was as follows:

- Information regarding past chemical use, handling and waste management at Detachment Norco needed to be researched and documented. Additionally, five sites identified in the IAS required additional PA research as requested by the DTSC.

The goal of the PA was to differentiate sites that pose little or no potential threat to human health and the environment from sites that warrant further action under CERCLA. This goal was addressed by answering the following decision questions:

A. Do research, interviews, and site visit data indicate the possibility of hazardous chemical use resulting in a CERCLA release?

B. Do research, interviews, and site reconnaissance data provide documentation of disposal of hazardous wastes and indicate the possibility that a CERCLA release occurred?

Based on the weight of evidence compiled from sources mentioned above and those enumerated in the Final Work Plan (DQO Steps 2-4; KCH, 2014), the following Decision Rules (DQO Step 5) were followed:

A. If PA research indicates the likelihood of a release based on historical operations (that is, evidence of chemical storage, use, or disposal) at the building, area, or site, then site reconnaissance will be conducted. Otherwise, the building, area, or site will not undergo site reconnaissance.

   – If site reconnaissance indicates historical or current evidence of chemical handling, then the building, area, or site will undergo evaluation in the PA. Otherwise, the site will not be evaluated in the PA.

B. If the PA evaluation of the site suggests it is a potential release site, then it will be recommended for further action under CERCLA. Otherwise, NFA under CERCLA will be recommended.

Potential errors were managed using a judgmental approach, incorporating the results of historical research, geographic information system data, previous investigations, interviews, and visual observations during site visits (DQO Step 6). Decision uncertainty was managed by comparing newly collected information with existing historical data, and evaluating information using a weight of evidence approach. PA data was collected (DQO Step 7) in two tiers by conducting desk research followed by site reconnaissance.

4.2.1 Desk Research

Information in the Navy Administrative Record, as-built plans stored at Detachment Norco, as well as geotechnical reports from various phases of building remodeling and property transfer records were reviewed. Buildings identified with potential release-prone operations were selected for a formal site visit.

An EDR report identified historical release sites within a 1-mile radius of Detachment Norco. Detachment Norco is situated in a topographic depression surrounded by hills. All of the historical release sites identified in the EDR were on the opposite side of the surrounding hillsides with the exception of the California Rehabilitation Center (EDR, 2013). Data in the EDR report was mapped to known features at Detachment Norco in an effort to guide the site visit. A review of available historical aerial photographs was conducted to observe the progression of development.

4.2.2 Site Reconnaissance

Site reconnaissance included a physical site visit, development of the site description, and source and waste characterization. Source and waste characterization included a building survey, interviews with personnel familiar with chemical handling practices at the site, and consideration of exposure pathways to soil and groundwater.

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5.0 PA Findings

The following sections present the results from desk research of previous environmental documents, interviews, a facility tour and follow-up interviews based on site visit information.

5.1 Desk Research Results

Desk research included conducting an EDR records review, historical and recent aerial photos as well as a review of historical environmental documents and as-built plans.

5.1.1 EDR Report

The EDR report compiled regulatory database records for the properties immediately surrounding Detachment Norco. The search (minimum of 0.25-mile radius) queried federal, state, and local hazardous materials and UST lists; historical address; and directory listings. The database search for business operations of potential chemical use adjacent to and surrounding Detachment Norco did not yield any sites or buildings necessitating a site reconnaissance visit.

5.1.2 Aerial Photo Review

Aerial photos supplied with the EDR report as well as online resources (historical aerial photography available from Google Earth) confirmed that land use in the early phases of base history was primarily agricultural and open space. The majority of development occurred in the north and east portions of the base during the late 1940s after government acquisition of the property. Through the late 1980s and 1990s, development progressed after various portions of the facility were excessed to private or other government entities. Aerial photos and Google Earth were used to identify suspected surface disposal sites for site reconnaissance. These sites were identified for a site reconnaissance visit; the sites are described in detail in Section 5.2.

5.1.3 Historical Documents and As-Built Plans

Historical geotechnical reports were reviewed as they relate to various phases of construction of the 4th Street Gate and MSTL Building 575. One geotechnical report identified the presence of vapors in a trench when screened with a photo ionization detector. Soil sampling for VOCs and fuel returned non-detect results. The MSTL building was recommended for a site reconnaissance and interviews to identify any historical chemical use in former buildings that were demolished when the MSTL building was constructed. These buildings (former buildings 541 and 547) are discussed in detail in Section 5.2.

As-built plans and a site conditions map were reviewed to identify the previous and current location and design of the sanitary sewer system for the facility. Only two buildings were serviced by septic systems (Former building 652, Fuse Building) and Building 634 (on top of Hill B) (Figure 5-1). All other building drains were connected to the sanitary sewer system. This system routed sewage to the lift station at the south of the facility, which was pumped

north along the east side of Lake Norconian, out to 5th Street and to a waste water treatment facility west of the California Rehabilitation Center, where it was treated and discharged into the Santa Anna River. Currently, the sewer is still pumped to 5th Street, but the treatment facility is no longer in use and wastewater and sewer is managed by the City of Norco (Figure 5-1).

Additional information garnered from a 1958 Site Development Plan indicated the presence of 13 USTs within the former boundaries of the Naval Hospital. Much of the property has been excessed and 11 of these USTs would be within the current facility boundary. These USTs are discussed in detail in Section 5.2.

5.1.4 USEPA Determination

Under the Resource Conservation Recovery Act 3010 reporting mechanism as a Large Quantity Generator, USEPA requested that the Navy complete an Abbreviated PA questionnaire for the facility. The Navy completed the necessary documentation. On September 22, 2015, received a determination from USEPA that the site does not qualify for placement on the National Priorities List and that no further federal assessment is warranted. USEPA's decision was entered into the Superfund Enterprise Management System database and the site was removed from USEPA's active inventory. A copy of the correspondence from USEPA is included in Attachment 1.

5.2 Site Reconnaissance

Sites were selected for a reconnaissance visit based on information obtained during desk research and interviews with base personnel. Site visits were conducted at Detachment Norco on July 13 and 14, 2015. The site reconnaissance began with a facility-wide tour and continued with interviews of key personnel that had some knowledge of historical practices at Detachment Norco. Additional areas were investigated because of supplemental information provided during interviews. Six interviews were conducted with personnel that had a long work history at the facility. Interview summaries are included in Appendix A. The sites that were visited and selected for further evaluation in the PA are described in detail in the following subsections and presented on Figure 5-1.

5.2.1 Surface Disposal Sites

One reported and three confirmed surface disposal areas are illustrated on Figure 5-1. These areas were identified in aerial photography as having evidence or suspicion of past disposal activities. Little is known about the historical disposal practices other than what is evidenced in the debris piles themselves, which consist of primarily discarded soils, small amounts of concrete, landscape debris, and green waste. During the research phase, Google Earth was accessed to view various anomalous surface features (piles of soil, approximately 2 cubic yards in size) observed in aerial photos through time. The disposal sites are described in detail in the following subsections.

5.2.1.1 Hill X

Hill X, as described by the base personnel and site conditions map (Navy, 1956), is an area on the northwest side of the facility immediately south of the California Rehabilitation Center (Figures 5-1 and 5-2). A reported disposal area on the west side of Hill X was visually inspected during the site visit on July 13, 2015. The reported disposal area did not yield any

evidence of historical or current disposal practices or waste handling. No evidence of dumping with the exception of a few stray pieces of concrete and a piece of metal roughly the size of a small sign sitting on the surface was observed. No evidence of hazardous materials suggesting a CERCLA release of chemicals was observed.

5.2.1.2 Landscape, Green waste, and Soil

Immediately southwest of Hill X and west of the Lake Norconian dam spillway is where excess clean fill soil from construction projects, landscape green waste, and minor concrete rubble are discarded or stockpiled for future use as fill. The mixed soil and rubble piles are roughly 2 cubic yards in volume and loose (Figure 5-2). Larger piles of green waste (such as, leaves, palm fronds, and landscape clippings) were also present at the site. No evidence of hazardous materials suggesting a CERCLA release of chemicals was observed.

5.2.1.3 Hill B Rubble

An area identified in the work plan as possible disturbed vegetation southwest of Hill B (Figure 5-3) contained minor amounts of soil piles, a discarded wooden pallet, a sign, some concrete rubble, and metal irrigation sprinkler piping. There was no indication of chemical waste treatment, storage, or disposal activities at this location.

5.2.1.4 Hotel and Hospital Disposal Area

An area immediately south of the recreational vehicle (RV) storage yard (former Fuse Building 652) was noted during the interviews (Appendix A) to contain debris thought to originate from the early days of the hotel and later the hospital. Shards of glassware were compared with dinnerware from the hotel and naval hospital eras and found to be consistent with the periods. Orange-trimmed and decorated pieces were from the hotel era, blue trimmed and decorated pieces from the Navy (Appendix A). A site reconnaissance visit was conducted to the wooded area immediately south of the RV storage yard (Figure 5-4). The site visit revealed scattered debris, which consisted of melted glass, dinnerware shards, and some crushed metal containers mixed with soil and covered with vegetation. It is likely that debris was discarded and incinerated at this location (as evidenced by the melted glass). Alternatively, it could have received burn waste from the incinerator formerly located at Norco College. Based on the presence of debris common to former military debris or garbage disposal sites, a CERCLA release may have occurred at this location.

5.2.2 IAS Sites

The IAS identified five NFA sites that are further evaluated in this PA at the request of DTSC. The PA findings for each of these sites are described in the following subsections.

5.2.2.1 Missile Systems Department

The Missile Systems Department described in the IAS is most likely associated with the building that sits atop Hill B. Chemicals are not used in the building other than small cans of cleaners and lubricants (WD-40), and all are contained in appropriate chemical storage lockers. Greywater and sewer are serviced by a septic system. A portable generator was located at the building that is managed under the Detachment Norco *Spill Prevention, Control and Countermeasures Plan* (SPCCP; Detachment Norco, 2012). There was no indication of hazardous waste treatment, storage, or disposal activities at this location.

5.2.2.2 Fuse Department

The Fuse Department was located in former Building 652 (Figure 5-1). All that remains of the building is the concrete pad that is currently the RV storage area. The building was 70-feet tall and originally used by the National Bureau of Standards as an anechoic chamber in the 1960s or 1970s. The building had a rail through in the center for moving large enemy aircraft and missile mock-ups that were to ascertain radar signatures. Personnel from Naval Air Weapons Station China Lake operated the building in the late 1980s to 1990s, after which the activities conducted in the building were relocated back out to China Lake. Based on the interview with Dave Marcroft, who was the facilities director during that time, fuse projects were conducted for evaluation and not fabrication purposes. Any chemical material used for fuses would have been very small quantities, less than 1 gram. Any excess materials were stored in the bunkers that were excessed. Chemical use in the building is unknown, but based on the operational history, only minor painting such as stencil lettering would have been done on mock-ups. The building was serviced by a septic tank on the southwest corner. This would serve as the only potential pathway, but given the operational history of the building, there is no indication of waste treatment, storage, or disposal.

5.2.2.3 Research Department

The Research Department as identified in the IAS described Building 541 as a Beryllium Lab and Building 547 as a Chemical Lab. Building 547 was demolished when Building 544 was constructed in 1992. Building 541 was demolished for the construction of a new, larger building in 2001 through 2002 (Figure 5-5).

Based on personnel interviews, former Building 547 was not a chemical lab but was used by the multimedia department on the first floor and office space for the Public Works Department on the second floor. Based on the 1956 General Development Plan (Navy, 1956), Former Building 547 was the Public Works Office and former Building 517 was a chemical lab. Photo chemicals were not used in former Building 547 and only typesetting machines and small amounts of developer and cleaner were used for making poster boards and signs. Based on the historical information provided, no waste handling, storage, or disposal occurred in former Building 547.

The footprint of former Building 541 is illustrated on Figure 5-5. The historical use of the building was as a physical and mechanical calibration lab that housed a mercury manometer (Appendix A). As-built records indicate the presence of a beryllium dust hood. Subsequent renovations in the early 1960s to the air intake conflicted with the fume hood and posed a possible air pollution problem with the intake being too close to the exhaust. These issues were identified in a memo and remodel plan stored in the Detachment Norco map room (Attachment 2). The exhaust filtration system was remedied and beryllium dust was controlled.

A geotechnical investigation was conducted for demolition of former Building 541. Trenches were dug and photo ionization detector measurements collected from 8 of 20 trenches ranged from 40 to 70 parts per million. Test borings were performed using a hollow stem auger at two locations. Four soil samples were collected from hollow stem auger borings at 3 and 4 feet bgs, respectively, and were analyzed for total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs). TPH and VOCs were not detected above the

reporting limit for all samples. The report concluded that there was no indication of gross soil contamination or hazardous materials in the borings or test pits (Geotechnics Inc., 2000).

5.2.2.4 Print Shop

The former Print Shop described in the IAS is illustrated on Figure 5-5. The building was used historically during the operation of the Naval Hospital as the commissary with drains in the floors and tile walls. After closure of the hospital, the building was used for printing from the 1950s and 1960s through 1991, when it was remodeled for use as classroom training space and small offices. No evidence of floor drains, wall drains, or past chemical storage areas was present during the site visit. The entire floor is carpeted and drains that may have discharged to the sanitary sewer were likely sealed to prevent odors and moisture in the floor. Chemicals are not handled in the building and there was no evidence of historical chemical handling or storage areas.

Two other buildings were described by interviewees during the site visit that are loosely related to the print shop building. Multimedia, which included creation of posters, signs and other presentation material, was housed in the first floor of former Building 547 and photo processing in the former kitchen. As discussed above, former Building 547 was demolished in the early 1990s and the former kitchen, which is still in use today. Photo processing activities ceased at the advent of digital photography.

During the Naval Hospital period, the building served as the kitchen for the surrounding hospital wards. Afterwards, photo-processing equipment was set up in the kitchen prep areas and utilized the same water and drainage connections. Walk-in coolers were re-purposed for film storage. During the site visit, a former grease trap vault was observed that is confined to a small closet space near the gym.

Chemical use in the former kitchen/photo processing building would have been limited to chemicals common with photo development and processing. All floor and wall drains were connected to the sanitary sewer system. Based on a review of the sewer system engineering maps, none of the buildings at Detachment Norco was connected to septic systems, with the exception of the building on top of Hill B and former Building 652, as previously discussed.

5.2.3 Integrated Natural Resources Management Plan Potential Hazardous Material Issues

In 2013, the Navy issued the INRMP (AMEC, 2013). The INMRP identified potential hazardous material issues that were pertinent to this PA:

- Two diesel ASTs: one 6,000-gallon and one 1,000-gallon.
- Two portable generators holding 30 gallons (of fuel).
- Sewer lift station spills. The INRMP noted that the lift station has been an ongoing problem, that nothing has spilled into the lake, and that there is a project underway to replace the sewer system and eliminate the need for the lift station.
- Sodium hypochlorite solution spills associated with the chlorination system at the prison. Two spills occurred in December 2006 and May 2008 that released diluted and non-diluted solution into the facility.

The issues identified in the INRMP were recommended for site reconnaissance.

The ASTs are presently addressed in the Detachment Norco SPCCP. The ASTs are relatively new and managed by the local UST authority.

Portable generators are used at the sewer lift station as a backup to pump sewer out of the facility in a power failure. Portable generators are also housed in two other buildings on the facility. These are also governed under the SPCCP, so they were not evaluated further in this PA.

The sewer lift station spills occurred because of debris originating from the California Rehabilitation Center, which included bricks, mop heads, and clothing caused the pump station to cease and overflow. Since then, a digester and grinder have been installed and the problem was mitigated.

Sodium hypochlorite solution spills as described in the INMRP occurred at the prison facility and spilled onto the Navy facility near Hill X. The area located north of Hill X, on the opposite side of the Navy property line, was visually inspected. A Baker tank for water treatment currently is in place at the prison facility where the spills occurred and the cause of the spill has been mitigated. Cleanup was conducted under the oversight of the county (AMEC, 2013). None of the INMRP-identified areas is a suspected area for hazardous waste treatment, storage, or disposal constituting a CERCLA release.

5.2.4 Historical Underground Storage Tank Sites

A list of historical USTs discovered during the as-built plan search indicated the presence of several USTs that contained various fuel oil, heating oil, and gasoline. The 1956 General Development Plan listed 13 USTs and their respective capacities (Table 1) (Navy, 1956). Based on the location of these USTs, and site reconnaissance with Navy personnel, 11 of these historical USTs were contained within the current facility boundary (Figure 5-1).

TABLE 1
Historical Underground Storage Tanks

UST No.	1958 Map Key Location	Use	Capacity in Gallons	Location
T-2	I-24	Fuel Oil	3,000	Former fuel island near 5th Street Gate, see Figure 5-1
T-3	I-24	Fuel Oil	3,000	
T-4	I-24	Fuel Oil	15,000	
T-5	I-24	Fuel Oil	15,000	
T-6	J-25	Gasoline	550	
T-7	J-25	Gasoline	550	
T-8	J-25	Gasoline	550	
T-9	K-26	Diesel Oil	1,000	
T-10	X-27	No. 5 Oil	12,500	See Figure 5-1
T-11	W-27	No. 3 Oil	1,500	
T-12	W-27	No. 5 Oil	2,400	
T-14	F-33	Gasoline	5,000	Annexed – Former Navy Exchange (NEX) Gas Station See Figure 5-1
T-15	F-33	Gasoline	5,000	

The gasoline and diesel USTs (T-2 through T-9) were the fuel island USTs that served as a filling station immediately southeast of the old hotel (Figure 5-1). The fueling station has been completely demolished and only asphalt remains. No physical evidence such as piping, tank lids, or a fuel island remains at the site.

Three USTs reportedly contained No. 3 (burner oil) and No. 5 fuel oil (typically furnace fuel oil) (see Figure 5-1). These USTs were T-10, T-11, and T-12. No piping or evidence of the USTs was observed during the site visit at these buildings. The area outside of these buildings is landscaped with grass and shrubs.

Two USTs were associated with the former NEX Gas Station. The property was disposed to the Corona Unified School District in 1962 (KCH, 2014). The current use of the property is a public park. Currently, based on Navy records, all USTs at Detachment Norco have been closed.

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6.0 Conclusions and Recommendations

The majority of operations at the facility from the time it was a hotel, to operations as a Naval Hospital to its current operational function in measurement science and testing did not utilize significant quantities of chemical materials or conduct disposal. Most of the buildings within the southeast area of the facility were patient recovery rooms that were converted to office space when the mission of the facility was changed. Nearly all of the facility buildings were connected to the sanitary sewer, and chemical use was constrained to small cleaning, lubricants, or bench-scale physics and measurement laboratories in an office-type setting. Inadvertent or intentional waste disposal would have been constrained to sink, floor, or wall drains that discharge to the sanitary sewer and were pumped north to 5th Street, then west to the sewage treatment plant (Figure 5-1). Of the two buildings that used a septic tank (Former Fuse Department and Building 634), neither stored, used, or disposed hazardous waste.

An extensive as-built document review and environmental records search along with personnel interviews guided the site reconnaissance phase of the PA. As described in the PA Work Plan, the IAS sites, at the request of DTSC were immediately progressed to site reconnaissance. Based on the site reconnaissance, interviews, and records review there was no evidence of chemical use, storage, or disposal at any of these sites. ***All of the IAS sites are recommended for NFA under CERCLA***.

The sites, generators, and ASTs identified in the INRMP are currently managed under the Detachment Norco SPCCP or were otherwise addressed by the State of California in the case of the spills originating from the California Rehabilitation Center. ***These sites will not be addressed under the IRP***.

The Navy currently does not operate any USTs at Detachment Norco. All historical USTs, based on Navy records, have been properly closed. The record of removal of historical USTs identified in the 1958 Site Development Plan cannot be located. However, because no UST infrastructures were identified during the site reconnaissance, ***NFA is recommended for the former USTs.***

One of the surface disposal sites, the Hotel and Hospital Debris Site, was selected for site reconnaissance based on aerial photography review and personnel interviews. The presence of glass shards, metal debris, and melted glass suggests that this site may have been a disposal area for incinerated waste originating from the former facility incinerator that was located on the property excessed to the college, or was burned and buried onsite. ***This site is recommended for further action under CERCLA.***

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7.0 References

AMEC Earth & Environmental (AMEC). 2006. *Additional Site Assessment – Subsurface Soil Investigation, California Rehabilitation Center, Maintenance Garage and Power Plant, Fifth Street and Western Avenue, Norco California 91709*. State of California Real Estate Services Division. July 8.

AMEC Environment and Infrastructure (AMEC). 2013. *Integrated Natural Resource Management Plan Naval Weapons Station Seal Beach, Detachment Norco*.

Naval Weapons Station Seal Beach, Detachment Norco (Detachment Norco). 2012. *Spill Prevention, Control and Countermeasures Plan*. February.

Environmental Data Resources Inc. (EDR). 2013. EDR Standard Package. November.

Geotechnics Inc. 2000. *Subsurface Investigation Measurement Science Laboratory, Naval Weapons Assessment Station (NWAS) Corona, California*. March 10.

KCH, CH2M HILL Kleinfelder, A Joint Venture (KCH). 2014. *Work Plan Preliminary Assessment, Naval Weapons Station Seal Beach, Detachment Norco.* Final Revision 01. December.

Lake Norconian Club Foundation. 2013. History and Timeline. http://www.lakenorconianclub.org/. October.

Naval Energy and Environmental Support Activity (NEESA). 1985. *Initial Assessment Study of Naval Weapons Station, Seal Beach, California.* February.

Thrifty Oil Co. 2007. Letter Report to Riverside County Department of Environmental Health RE: Thrifty Oil Co Station #338 Amendment to July 5, 2006 IRAP, and Quarterly Monitoring Report; 2nd Quarter, 2007. July 17

United States Department of Agriculture (USDA). 1971. *Soil survey, Western Riverside Area, Californi*a. Soil Conservation Service, Washington, D.C. November

United States Department of the Navy (Navy). 1956. *U.S. Naval Hospital and N.O.L. Corona. General Development Plan,* Conditions as of June 1, 1956.

United States Department of the Navy (Navy). 2006. *Department of the Navy Environmental Restoration Program Manual*. August.

United States Environmental Protection Agency (USEPA). 1999. *Improving Site Assessment: Abbreviated Preliminary Assessments*. October.

United States Environmental Protection Agency (USEPA). 2006. *Guidance on Systematic Planning Using the DQO Process.* EPA QA/G-4, Office of Environmental Information EPA/240/B-06/001. February.

United States Geological Survey (USGS). 1975. *Geologic Map of the Corona North 7.5′ Quadrangle, Riverside and San Bernardino Counties, California.* By Douglas M. Morton and C.H. Gray Jr. USGS Open-File Report 02-22 (revised in 1995)

Woodward Clyde Sherard and Associates. 1965. *Soil Investigation for the Proposed Fuze Model Range Facilities, Naval Ordnance Laboratory*. July 26.

Figures

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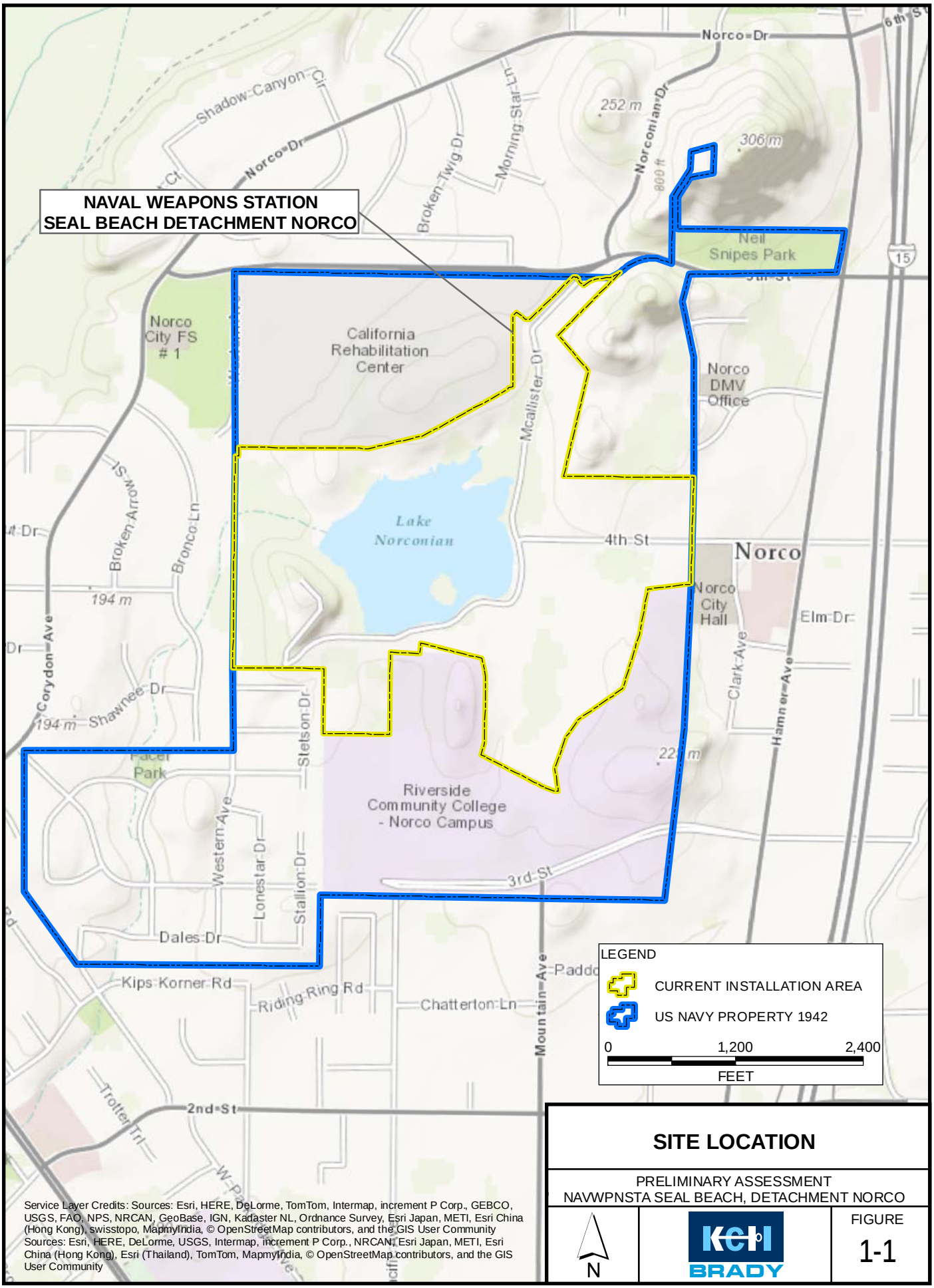

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SITE LOCATION

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

KCH BRADY

FIGURE
1-1

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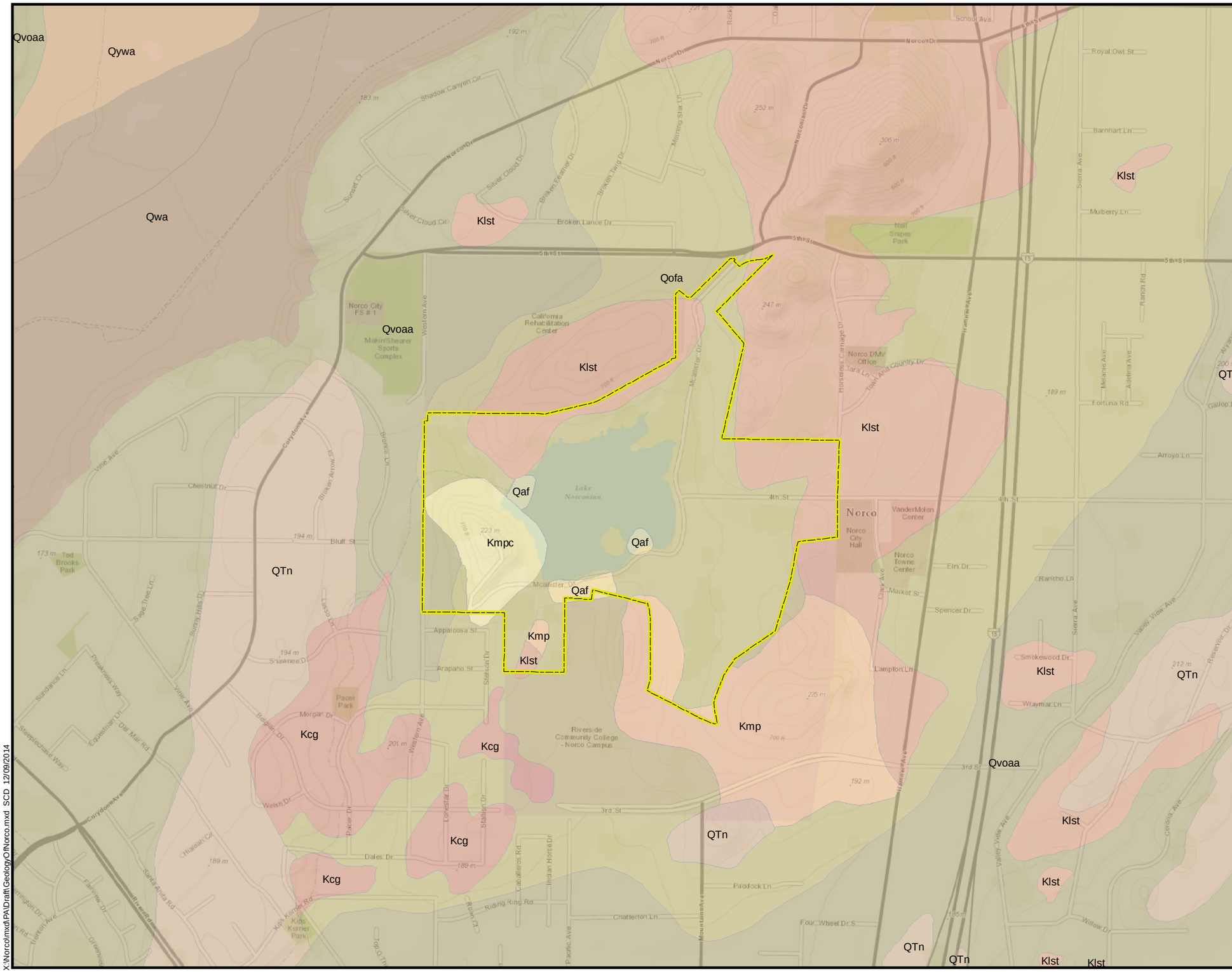

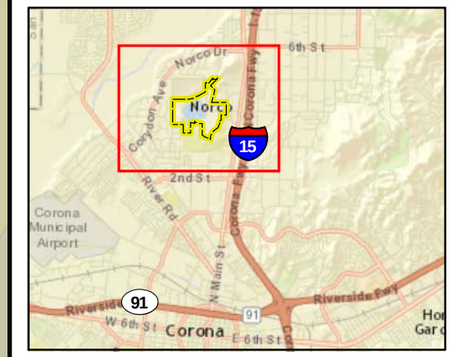

LEGEND

INSTALLATION

GEOLOGIC UNITS

- Kcg; Monzogranite of Cajalco pluton
- Klst; La Sierra Tonalite
- Kmp; Micropegmatite granite of Gavilan Ring Complex
- Kmpc; Micropegmatite and granodiorite of Cajalco pluton, undifferentiated
- QTn; Late Cenozoic sedimentary rocks in Norco area
- Qaf; Artificial fill
- Qofa; Old alluvial fan deposits, arenaceous
- Qvoaa; Very old alluvial channel deposits, arenaceous
- Qwa; Very young wash deposits, arenaceous
- Qywa; Young wash deposits, arenaceous

NAVWPNSTA - NAVAL WEAPONS STATION

Geologic Map Credits: United States Geological Survey (USGS). 1975. Geologic Map of the Corona North 7.5' Quadrangle, Riverside and San Bernardino Counties, California. By Douglas M. Morton and C.H. Gray Jr. USGS Open-File Report 02-22 (revised in 1995)

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FEET

GEOLOGIC MAP OF DETACHMENT NORCO

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

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KCH BRADY

FIGURE
3-1

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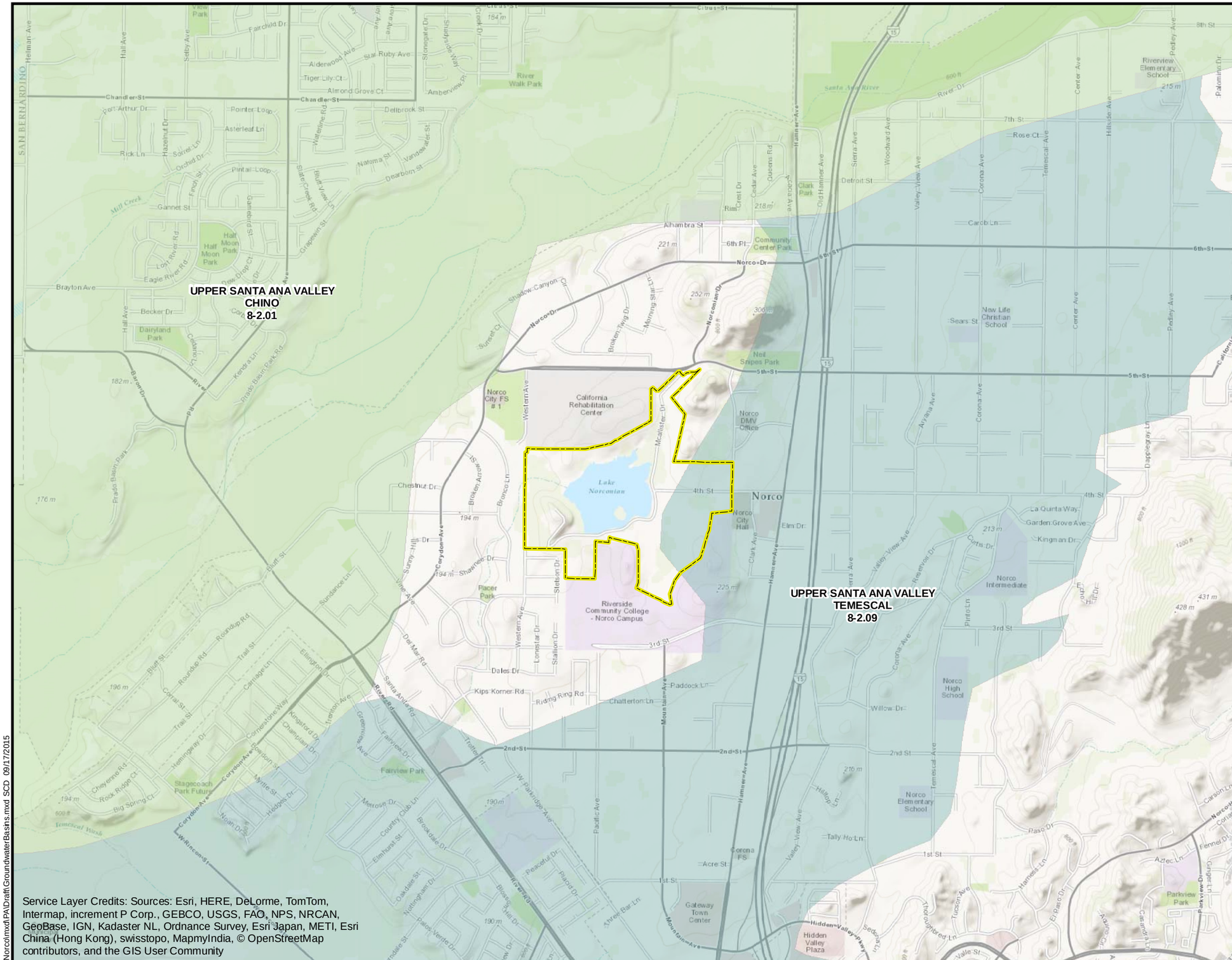

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LEGEND

INSTALLATION AREA

GROUNDWATER BASIN

CHINO

TEMESCAL

NAVWPNSTA - NAVAL WEAPONS STATION

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GROUNDWATER BASINS

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

KCH BRADY

FIGURE 3-2

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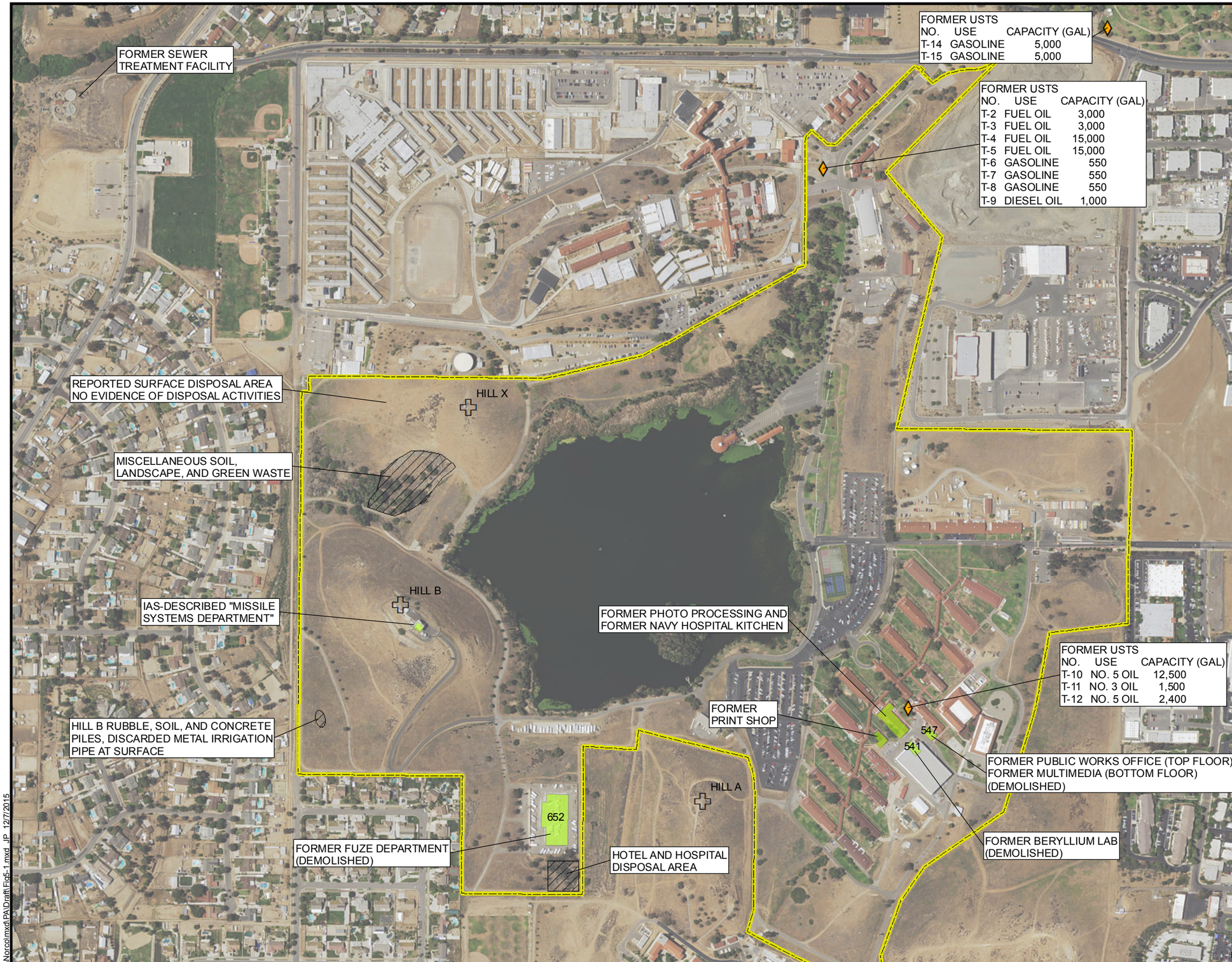

LEGEND

- APPROXIMATE LOCATION OF FORMER USTS
- SURFACE DISPOSAL SITES
- CURRENT OR FORMER BUILDING
- INSTALLATION AREA

NAVWPNSTA - NAVAL WEAPONS STATION
UST - UNDERGROUND STORAGE TANK

0 250 500
FEET

SITE RECONNAISSANCE

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

N

KCH BRADY

FIGURE
5-1

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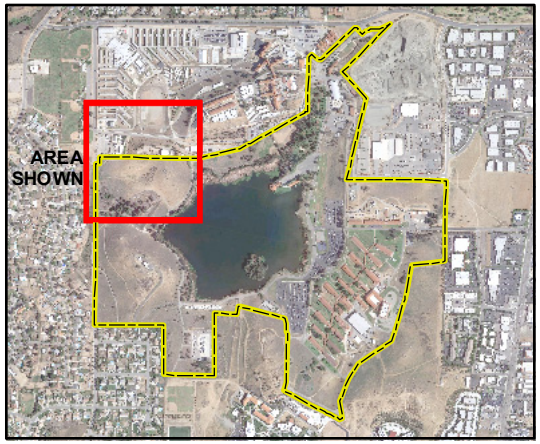

LEGEND

INSTALLATION AREA

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LANDSCAPE, GREEN WASTE AND SOIL DISPOSAL

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

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KCH BRADY

FIGURE

5-2

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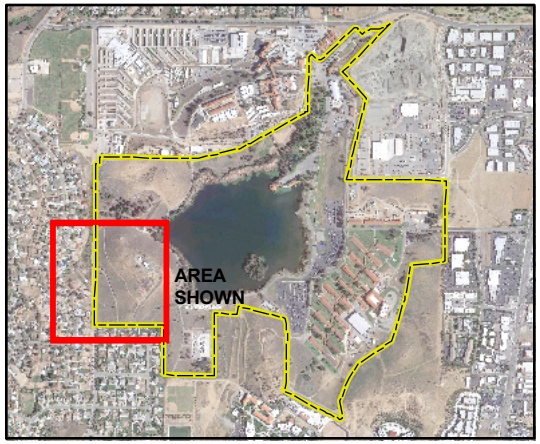

LEGEND

INSTALLATION AREA

0 200 400

FEET

HILL B RUBBLE

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

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KCH BRADY

FIGURE

5-3

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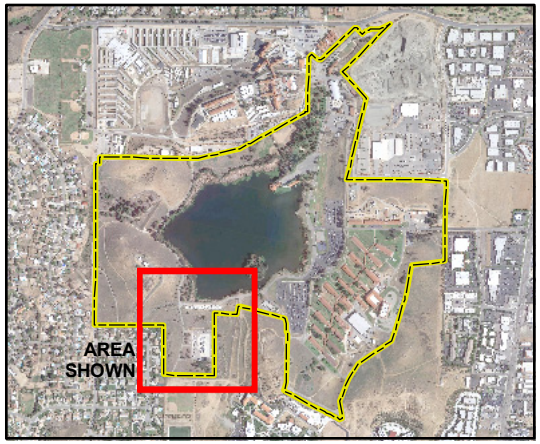

LEGEND

INSTALLATION AREA

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FEET

HOTEL AND HOSPITAL DISPOSAL AREA

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

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KCH BRADY

FIGURE

5-4

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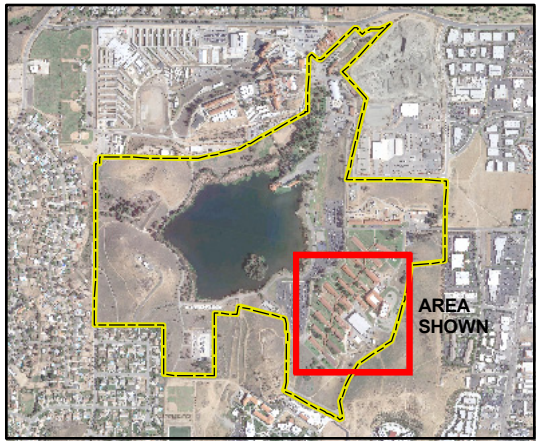

LEGEND

INSTALLATION AREA

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FEET

IAS SITES

PRELIMINARY ASSESSMENT
NAVWPNSTA SEAL BEACH, DETACHMENT NORCO

N

KCH BRADY

FIGURE

5-5

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Appendix A
Interview Summaries

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Record of Interview

		Date	7/13/2015
Name	Mark Graham	**By**	S.DeGross / J.Pierce
Organization / Job Title	NSWC Facilities Director (Current)		
Project Title	Norco PA		
Subject	Detachment Norco Past Environmental Practices and Current Operations		

Position and Duties at Detachment Norco:

Currently serves as the facilities director.

Interview Summary:

Mr. Graham described the location of some of the historical buildings and operations. He directed the team to the as-built records room as well as some of the historical oblique aerial photos to help identify some of the older buildings that were demolished. They are summarized as follows:

- Incinerator – was located in Building 513. The incinerator was decommissioned and is an easily identifiable architectural feature of the facility.
- Building 547 – was demolished when Building 544 was constructed in 1992. He had no recollection of the historical function of Building 547. One aboveground storage tank is located at Building 544.
- Building 541 and Building 575 - Measurement Science Testing Laboratory (MSTL) was constructed over the site in 1992. Building 541 was demolished for the construction of the MSTL building. The footprint of Building 541 would have occupied a small portion of the north corner of Building 575.
- Building 543 – Was demolished and replaced with Building 547.
- Print Shop – Likely Building 539, still in existence.
- Building 512 – Phantom sewer smell. Former use of the building was for dentistry. When it was converted for office use, the piping for the spittoons was cut but not capped, which caused moisture to build beneath the slab and warp the flooring during temperature shifts in the spring and fall. All was drained to the sanitary sewer system and was appropriately sealed when discovered.
- Building 549 – Sewer lift station. Overflows at the sewer lift station were caused from debris originating from the prison such as clothes, mop heads, and bricks.
- Building 219 – Facilities storage. Chemicals are stored in hazmat lockers.
- Print Shop – Converted to a training center. No knowledge of sumps or drains.
- Generators with fuel storage tanks – All are listed under the Spill Prevention Control and Countermeasures Plan.
    - Building 544
    - Hill B (Building 634)
    - Sewer Lift Station (Building 549)

Record of Interview

		Date	7/13/2015
Name	Dave Marcroft	**By**	S.DeGross / J.Pierce
Organization / Job Title	NSWC Facilities Director. Currently MS00 Special Projects Director		
Project Title	Norco PA		
Subject	Detachment Norco Past Environmental Practices and Current Operations		

Position and Duties at Detachment Norco:

Mr. Marcroft formerly served as the facilities director prior to Mark Gram (2000 – 2002). His role as facilities director ended after construction of Building 575. He came to Norco from Pomona in 1990.

Interview Summary:

Mr. Marcroft noted that Building 541 was the calibration lab, and then was used by the multimedia department for printing, film, and graphics multimedia. He noted that Orin Anderson (also interviewed) was the best resource to discuss operations at Building 541.

Chemical use: Freon was used to clean gage blocks during the production phase. Quantities were generally very small.

Fuse (Fuze) building (demolished building whose pad is used to park RVs for storage) – The fuze building was 70 feet tall with a trough in the middle and was an anechoic chamber used by the National Bureau of Standards. Fuze projects were for evaluation, not fabrication, purposes. The operation was moved to China Lake in the 1960s or 1970s. Mr. Marcroft noted that all chemicals/fuse materials were small quantities (less than 1 gram) and housed in bunkers that were excessed. It was operated by China Lake into the late 1980s to early 1990s. The building was demolished in 2002 along with 4th Street, perhaps as part of the Building 575 Military Construction (MILCON) project.

Mr. Marcroft noted that the piles of broken glass and debris near the Fuze building might date back to the period the hotel was in operation.

Record of Interview

Date 7/13/2015

Name Larry Walker

By S.DeGross / J.Pierce

Organization / Job Title Branch Head Measurement Science

Project Title Norco PA

Subject Detachment Norco Past Environmental Practices and Current Operations

Position and Duties at Detachment Norco:

Mr. Walker started at Norco in July 1975 in the Quality Assurance (QA) Department.

Interview Summary:

Former Building 547 was located adjacent to current Building 513 and was a two-story building. The first floor was multimedia and possibly photo development. The second floor was used for office space.

Mr. Walker recommended interviewing Chuck Quinn for past chemical use and history.

Record of Interview

Date 7/13/2015

Name Chuck Quinn

By S.DeGross / J.Pierce

Organization / Job Title Environmental Engineer

Project Title Norco PA

Subject Detachment Norco Past Environmental Practices and Current Operations

Position and Duties at Detachment Norco:

Chuck Quinn started at Norco in 1983 on the Trident program.

Interview Summary:

Building 541 – Beryllium Lab: The building was demolished (date unknown). The lab had a mercury manometer (now in Building 517). Small quantities of Freon and alcohol wipes were used to clean equipment. All waste material was manifested or signed, and properly disposed. Mr. Quinn was the quality engineer at the time and traceability was important. Norco does not have old manifests, but he noted that Seal Beach might have kept some of the records.

Building 515 – Photo Lab: Typical photo chemicals were likely used at the building. Operations were standard photo film development. All equipment was sent to the Defense Reutilization and Marketing Office.

Old antenna shack east of Building 507: The antenna shack contained paint cans and thinner. All wastes were manifested and disposed prior to demolition of the shack.

Former Building 547 was demolished in 1988 or 1989 and the lower floor was used for multimedia graphics.

Former Fuze building was Building 652. A septic tank was located to the south of the building. He has no knowledge of tank decommissioning. Types of chemicals included small cans, wipes, small quantities of adhesives, and touch-up paint but there was no paint booth. Painting would have been on the scale of stencil lettering and minor touch-up. The building was operational until 1998 or 1999 and cleaned after China Lake (who operated the building) left. The building was used for storage after that. An incinerator was located on the property, now held by the college, which was used for hospital waste.

Mr. Quinn noted that the paint booth in Building 219 was not operational.

Record of Interview

		Date	7/14/2015
Name	Kurt Erthner	**By**	S.DeGross / J.Pierce
Organization / Job Title			

Project Title Norco PA

Subject Detachment Norco Past Environmental Practices and Current Operations

Position and Duties at Detachment Norco:

Kurt Erthner worked in an office environment, starting in 1975, on test equipment reliability, maintainability, and certification, as well as desktop review of data packages.

Interview Summary:

Building 515 – Photo Processing and development: Currently it is used as a workout gym. He has no knowledge of chemical use or storage.

Mr. Erthner had no knowledge of waste incineration, but that wastes were picked up by a dump or trash truck regularly.

Record of Interview

		Date	7/14/2015
Name	Orrin Andersen	**By**	S.DeGross / J.Pierce
Organization / Job Title	Photo Lab		
Project Title	Norco PA		
Subject	Detachment Norco Past Environmental Practices and Current Operations		

Position and Duties at Detachment Norco:

Orrin Andersen worked in the photo and multimedia lab (Building 515) for 27 years.

Interview Summary:

Mr. Andersen provided a tour of Building 515 and described much of the processes at the building and print shop (Building 539). He was considered a base historian and his team compiled the 60th anniversary book, which documents much of the military history (in photographs) at Norco.

Mr. Andersen noted that the photo lab was phased out in 1990 to 1992 when digital media became the standard medium. Former Building 547 was only used for multimedia and graphics only and not photo processing. Typesetting machines were used and cleaned with small cleansers. The machines were used for making poster boards and signs. Scotchcal film processing onto brushed aluminum plates was conducted in Building 547 and tended to have a sulfur smell. Chemicals were dispensed with a squeeze bottle and typically were washed down the drain and discharged to the sanitary sewer.

Building 539 was used for photocopying and printing. Prior to that, it was a commissary. Drains were located in the floor and tile walls. The building was used for printing in the 1950s and 1960s through 1991. He had no recollection of waste handling and disposal. His work area was located in the front of the building.

Building 515 – Photo Processing and development: Currently, a portion of the building is used as a workout gym and the remainder is the multimedia department. Historically, this building served as the kitchen for the hospital. Kitchen areas with sinks and drains were re-purposed for photo processing and walk-in coolers were often used as dark rooms. Photo processing equipment was connected to floor drains formerly used by kitchen equipment. He did not have recollection of how photo chemicals were disposed. Ammonia processing of view graphs was fed by a cylinder located outside of the building and plumbed to the interior; however, the location of it is no longer there and the precise location was unknown. Walk-in coolers are inoperable and have been used for film storage since the building was converted from a kitchen to photo processing.

Fuze Department: Mr. Andersen noted that the hospital used to dispose of material near the building. At one point, he compared shards of glassware with pictures of dinnerware from the hotel and Navy hospital eras and found them to be consistent with the period. Orange-trimmed and decorated pieces were from the hotel era, while blue-trimmed and decorated pieces were from the Navy hospital.

Attachment 1
USEPA Determination Correspondence

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

JUN 2 7 2014

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7013 1090 0000 1618 9471

Regulatory Contact
Department of Navy
Naval Weapons Station Seal Beach - Corona
800 Seal Beach Blvd., B230
Seal Beach, CA 90740

Re: Docket Update 25
Department of Navy
Naval Weapons Station Seal Beach - Corona
2300 5th St.
Norco, CA 92860

Dear Sir or Madam:

Section 120(c) of the Comprehensive Environmental, Compensation, and Liability Act (CERCLA), 42 U.S. Code (USC) Section 9620(c), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA, Pub. Law 99499), directs the Administrator of the U.S. Environmental Protection Agency (EPA) to establish a Federal Agency Hazardous Waste Compliance Docket (Docket) containing information regarding federal facilities that manage hazardous waste or have potential hazardous waste problems.

Attached is the Federal Register publication of March 18, 2013 (Update 25) which updates the Docket. Please note that your facility was added to the updated Docket.

The Naval Weapons Station Seal Beach - Corona facility is eligible for addition to the Docket under the Resource Conservation and Recovery Act (RCRA) 3010 reporting mechanism as a Large Quantity Generator (LQG). One of the requirements as a Docket facility is to provide EPA with information under CERCLA/SARA 120(d) pertaining to the hazardous waste generated, method of storage (e.g., drums on concrete floor/pad), method of disposal (e.g., appropriate permitted RCRA facility) and any releases of hazardous waste that may have occurred including pathways affected by releases (e.g., air, groundwater, soil, and surface water).

As a first step in our evaluation process for your facility, we are requesting that you complete the attached questionnaire and please include copies of one calendar year of manifests (if appropriate) showing disposal of hazardous wastes at an approved RCRA disposal facility. This information will serve as an Abbreviated Preliminary Assessment (APA) and will assist EPA in evaluating whether a Preliminary Assessment (PA) and/or a Site Inspection (SI) is

required for your facility.

After EPA's evaluation of the requested above-mentioned documents, we may request that your facility submit a PA and potentially an SI report that meet the requirements of the National Contingency Plan. The activities typically performed during a PA include information gathering and a site reconnaissance. The activities typically performed during an SI include review of data, development of field work plans, field sampling, and filling of data gaps. Should we determine that your facility needs to perform a PA and/or an SI, we will provide you with further specific instruction at the time such determination is made.

Your timely response to this letter is appreciated. Please submit the requested questionnaire and manifest information within 60 days from receipt of this letter to:

Stephen Southern
U.S. EPA, Region 9
75 Hawthorne Street, SFD-6-1
San Francisco, CA 94105

If you have any questions or if you think you may need additional time to submit the requested information, please contact Stephen Southern of my staff via phone at 415-972-3215 or email at Southern.Stephen@epa.gov.

Sincerely,

Nicole Moutoux
Chief, Brownfields & Site Assessment
Superfund Division

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

Jeff McGovern
Hazardous Waste Program Manager
800 Seal Beach Blvd.
Seal Beach, CA 90740

RE: Naval Weapons Station Seal Beach Detachment Norco
EPA ID #: **CA0170090211**

Dear Mr. McGovern:

EPA has reviewed the Abbreviated Preliminary Assessment questionnaire submitted by the U.S. Department of the Navy. This review was conducted under Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended [42 U.S.C. 9404], commonly known as Superfund. Based on currently available information, EPA has determined that the site does not qualify for placement on the National Priorities List and that no further federal assessment is warranted at the site.

The attached decision has been entered into EPA's Superfund Enterprise Management System (SEMS) database, and the site has been removed from EPA's active site inventory. If you have any questions or comments, please contact Leslie Ramirez at 415-972-3978 or at ramirez.leslie@epa.gov.

Sincerely,

Nicole Moutoux, Chief
Brownfields & Site Assessment Section
Superfund Division

Enclosure

REMEDIAL SITE ASSESSMENT DECISION – EPA Region 09

Site Name: NAVAL WEAPONS STATION SEAL BEACH DETACHMENT NORCO

Alias(es):

City: NORCO **County or Parish:** RIVERSIDE **State:** CA

Refer to Report Dated: 09/22/2015 **EPA ID:** CA0170090211

Report Developed By: Other **State ID:**

Report Type: Preliminary Assessment (00X) #001 **Decision Date:** 09/22/2015

- [x] 1. **Further Remedial Site Assessment Under CERCLA (Superfund) is not required because:** NFRAP-Site does not qualify for the NPL based on existing information
- [ ] 2. **Further Assessment Needed Under CERCLA.**
- [ ] 3. **Remedial study/cleanup needed.**

Decision/Rationale:

The Naval Weapons Station Seal Beach Detachment Norco (the "site") is located at 1999 4th Street in Norco, California. The site was added to the Federal Facilities Hazardous Waste Compliance Docket on March 18, 2013 due to the notification requirement under the Resource Conservation and Recovery Act Section 3010 (Notification of Hazardous Waste Activity for Generators, Transporters, and Treatment Storage, and Disposal Facilities). The site submitted an Abbreviated Preliminary Assessment that indicated that no hazardous substance releases have occurred. The site does not qualify for further assessment under CERCLA and no further assessment is planned at this time.

The U.S. Environmental Protection Agency (EPA) has determined that no further remedial action by the Federal Superfund program is warranted at the referenced site, at this time. The basis for the no further remedial action planned (NFRAP) determination is provided in the attached document. A NFRAP designation means that no additional remedial steps under the Federal Superfund program will be taken at the site unless new information warranting further Superfund consideration or conditions not previously known to EPA regarding the site are disclosed. In accordance with EPA's decision regarding the tracking of NFRAP sites, the referenced site may be removed from the SEMS database and placed in a separate archival database as a historical record if no further Superfund interest is warranted. Archived sites may be returned to the SEMS site inventory if new information necessitating further Superfund consideration is discovered.

Decision/Rationale (Continued):

Site Decision Made By: L. Ramirez

Signature: Luis Ramirez

Decision Date: 09/22/2015

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Attachment 2
Beryllium Lab Memo

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for PEACE OF MIND- BUY SAVINGS BONDS

LONG BEACH NAVAL SHIPYARD
LONG BEACH 2, CALIFORNIA

IN REPLY REFER TO:

725:WTM:am
6240/1
Ser: 700-27-61

2 May 1961

From: Commander, Long Beach Naval Shipyard
To : Commanding Officer, U. S. Naval Ordnance Laboratory, Corona, Calif.

Ref : (a) CO NAVORDLAB Corona ltr dtd 23 Mar 61 file Ser: A-261

1. Reference (a) requested the services of the Industrial Hygienist, Long Beach Naval Shipyard, to investigate the potential beryllium health hazard in subject laboratory. Chemical studies with beryllium are performed under an exhaust hood or in a dry box. The hoods and dry box are filtered with a roughing filter for large particles plus high efficiency AEC type filters. Wipe samples and air samples are taken on a continuing basis by laboratory personnel. These samples are analyzed by a contract laboratory and to date all have been within the MAC.

2. The ventilation system of the laboratory is now being improved. The Safety Officer and Public Works Officer are concerned about this new ventilation intake being located less than ten feet from the beryllium hoods and dry box exhaust.

3. The MAC for "neighborhood" concentrations of beryllium is .01 micrograms per cubic meter. The filters contained in the beryllium exhaust system must keep the "neighborhood" beryllium below this level. Wipe samples beyond the filter indicate some beryllium was passing the filters. Most of this was possibly due to inadequate installation which has been corrected. Air samples beyond the filter now indicate only a negligible amount of beryllium entering the atmosphere.

4. It has been suggested by Public Works Officer at Corona the beryllium exhaust stacks be moved approximately 30 feet from the new ventilation intake. It appears the beryllium is now being properly filtered, which is a requirement due to the hazardous nature of this material. The wind direction and velocity are uncertain. There could be no assurance the additional safety precaution of relocating the beryllium exhaust would be effective, even in the event of a ruptured filter. A variety of sampling methods should be used to determine the amount of beryllium exhausted into the atmosphere.

RECOMMENDATIONS:

1. Leave the beryllium exhaust stack in its present location.
2. Continue performing wipe and air samples inside the laboratory.
3. Cut access openings beyond the filters in the exhaust ducts. This will allow laboratory personnel to make both air and wipe samples for beryllium passing the filter.

H. M. Robbins
H. M. ROBBINS, CAPT. MC, USN
By direction

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