

APPENDIX N

**HAZARDS AND HAZARDOUS MATERIALS TECHNICAL STUDY
SHIPYARD SEDIMENT ALTERNATIVE ANALYSIS CONVAIR
LAGOON**

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SHIPYARD SEDIMENT ALTERNATIVE ANALYSIS
CONVAIR LAGOON
SAN DIEGO, CALIFORNIA**

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May 27, 2011
Project No. 106997003

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Ms. Wentzelee Botha
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120 Birmingham Drive, Suite 110
Cardiff By The Sea, California 92007

Subject: Hazards and Hazardous Materials Technical Study
Shipyard Sediment Alternative Analysis
Convair Lagoon
San Diego, California

Dear Ms. Botha:

At your request, we have prepared this Hazards and Hazardous Materials Technical Report for the above-referenced project. The report has been prepared in accordance with applicable portions of our proposal, P-20189, dated March 11, 2011. This report presents our methodology, findings, opinions, and recommendations regarding the environmental conditions at the project area.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE



Lisa Bestard, R.E.A.
Senior Project Environmental Scientist



Stephan A. Beck, PG 4375
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LB/SB/gg

Distribution: (1) Addressee

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1. INTRODUCTION

This Hazards and Hazardous Materials Technical Report (HHMTR) has been prepared as part of the Shipyard Sediment Alternative Analysis, Convair Lagoon, San Diego, California (Figure 1). The Convair Lagoon Alternative involves the construction of a confined disposal facility (CDF) for the placement of contaminated marine sediment dredged from the Shipyard Sediment Site. For a detailed project description, please reference the Alternative Description section in the Administrative Draft Program Environmental Impact Report (EIR), Shipyard Sediment Remediation Project, San Diego Bay.

The purpose of this HHMTR is to document possible environmental impacts at the project area from potential releases of hazardous materials or wastes, and to document, with respect to the California Environmental Quality Act (CEQA), the significance of impacts from the proposed project with respect to hazardous materials and wastes, and to discuss measures that can be implemented to reduce or mitigate the potential impacts.

A Draft EIR is currently being prepared by others to evaluate the proposed dredging and capping project at the Shipyard Sediment Site (LSA, 2011). The Draft HHMTR prepared for the Shipyard Sediment Site EIR provides a detailed description of the regulatory framework, regional environmental setting, and standard operating procedures (SOPs) for sediment dredging operations (Geosyntec, 2011). This HHMTR provides a summary of the applicable information presented in the Geosyntec HHMTR; therefore, for a more detailed description, please refer to the Geosyntec HHMTR.

2. SCOPE OF WORK

Ninyo & Moore's scope of work for this HHMTR included the activities listed below.

- Review physical setting information (e.g., topographic, geologic maps, groundwater data) pertaining to the project area.
- Review federal, state, and local on-line regulatory agency databases and lists for the project area.

- Review of readily available maps, reports, and other hazards and hazardous materials documents pertaining to the project area, including, but not limited to, clean up and abatement orders (CAOs), waste discharge requirements (WDRs), and technical reports prepared by others.
- Perform a site reconnaissance.
- Document the locations of current and proposed schools, based on review of available maps and/or consultation with the applicable public school district.
- Evaluate potential impacts to sensitive receptors (i.e., schools, hospitals) from exposure to hazardous materials associated with the project.
- Prepare this HHMTR report documenting findings and providing opinions and recommendations regarding possible environmental impacts at the project area from potential releases of hazardous materials or wastes, and potential impacts from hazardous materials or wastes from implementation of the project.

3. SITE LOCATION, DESCRIPTION, AND HISTORY

The following sections summarize the site location, description, and background:

3.1. Site Location

The Convair Lagoon Alternative site consists of approximately 15 acres of water and land located within the San Diego Bay in the City of San Diego, California. The site is bounded by the San Diego Bay to the south; North Harbor Drive, a greenway, and the San Diego International Airport to the north; the United States North Harbor Drive Coast Guard Facility (U.S. Coast Guard Station) to the east; and a rental car parking lot to the west (Figure 1). The site is within the jurisdiction of the San Diego Unified Port District (District) and is located in Planning District 2 (Harbor Island/Lindbergh Field), Planning Subarea 24 (East Basin Industrial) of the 2010 Port Master Plan.

3.2. Site Description

The Convair Lagoon Alternative site is an area of the San Diego Bay that consists of open water, submerged facilities, and land. The land facilities on the Convair Lagoon Alternative site are located along the periphery, with the exception of the southern boundary, which is

San Diego Bay. Land facilities include an asphalt paved area along the northern boundary, parallel to North Harbor Drive; a concrete seawall or rip-rap located along the north, east, and west shorelines; and an abandoned concrete sea plane marine ramp located along the southwesterly interface between the land and water. The western and northwestern part of the site is a rental car parking lot.

The submerged facilities on the Convair Lagoon Alternative site include a sand cap, rock berm, and storm drains. The submerged area of the site includes an approximate 7-acre sand cap that was designed to isolate sediment contamination associated with former Teledyne Ryan (TDY) Aeronautical operations. In addition to the sand cap, submerged facilities on the site include a subsurface rock berm and multiple submerged storm drains. The submerged rock berm transects the site from the northwest corner to the southeast corner in an “L” shape to contain the existing sand cap. On the northern shoreline, a 60-inch diameter storm drain, a 54-inch diameter storm drain, and two 30-inch diameter storm drains outlet into the lagoon. The two 30-inch diameter storm drains, which served the former TDY facility, are abandoned in place or discharge runoff from Harbor Drive. On the western shoreline, three smaller storm drains outlet into the lagoon.

The adjacent surrounding areas consist of a greenway with a bicycle path is located to the north, parallel to North Harbor Drive. Directly west of the site is a rental car parking lot, while to the east is the U.S. Coast Guard Station. The San Diego Bay and a boat anchorage area (Anchorage A-9) are located to the south of the site.

3.3. Background

The surrounding shoreline of Convair Lagoon was previously shallow portions of the San Diego Bay that were filled with dredge sediment. The earliest information regarding dredging and fill operations in the vicinity of the alternative site is from 1921, when the northeastern shoreline of the bay was between present-day Pacific Highway and California Street. In the 1920s and 1930s, the area north of present-day West Laurel Street and North Harbor Drive, encompassing the eastern portion of the present-day San Diego Airport, was filled with material dredged from the bay. A dredging pipeline, (later converted to a 54-inch

reinforced concrete storm drain), extended from the northern portion of the filled land, south to the bay, and discharged into the Convair Lagoon. In the mid-1930s, dredging operations filled the area where the U.S. Coast Guard Station is located east and adjacent to the alternative site. By 1939, a concrete pier was constructed above the previously mentioned storm drain on the site. In the early 1940s, dredging operations filled the area west of the site. Convair Lagoon is the unfilled area between the U.S. Coast Guard Station and the filled area to the west of the site. Throughout the years, multiple improvements to the site have been constructed and removed, including additional storm drains and other piers.

On October 17, 1986, the San Diego Regional Water Quality Control Board (RWQCB) Executive Officer issued "*Cleanup and Abatement Order No. 86-92 for Teledyne Ryan Aeronautical near Lindbergh Field, San Diego County*" for the discharge of polychlorinated biphenyl (PCBs), several trace metals, and volatile organic compounds to the storm drains on TDY property and to the Convair Lagoon portion of the San Diego Bay. CAO 86-92, as amended, required TDY to construct a sand cap on the San Diego Bay bottom in Convair Lagoon to isolate the existing sediment contamination within the lagoon from the environment.

In 1996, the PCB contamination in Convair Lagoon was remediated by the Convair Lagoon Capping Project. During the PCB remediation, the existing subsurface rock berm was constructed (Figure 2) and a sand cap was placed behind the rock berm. The majority of the existing sand cap is submerged, although construction of the cap converted approximately 1,400 square feet of an intertidal area to upland.

Recent bay deposits underlie the sand cap and PCB contaminated sediment. Bay deposit materials typically consist of interlayered dark gray, wet, loose, fine silty sand and silt and soft, sandy clay. Old paralic deposits underlie the bay deposits and typically consist of medium dense sand and stiff clay.

Subsequent to installation of the sand cap over the PCB contaminated sediments in Convair Lagoon, monitoring has discovered PCB contamination on top of the cap, presumably the result of contaminated sediment coming from the 60-inch storm drain. In response to this

discovery, the RWQCB issued CAO R9-2004-0258, as amended, which addresses the cleanup and abatement of wastes discharged to land at the former TDY site. According to the CAO, significant wastes discharged to soil and groundwater at the site must be identified and cleaned up, and the discharge of any wastes to Convair Lagoon and San Diego Bay must be abated. A subsequent enforcement order will be necessary to assess and cleanup wastes discharged from landside sources to the marine sediments in Convair Lagoon and San Diego Bay. The CAO states that soil and groundwater must be cleaned up and waste discharges abated prior to conducting remedial actions in Convair Lagoon and San Diego Bay to prevent potential recontamination of the marine sediments in the bay. Therefore, the Convair Lagoon Alternative would commence construction once the PCB source is eliminated.

Convair Lagoon is associated with two active CAOs, 86-92 and R9-2004-0258, and WDR Order No. 98-21. A summary of these documents is provided in Section 5.

4. PHYSICAL SETTING

The following sections include discussions of the topographic, geologic, and hydrogeologic conditions at the project area.

4.1. Topography

The landside portions of the site are located at approximately sea level (USGS, 1996). The floor of the lagoon ranges in elevation from approximately 12 feet above mean lower low water (MLLW) to -15 feet MLLW (Ninyo & Moore, 2011).

4.2. Geology

The site is underlain by fill material and bay deposits. These are expected to be underlain by Pleistocene-age old paralic deposits. Recent bay sediments, deposited along the edges of San Diego Bay, are expected to underlie the fill. These materials typically consist of interlayered dark gray, wet to saturated, very loose to loose, silty fine sand and silt, and soft, sandy clay (Ninyo & Moore, 2011a).

4.3. Surface Waters

A portion of the site is within the San Diego Bay. According to the State Water Resources Control Board (SWRCB) Water Quality Control Plan for the San Diego Basin, the San Diego Bay has been assigned beneficial uses for industrial service supply, navigation, contact and non-contact water recreation, commercial and sport fishing, preservation of biological habitats of special significance, estuarine habitat, wildlife habitat, rare/threatened/endangered species, marine habitat, migration of aquatic organisms, spawning/reproduction/early development, and shellfish harvesting (SWRCB, 1994).

4.4. Groundwater

According to the SWRCB Water Quality Control Plan for the San Diego Basin, the project area is located within the Lindbergh Hydrologic Sub Area (908.21) of the San Diego Mesa Hydrologic Area within the Pueblo San Diego Hydrologic Unit (907.00). Groundwater in this hydrologic subarea has been excepted from municipal supply and does not currently have existing or potential beneficial uses (SWRCB, 1994).

There are eight groundwater monitoring wells located on the landside portion of the site (MWCL-1 through MWCL-8R). The monitoring wells are currently being monitored under CAO R9-2004-0258, associated with former TDY facility located adjacent to the north of the site beyond Harbor Drive (2701 North Harbor Drive). Based on a review of the October 2010 monitoring report on file on the SWRCB GeoTracker database, depth to groundwater at the site generally ranges from 6 to 11 feet below ground surface and generally flows south toward Convair Lagoon (Geosyntec Consultants, 2010). A discussion of the monitoring results is provided in Section 6.1.

5. ENVIRONMENTAL SETTING

In accordance with California Government Code Section 65962.5, as cited in Section 8, Part D within Appendix G of the Guidelines for Implementation of CEQA, a search was performed of the following sources to identify to evaluate whether adjacent properties have been documented

as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects.

- California Department of Toxic Substances Control (DTSC) Envirostor Database, list of hazardous waste facilities subject to corrective action, and Cortese List (DTSC, 2011 and 2011a).
- SWRCB GeoTracker Database (includes underground storage tank [UST] releases), list of solid waste disposal sites from which there is a documented migration of hazardous waste, and list of active cease and desist orders (CDO) and CAOs (SWRCB, 2011; DTSC, 2011).

The following sources were not searched as described below.

- DTSC list of properties designated as hazardous waste properties or border zone properties: DTSC has not currently designated any properties as hazardous waste or border zone properties.
- DTSC information regarding hazardous waste disposal on public land: DTSC does not currently keep separate record of hazardous waste disposal to public lands.
- DTSC Abandoned Site Assessment Program List: Sites with the Abandoned Site Assessment Program List were included in the former CalSites database, which was incorporated into the current Envirostor Database.
- Department of Health Services list of public drinking water wells that contain detectable levels of organic contaminants and are subject to water analysis in accordance with Section 116395 of the Health and Safety Code (HSC): Analysis in accordance with HSC Section 116395 was to be completed in 1988; therefore there are currently no wells being sampled in accordance with this regulation.

The following sections describe the on-site and adjacent facilities identified as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. In addition, potential issues associated with the Shipyard Sediment Site (i.e., the source of the proposed fill to be placed in the lagoon) are also discussed.

5.1. Convair Lagoon

Convair Lagoon is listed on the SWRCB list of active CDOs and CAOs as having two active CAOs: 86-92 and R9-2004-0258. The site is also subject to RWQCB WDR Order No. 98-21. A brief summary of these documents is provided below.

- **CAO 86-92 and Amendments:** The CAO was issued on October 17, 1986 to TDY for the discharge of PCBs, metals, and volatile organic compounds (VOCs) into the SWCS on the facility that discharged into Convair Lagoon (Figure 2). Sediments in the lagoon were found to contain PCBs at concentrations ranging from 1 to 1,800 milligrams per kilogram (mg/kg) as dry weight from the surface to depths of 10 feet. These concentrations were considered to be by the RWQCB to require clean up and abatement to be protective of the waters of the state. Between 1986 and 1998, PCB wastes were removed from the SWCS at the facility. The CAO required a sand cap be constructed to isolate the contaminated sediments (i.e., identified in the CAO as sediments with PCBs at concentrations at or exceeding 4.6 mg/kg as dry weight) from the environment. An approximately 7-acre sand cap was completed at the site in 1998 that covered areas where sediments contained PCBs at concentrations exceeding 4.6 mg/kg as dry weight (Figure 3). As part of the capping project, approximately 1,400 square feet of intertidal land was converted to upland.
- **WDR 98-21:** Subsequent to the construction of the sand cap under CAO 86-92, the RWQCB issued WDR 98-21, Closure and Post-Closure maintenance of the Convair Lagoon Sand Cap, which regulates the sand cap and associated monitoring, maintenance, and, repairs. The WDR states that the action level to trigger repair and or investigation of the cap or cleaning of the SWCS at the TDY facility is 4.6 mg/kg dry weight in the sediments. The document also provides a list of water quality objectives that apply to the water within Convair Lagoon. Some of objectives provided are for dissolved oxygen, pH, oil and grease, suspended sediment load/discharge rate, turbidity, and toxicity.
- **CAO R9-2004-0258 and Amendments:** The CAO states that PCBs, VOCs, and heavy metals from the former manufacturing activities at the TDY facility have, “caused and threaten to cause conditions of pollution, contamination, and nuisance by exceeding applicable water quality objectives for toxic pollutants to San Diego Bay.” The document also states that PCB concentrations have continued to be found in the SWCS at the TDY facility even after clean out and replacement of portions of the system. In addition, PCBs discharged from the SWCS are being deposited on the surface of the sand cap at Convair Lagoon. PCBs have been detected on the surface of the sand cap at concentrations ranging from 1.77 to 20.44 mg/kg, which exceeds the clean up level of 4.6 mg/kg dry weight established in CAO 86-92 described above. Releases of waste to soil and groundwater are also noted from the former landside aerospace operations, which include impacts from chlorinated solvents and hexavalent chromium. The CAO states that these discharges may reach San Diego Bay through the migration of groundwater into the SWCS or directly into the bay.

The CAO required a site investigation and characterization report be prepared that was completed on December 19, 2005 and included an evaluation of soil, groundwater, and sediment impacts (Geosyntec, 2005). A remedial investigation/feasibility study (RI/FS) was also required, that was submitted in March 2007. The RI/FS selected in-situ bioremediation to address chlorinated solvents in groundwater, in-situ reduction to address

hexavalent chromium in groundwater, and excavation and off-site disposal of impacted soil and concrete (Geosyntec, 2007). Details of the proposed remedial actions were present in a Remedial Action Plan (Geosyntec, 2007a).

In accordance with the CAO, groundwater monitoring is being performed on a semi-annual basis at the TDY facility and at the site. Eight monitoring wells (MWCL-1 through MWCL-8R) are installed on the landside portion of the site as “sentry wells” to monitor potential impacts to San Diego Bay. The most recent groundwater monitoring report, July 2010, states that low levels of VOCs have been detected in the western well cluster (Figure 2) and that trace levels of PCBs were detected; however, they may have been a result of cross-contamination in the laboratory (Geosyntec, 2010).

A tentative addendum (number 4) to the CAO was issued on April 13, 2011, which states that there are three areas of concern with regard to the transport of wastes from the TDY facility to Convair Lagoon: 1) Convair Lagoon shoreline groundwater, 2) sediment in the SWCS that empties into Convair Lagoon/San Diego Bay, and 3) VOC-impacted groundwater seeping into the 54-inch and 60-inch storm drains. Although sediment transport to the lagoon is a concern, the storm drain inlets and laterals on the TDY facility were capped with concrete; therefore, no additional input of sediment to the SWCS from the TDY facility is known to be occurring. However, there is the potential for PCB impacted sediments to be transported to Convair Lagoon from sites upgradient of the TDY facility that continue to discharge into the SWCS. In addition, there is a potential risk to human health associated with the incidental ingestion of or contact with the sediments in the lagoon. The addendum requires that soil and groundwater contamination at the TDY facility be remediated to the identified clean up levels, visible sediment should be removed from within the 60-inch storm drain and associated energy dissipater, and a remedial action plan be submitted to detail how the cleanup levels will be achieved. The RWQCB is responsible for ensuring that the remediation is performed in accordance with the requirements of this CAO. Please see the ongoing studies bullet below for additional discussion of ongoing work associated with the TDY facility.

- **Ongoing Studies:** As required by the RWQCB in the CAO issued for the TDY facility, numerous investigations have been performed to evaluate impacted soil and groundwater, potential remedial alternatives, and potential sources of PCBs in the SWCS. The potential sources of PCBs in the SWCS have been identified as on-site and off-site soil, groundwater, sediment, building materials, and rainfall (Geosyntec, 2010a). Specific sites upgradient of TDY have not been identified as sources of PCBs in the SWCS.

A Remedial Investigation Feasibility Study (RI/FS) was prepared, which states that the recommended remedial action for addressing PCB impacted sediments in the 60-inch SWCS is to clean out sediments and remove the SWCS laterals on the site after the existing site buildings (a potential source of PCBs) have been removed. The RI/FS also states that the recommended remedial action for PCB impacts to groundwater at the site

is to continue groundwater monitoring under the supervision of the RWQCB to confirm that PCB impacted groundwater is not migrating into Convair Lagoon at levels that exceed existing regulatory limits (Geosyntec, 2010b). The RWQCB will be responsible for ensuring the remediation of the TDY facility is performed in accordance with the requirements of the applicable CAOs.

5.2. Shipyards Sediment Site

The RWQCB is considering issuance of a CAO for discharges of metals and other pollutant wastes to San Diego Bay marine sediments. The tentative CAO (i.e., R9-2011-0001), states that metals, PCBs, and polynuclear aromatic hydrocarbons (PAHs) have impacted the sediments at the Shipyards Sediment Site as a result of former and current operations within the shipyards. The document proposes cleanup levels and requires either dredging or capping (under pier areas) to meet the proposed levels. A human health risk assessment (HHRA) for the sediments at the Shipyards Sediment Site was prepared as part of the Draft Technical report for the CAO. The HHRA found that contaminants with potential increase cancer risk include inorganic arsenic and PCBs and those with the potential to increase non-cancer risks included cadmium, copper, mercury and PCBs. In addition, potential risks were identified to aquatic-dependent wildlife from benzo(a)pyrene (a PAH), PCBs, copper, lead, mercury, and zinc. Based on the studies performed for the Draft Technical Report, the primary contaminants of concern (COCs) are copper, mercury, heavy-weight PAHs, PCBs, and tributyltin. The secondary COCs are arsenic, cadmium, lead, and zinc.

An EIR is currently being prepared to evaluate the proposed dredging and capping project, which proposes to dispose of dredged sediments at an off-site landfill (LSA, 2011). The Draft HHMTR prepared for the Shipyards Sediment Site EIR provides a detailed description of the regulatory framework, regional environmental setting, and SOPs for sediment dredging operations (Geosyntec, 2011). This HHMTR provides a summary of the applicable information presented in the Geosyntec HHMTR; therefore, for a more detailed description, please refer to the Geosyntec HHMTR.

5.3. Adjacent Hazardous Materials Properties

Four adjacent properties were listed on the DTSC Envirostor Database and/or the SWRCB GetoTracker Database. Based on a review of the regulatory database, impacts to soil, groundwater, and sediments have been documented at the site and adjacent properties. Discussion of the environmental setting of the site is provided in Section 6.1. The following provides a discussion of the adjacent hazardous materials properties, which may have impacted soil, groundwater, and/or sediments in the project area.

- **U.O.P. Inc. – Fluid Systems Division (2980 North Harbor Drive):** The facility is listed on Envirostor as a Corrective Action. A Corrective Action property is defined as a property that treated, stored, disposed, or transferred hazardous waste at which investigation or clean up activities occurred that were either permitted or eligible for a permit. The status of the facility is listed as inactive, needs evaluation.
- **General Dynamics Convair (2980 North Harbor Drive):** The facility is listed on GeoTracker as having a closed leaking underground storage tank (LUST) case. The case was reported as having impacted soil only with aviation fuel and was closed in 1996.
- **U.S. Coast Guard Facility (2710 North Harbor Drive):** This facility was listed on the Envirostor database as a Military Evaluation facility and on the GeoTracker database as a Cleanup Program Site and as having a closed LUST case.
 - The Envirostor listing indicates that the facility is listed as a Formerly Used Defense Site (FUDS) that is inactive and needs evaluation. However, the facility is currently operating as a military facility and is not listed on the U.S. Army Corps of Engineers (USACE) FUDS database as a site where the USACE has performed or is planning to perform work. Therefore, it is possible that this listing is an error. A phone call has been placed to the USACE to clarify this listing, which was not returned as of the date of this report.
 - The GeoTracker Cleanup Program site listing indicates that the case was closed as of 1987; however, no additional information was provided.
 - The GeoTracker LUST case listing indicates that the case was a release of aviation fuel to groundwater that was closed in 2001; however, no additional information was provided.
- **Teledyne Ryan Aeronautical (2701 North Harbor Drive):** The facility is listed on the GeoTracker database as a Cleanup Program Site and has having four closed LUST cases.

- Three LUST cases are listed as having impacted soil only with diesel (2 cases) or gasoline (1 case). The cases are listed as closed in 1992, 1994, and 2000. One case is listed as having impacted groundwater with a release of diesel fuel; however, the case was closed in 2004 and no further action was required.
- The Cleanup Program Site listing indicates that the facility is currently undergoing remediation. This listing includes all work performed under WDR 98-21 and CAOs 86-92 and R9-2004-0258, as discussed in Section 6.1. The wastes discharged at the former facility include PCBs, VOCs, semi-volatile organic compounds (SVOCs), PAHs, metals, and total petroleum hydrocarbons.

A case-closed status generally indicates a lower likelihood that a release continues to be a significant source of impacts to groundwater; however, cases in the 1980s and early 1990s were often justified for closure using rationale and/or methodology that may not be considered to be the current standard of care, and closure is generally based on regulatory action levels, which can change over time. Therefore, while there is a lower likelihood that closed cases represent a significant concern to the project area, compared to potential impacts from open cases, it is possible that unauthorized releases, which have been granted closure, may have impacted soil and/or groundwater at the project area.

6. SENSITIVE RECEPTORS

The locations of potential sensitive receptors to hazardous materials/waste impacts, such as schools and hospitals, were documented during review of background information (e.g., Thomas Brothers Guide maps, topographic maps, online resources such as Google Earth). The DTSC Envirostor online database was also consulted for locations of existing and proposed schools. Hospitals, schools, daycare, and/or education-related facilities were not noted on site or within 0.8-mile of the site.

7. IMPACT ANALYSIS AND MITIGATION MEASURES

This section discusses the potential impacts related to the implementation of this project as described in the Project Description (LSA, 2011). Although a final project design has not yet been selected, the project description provides sufficient information to evaluate the impacts typical of proposed demolition, dredging, and filling activities. In addition to the SOPs and mitigation

measures described below, existing regulations (e.g., California Water Code, Health and Safety Code, Harbors and Navigation Code, etc.) and federal and state permit requirements (e.g., storm water, fill placement), may also provide specific best management practices (BMPs) or mitigation measures that will be implemented and act to further mitigate potentially significant impacts.

7.1. Spill/Leaks of Petroleum Products

Demolition and construction equipment may spill/leak fuels, oils, or other hazardous fluids during normal operations, refueling, or maintenance. However, any leaks/spills that occur would likely be localized, short-term, and cleaned up immediately in accordance with existing regulations for the transportation, handling, and disposal of hazardous materials (e.g., Code of Federal Regulations Title 40, California Code of Regulations Title 22, etc.) Therefore, the impacts would be considered less than significant under CEQA and mitigation measures would not be required.

7.2. Disturbance of Contaminated Sediments

Sediments at the site and the dredged sediments from the Shipyard Sediment Site being utilized as fill material are documented to contain levels of contaminants above regulatory limits. For the purposes of this report, contaminated sediments are assumed to be saturated and therefore include both the sediment particles and associated water. Disturbance of the sediments can cause a release of the contaminants that may result into an impact to human health and the environment. Contaminated sediments may be disturbed during dredging, storm drain extension, storage, rock placement, transport, filling, and disposal operations.

The Draft HHMTR prepared for the Shipyard Sediment Site EIR provides a detailed description of the SOPs for dredging activities, possible impacts, and appropriate mitigation measures related to the disturbance of contaminated sediments within San Diego Bay during the performance of similar project activities (Geosyntec, 2011). The potential impacts discussed in the report include, but are not limited to, the following:

- Dredging Impacts, Section 4.1: re-suspension of sediments due to dredging, operator over filling of the bucket, debris preventing full closure of the bucket, barge propeller

wash, silt curtain placement, damage of silt curtain, spillage from barge overloading, equipment failure, or vessel collision.

- Sediment Unloading and Transport Impacts, Section 4.2: spillage of sediments back into the water column or onto the land surface during sediment unloading to transport vehicles and spillage of sediments from transport vehicles due to overfilling, operator error.
- Sediment Storage/Drying Impacts, Section 4.3: airborne release of drying agent, airborne release of sediment contaminants through volatilization or particulate transport, and breach in containment.
- Load Out, Transport, and Disposal Impacts, Section 4.4: worker contact with sediments, spillage due to overfilling of transport vehicles or operator error.

Geosyntec's Draft HHMTR concluded that the potential mitigation measures described in the report are capable of mitigating these potential impacts to less than significant levels. Since the project activities associated with sediment disturbance at the Shipyard Sediment Site are comparable to the proposed activities for the Convair Lagoon CDF construction, employing the same mitigation measures would mitigate the potential impacts for this project to less than significant levels.

In addition to the impacts discussed in the Geosyntec report, contaminated sediments may also be disturbed during filling operations, during extension of the storm drains post-CDF construction, or subsurface excavation activities post-CDF construction.

- As the dredged fill is placed, some of the sediments will be suspended in the bay water and may flow back into the bay. However, the placement of contaminated sediment from the Shipyard Sediment Site would not take place until after the containment barrier has been constructed and filling operations will occur at a pace that will allow displaced water to flow through the containment barrier prior to entering San Diego Bay. The containment barrier rock and filter within the barrier will act as a filter to minimize sediment particles from leaving the CDF (SAIC, 2009) Controlled placement of the dredged material and the design of the containment barrier are considered adequate to mitigate this potential concern to less than significant levels.
- If the construction of the storm drain extensions, or other subsurface excavation activities (e.g., utility installation or repair), are performed after the construction of the CDF, sediments placed in the CDF will need to be excavated to allow for the placement of the pipelines. A soil/sediment management plan would be prepared to detail the appropriate handling, storage, reuse, and disposal of the impacted sediments to minimize the poten-

tial for a release and impacts to the human health or the environment. The plan would also require that the top portion of the backfill be clean, imported fill material to further minimize the potential for a release. These methods are considered adequate to mitigate this potential concern to less than significant levels. In addition, the RWQCB may issue a CAO and WDRs specific to the site that may specify land use restrictions/activity and use limitation to minimize future disturbance of the sediments within the CDF.

Therefore, the potential significant impacts associated with the disturbance of contaminated sediments are considered less than significant with the implementation of the SOPs, mitigation measures, permit requirements, and regulations described above.

7.3. Release of Contaminated Water

Groundwater at the site and vicinity has been documented to be impacted by levels of contaminants above regulatory limits. Contaminated groundwater may be generated during dewatering activities associated with the extension of storm drains, if the work is performed after filling operations are complete. The water may be released to the surrounding land or into San Diego Bay due to a breach in the containment vessel or in the transport piping or overfilling of the containment vessel. The water generated during dewatering activities will likely be pumped directly into aboveground tanks with a sufficient designed capacity, pumped to an on-site treatment system before disposal, or disposed of directly into the sanitary sewer, in accordance with applicable permits. Aboveground tanks and transport piping would be inspected routinely for potential leaks or damage to avoid a potential release.

The use of appropriate storage containers and regular inspections of the containers and dewatering equipment are considered adequate to mitigate this potential concern to less than significant levels.

7.4. Summary of Impacts

The potential significant impacts identified as associated with the proposed project include hazards to the public and/or the environment from the routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions resulting in a

release of hazardous materials into the environment. A copy of the CEQA Initial Study Checklist for Hazards and Hazardous Materials is provided in Appendix A.

The final mitigation measure utilized may be modified based on the final project design details; however, with the judicious application of appropriate design parameters, existing standardized construction and dredging plans and practices, routine monitoring during construction, and mandated regulatory oversight (e.g., CAOs, WDRs), the potential mitigation measures described above are capable of mitigating the potential impacts to less than significant levels.

8. LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Please note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

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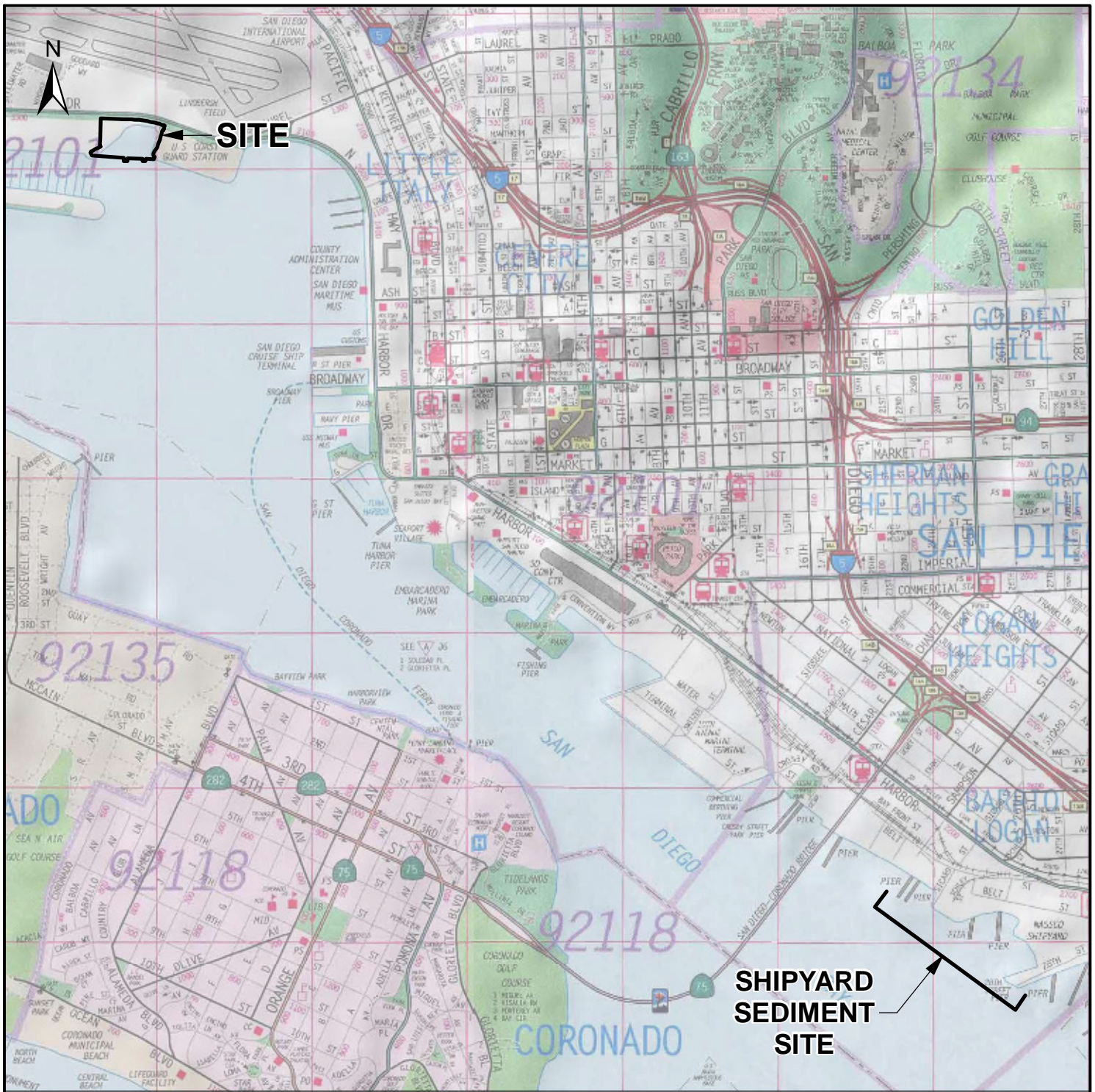
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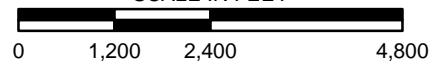
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SOURCE: 2008 Thomas Guide for San Diego County, Street Guide and Directory; Map © Rand McNally, R.L.07-S-129

SCALE IN FEET



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore

SITE LOCATION

FIGURE

PROJECT NO.

DATE

SHIPYARD SEDIMENT ALTERNATIVE
CONVAIR LAGOON
SAN DIEGO, CALIFORNIA

106997003

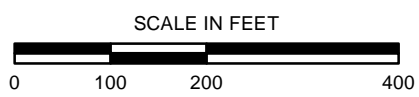
5/11

1



SOURCE: Aerial Imagery - Photo Date: August, 2010; (c) Google Earth, 2011

LEGEND
 --- SITE BOUNDARY



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



SITE AND VICINITY

FIGURE

PROJECT NO.	DATE
106997003	5/11

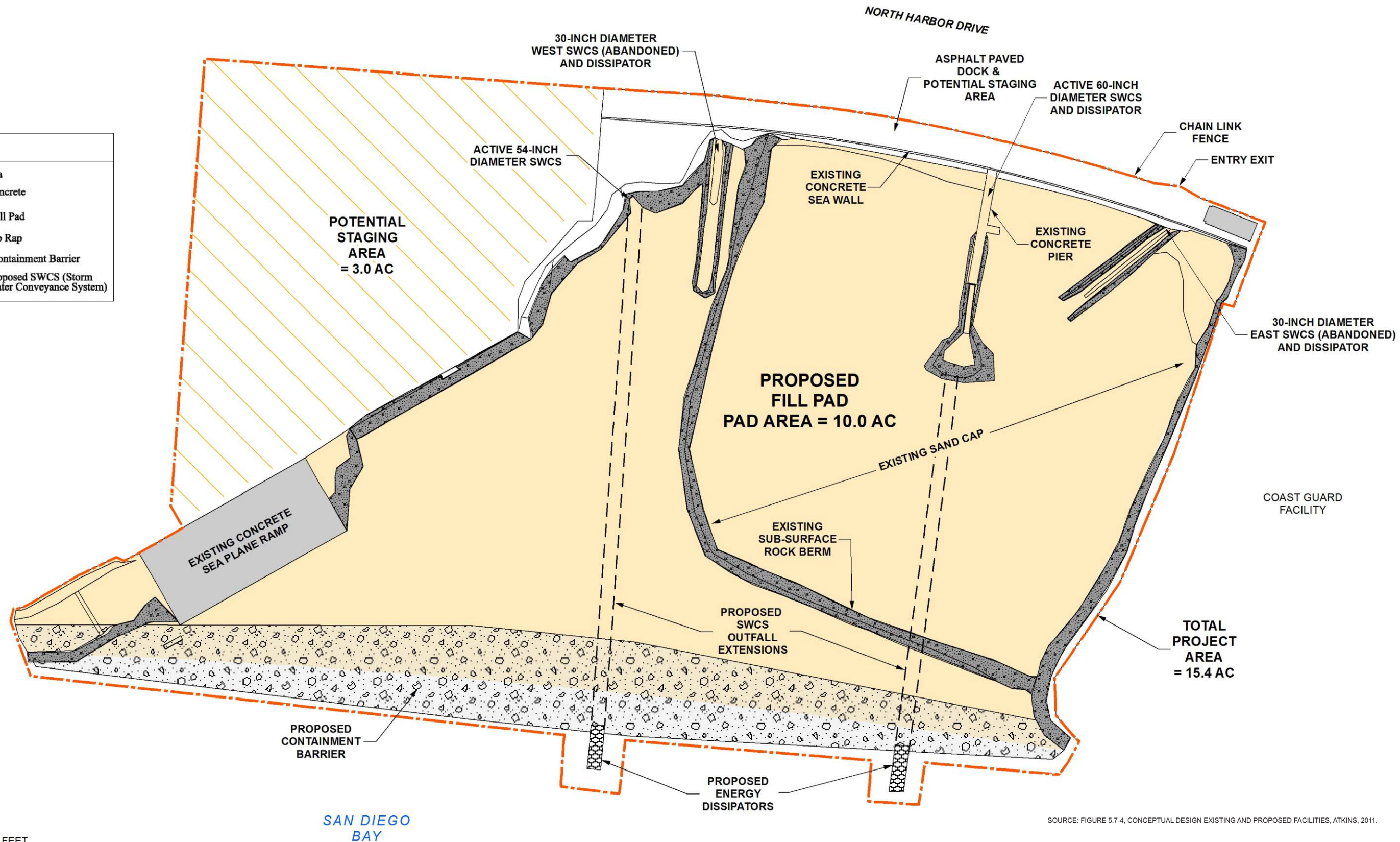
SHIPYARD SEDIMENT ALTERNATIVE
 CONVAIR LAGOON
 SAN DIEGO, CALIFORNIA

2

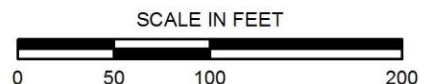
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LEGEND	
	Project Area
	Existing Concrete
	Proposed Fill Pad
	Existing Rip Rap
	Proposed Containment Barrier
	Proposed SWCS (Storm Water Conveyance System)



SOURCE: FIGURE 5.7-4, CONCEPTUAL DESIGN EXISTING AND PROPOSED FACILITIES, ATKINS, 2011.



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

		CONCEPTUAL DESIGN EXISTING AND PROPOSED FACILITIES		FIGURE 3
106997003	5/11			

106997002_dev_plan_atkins.cdr_JDL

APPENDIX A
CEQA INITIAL STUDY CHECKLIST, SECTION VIII

CEQA INITIAL STUDY CHECK LIST

VIII. HAZARDS AND HAZARDOUS MATERIALS - Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X