

APPENDIX E

Phase I Environmental Site Assessment

Prepared for:
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Dallas, Texas 75202

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Proposed Lease Property
Burlingame Landfill
250 Anza Boulevard
Burlingame, California



EAE Project Number: TGI17047
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1.0 EXECUTIVE SUMMARY

Environmental Advisors and Engineers, Inc. (EAE) has performed a Phase I Environmental Site Assessment (ESA) for the proposed lease property on the closed pre-Subtitle D¹ Burlingame Landfill at 250 Anza Boulevard, Burlingame, California (Site). The Phase I ESA has been performed in conformance with the scope and limitations of American Society for Testing and Materials (ASTM) E1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process and consistent with the United States Environmental Protection Agency's (EPA's) "all appropriate inquiries" rule established in 40 Code of Federal Regulations (CFR) Part 312. Any deletions, deviations from, or additions to this practice are described in Sections 10.0 and 11.0 of this report. The purpose of this Phase I ESA is to identify, to the extent feasible, recognized environmental conditions, controlled recognized environmental conditions, and historical recognized environmental conditions in connection with the Site in general accordance with the requirements of the ASTM E1527-13.

The Site is currently used as a public driving range and occupies approximately 15 acres of the surface of the 50-acre closed landfill owned by the City of Burlingame. The adjacent City Parks and Recreation Maintenance Area to the north, soccer fields to the northeast, club house and parking lot to the southeast, and playing fields and Wastewater Treatment Plant (WWTP) to the west are all owned by the City of Burlingame but are not part of the proposed lease property. The majority of these areas (Maintenance Area, soccer fields, and club house and parking area) are also constructed over the closed Burlingame Landfill.

Before approximately 1953, Rollins Road, which is now south of the landfill, was bordered by the shoreline of San Francisco Bay, with what appears to be a small earthwork on the west side of what is now Bayside Park and in the location of the WWTP. Extensive filling of the San Francisco Bay mud flats began in 1953, although some filling of the area west of the Site appears to have begun in the 1940s based on aerial photographs. The area adjacent to the west of the Site was the location of another closed pre-Subtitle D landfill known variously as Browning Ferris Industries, San Mateo Disposal, and Burlingame Disposal. It reportedly began operation in 1937 and accepted household wastes and biological waste other than sewage sludge and was used as a burn dump in the 1940s and 1950s but ceased operation in 1956. Inspection reports on the

¹ The Resource Conservation and Recovery Act (RCRA) was passed in 1976. Subtitle D of the act establishes requirements for non-hazardous solid waste landfills, including design criteria, location restrictions, and closure requirements. The Burlingame Landfill pre-dates these Subtitle D landfill requirements.

CalRecycle Website indicate that this adjacent closed landfill has a status of no further action and is no longer being monitored.

The Burlingame Landfill under the Site was historically developed as a landfill from 1957 until 1987. The waste accepted included construction debris, concrete rubble, roofing shingles, gardening debris, wood, metal, cloth, plastic, and anaerobic digester sludge. Hazardous waste and commercially collected household “garbage” were not accepted. The waste may be up to 60 feet bgs on the Site, and is underlain by a series of unconsolidated sand, silt, and clay layers that were primarily alluvial fan, stream, and outwash plain deposits that occur as interfingering layers, according to the 2018 geotechnical investigation. According to the Association of Bay Area Governments Resilience Program earthquake map, the Site is in an area of violent shaking hazard based on all earthquake scenarios and likelihood information using the Modified Mercalli Intensity scale.

Limited testing of the waste in the closed pre-Subtitle D Burlingame Landfill appears to have been performed. A composite sample was obtained from the borings from during geotechnical investigation conducted on the Site in 2018. No volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs) were detected in the composite sample. It was also determined that the boring material was not a Resource Conservation and Recovery Act (RCRA) hazardous waste based on the initial analytical results and additional Toxicity Characteristic Leaching Procedure (TCLP) testing for chromium. 4,4'-DDD, 4,4'-DDE, 4,4-DDT, dieldrin, PCB 1254, and 13 metals were detected in the sample at concentrations below the California Total Threshold Limit Concentrations (TTL). Total petroleum hydrocarbon (TPH)-diesel also was detected at 9.1 milligrams per kilogram (mg/kg) and TPH Motor Oil was detected at 43 mg/kg. With the exception of arsenic, the detected concentrations were all below EPA residential soil screening levels. Arsenic was detected at 9.2 mg/kg, above both residential and industrial soil EPA screening levels. However, this concentration may still be within typical background ranges.

A landfill gas (LFG) collection system is operated on the landfill, and the collected gas is destroyed in an LFG flare located on the adjacent WWTP property. The LFG system has been operational since 1995 and consists of a header piping network, vertical extraction wells, horizontal gas collectors, trench wells, and the enclosed flare. LFG is collected from all areas of the landfill. An activated carbon adsorption unit provides backup for the flare. Since 2011, the flare has been operated intermittently due to insufficient gas supply.

Eight perimeter LFG probes located on the east and southwest property boundaries near the hotels are monitored quarterly. One probe (P-9) on the southeast is monitored monthly. LFG

sensors are located in buildings constructed on or near to the landfill. According to the 2017 Q3 report, no methane gas was detected in any of the perimeter probes, with the exception of P-9. P-9 continues to be monitored monthly, but methane concentrations detected in the third quarter of 2017 were reportedly below 5 percent by volume (the combustible component of LFG). The only alarm noted in the building sensors in the 2017 Q3 report was determined to be a false alarm due to deterioration of the sensor.

Annual surface emissions monitoring (SEM) is also performed. No exceedances of either the instantaneous [500 parts per million volume (ppmv)] or integrated surface sampling (25 ppmv) limits were detected during the 2017 annual SEM. The highest instantaneous reading was 9.41 ppmv and the highest integrated reading was 8.67 ppmv.

Monitoring wells were installed prior to 1985 in the refuse and in what was characterized as the upper and lower sand. According to the 1997 Final Closure Plan, previous monitoring of leachate and groundwater in the upper and lower sand indicated high concentrations of Total Kjeldahl Nitrogen (TKN) and VOCs below EPA maximum contaminant levels (MCLs) in the leachate, low to moderate TKN and non-detectable VOCs in the upper sand, and very low TKN and non-detectable VOCs in the lower sand. Sodium and chloride concentrations in the leachate appeared to fluctuate due to mixing with Bay water. According to the 2018 Monitoring Report, four of the wells in the leachate were destroyed in 1992 and one in 1997. None of the wells identified in the lower sand appears to have been monitored since at least 1991.

Two leachate wells (GR-3 and GR-4) and one leachate line manhole (GR-8) screened in refuse and eight shallow groundwater perimeter monitoring wells are monitored semi-annually. None of these wells is within the footprint of the proposed Site development. A former leachate well (GR-7) that was destroyed in 1992 was located near the center of the proposed development. The existing wells are currently monitored for VOCs, total organic carbon (TOC), and TKN. The regulatory agency eliminated the requirement for analyses for various metals and chlorinated herbicides in 1997 and for alkalinity, biochemical oxygen demand, chemical oxygen demand, total dissolved solids and total suspended solids in 2007 based on historically low detections of these analytes.

Acetone, chlorobenzene, 1,4 dichlorobenzene, hexachloroethane, and tert butyl alcohol (TBA) have been detected in either or both of leachate wells GR-3 and GR-4 during the most recent semi-annual monitoring events. TBA has also been detected in two of the perimeter monitoring wells. The concentrations of acetone, chlorobenzene, hexachloroethane, and 1,4-dichlorobenzene in the leachate wells have been below federal and California drinking water maximum contaminant levels (MCLs), and the concentrations of TBA in the perimeter monitoring wells

have been below the California notification level of 12 micrograms per liter ($\mu\text{g/L}$) for drinking water.

The concentrations of TBA in the two leachate wells have been below the Regional Water Quality Control Board (RWQCB) non-drinking water groundwater environmental screening level, but above the drinking water notification level. Both of the leachate wells are on the south-southeast side of the Site and potentially upgradient of the Site, and the reports have attributed TBA to a possible off-site source.

Benzene, chlorobenzene, 1,4 dichlorobenzene, and toluene were detected below MCLs in leachate well GR-7 in December 1991 but were not detected in the last monitoring event for that well in March 1992.

It is uncertain how representative the leachate well data may be with respect to the Site itself based on the locations of GR-3 and GR-4 and the age of the GR-7 data.

According to the 2008 Corrective Action Report, no contaminant releases to groundwater or surface water have been documented since monitoring began in 1988. Concentrations of VOCs in monitoring event samples have been non-detect or below environmental screening levels for six years. TOC and TKN concentrations have been below calculated prediction limits and leachate concentrations have been stable.

A summary of findings is provided below. It should be recognized that all relevant details have not been included in this Executive Summary, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Findings

EAE has identified the following recognized environmental conditions, controlled recognized environmental conditions, historical recognized environmental conditions, and de minimis conditions associated with the Site:

Recognized Environmental Conditions

The term “Recognized Environmental Condition” means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to any release to the environment; under conditions indicative of a release to the environment or under conditions that pose a material threat of future release to the environment.

No recognized environmental conditions were identified.

Controlled Recognized Environmental Conditions

A “Controlled Recognized Environmental Condition” is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a “No Further Action” [NFA] letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, Activity or Use Limitations (AULs), institutional controls, or engineering controls).

- The closed Burlingame Landfill, which is beneath the Site and areas adjacent to the Site, as well as the adjacent landfill to the west variously identified as Browning Ferris Industries, San Mateo Disposal, and Burlingame Disposal Site are considered to be a controlled recognized environmental condition. VOCs detected in groundwater and leachate samples from the Site are considered to be part of the controlled recognized condition at the landfill, although it is possible they are from off-site sources.

It is not implied that EAE has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required controls that have been or are intended to be implemented for the controlled recognized environmental conditions identified above.

Historical Recognized Environmental Conditions

A “Historical Recognized Environmental Condition” is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

No historical recognized environmental conditions were identified.

Vapor Encroachment Conditions (VECs)

Vapor Encroachment Screening (VES) was conducted under this project to assess the potential for migration of vapor phase contamination and to assess if a VEC exists at the Site. According to ASTM E2600-15, a VEC is the presence or likely presence of chemical of concern vapors in the vadose zone of the Site caused by the release of vapors from contaminated soil and/or groundwater either on or near the Site.

The landfill is considered to be a controlled vapor encroachment condition due to the presence of methane and VOCs that are collected by the LFG extraction system. The LFG system provides vapor removal to minimize potential vapor encroachment. Buildings on and near the landfill are also required to have gas monitoring systems. The LFG extraction system and the monitoring program are regulatory requirements of the landfill permit and must be maintained indefinitely.

De minimis Conditions

“De Minimis Conditions” are those items which generally do not present a threat to human health and the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. De minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.

No de minimis conditions were identified.

Data Gaps, Limitations, and Interpretations

A Data Gap is defined by ASTM E1527-13 as “a lack of or inability to obtain information required by the standards and practices of 40 CFR Part 312, despite good faith efforts by the environmental professional to gather such information.”

- The driving range was fenced and locked at the time of the Site Reconnaissance and access to the area was not possible. However, the entire area was visible, and this is not considered to be a significant data gap.
- Mr. Art Morimoto, Assistant Public Works Director and Owner representative, did not complete the Owner Questionnaire, but deferred technical questions to Mr. Joe Miller, SCS Engineers, who was interviewed during the Site Reconnaissance. On the basis of the extensive historical reports provided and the information obtained from Mr. Miller and other interviewees, this is not considered to be a significant data gap.

Opinion and Conclusions

Based upon the findings of this Phase I ESA, the following opinions and conclusions are provided:

- The Burlingame landfill which is beneath the Site and areas adjacent to the Site, as well as the adjacent landfill to the west variously identified as Browning Ferris Industries Landfill and San Mateo Disposal, are considered to be a controlled recognized environmental condition. VOCs detected in groundwater and leachate samples from the landfill are considered to be part of the controlled recognized condition at the landfill,

although it is possible they are from off-site sources. The landfill also represents a controlled vapor encroachment condition due to the presence of methane and VOCs that are collected by the LFG extraction system.

No investigation is recommended at this time for potential CERCLA liability associated with these controlled recognized environmental and vapor encroachment conditions for the following reasons:

- The landfill will continue to be owned and managed by the City of Burlington.
- Regulatory compliance requires that the landfill cap be maintained, LFG be controlled and monitored, and groundwater be monitored.
- The proposed development does not involve storage or use of significant quantities of hazardous substances. Materials that would be used are limited to routine cleaning products, paints, and maintenance materials, and proposed operations would not contribute to additional future contamination on the property.

2.0 INTRODUCTION

This report presents the results of the Phase I ESA for the portion of the Burlingame Landfill, Burlingame, California, proposed for lease by TopGolf USA Burlingame, LLC (Site). The Site location is shown on the topographic map on Figure 1 at the end of the text portion of this report. The Site features and adjacent land uses are shown on Figure 2. The area of the Site shown on Figure 2 is based on the approximate area of the proposed lease as shown on the Site Plan in Appendix B. The lease boundary had not been finalized at the time of this report. Figures 3 and 4 are from prior reports and have been included for reference regarding the groundwater and LFG monitoring systems, respectively.

At the time of this report, the leased area had not been surveyed, so the acreage could not be determined. The lease area is part of the larger Burlingame Landfill, which occupies 50 acres of a larger 91-acre tract owned by the City of Burlingame. The area surrounding the Site consists of park, industrial, and commercial development, some of it on adjacent portions of the landfill. Airport Boulevard and the San Francisco Bay are located to the north, Sanchez Creek and the Burlingame Lagoon (also referred to as the Bay Front Channel) to the south, ball fields and a WWTP to the west, and hotels to the east and southwest.

2.1 Purpose

The purpose of this Phase I ESA is to identify, to the extent feasible, recognized environmental conditions, controlled recognized environmental conditions, and historical recognized environmental conditions in connection with the Site, generally in accordance with ASTM E1527-13 and consistent with the EPA's "all appropriate inquiries" rule established in 40 CFR Part 312. However, in conducting this assessment consideration has also been given to the following Site-specific conditions:

- Known use of the property as a landfill.
- Regulatory compliance activities conducted by the City of Burlingame that are planned to continue by the City of Burlingame as the Site owner under regulatory oversight during the lease period. These activities are documented in the semi-annual and annual groundwater monitoring reports, the quarterly perimeter LFG monitoring reports, and the BAAQMD Rule 9-34 Annual reports as summarized in Section 5.4 under Prior Reports.
- Proposed Estimated Lease Boundary (provided by ARCO, July 18, 2018, Appendix B).

2.2 Scope of Services

In general, the scope of this assessment consisted of reviewing readily available information and environmental data related to the property; obtaining Site information from available persons knowledgeable about the Site; reviewing readily available records maintained by federal, state, and local regulatory agencies; and conducting a Site Reconnaissance. The published sources relied upon in preparing this report are referenced in the particular report section in which they were used and in the attached research and field documentation forms. Copies of some materials that were utilized are included in Appendices to this report. The report organization follows the general format recommended in ASTM E1527-13 Appendix X4. The following appendices are included with the report:

- Appendix A Site Photographs and Field Reconnaissance Form
- Appendix B Questionnaires/Title and Lien Information/Legal Description/Site Survey (if provided or obtained)
- Appendix C Regulatory Database/Physical Setting Sources
- Appendix D Historical Sources
- Appendix E Regulatory Agency Responses and Other Regulatory Agency Files
- Appendix F Qualifications of Persons Performing the Assessment
- Appendix G Prior Reports

2.3 Significant Assumptions

In the preparation of this report, we have examined and relied upon other documents typically relied upon by professionals in this field, based on the professional expertise or the knowledge of the authors thereof. We have not conducted an independent examination of facts contained in these reference materials and have reasonably relied upon the information set forth therein as true and accurate.

Similarly, in the conduct of this assessment, EAE has attempted to independently evaluate the “recognized environmental conditions,” “controlled recognized environmental conditions” and “historical recognized environmental conditions” within the limits of the established scope of work. However, verification of potentially important facts is not always possible. As with any ESA, there is a certain degree of dependence upon oral information provided by site representatives or others which is not readily verifiable through visual inspection or supported by any available written documentation. EAE has assumed that the information obtained from EAE’s subcontractors and from generally relied upon oral and written sources are accurate.

2.4 Limitations and Exceptions

This report, all field data and notes were gathered and/or prepared by EAE in accordance with the agreed-upon scope of work and generally accepted engineering and scientific practice, as described in ASTM E1527-13 or portions thereof, in effect at the time of the assessment. The ESA was performed pursuant to the signed proposal/contract between EAE and TopGolf USA Burlingame, LLC. The statements, conclusions, and opinions contained in this report present the environmental conditions of the Site at the time of the assessment.

EAE does not represent that the Site referred to herein contains no petroleum products or hazardous substances or other conditions beyond those observed by EAE during the site assessment or identified through other means such as industry standard records reviews. Phase I ESAs, such as the one performed at this Site are noninvasive and therefore cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the Site beyond what is identified by the scope of this ESA. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions. This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the Site's current utilization, information derived from the most recent reconnaissance and from other activities described herein. Further, these services are not to be construed as legal interpretation or advice.

2.4 Special Terms and Conditions

No special contractual conditions or agreements exist between the client and any of the employees of EAE. EAE does not have any financial interest in the subject property.

2.5 User Reliance

This report was prepared by EAE for the exclusive use of its client and may not be relied upon by any other person or entity, other than these parties to whom EAE has agreed in writing to extend reliance. Reliance on the ESA by all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, this ESA report, and the agreement between EAE and its client. Use or reliance upon this information by any other party without express written permission granted by EAE and its client is not authorized and is completely at the risk of the user.

3.0 SITE DESCRIPTION

The Site location, legal description, general features, improvements, and the local physical setting are summarized below.

3.1 Location and Legal Description

The Site is located at 250 Anza Boulevard, Burlingame, California. This is the Club House address, and the address listed for the parcel that encompasses the landfill property. There is no separate legal address for the landfill or the proposed lease portion. Although some of the regulatory files identify the landfill address as 1001 Airport Boulevard, the San Mateo County parcel viewer does not recognize this as a legal address. On the basis of the files provided by the Central County Fire Department as outlined in Section 5.1, the address was apparently changed to 250 Anza Boulevard when the Burlingame Golf Center was established. The intersection of Airport and Anza Boulevards is located east of the Site. A legal description was not available for the proposed lease area at the time of this report.

3.2 Site and Vicinity General Characteristics

The Site and Site vicinity characteristics were evaluated using technical reference documents, through phone interviews with local individuals familiar with the area, and through knowledge gained during the Site Reconnaissance.

Current Zoning Maps

According to City of Burlingame zoning map, the Site is currently unclassified. Areas to the east are classified AA, Anza Area District and TW, Trousdale West District. Permitted uses under the AA classification include restaurants, hotels, retail, offices, public recreation, and adult oriented businesses. Permitted uses under the TW classification include multi-family dwellings, offices, and convents and parish houses. Areas to the west are classified SL, Shoreline District. Permitted uses under this classification include commercial recreation facilities, in addition to the uses permitted under the AA classification.

3.3 Current Uses of the Property

Based on the field reconnaissance and information from the Site owner, the Site is currently used as a public driving range owned by the City of Burlingame, which is constructed on the surface of the closed landfill. The surface of the driving range slopes with an average three percent slope downward to the northeast (Landfill Closure Record Drawings, City of Burlingame Landfill, prepared by URS, 02/15/05 and Landfill Regrading and LFG System Installation, City of Burlingame Landfill, prepared by Woodward-Clyde Consultants, December 28, 1994, Appendix G). The landfill includes a LFG collection system installed within the waste and capped by a two-foot soil foundation layer, a one-foot clay layer, a six-inch miscellaneous fill layer, a six-inch aggregate layer, a one- to two-inch sand layer, and artificial turf. The LFG system involves wells that penetrate into the waste and are connected by lateral pipes to extraction headers that direct the LFG to a flare located on the WWTP. The LFG system and groundwater conditions are periodically monitored. The landfill is considered to be a controlled recognized environmental condition, as discussed elsewhere in this report. Additional details regarding the existing subsurface conditions, the historic development of the landfill, and the landfill controls and monitoring systems are presented in Sections 5.3 and 5.4.

3.4 Description of Structures, Roads, Other Improvements on the Property

The Site is improved with a constructed driving range, as described in the preceding section. The only structures that are located on the proposed lease property are concrete shelters (overhangs) for the driving range on the northeast, which are proposed for removal. The Site is accessed by Anza Boulevard from the east.

The following public utilities serve the area of the Burlingame Golf Center Club House. There is no utility service on the Site itself:

TABLE 3.4 SITE UTILITIES

Utility	Provider Name	Provider Telephone or Internet Web Site
Potable Water	City of Burlingame	https://www.burlingame.org
Sewage Disposal	City of Burlingame	https://www.burlingame.org
Electric	P G & E	https://www.pge.com
Natural Gas	P G & E	https://www.pge.com

Public utilities were observed along Airport and Anza Boulevards. The client should consult a current Site survey map and the local municipality and county agencies for exact utility data for the site. The LFG and storm water collection systems are integral to the landfill. Refer to selected Landfill Closure Record Drawings, City of Burlingame Landfill, prepared by URS, 02/15/05 and Landfill Regrading and LFG System Installation, City of Burlingame Landfill, prepared by Woodward-Clyde Consultants, December 28, 1994, included in Appendix G.

Site reconnaissance photographs are included in Appendix A.

3.5 Current Uses of Adjacent Properties

During the field reconnaissance, the following land uses were noted for immediately adjacent properties.

TABLE 3.5 ADJACENT PROPERTIES

Facility Name/Land Use	Description of Operations	Direction from Site	Topographic Gradient from Site	Potential Concerns
City Maintenance Area	Storage of small quantities (10 gallons or less) of gasoline and oil and light maintenance of equipment	North	Down	None based on interview with City Department of Parks and Recreation (Section 7.4)
Soccer Fields	Recreation	Northeast	Down	Currently under renovation. Contractor's AST observed.
DoubleTree Hotel	Hotel	East	Down	None
Club House and Parking	Recreation	Southeast	Down	None

TABLE 3.5 ADJACENT PROPERTIES

Facility Name/Land Use	Description of Operations	Direction from Site	Topographic Gradient from Site	Potential Concerns
Burlingame Lagoon	NA	South	Down	None
Ball Fields	Recreation	West	Down	None
WWTP	Wastewater Treatment	West/ Northwest	Down	USTs (see Section 5.1)

The adjacent maintenance area to the north, soccer fields to the northeast, club house and parking lot to the southeast, and playing fields and WWTP to the west are all owned by the City of Burlingame but are not part of the proposed lease property. The majority of these areas (maintenance area, soccer fields, and clubhouse and parking area) are constructed over the closed Burlingame Landfill. These areas are all considered to be part of the controlled recognized environmental condition associated with the landfill, as discussed in other sections of this report. On the basis of observations during the Site Reconnaissance and information provided by the City, the WWTP and maintenance area operations are not considered to be an environmental concern to the Site. These areas are discussed further in Sections 6.0 and 7.0.

Photographs of the adjacent properties are provided in Appendix A.

4.0 USER PROVIDED INFORMATION

According to ASTM E1527 the User is responsible for the title and judicial records review for environmental liens and activity and use limitations, evaluation of the relationship of the purchase price to the fair market value of the property and considering commonly known or reasonably ascertainable information about the property. EAE staff requested copies of all available Site-related title records, prior environmental reports, and other environmental related information from the users of the report. In accordance with ASTM E1527-13, a User Questionnaire was completed by each authorized User in this report, or through an interview with the communication record completed by an EAE staff member, to the extent that User's provided this information to EAE. Information obtained from the User Questionnaire is summarized in Sections 4.2 through 4.5 below. EAE's general practice is to request and collect this information prior to conducting the Site visit, or during the Site visit. A copy of the User Questionnaire provided to EAE is included in Appendix B.

4.1 Recorded Land Title Records

No recorded land title records were provided to EAE.

Checks for underground utilities were outside the scope of this assessment. A current site survey map and title documents should be consulted regarding the potential presence of on-site utilities.

4.2 Site Survey Documentation

A Site survey had not been completed at the time of this report.

4.3 Specialized Knowledge

EAE's client did not indicate any specialized knowledge with respect to the Site.

4.4 Environmental Lien or Activity and Use Limitations

EAE's client indicated it has not been provided any information regarding environmental liens or AULs at the Site. However, there are regulatory limitations associated with the closed landfill at the Site, including requirements for cap maintenance and preservation of the landfill gas recovery system.

The client requested that EAE conduct an environmental lien and AUL search, which was provided by EDR and is included in Appendix B. The environmental lien and AUL search obtained by EAE is discussed in Section 5.2.

4.5 Commonly Known or Reasonable Ascertainable Information

It is commonly known based on publicly available information that the Site is the location of a closed municipal landfill.

4.6 Relationship of Purchase Price to Property Value

Not applicable because EAE's client is not purchasing the Site.

4.7 Owner, Property Manager, and Occupant Information

The Site owner is the City of Burlingame, which has owned the area since fill was placed into the San Francisco Bay. The area was previously inundated with water. Mr. Art Morimoto is the Assistant Public Works Director and City (Owner) representative for the Site. Deposition of waste in the landfill began in 1957 according to historical documents. Current Site occupants and operations are described in Section 3.3. Interviews with the Site Owner and Key Site Manager are included in Section 7.0.

4.8 Reason for Performing Phase I ESA

The reasons for performing this Phase I ESA as outlined by EAE's client are:

- to provide due diligence information regarding the historical uses and current conditions of the subject property.
- to satisfy All Appropriate Inquiry under CERCLA.

4.9 Other User Provided Information

Multiple documents were made available by the Site Owner and are discussed under Prior Reports in Section 5.4.

5.0 RECORDS REVIEW

Environmental records were reviewed to assist in the evaluation of potential recognized environmental conditions, controlled recognized environmental conditions and historical recognized environmental conditions in connection with the Site.

EAE reviewed information gathered from several environmental databases through a subcontract with Environmental Data Resources, Inc. (EDR) to determine if activities on or near the Site property could threaten the environmental integrity of the Site. EAE reviewed physical setting sources to gather Site information on topography, surface water hydrology, wetlands, soils/geology, and hydrogeology. The Site and Site vicinity physical setting were evaluated using technical reference documents, through phone interviews with local individuals familiar with the area, and through knowledge gained during the Site Reconnaissance. Additionally, historical research of the Site and adjacent properties was conducted in accordance with ASTM E1527-13. The objective of consulting historical sources is to develop a history of the previous

uses and occupancies of the Site and surrounding area to identify those uses or occupancies that are likely to lead to recognized environmental conditions or historical recognized environmental conditions in connection with the Site.

EDR reviews databases compiled by federal, state, local and tribal governmental agencies. It should be noted that this information is reported as EAE received it from EDR, which reports information as it is provided in various government databases. Records may vary in content, detail, and completeness. A listing in any tribal, local, state, or federal database does not necessarily indicate an environmental threat. However, knowledge of such listings is useful in determining the potential of adverse environmental impact on the Site and in managing the Site and monitoring activities associated with the listing. EAE reviewed each environmental database on a record-by-record basis to determine if certain sites identified in the database report are suspected to represent a potential negative impact to the Site. The databases searched and the search radii (in miles), for each database are included in the environmental database report included in Appendix C.

The Site was identified in only one of the databases searched by EDR, but not as the Target Property, due to the regulatory agency use of the 1001 Airport Boulevard address. It was identified in the Solid Waste Facilities/Landfill Sites (SWF/LS) List. The SWF/LS List is an inventory of federally-permitted, tribal-permitted or state-permitted solid waste disposal facilities, landfills, or dumps. No details regarding the landfill were included in the database listing. Regulatory agency files were obtained from agency websites and were reviewed along with prior landfill reports provided by the Owner. Because of the overlap in information in the various files, they are discussed together in Section 5.4 under Prior Reports. The landfill is considered to be a controlled recognized environmental condition.

The following section discusses the databases in which other sites within the search distances were identified. In some instances, additional regulatory agency files were obtained and are discussed in this section. These files or applicable excerpts are included in Appendix E.

5.1 Standard Environmental Records Sources

Resource Conservation and Recovery Act (RCRA) Generators List

On-site and adjoining properties search radius

The RCRA Generators list is EPA's list of persons or entities that generate hazardous wastes as defined and regulated by RCRA. Six RCRA Small Quantity Generator (SQG) facilities were reported by EDR within a one-quarter mile radius of the Site. None were determined to be

adjacent to the Site. A few are discussed under other databases, but none is considered to be an environmental concern to the Site based on the RCRA Generator status and/or relative location.

State Hazardous Waste Site (SHWS) List

One-mile search radius

The SHWS List is a state list of hazardous waste facilities planned for cleanup using state funds or sites where potentially responsible parties will pay for cleanup. This list is the states' equivalent to EPA's Comprehensive Environmental Response, Compensation, and Liability Information System. Available information varies by state. Three SHWS (California Envirostor) facilities were found within the search radius. Two of these are more than half a mile from the Site and likely cross-gradient (east and west). Due to distance from the site and gradient and ongoing regulatory monitoring activities, they are not considered to represent an environmental concern to the Site.

The last facility is identified as a Solid Waste Landfill on Airport Boulevard near Broadway Boulevard (location of current ball fields west of the site). The California Envirostor database listing identifies it as Browning Ferris Industries Landfill (alias San Mateo Disposal), operating since 1937 and accepting household wastes and biological waste other than sewage sludge. It also states that the leachate contained high concentrations of ammonia and organic carbon, that the City of Burlingame hired Harding Lawson & Associates for environmental consulting services, and that groundwater monitoring is being conducted.

EAE was referred to Mr. Joe Miller, SCS Engineers, by Mr. Art Morimoto, City of Burlingame. Mr. Miller stated that the Browning Ferris Industries landfill is currently owned by the City of Burlingame, and was reportedly operated as a fill area or burn dump in mid-1950s until the early 1960s. Filling of that area appears to have occurred between the early 1940s and 1956 based on the historical aerial photographs. The CalRecycle website was accessed at <http://www.calrecycle.ca.gov/SWFacilities/Directory/41-CR-0014/Detail/> for additional information. The map on the website shows the landfill occupying the ball fields west of the Site. The website contains reports of annual inspections from 2006 through 2015. The 2015 inspection did not note any violations and was followed by a report stating that the site is completely developed and does not represent a risk to public health and safety. The report recommended a status of no action for the site. The inspection reports and other documents are included in Appendix E. No groundwater monitoring or gas collection is being conducted for this closed landfill.

Although this closed facility could represent a potential environmental concern to the Site, it is considered to fall under the controlled recognized environmental condition represented by the landfill beneath and adjacent to the Site on the north and east. Landfill gas collection on the Site would remediate potential gas migration, and monitoring and groundwater monitoring would also detect possible impacts from the landfill to the west. Refer to the figures showing the LFG collection system and the groundwater monitoring wells at the end of this report.

Solid Waste Facilities/Landfill Sites (SWF/LS) List

One-half mile search radius

The SWF/LS List is an inventory of federally-permitted, tribal-permitted or state-permitted solid waste disposal facilities, landfills, or dumps. The Site was identified as a SWLF/LS facility. It was identified at 1001 S Airport Road as a permitted closed landfill owned by the City of Burlingame. No other relevant information was provided. On the basis of files provided by the Central County Fire Department, the landfill address was changed to 250 Anza Boulevard in 1998 when the driving range and club house were constructed. The landfill entrance location was also changed from Airport Boulevard to Anza Boulevard at that time. Refer to additional discussion of the Site in Section 5.4. No other SWF/LS facilities were found within the search radius.

Leaking Underground Storage Tank (LUST) List

One-half-mile search radius

The LUST List is a tribal and state database of reported or suspected LUST facilities. The Site was not identified as a LUST facility. 56 LUST facilities were identified within the search radius. However, most of these were identified twice and were listed as “case closed.” Four facilities with an active status were determined to be of a proximity or gradient to have potential impact (soil, groundwater, and/or vapor migration) to the Site and are discussed below.

Unocal Station #3885

0.21 mile

1147 Rollins Road

Higher elevation

This facility is south-southwest of the Site and likely cross- or possibly up-gradient based on regional topography (Section 5.3). Groundwater is being monitored at the facility, and the most recent groundwater monitoring report (May 12, 2017) was downloaded from the California Geotracker website (Appendix E). That report indicates that contaminants [benzene, total petroleum hydrocarbons (TPH), TBA, and Methyl Tert Butyl Ether (MTBE)] have not migrated beyond the south portion of Rollins Road and are unlikely to affect the Site. In addition, the Burlingame Lagoon is located between the Site and this facility and likely represents a barrier to contaminant migration in groundwater.

BP Oil Company Facility #11204

0.23 mile

1200 Bayshore Hwy

Higher elevation

This facility is west of the Site and likely cross-gradient based on regional topography. The database report states only that the status is post remedial action monitoring and that it had four active tanks in 1994.

This facility is discussed in Additional Investigation and Proposed Work Plan Combustible Gas Management at City of Burlingame and Crowne Plaza Properties, prepared by SCS Engineers, November 12, 2003. The LUST site was reported to be the source of elevated methane and carbon dioxide readings in two LFG probes installed for the Site. The probes were located on the west side of Airport Boulevard adjacent to the LUST site and west of the WWTP and Bayside Park. According to Mr. Joe Miller, SCS, the LUST site has been closed. The former LUST is not considered to be an environmental concern to the Site for the following reasons:

- Closed status
- Distance from the Site (not adjacent)
- Observed groundwater flow directions at the Site to northwest or west (refer to Section 5.3)
- The results of recent LFG perimeter probe monitoring, which did not detect methane in the probes closest to the former LUST (Third Quarter 2017, Perimeter Landfill Gas (LFG) Monitor Probe Testing and Sensor System Calibration at the Burlingame Landfill, Burlingame, California.

The referenced reports are discussed in more detail in Section 5.4, Prior Reports, and included in Appendix G.

ARCO #0508

0.33 mile

1040 Broadway

Higher elevation

This facility is southwest of the Site and likely cross-gradient based on regional topography. Soil and groundwater contamination with TPH gasoline, benzene, and MTBE have been detected at the facility. Contaminated soil and separate phase hydrocarbon on groundwater were removed from the UST cavity. The latest information in the EDR database file indicates that in 2010 a work plan for additional site assessment was submitted to reassess the groundwater flow regime and additional offsite characterization. However, on the basis of the distance from the Site and

the observed groundwater flow directions at the Site (northwest or west, refer to Section 5.3), this is considered unlikely to be an environmental concern to the Site.

Prestige Stations	0.36 mile
1000 Broadway	Higher elevation

This facility is southwest of the Site and likely cross-gradient based on regional topography. It maps at the same location as ARCO #0508 and ARCO is listed as the owner, so this may be the same facility. The only information in the EDR LUST database states that preliminary site assessment began in 1965 and pollution characterization in 2001. This facility is considered unlikely to be an environmental concern to the Site for the same reasons stated for ARCO #0508.

State Registered Underground Storage Tank (UST) List

Property address and adjoining properties search radius

The UST list is a tribal and state database of USTs required to be registered. The Statewide Environmental Evaluation and Planning System (SWEEPS) UST list, Hazardous Substance Storage Container, and the California Facility Inventory databases were also searched. These last two are historical UST listings. SWEEPS UST includes both active and inactive USTs. Five active USTs were identified, two of which are listed at the Burlingame Waste Water Treatment Plant, which is adjacent to the Site.

The database lists one 2000-gallon and one 6000-gallon UST at the WWTP. There is no listing associated with the WWTP on the California Geotracker site, and no LUST listing for the WWTP.

Ms. Antrena Trimble, Project Manager III for Veolia North America, which manages the WWTP for the City, was contacted. She stated that an 8,000-gallon UST had been closed at the WWTP, and provided a copy of the UST Closure Compliance Sampling Report, prepared by Cambria Environmental Technology, Inc., June 29, 2005 (Appendix G). That report describes closure of one 8,000-gallon UST and piping used to supply diesel fuel to an emergency generator. The tank location was shown as on the north side of the WWTP near the main entrance from Airport Boulevard, with 240 feet of piping to the west of the WWTP filter beds. This places the UST and piping at 450 to 500 feet northwest of the Site at the nearest point. In 2004, the diesel was transferred to an AST. The UST system was triple rinsed and abandoned in place due to structural and safety factors. The UST was filled with concrete slurry grout on May 19, 2005.

According to the report, the soil sampling was performed in accordance with the State of California Regional Water Quality Control Board's Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites and under the direction of the San Mateo County Health Services Agency Environmental Health Department. Two soil samples

were collected from 3.25 and 2.5 feet below the ground surface (bgs) beneath the product piping, and groundwater samples were collected from two wells installed within the backfill around the tank. No separate phase hydrocarbons were detected in the groundwater samples. All the samples were analyzed for TPH-gasoline (TPHg) and diesel (TPHd), MTBE, and benzene, toluene, ethylbenzene, and xylenes (BTEX). TPHd was detected at 4 milligrams per kilogram (mg/kg) in one soil sample and at 1.9 mg/kg in the other soil sample. No other parameters were detected in any of the other samples. The detected concentrations and laboratory detection limits were below the San Francisco Bay Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels.

In follow-up emails, EAE asked about the 2,000-gallon and 6,000-gallon USTs. Mr. Bill Huber, Veolia, stated that a 1991 drawing indicated that both tanks were scheduled to be removed during a 1991-1993 Capital Improvement Project. Ms. Trimble subsequently provided a copy of the drawing (Appendix E), which showed the two tanks to be located in the same general area as the 8,000-gallon UST, north and northwest of the main building. Mr. Huber also stated that the area of the 6,000-gallon tank was excavated during a 2003-2006 construction project, and the UST was not present. The 2,000-gallon tank would have been located outside the existing WWTP fence-line.

On the basis of the lack of evidence of a release and the direction of groundwater flow observed on the Site (west or northwest), the former presence of the USTs related to the WWTP facility is not considered to be an environmental concern to the Site.

None of the other three UST facilities is adjacent to the Site and none was determined to have an active status or be of a proximity or gradient that is considered to have potential to impact the Site.

5.2 Additional Environmental Records Sources

Various facilities were identified in several additional state and local databases reviewed. Please refer to the environmental Database Report in Appendix C for a full list of the additional databases searched.

The WWTP adjacent to the Site at 1103 Airport Boulevard was listed in Enforcement Action Listing (ENF), National Pollutant Discharge Elimination System (NPDES), Waste Discharger System (WDS), California Hazardous Materials Information Reporting System (CHIMIRS), and Business Inventory (BI, includes Hazardous Materials Business Plan, hazardous waste generators, and USTs) databases. The facility was listed in the ENF database for various NPDES violations, including exceeding the daily discharge rate, exceeding daily effluent limits, and

accidental discharge of chlorinated wastewater to a storm drain. The facility was listed in CHIMIRS for sewage releases to San Francisco Bay in 2001, 2010, 2011. The BI listing identifies the WWTP as a facility that generates and recycles waste oil/solvent. The NPDES and WDS are permit listings. The ENF and CHIMIRS listings are not considered to be environmental concerns to the Site based on the types of releases (treated and untreated wastewater) and the location of the releases (San Francisco Bay). Although evidence of mixing of groundwater with water from the San Francisco Bay has been observed in samples from the landfill groundwater monitoring wells, dilution effects in the Bay make it unlikely that the sewage discharge would affect groundwater beneath the landfill.

In addition to the WWTP, three additional addresses (975, 1007, and 1009 Rollins Road) within 1/8th mile of the Site were identified in the San Mateo BI database as active generators and recyclers of waste oil/solvent. Facilities in close proximity to the Site that use solvents are an environmental concern, because of the potential of chlorinated solvents to migrate for long distances and in unpredictable directions. However, no documented releases are associated with the BI listings, and the landfill conducts groundwater monitoring for VOCs, and no chlorinated solvents have been detected in the groundwater samples during recent monitoring events (First Semiannual 2017 and 2016/2017 Annual Monitoring Report, Burlingame Landfill, Burlingame, California, prepared by Kleinfelder, April 25, 2017, Appendix G). Therefore, the BI database listings are not considered to be a recognized environmental condition to the Site.

Other listings either overlap other databases (HIST Cortese) or are do not represent potential environmental impacts to the Site based on the type of listings (air emissions, asbestos, etc.)

Un-mapped Environmental Database Listings

No un-mapped environmental database listings were identified.

Environmental Lien and AUL Search

EAE obtained an Environmental Lien and AUL Search from EDR. No environmental liens or AULs were identified in the EDR search. However, the landfill permit requirements do impose some use limitations on the property. For instance, the cap system and operation of the landfill gas (LFG) extraction system must be maintained.

The EDR Environmental Lien and AUL search is included in Appendix B.

5.3 Physical Setting Source(s)

The Site and Site vicinity physical setting were evaluated using technical reference documents, through interviews with local individuals familiar with the area, and through knowledge gained during the Site Reconnaissance. The majority of the information included in this section is based on the Preliminary Summary of Geotechnical Investigation Findings -TopGolf Burlingame Golf Center Redevelopment Project, prepared by Geo-Logic Associates, June 25, 2018 (2018 Geotechnical Investigation). This report is considered to provide the most current information regarding the Site surface and subsurface conditions. Other aspects of the report are discussed in Section 5.4, Prior Reports, and the report is included in Appendix G.

Topography and Surface Water Hydrology

The Site is part of an engineered pre-Subtitle D closed landfill. The driving range, which occupies most of the proposed lease area is sloped downward to the northeast from a maximum elevation of approximately 66 feet above mean sea level (msl) to a minimum elevation of approximately 34 feet above msl at the west end. The side slopes are inclined about 3:1 (horizontal:vertical) and are up to 40 feet high. The landfill was closed in phases with a final cover over the waste that incorporated either a 1-foot-thick compacted clay or geosynthetic clay liner (GCL) low hydraulic conductivity barrier layer. Various fill, drainage, and protective soil layers overlie the clay and GCL. The driving range area is covered by artificial turf over dense gravel. The landfill has an engineered drainage system that directs flow to surface drainage channels that ultimately discharge to the San Francisco Bay and the Burlingame Lagoon. Refer to the summaries of the prior reports in Section 5.4 and the reports and drawings in Appendix G for additional information regarding the history and construction of the landfill.

The applicable portions of U.S. Geological Survey (USGS) 7.5-Minute Series TP San Mateo 2012 and SW Montara Mountain 2012 Quadrangle topographic maps were reviewed and are included in Appendix D. The Site location is shown on the topographic map on Figure 1. The topographic maps indicate that the regional topography is generally sloping downward to the north. The nearest surface bodies are Sanchez Creek and the Burlingame Lagoon (also referred to as the Bay Front Channel) adjacent to the south and San Francisco Bay just north of Airport Boulevard to the north. No adjacent properties drain onto the Site, which is significantly elevated above surrounding properties.

A National Flood Insurance Rate Map No. 06081C0153E dated October 16, 2012 (<https://msc.fema.gov/portal>), indicated that the Site is in Flood Zone X outside the 0.2 percent chance of flood.

The National Wetlands Inventory -V2, surface waters and wetlands (<https://www.fws.gov/wetlands/data/mapper.html>) was reviewed. No wetlands were identified on the Site. Sanchez Creek south of the Site and the San Francisco Bay north of the Site are identified as Estuarine and Marine Wetlands.

Soils/Geology

Based on information from the environmental database report, the soil/geology of the site vicinity generally consists of Cenozoic Era, Quaternary System, Quaternary Series Bedrock. Depth to bedrock is generally reported to be greater than 150 feet below the ground surface.

The 2018 Geotechnical Investigation describes the waste material based on historical information and observations in the soil borings as primarily inorganic construction debris, soil, concrete rubble, landscape debris, and dried sludge. Waste described in the boring logs included concrete, wood, rubber, plastic, metal, carpet, ash, brick, asphalt, and newspaper. No municipal solid waste (household garbage) was reported in the borings.

The depths of waste observed in the borings and geophysical survey were deeper than those indicated in earlier historical reports (refer to Section 5.4, prior reports). Waste depths of up to 52 feet were observed in the borings, and the geophysical survey indicated waste depths up to 60 feet.

The report characterizes the subsurface geology below the landfill as a series of unconsolidated sand, silt, and clay layers that were primarily alluvial fan, stream, and outwash plain deposits that occur as interfingering layers. The Young Bay Mud, which is discontinuous below the Site, consists of up to 10 feet of high plasticity clay deposited during marine interglacial periods. The materials below the Young Bay Mud were identified as predominantly thin layers of sandy clay, clayey sand, and clay, with occasional thin layers of sand, which the report refers to as Older Bay Alluvium. This varies from earlier reports, which identified a layer below the Young Bay Mud (where present) as the Upper Sand. Refer to summaries of other reports in Section 5.4, Prior Reports, for additional information regarding the subsurface conditions at the Site.

According to the Association of Bay Area Governments Resilience Program earthquake map (accessed at <http://resilience.abag.ca.gov/earthquakes/>) the Site is in an area of violent shaking hazard based on all earthquake scenarios and likelihood information using the Modified Mercalli Intensity scale.

The 2018 Geotechnical Investigation evaluated the potential for ground shaking using deterministic and probabilistic methods. The closest fault was identified as the Northern San

Andreas fault at about 4.1 kilometers from the Site. The results of the analysis identified a maximum earthquake of moment magnitude on this fault would result in a peak ground acceleration of 0.47 gravity, which has a 10 percent probability of exceedance in 50 years. As discussed in Section 5.4, Prior Reports, the report concludes that the effects of strong ground motions can be mitigated by design and construction in accordance with current building codes and standards of practice. The report stated that the LFG system components in this area have been constructed of materials that can withstand tension and differential settlement.

No physical evidence of landslides or ground subsidence was observed on the Site during the Site Reconnaissance. A small area of erosion was noted on the north slope of the landfill outside the proposed lease area (Site).

Hydrogeology

Based on groundwater monitoring at the landfill, water levels monitored in wells screened in what is referred to as the upper sand indicate that water levels fluctuate in response to changes in the San Francisco Bay tidal stage. During the 2017 annual monitoring event, the depth from the ground surface to groundwater ranged from 2.99 feet to 13.4 feet. The vertical hydraulic gradient was calculated to be slightly downward. The reports state that historically the groundwater flow has been inferred to diverge to the west-northwest and northeast along a north-south oriented groundwater divide. The groundwater flow direction is also apparently influenced by tidal effects. On the basis of groundwater contours shown in the 2017 and 2018 monitoring reports (refer to further discussion in Section 5.4, prior reports), the groundwater flow on the Site, which is on the west side of the landfill, is generally toward the west or northwest (First Semiannual 2017 and 2016/2017 Annual Monitoring Report, Burlingame Landfill, Burlingame, California, prepared by Kleinfelder, April 25, 2017).

The Final Closure Plan and Postclosure Maintenance Plan, Burlingame Landfill, Solid Waste Facilities Permit No. 41-AA-009, prepared by 3E Engineering, April 4, 1997, identified the refuse and fill and the upper and lower sand as water bearing units. The upper sand was identified as generally not of drinking water or irrigation water quality due to high salinity. The report stated that it is underlain by an aquitard consisting of approximately 80 feet of silt and clay with occasional discontinuous, thin beds or lenses of sand. The lower aquifer below the aquitard is used for drinking water further inland (upgradient). Refer to the Prior Reports in Section 5.4 for this and other discussions of subsurface conditions beneath the landfill.

The drinking water delivered by the Burlingame Water Division is supplied by the San Francisco Regional Water System (SFRWS), with the major water source originating from spring

snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir (Burlingame 2014 Water Quality Report). The reservoir is approximately 150 miles east of the Site.

5.4 Historical Research of the Site and Site Vicinity

In accordance with ASTM E 1527-13, the objective of consulting historical sources is to develop a history of the previous uses and occupancies of the Site and surrounding area to identify those uses or occupancies that are likely to lead to recognized environmental conditions, controlled recognized environmental conditions or historical recognized environmental conditions in connection with the Site. All obvious uses of the property must be identified from the present back to the property's first developed use, or back to 1940, whichever is earlier. Historical documents and records reviewed must cover a period of time as far back in history of the Site as it can be shown that the property contained structures, or from the time that the property was first used for residential, agricultural, commercial, industrial or governmental purposes, including the placement of fill dirt on the property. Historical sources should document use in approximately five-year intervals, unless it can be demonstrated that the use of the property appears unchanged over a longer period. This objective is to be met using at least one standard historical source as defined by ASTM E1527-13.

Historical records from the following sources were reviewed. The historical sources are included in Appendix D.

Historical Aerial Photographs

Historical aerial photographs from 1943 until 2012 (supplied by EDR) were reviewed to assess past land uses and relevant characteristics of the Site and Site vicinity.

The location of the Site is shown as under the San Francisco Bay until the 1963 photograph, when filling activities are evident. This is consistent with landfill historical documents, which indicate that filling on the mud flats began in 1957. Extensive development along the bay front is evident as early as 1943, and the filled land spur area occupied by the sewage treatment plant is already visible in that photograph. Filling of the area of the closed Browning Ferris Industries Landfill (alias San Mateo Disposal) landfill appears to have occurred between 1946 and 1956, before filling of the Site began further to the east by 1963.

The fill area is larger in the 1968 photograph, and there is a large water-filled area on the southeast corner that probably corresponds with the deeper excavation documented in this area in the landfill reports.

By 1974 that area has been filled and there are new water-filled excavations visible on the west side of the landfill. New large buildings are visible east of Airport Boulevard on the east side of the landfill.

By 1982, the west side is filled, and new water-filled excavations are visible on the east side of the landfill. There are also more large buildings to the east of the landfill.

By 1993, the soil surface still appears unvegetated, but no more filling seems to be occurring.

By 1998, the construction of the current recreation areas appears to be underway, and by 2005 the Site and surrounding area appear as they do at the present time.

No change is observable from the 2005 through the 2012 aerial photograph.

Historical City Directories

Historical city directories dated 1956 through 2014 were reviewed at approximate five-year intervals to assess past occupants of the Site and adjacent properties. The Site was listed from 2000 through 2014 as the Burlingame Golf Center. According to the local fire department records discussed in Section 7.4, plans for the current driving range and buildings were approved by the local fire department on September 3, 1998. Therefore these listings for the Burlingame Golf Center are for the current facility at 250 Anza Boulevard and not for the prior landfill address at 1001 Airport Boulevard. No other listings were identified for the Site. Addresses were researched on Airport Boulevard, Anza Boulevard, and Rollins Road.

Table 5.4-1 identifies suspect nearby property listings.

TABLE 5.4-2 NEARBY SUSPECT PROPERTY USES BASED ON REVIEW OF HISTORICAL DIRECTORIES			
Address	Suspect Listing	Years Listed	Relative Location (estimated)
1103 Airport Boulevard	WWTP	1992-2014	Adjacent west
1007/1009/1025 Rollins Road	Multiple listings as Motors/Automotive/Chrysler	1982-2014	Southwest
1147 Rollins Road	Gus Unocal Service Station	1995-2014	Southwest

Refer to the discussions in Sections 5.1 and 5.2 with respect to the WWTP and the 1007/1009/1025/1147 Rollins Road addresses. No additional environmental concerns were identified based on the City Directory listings.

Historical Fire Insurance Maps

EDR, the owner of the Sanborn map collection, did not have historical fire insurance maps or historical land use maps for the Site vicinity. These maps are generally limited to industrial or heavily developed urban areas.

Historical Topographical Maps

Historical topographic maps from 1896 until 2012 were reviewed to assess past land uses and relevant characteristics of the Site and Site vicinity. The Site was shown under the San Francisco Bay until the 1968 map. Burlingame streets and rail lines are shown as early as 1896 just south of the Bay. By 1939 the land spur occupied by the WWTP had been constructed and substantial development is evident along the water front. By 1956, the area of the Browning Ferris Industries Landfill (alias San Mateo Disposal) around the WWTP has been filled, and more development is evident to the southeast. By 1968, the Site landfill is evident, including the water-filled excavation on the southeast corner. Another promontory (point of high land that juts out into the large body of water) is present to the east, and a barrier has been created separating the Bay from Sanchez Creek and the Burlington Lagoon. More development is evident to the west and northwest. By 1973 the Burlingame landfill and areas to the east have been filled in. By 1980 the Anza Lagoon is present to the east. The area remains virtually unchanged between 1980 and 2012. Property Tax Files

EDR provided a tax map from San Mateo County. The map did not provide any information relevant to environmental concerns associated with the Site.

Building Department Records

EDR did not identify any building permit data associated with the Site. Since the Burlingame Golf Center Club House is not part of the property to be leased and the only structures on the Site are the concrete shelters, it is unlikely that relevant information is available.

Other Historical Sources

This could encompass a variety of sources, but most particularly information provided by the owner such as prior environmental reports, permits, waste disposal records, renovation plans, etc.

Prior Environmental Reports

The Site owner and EAE's client made multiple historical documents associated with the landfill available to EAE. Only those believed to be most relevant are summarized in this section and included in Appendix G. Note that the reports were not received all at one time and are not in

chronological order. In order to minimize repetition, information that was previously summarized is not repeated in subsequent report summaries.

Final Closure Plan and Postclosure Maintenance Plan, Burlingame Landfill, Solid Waste Facilities Permit No. 41-AA-009, prepared by 3E Engineering, April 4, 1997

This document summarizes the history of the landfill, previous and proposed closure activities, and post-closure operation, maintenance, and monitoring requirements. (Note that some of the information is not entirely consistent with the 2018 Geotechnical Investigation, which is summarized at the end of this section and which was used in the Physical Setting Sources discussion in Section 5.3.) The following information is included in the plan:

- The subsurface geology is characterized by sediments from alluvial fans and outwash plain deposits overlain by marine clay commonly known as “Bay Mud.” The stratigraphic sequence below the Bay Mud consists of an upper clay, upper sand, lower clay, and lower sand units. The refuse and fill and the upper and lower sand are water bearing units. The upper clay acts as an aquitard between the Bay Mud and the upper sand.
- The upper aquifer extends from a few feet below the ground surface to a depth of approximately 70 feet. It consists of predominantly silt and clay alluvial and estuarine sediments with discontinuous lenses of sand and a trace of gravel. It is generally not of drinking water or irrigation water quality due to high salinity. It is underlain by an aquitard consisting of approximately 80 feet of silt and clay with occasional discontinuous, thin beds or lenses of sand. The lower aquifer below the aquitard is used for drinking water further inland (upgradient).
- The landfill occupies 36 acres and operated from 1957 to 1987. The waste accepted included construction debris, concrete rubble, roofing shingles, gardening debris, wood, metal, cloth, plastic, and anaerobic digester sludge. Hazardous waste and commercially collected household “garbage” was not accepted.
- The debris fill extends beyond the property boundary on the eastern perimeter.
- The quantity of debris is estimated to be 2.5 million tons. Refuse excavation indicates that 50 percent of this material is soil, 20-30 percent is inert construction and other debris, and 20 to 30 percent is non-inert debris.
- Refuse was reportedly bulldozed originally into the tidal flats bordering San Francisco Bay. A clay-lined dike was constructed along the north and east perimeter and an earth berm was constructed along a portion of the south side in 1962-1963.

- Approximately six acres in the southeast corner of the landfill were excavated to approximately 30-35 feet below mean sea level (MSL) in 1965. Sand and water were encountered at approximately 30 to 35 feet below MSL. The excavated soil was used for cover and to complete the earth berm on the south side of the landfill.
- WWTP sludge drying beds were constructed on the landfill in the late 1960s. The dried sludge was composted with soil and other materials and used as a soil amendment by the City. Use of the beds was discontinued in 1983, when they were regraded and covered with soil.
- The landfill was closed to the public in 1984 and used only for debris disposal from City projects until 1987. The City used the landfill for surface storage of soil and debris collection from 1987 to 1994. Debris was collected in a box and disposed of at another landfill.
- In 1986 a seepage barrier, leachate drain, and LFG collection system and cap were installed on the east side of the landfill. The seepage barrier was keyed at least two feet into the existing earth dike at the southeast corner of the landfill. The cap consisted of two feet of foundation soil, one foot of clay, and one foot of cover soil.
- In 1989-1990 a vertical clay containment barrier and leachate drain were constructed north of the landfill. The west end was keyed into clean fill and the east end was keyed into the seepage barrier. The barrier was keyed two feet into the Bay Mud.
- In 1995-1996 the north area near Airport Boulevard was regraded and a final cap consisting of stabilization fabric covered with two feet of compacted soil, a 60 mil HDPE geomembrane, and 18 inches of cover soil was installed.
- A LFG collection system and flare were installed in 1995-1996 as part of the initial grading of the site. The collection system consists of a network of gas collection wells connected to an extraction header by laterals. Each collector has a control valve and monitoring ports. The extraction header directs landfill gas to the flare. Condensate collecting in the header is removed and disposed of at the wastewater treatment plant adjacent to the landfill. The LFG system should reduce, but is not designed to eliminate, perimeter gas migration. Existing monitoring data at the time of the report indicated that LFG migration across the perimeter was not occurring.
- The final proposed closure includes placement of a cap consisting of clay or other barrier layers and covered by either vegetated soil or temporary paving with an overall minimum slope of three percent. Five caps were proposed for different areas based on the proposed use. (The various caps and the areas of application are shown on drawings from the Burlingame Closure As-Built, URS, December 5, 2003, which are included in Appendix

G.) A five-foot berm was also to be constructed and planted with trees on the north, east, and south sides of the landfill.

- Proposed post-closure development consists of the construction of existing park golf driving range, soccer field, baseball field, parking area, chipping and putting area, children's playground, and clubhouse/concessions building.
- Potential settlement was estimated to be two to six feet, and maintenance during post closure is proposed.
- Stability analyses indicated that the lowest factors of safety were 1.6 for the north and west slopes and 2.3 for the south slope, with the critical failure surface through the Bay Mud. In all cases the factor was above the required 1.5.
- The Maximum Probably Earthquake (MPE) analysis indicates estimated displacement of 6 inches to three feet on the north slope, two inches to one foot on the west slope, and less than one inch on the south slope. The analysis concluded that the displacements related to the amount and strength of the Bay Mud, and that the debris fill will be generally stable with repairable displacements under the MPE. In order that landfill systems are not damaged in the MPE, this portion of the landfill would remain free of surface structures. The LFG system components in this area were reported to have been constructed of materials that can withstand tension and differential settlement.
- Irregular distribution of several non-contiguous lithologic formations, coupled with excavation performed within the landfill, make interpretation of water levels difficult. There is little doubt, however, that the debris is in tidal communication with the San Francisco Bay. Perched water levels appear to be present within the refuse and some of the excavations may have created connections between the waste and upper sand layers beneath the landfill. Previous monitoring of leachate and groundwater in the upper and lower sand indicates high concentrations of Total Kjeldahl Nitrogen (TKN) and volatile organic compounds (VOCs) below EPA maximum contaminant levels (MCLs) in the leachate, low to moderate TKN and non-detectable VOCs in the upper sand, and very low TKN and non-detectable VOCs in the lower sand. Sodium and chloride concentrations in the leachate appear to fluctuate due to mixing with Bay water.
- Post-closure monitoring requirements are specified (refer to summaries of the most recent water quality and LFG monitoring reports).
- The Sanchez Marsh wetland is located south and adjacent to the landfill (not on the Site).
- In addition to the solid waste facilities permit, the landfill operated under San Francisco Bay Conservation and Development Commission (BCDC) Permit 1-87, and is regulated under Bay Area Air Quality Management District (BAAQMD) Authority to Construct number 13400 (BAAQMD was anticipated to issue a Permit to Operate) and Regional

Water Quality Control Board (RWQCB) Order No. 95-130 (with respect to groundwater).

Burlingame Landfill, San Mateo County – Waste Discharge Requirements Amendment, Order Number R2-2007-0039, California Regional Water Quality Control Board, San Francisco Bay Region, May 16, 2007

This document contains a good summary of the landfill history and description of the conditions on the closed landfill consistent with the information provided in the Final Closure Plan and Postclosure Maintenance Plan. It states that the landfill occupies 50 acres of a larger 91-acre tract owned by the City. It provides the added information that sampling and analysis for metals (antimony, chromium, cobalt, copper, nickel, silver, and zinc) and chlorinated herbicides were discontinued in 1997 based on the fact that the low detection of these parameters in the leachate made them poor indicators of leachate release.

This 2007 order reduces the sampling and reporting frequency and the number of parameters to be monitored in leachate, groundwater, and surface water. The reduction is justified by the fact that concentrations of constituents of concern in groundwater and surface water have been consistently non-detect or below environmental screening levels for five years and the concentrations in leachate have been stable. The sampling and reporting frequency was reduced from quarterly to semi-annually. Analyses for alkalinity, biochemical oxygen demand, chemical oxygen demand, total dissolved solids, and total suspended solids were eliminated.

First Semiannual 2017 and 2016/2017 Annual Monitoring Report, Burlingame Landfill, Burlingame, California, prepared by Kleinfelder, April 25, 2017.

This report presents the results of groundwater monitoring conducted in August 2016 and February 2017. The report contains limited background information, but does include figures showing the monitoring well network, groundwater elevations, and contours. It also includes historical groundwater levels back to 2007 and analytical data back to 1991.

The monitoring events covered by the report included the following:

- Collection of samples annually from of leachate wells GR-3 and GR-4 and leachate line manhole GR-8 (screened in refuse).
- Collection of samples semi-annually from upper sand groundwater monitoring wells US-1A, US-2A, US-3A, US-5, US-6, US-7, US-8, and US-9 (on the landfill perimeter).
- Collection of surface water samples from stations SW-1 in the San Francisco Bay and SW-2 in the Burlingame Lagoon.

- Analysis of all samples for VOCs by Method 8260B, total organic carbon (TOC) by Method 415.1, and TKN by Method E351.2.
- Measurement of water levels in all the wells and the inactive leachate line manhole.

The results of the sample analyses were as follows:

- VOCs in groundwater: the only VOC detected in the groundwater was tert butyl alcohol (TBA) at 8.4 micrograms per liter ($\mu\text{g/L}$) in US-3A. This has been previously detected and is suspected to be from an off-site source (TBA is a fuel additive). This location is on the far east side of the landfill and unlikely to affect the Site. The concentration does not exceed the RWQCB non-drinking water groundwater environmental screening level or the California notification level of 12 $\mu\text{g/L}$ for drinking water.
- VOCs in leachate (in $\mu\text{g/L}$):

Leachate Well	Chlorobenzene	1,4- Dichlorobenzene	TBA
GR-3	5.7	1.6	39
GR-4	0.81	0.85	23

The concentrations of chlorobenzene and 1,4-dichlorobenzene are below federal and California MCLs. The concentrations of TBA are below the RWQCB non-drinking water groundwater environmental screening level, but above the California notification level of 12 $\mu\text{g/L}$ for drinking water. Both these leachate wells are on the south-southeast side of the Site and potentially upgradient.

- VOCs in surface water: none detected.
- TOC and TKN were detected in all the water samples, but concentrations were below prediction limits established through statistical analysis of historical data for the groundwater and surface water.

The results of the water level measurements for the two events are shown on the two figures in the report. The depth to groundwater in February 2017 ranged from 2.99 feet below the ground surface (bgs) in US-7 to 13.4 feet bgs in US-9. The depth to liquid in GR-8 (manhole) was only 0.73 feet bgs. The contours from the August 2016 event indicate a groundwater flow direction toward the northwest, while those from February 2017 indicate a divided flow, with the east side of the landfill flowing to the east-northeast and the west side to the west-southwest. The report states that historically the groundwater flow has been inferred to diverge to the west-northwest

and northeast along a north-south oriented groundwater divide. The vertical hydraulic gradient was calculated to be -0.45 foot/foot downward at GR-4/US-9.

Field readings were taken of pH, conductivity, temperature, and turbidity in the groundwater samples. The readings are generally consistent with previous measurements and within normal ranges. Relatively high turbidity was observed in all the August 2016 samples.

The appendices to the report include a summary of analytical results for VOCs detected in the monitoring wells back to 1991 and TOC and TKN results back to 1009. However, there is no complete listing of the analyses performed during each event or the concentrations detected, if any. Based on review of the historical data presented, the results have been relatively consistent over the period of record, although TOC concentrations in the groundwater monitoring wells appear to demonstrate a declining trend.

First Semiannual 2018 and 2017/2018 Annual Monitoring Report, Closed Burlingame Landfill, Burlingame, California, prepared by SCS Engineers, April 2018.

This report was downloaded from the California State Water Resources Control Board GeoTracker. The report states that overall data collected were generally consistent with historical data. The information provided is similar to the previous report prepared by Kleinfelder, with the following exceptions:

- The single set of groundwater elevations indicates a flow to the northwest, north, and northeast. The report states that this is consistent with the inference that the groundwater flow has historically diverged to the west-northwest and northeast along a north-south oriented groundwater divide. The report also states that the measurements were taken close to morning high tide and presents the National Oceanic and Atmospheric Administration tide prediction.
- TBA was detected in both US-3A and US-8 groundwater monitoring wells below the screening level. Monitoring well US-8 is on the south-southeast perimeter of the Site and potentially upgradient.
- TKN was detected at 4.9 mg/L in US-8, which is slightly above the prediction limit of 4.6 mg/L.
- Acetone was detected at low levels below regulatory thresholds in leachate monitoring wells GR-3 and GR-4.

Hydrogeology of the Burlingame Landfill Area, Burlingame, California, prepared by Harding Lawson Associates, February 14, 1983

This document includes much of the same information as the Final Closure and Postclosure Maintenance Plan. (Note this is not entirely consistent with the 2018 Geotechnical Investigation.) Only additional information is summarized below:

- Figure 1 shows the area excavated in 1965. The report identifies it as a concern because it may have cut through the clay confining layers to the lower sand, and thus provide a pathway for leachate to that unit. However, the report also notes that evidence of contamination had not been identified in the lower sand, and that the lack of continuity of the lower sand aquifer in this area may limit potential impacts.
- Figures 2 through 5 are cross sections that show the depth of fill and underlying clay and sand units.
- The Bay Mud consists of low permeability silt and clay varying from 4 to 12 feet in thickness. It appears to be continuous beneath the landfill, except on the south and southeastern edges.
- The upper clay consists of a stiff, low permeability, silty to sandy clay varying from 5 to 15 feet in thickness. It appears to be continuous, except on the WWTP property and along the eastern edge of that landfill.
- The upper sand consists of sand and sandy gravel and is relatively thin and not continuous in all locations. It is thickest on the west side of the landfill, where it has a thickness of up to ten feet. It is identified as the first significant aquifer below the site for groundwater monitoring. Water levels monitored in wells screened in the upper sand indicate that water levels fluctuate in response to changes in the San Francisco Bay tidal stage. The groundwater flow direction is to the north except during extreme high tides, when it reverses to the south at a shallow gradient. The report concluded that there was little vertical gradient to drive contaminants vertically downward.
- The lower clay consists of a low permeability silty clay. This is generally continuous and ranges from 15 to 25 feet thick. It is identified as a confining bed.
- The lower sand consists of clayey gravelly sand to sandy gravel. This is generally continuous and ranges from 12 to 21 feet thick.
- Analytical results from groundwater samples from five wells (LS-1 through LS-5, on the perimeter of the landfill) in the lower sand aquifer are included. The samples were analyzed for calcium, magnesium, sodium, chloride, phosphorus, nitrate, organic nitrogen, ammonia, cadmium, chromium, copper, lead, zinc, TOC, phenols, nickel. Two samples were also analyzed for total and fecal coliform. Cadmium, chromium, copper,

nickel, lead, and phenols were not detected in any of the samples. Zinc was detected at a low concentration in two of the samples. Nitrate concentrations were below the EPA MCL. The report concludes that no evidence of landfill contaminants was found in the lower sand aquifer, but that the groundwater may be slightly brackish due to the influence of San Francisco Bay water.

Solid Waste Assessment Test and Amendments to the Interim Report of Waste Discharge, Burlingame Landfill, Burlingame, California, prepared by Harding Lawson Associates, July 14, 1992

This document includes much of the same information as the Final Closure and Postclosure Maintenance Plan and the Hydrogeology report summarized above. Only additional information is summarized below:

- The report confirms that the street address for the landfill at that time was 1001 Airport Boulevard.
- The Waste Disposal History section states that before 1957 City refuse was disposed at the site by burning. (This may refer to burning reported at the west-adjacent Browning Ferris Industries Landfill (alias San Mateo Disposal, rather than the Burlingame Landfill.) When landfill operations began, debris was apparently bulldozed into the tidal flats bordering the Bay. Originally there were no structures to prevent debris from floating into the Bay. Leachate was observed flowing into the Bay at this time. By 1962-1963 fences had been installed, soil cover was being used, and a clay-lined concrete rubble dike was constructed on the north, east, and a portion of the south sides of the landfill. In about 1965 the City began using the cell method of fill and cover for waste disposal.
- Although use of the WWTP sludge drying beds was discontinued in 1983, beds on the east side of the landfill were regraded, but beds on the west side were reconstructed with clay liners and berms made of Bay Mud. Those beds were still operated on a standby basis at the time of the report.
- The geology and hydrogeology section is consistent with the prior hydrogeology report, but contains additional boring logs and more detailed cross sections.
- The entire peninsula between the Burlingame Lagoon and the San Francisco Bay was created by fill placed on tidal flats.
- The upper sand is the shallowest naturally occurring aquifer. The average hydraulic conductivity was calculated to be 5.3×10^{-4} cm/sec.

- Leachate elevations in the refuse most likely represent perched water that may not be hydraulically connected across the landfill. Evaluation of groundwater flow in the upper sand is complicated by discontinuities in the sand across the site. The flow appears to be outward to the Bay during low tide and inward toward the landfill during high tide. Similar reversals have been observed in the lower sand unit. The vertical gradient between the waste and the upper sand was observed to be downward. The vertical gradient between the upper sand and the lower sand appeared to vary with well location and tidal stages.
- Additional groundwater, leachate, and surface water samples were analyzed for halogenated and aromatic VOCs. Leachate and groundwater samples were also analyzed for water quality indicators and metals (the specific analytes are listed in the tables in the report in Appendix G). VOCs were detected in samples from one leachate well and two Bay Mud wells. The benzene concentration in one of the Bay Mud wells (G-2A) exceeded the MCL. Various metals were detected in the groundwater and surface water samples. Only barium at 5.8 mg/L in monitoring well US-2 and lead at 0.03 mg/L in surface water sample SW-1 exceeded their respective EPA maximum contaminant levels.
- The analytical results were used to develop geochemical signatures for the leachate, groundwater, and surface water. The analysis found the leachate and water quality to be highly variable, possibly reflecting the heterogeneity of the units and tidal influences. However, the report makes the following conclusions: 1) the leachate is characterized by relatively high TKN, TDS, and TOC, and the presence of aromatic VOCs. 2) The bay mud water is characterized by relatively high TDS and TOC, but lower TKN and no VOCs (the leachate and bay mud were not analyzed for trace metals). 3) Groundwater from the upper sand is characterized by moderate to high TDS, low TKN and TOC, moderate chloride concentrations, and no VOCs. Cobalt, copper, lead, nickel, hexavalent chromium, and zinc were detected in some of the upper sand wells. 4) Groundwater from the lower sand is characterized by very low TDS, TKN, TOC, and chloride, and no VOCs. Only one groundwater sample from the lower sand wells was analyzed for trace metals, and only zinc was detected. 5) The surface water is characterized by high specific conductivity and sodium, indicating the presence of seawater. No VOCs were detected in the surface water. Cobalt, total chromium, copper, mercury, nickel, lead, and vanadium were detected in the Bay water sample. Only vanadium was detected in the Burlington Lagoon water sample.
- On the basis of the investigation results, a conceptual model was developed that concluded that the landfill has not affected groundwater or surface water and that the upper sand would be the most likely pathway of a release should one occur. Although the

upper sand is not continuous across the site, it was considered to be the most likely pathway as the shallowest aquifer beneath the waste.

- Potential release mechanisms and cleanup measures are also discussed, and a water quality monitoring program and water quality protection standards are proposed. Refer to the discussions of the semi-annual and annual monitoring reports with respect to the current monitoring program.

Results of Additional Investigation and Proposed Work Plan Combustible Gas Management at City of Burlingame and Crowne Plaza Properties, prepared by SCS Engineers, November 12, 2003

This report documents results of an investigation west-northwest of the landfill in an area where elevated combustible gas readings were detected. The area of two of the probes is west of the WWTP and the Bayside Park playing fields located on the older closed landfill and west-northwest of the Site. During the Site Reconnaissance, Mr. Miller stated that the elevated readings had been linked to a former LUST. The report provides the following relevant additional information:

- The landfill under the Bayside Park playing fields was used as a burn dump. Burning ceased in 1955-1956, and filling continued until about 1958, when fill operations were moved to the Site.
- Since July 2000 until the time of the report, combustible gas levels above the lower explosive limit (LEL, or 5 percent volume by air) had been detected intermittently in probes P1 and P2. These probes were located on the west side of Airport Boulevard (refer to Figure 3 in the report). SCS identified these readings as being associated with a documented fuel release from a former gas station at 1200 Old Bayshore Boulevard.
- Summa canister samples were collected and analyzed from P1 and P2 and confirmed the presence of fuel-related hydrocarbons, including MTBE. Tetrachloroethylene (PCE) was also detected slightly above the laboratory reporting limit. SCS concluded that the methane and carbon dioxide detected at P1 and P2 were the result of biodegradation of the fuel constituents.
- SCS researched the fuel release at the 1200 Old Bayshore Boulevard gas station. Their summary states “free product and fuel-related contaminants are present in groundwater below the service station property. It is unclear whether the free product is from a past or more recent fuel release, or both. The MTBE plume in groundwater has migrated off the service station property. Further monitoring and remedial actions have been required of the service station owner. Information in agency files supports our previous

conclusion about the source of combustible gas detected at probes P1 and P2.” According to information provided by Mr. Miller during the Site Reconnaissance, the LUST site has subsequently been closed. LUST sites were identified under two names in the EDR regulatory database report at the referenced address. The latest information in the database listings indicated that groundwater monitoring and possibly remediation were still ongoing at one of the sites in 2012 and confirmed that separate phase hydrocarbons have been identified. The location of the sites is almost a quarter mile from the Site and is not considered to be an environmental concern based on the distance and likely cross- or down-gradient location (based on groundwater levels measured in landfill groundwater monitoring wells). As previously stated, TBA, chlorobenzene, and 1,4-dichlorobenzene have been detected in groundwater samples from the landfill, but the concentrations have been below applicable screening levels. Since it is not possible to determine whether these contaminants are associated with releases from within the landfill or from off-site sources, they are considered to be part of the controlled recognized condition at the Site itself.

- Since 2001, similar readings had been detected in P9. P9 was located just west of the Site in an area identified as “No Debris Fill” on the report Figure 3. However, SCS concluded that the elevated readings at this location were associated with isolated pockets of organic debris and/or decomposition of naturally-occurring organics and noted in the text of the report that the probe was installed in the former burn dump area.
- Additional temporary shallow probes installed and monitored for LFG in the area surrounding P9 indicated that the extent of the combustible gas plume was limited to the immediate area of probe P9.
- SCS delineated the area of the fill associated with the closed landfill under Bayside Park through a review of historical boring logs from geotechnical/foundation investigations on the Crowne Plaza Hotel property and LFG probe installation on Bayside Park. The fill area is shown on Figure 3 in the report.

Corrective Action Cost Estimate for Known or Reasonably Foreseeable Releases City of Burlingame Landfill, prepared by SCS Engineers, October 8, 2008

This document was prepared as a requirement associated with establishing a financial assurance mechanism. It provides the following additional information:

- The barrier system on the eastern landfill perimeter (previously discussed under the Closure/Post-Closure Plan) includes a 3 to 4-foot collection trench running north-south approximately 35 feet east of the edge of refuse and west of the seepage barrier. The

trench contains a 6-inch perforated collection pipe and drain rock. Passive gas vent risers are installed on either end of the trench. A leachate drain was also constructed in conjunction with the vertical clay containment barrier on the north side of the landfill. The leachate collection system is not tied into any pumping facility and, therefore, is not operational.

- The cap construction included an integrated surface drainage system to collect and direct surface water away from the cap.
- No contaminant releases to groundwater or surface water have been documented since monitoring began in 1988. Concentrations of VOCs in monitoring event samples have been non-detect or below environmental screening levels for six years. TOC and TKN concentrations have been below calculated prediction limits and leachate concentrations have been stable.
- Potential releases discussed include leachate seeps to surface water, VOC releases to groundwater from landfill gas, and increased infiltration of contaminated leachate into groundwater. The first two of these were deemed by the report to not be very likely based on the type of waste present, implemented control measures, and recent monitoring trends. Leachate production via groundwater intrusion or infiltration is considered to be reasonably foreseeable but not likely to result in a significant impact to groundwater resources. The report presents various potential corrective actions including extraction wells and leachate collection and provides estimated costs for implementing additional investigation and corrective action.

BAAQMD Rule 8-34 Annual Report, The City of Burlingame Landfill, Burlingame, California, prepared by SCS Engineers, December 2016 (The 2015 report was also provided, but provided no additional information)

This report presents annual reporting to the Bay Area Air Quality Management District (BAAQMD) for December 1, 2015, through November 30, 2016, pertaining to the LFG collection and control system (GCCS). It provides a summary of the site history and description of the site generally consistent with the Final Closure Plan and Postclosure Maintenance Plan. Because the landfill has between 1 million and 2.75 million tons of waste in place, it is subject to the small design capacity exemption under Rule 8-34, Section 120. The City maintains a BAAQMD Permit to Operate (Plant #1351). The GCCS has been operational since 1995 and consists of a header piping network, vertical extraction wells, horizontal gas collectors, trench wells, and one enclosed flare. LFG is collected from all areas of the landfill. An activated carbon adsorption unit provides backup for the flare. Since 2011, the flare has been operated

intermittently due to insufficient gas supply. Figure 1 shows the location of the GCCS components. The report documented the following:

- The system was off-line 273 times during the year; all associated with shutdowns allowed under the approved operating conditions. There were no downtimes for individual wells, flow meters, or temperature gauges.
- No component leaks in excess of the 1000 part per million volume (ppmv) threshold were measured during quarterly monitoring.
- No compromises of the landfill cover integrity were identified during monthly inspections.
- LFG generation was modeled and compared to actual recovery. The estimated recovery rate from the model was 37 standard cubic feet per minute (scfm) at 50 percent methane and the measured recovery rate (adjusted for heating value) was 36 scfm at 50 percent methane. The report states that this rate is very low relative to other closed landfills and attributes this to the age of the landfill and the high percentage of non-decomposable, inorganic refuse.

Third Quarter 2017, Perimeter Landfill Gas (LFG) Monitor Probe Testing and Sensor System Calibration at the Burlingame Landfill, Burlingame, California (three other quarterly reports were also provided, but did not provide additional information)

This report documents quarterly monitoring required by Title 27 of the California Code of Regulations to ensure that methane gas concentrations at the property boundary do not exceed the lower explosive limit (LEL or 5 percent by volume) and that concentrations in onsite structures do not exceed 1.25 percent by volume in air. Eight perimeter LFG probes located on the east and southwest property boundaries near the hotels are monitored quarterly. One probe (P-9) on the southeast is monitored monthly. According to the 2017 Q3 report, no methane gas was detected in any of the perimeter probes, with the exception of P-9. P-9 continues to be monitored monthly, but methane concentrations detected during the 2017 Q3 report were below 5 percent by volume (the combustible component of LFG). Probe locations are shown on Figure 1 in the BAAQMD Rule 8-34 Annual Report.

LFG sensors are located in buildings constructed on or near to the landfill. Five locations in baseball field structures on the site were tested, and no methane was detected. The sensor in the elevator shaft was inaccessible. Nine sensors in the Golf Center and five in the Crowne Plaza Hotel were tested and calibrated, and replacement of several sensor heads was recommended. One sensor alarm was triggered in the men's restroom in the Golf Center on August 28, 2017.

Monitoring indicated that it was a false alarm, which the report attributed to deterioration of the sensor.

AB 32 Landfill Methane Rule Annual Report for the City of Burlingame Landfill, prepared by SCS Engineers, March 2017 (2015 report also available, but provided no additional information)

This report was prepared for the 2016 calendar year to comply with Article 4, Subarticle 6, Section 95470(b)(3), CCR Title 17, the Landfill Methane Rule, under Air Board (AB) 32. The report presents the total volume of LFG recovered (25.173 million scf), the average methane content (25.1 percent by volume), and the carbon dioxide content (28.9 percent by volume). It states that 30 gallons of propane were used as a supplemental fuel for flare startups. The GCCS is required to operate six hours per calendar day and a minimum of five calendar days per week and operated approximately 5,749 hours during the reporting period. The backup activated carbon filtration system was not used during the reporting period. All collection system components operated under negative pressure (vacuum) throughout the reporting period.

Annual surface emissions monitoring (SEM) was performed. No exceedances of either the instantaneous (500 ppmv) or integrated surface sampling (25 ppmv) limits were detected. The highest instantaneous reading was 9.41 ppmv and the highest integrated reading was 8.67 ppmv. SEM was previously reduced from quarterly to annually and the monitoring pathways were widened from 25 feet to 100 feet in May 2014 after four consecutive quarters of no exceedances.

The test of the flare's destruction efficiency indicated that the flare destroys more than 99 percent of the methane in the LFG with an average combustion temperature of 1525 degrees Fahrenheit. This testing is now only required every three years, after several years of testing demonstrated consistent destruction efficiency. Other information provided overlaps with other reports summarized in this section.

Landfill Closure Record Drawings, City of Burlingame Landfill, prepared by URS, 02/15/05 and Landfill Regrading and LFG System Installation, City of Burlingame Landfill, prepared by Woodward-Clyde Consultants, December 28, 1994

These drawings are useful in understanding the landfill design, including surface topography, stormwater collection, cap design, the landfill gas system, and other surface features. This information has been incorporated in various sections of the report. Selected drawings are included in Appendix G.

Preliminary Summary of Geotechnical Investigation Findings -TopGolf Burlingame Golf Center Redevelopment Project, prepared by Geo-Logic Associates, June 25, 2018

This report describes and presents the results of a geotechnical investigation conducted to identify geological and geotechnical considerations for design of the proposed TopGolf development on the landfill. The report includes a description and background for the Site based on the reports previously summarized in this section.

The geotechnical scope of work consisted of a geophysical survey, soil borings, and laboratory testing to evaluate the waste materials, the underlying Young Bay Mud and deeper geologic units, and the occurrence of leachate and groundwater within the waste and geologic units. The Site topographic and subsurface conditions as reported based on these activities have been incorporated in Section 5.3. Note that several items are inconsistent with conditions as reported in some of the earlier reports summarized in this section. Without verifying the information, EAE assumes for the purposes of this Phase I ESA that the more recent investigation provides the most reliable information regarding the subsurface conditions at the Site.

The project also included analysis of one composite sample from four of the geotechnical borings for the purpose of disposing of waste cuttings from the geotechnical investigation. The composite sample was analyzed for organochlorine pesticides by Method 8081A, polychlorinated biphenyls (PCBs) by Method 8082, VOCs by Method 8260, base neutral and acid extractables by Method 8270C [includes semi-volatile organic compounds (SVOCs) and some chlorinated pesticides], TPH gasoline, diesel, and motor oil, and 17 metals by Methods 6010B and 7471A. Chromium and lead were also analyzed by the Whole Effluent Toxicity (WET) test for comparison with California Soluble Threshold Limit Concentrations (STLC) for aquatic life, because the total concentrations were more than 10 times the STLC. Chromium was also analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) because the total concentration exceeded 20 times the toxicity limit. The results in the report are compared to STLC, Total Threshold Limit Concentrations (TTLC), and toxicity limits where available and applicable. No leachate samples were collected for analysis during the investigation.

No VOCs or SVOCs were detected, but the SVOC sample was diluted (see quality control review comments below). 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin were detected in the pesticide analysis at concentrations at least two orders of magnitude below their respective TTLCs. PCB 1254 was also detected four orders of magnitude below the TTLC. TPH-diesel was detected at 9.1 milligrams per kilogram (mg/kg) and TPH Motor Oil was detected at 43 mg/kg. These concentrations are below EPA TPH screening levels. Fourteen of the 17 metals were detected. Twelve of these were below TTLC screening levels. Chromium and lead

concentrations detected in the WET and TCLP tests were below applicable regulatory levels. Details regarding the screening levels provided in the report.

EAE also compared the detected concentrations to EPA screening levels for residential soil. With the exception of arsenic, all the detected concentrations were below the residential screening levels. Arsenic at 9.2 mg/kg is above both the residential and the industrial EPA soil screening levels. All the detected concentrations are presented in the report. The report concluded that the analyses showed that the materials tested did not exceed federal or state hazardous waste thresholds. Disposal was pending at the time of the report.

The following were noted in the EAE review of the laboratory quality control data (the report did not include a quality control review):

- Both pesticide surrogate recoveries were out of range (one very slightly high; the other low). The pesticides were also included in the base-neutral analyses, and those surrogates were within control limits, but the sample was diluted.
- All the SVOCs were diluted. Only the detection limit for Endrin was above the TTLC limit. Some of the polynuclear aromatic hydrocarbon (PAH) detection limits were above residential screening levels, but not above industrial screening levels.
- The diesel results stated that the chromatograph was not typical of diesel fuel, but did not provide further explanation. The chromatographs were not included.
- Some of the laboratory control sample recoveries in the SVOCs and metals were below control limits.
- Chromium, copper, molybdenum, and zinc were detected at low levels in the method blank. Only the molybdenum concentration in the method blank was high enough that the concentration detected in the soil samples should be considered as non-detected.

Environmental Permits and Compliance

Based on EAE's research and interviews with the Key Site Manager, the landfill operates under multiple permits and compliance requirements:

- Landfill, Plant #1351, annual LFG reporting under Bay Area Air Quality Management District (BAAQMD), Rule 8-34.
- Landfill quarterly gas monitoring probe testing under Title 27 California Code of Regulations (CCR), Article 6.
- Landfill Methane Rule annual reporting under Title 17 CCR Article 4, Subarticle 6, Section 95470(b)(3) under AB32.

- Solid Waste Facilities Permit No. 41-AA-009.
- Closure and Post-Closure Plan under CCR Article 14, Section 18262.
- San Francisco Bay Conservation and Development Commission (BCDC) Permit No. 1-87 due to proximity to San Francisco Bay.
- RWQCB Waste Discharge Requirements through Resolution No. 1695. Groundwater regulated under RWQCB Order No. 95-130.

A permit compliance review was not included in the Scope of Work of this Phase I ESA. Additional permits related to municipal, county or other local requirements may exist. The landfill does not have a NPDES storm water permit. Since it is closed and has been redeveloped as a park and recreational facility, Mr. Joe Miller, SCS, indicated it does not fall under the industrial facility storm water permitting requirements.

Summary of On-site Historical Environmental Concerns

The Site was historically developed as a landfill from 1957 until 1987. The waste accepted included construction debris, concrete rubble, roofing shingles, gardening debris, wood, metal, cloth, plastic, and anaerobic digester sludge. Hazardous waste and commercially collected household “garbage” were not accepted. On the basis of the 2018 Geotechnical Report, the waste may be up to 60 feet bgs on the Site.

Limited testing of the waste within the landfill appears to have been performed. A composite sample was obtained from the borings during the geotechnical investigation on the Site in 2018. No VOCs or SVOCs were detected in the composite sample. It was also determined that the boring material was not a RCRA hazardous waste based on the initial analytical results and additional TCLP testing for chromium. 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, PCB 1254, and 13 metals were detected in the composite sample at concentrations below the California TTLC. TPH-diesel also was detected at 9.1 milligrams per kilogram (mg/kg) and TPH Motor Oil was detected at 43 mg/kg. With the exception of arsenic, the detected concentrations were all below EPA residential soil screening levels. Arsenic was detected at 9.2 mg/kg, above both residential and industrial soil EPA screening levels. However, this concentration may still be within typical background ranges.

A LFG collection system is operated on the landfill, and the collected gas is destroyed in a LFG flare located on the adjacent WWTP property. The LFG system has been operational since 1995 and consists of a header piping network, vertical extraction wells, horizontal gas collectors, trench wells, and the enclosed flare. LFG is collected from all areas of the landfill. An activated

carbon adsorption unit provides backup for the flare. Since 2011, the flare has been operated intermittently due to insufficient gas supply.

Eight perimeter LFG probes located on the east and southwest property boundaries near the hotels are monitored quarterly. One probe (P-9) on the southeast is monitored monthly. LFG sensors are located in buildings constructed on or near to the landfill. According to the 2017 Q3 report, no methane gas was detected in any of the perimeter probes, with the exception of P-9. P-9 continues to be monitored monthly, but methane concentrations detected during the third quarter of 2017 were reportedly below 5 percent by volume (the combustible component of LFG). The only alarm noted in the building sensors in the 2017 Q3 report was determined to be a false alarm due to deterioration of the sensor.

Annual surface emissions monitoring (SEM) is also performed. No exceedances of either the instantaneous (500 ppmv) or integrated surface sampling (25 ppmv) limits were detected during the 2017 annual SEM. The highest instantaneous reading was 9.41 ppmv and the highest integrated reading was 8.67 ppmv.

Monitoring wells were installed prior to 1985 in the refuse and in what was characterized as the upper and lower sand. According to the 1997 Final Closure Plan, previous monitoring of leachate and groundwater in the upper and lower sand indicates high concentrations of Total Kjeldahl Nitrogen (TKN) and volatile organic compounds (VOCs) below EPA maximum contaminant levels (MCLs) in the leachate, low to moderate TKN and non-detectable VOCs in the upper sand, and very low TKN and non-detectable VOCs in the lower sand. Sodium and chloride concentrations in the leachate appear to fluctuate due to mixing with Bay water. According to the 2018 Monitoring Report, four of the wells in the leachate were destroyed in 1992 and one in 1997. None of the wells identified in the lower sand appears to have been monitored since at least 1991.

Two leachate wells (GR-3 and GR-4) and one leachate line manhole (GR-8) screened in refuse and eight shallow groundwater perimeter monitoring wells are monitored semi-annually. None of the wells are within the footprint of the proposed Site development. A former leachate well (GR-7) that was destroyed in 1992 was located near the center of the proposed development.

The existing monitoring wells are currently monitored for VOCs, TOC, and TKN. The regulatory agency eliminated the requirement for analyses for various metals and chlorinated herbicides in 1997 and for alkalinity, biochemical oxygen demand, chemical oxygen demand, total dissolved solids and total suspended solids in 2007 based on historically low detections of these analytes.

Acetone, chlorobenzene, 1,4 dichlorobenzene, hexachloroethane, and TBA have been detected in either or both of leachate wells GR-3 and GR-4 during the most recent semi-annual monitoring events. TBA has also been detected in two of the perimeter monitoring wells. The concentrations of acetone, chlorobenzene, 1,4-dichlorobenzene, and hexachloroethane, in the leachate wells have been below federal and California MCLs, and the concentrations of TBA in the perimeter monitoring wells have been below the California notification level of 12 µg/L for drinking water.

The concentrations of TBA in the two leachate wells have been below the RWQCB non-drinking water groundwater environmental screening level, but above the drinking water notification level. Both of the leachate wells are on the south-southeast side of the Site and potentially upgradient of the Site, and the reports have attributed TBA to a possible off-site source.

Benzene, chlorobenzene, 1,4 dichlorobenzene, and toluene were detected below MCLs in leachate well GR-7 in December 1991 but were not detected in the last monitoring event for that well in March 1992.

It is uncertain how representative the leachate well data may be with respect to the Site itself based on the locations of GR-3 and GR-4 and the age of the GR-7 data.

According to the 2008 Corrective Action Report, no contaminant releases to groundwater or surface water have been documented since monitoring began in 1988. Concentrations of VOCs in monitoring event samples were reported to at that time to have been non-detect or below environmental screening levels for six years. TOC and TKN concentrations were reported to have been below calculated prediction limits and leachate concentrations were reported to have been stable.

The landfill is considered to be a controlled recognized environmental condition due to the operation of the landfill gas system, the ongoing monitoring, and the regulatory oversight of landfill conditions, all of which provide control and monitoring of potential environmental concerns at the Site.

Summary of Nearby Properties Environmental Concerns

The surrounding area was developed at least by 1896 and used predominantly for commercial uses from that time until the present. No additional environmental concerns were identified in association with nearby properties based on the historical review. Refer to discussions in Section 5.1 and 5.2 with respect to the WWTP, the Browning Ferris Industries Landfill (alias San Mateo Disposal), and various properties along Rollins Road.

6.0 SITE RECONNAISSANCE

The Site and adjoining area were visited to assess the presence, or likelihood, of "recognized environmental conditions" and "historical recognized environmental conditions" in accordance with ASTM E1527-13. Deborah English, Senior Project Manager for EAE, completed a field reconnaissance of the Site and adjoining area on May 8, 2018. Ms. English meets the requirements and possesses the relevant experience needed to qualify as an Environmental Professional as defined by ASTM E1527-13.

6.1 Site Reconnaissance Methodology and Limiting Conditions

The field reconnaissance consisted of a walking tour of the site and a walking and driving tour of adjoining properties by an EAE staff member having credentials as an Environmental Professional. The reconnaissance included the exterior of the Site and observation of the Site from all adjacent public areas. In general, the Site was accessible during the Site visit, and weather conditions were conducive to field reconnaissance. The driving range is fenced and locked and access to the area was not possible. However, the entire area was visible, and this is not considered to be a significant data gap. Ms. English was accompanied during the reconnaissance of the Site by Joe Miller, Vice President, SCS Engineers. Mr. Miller was designated to represent the City of Burlingame during the visit and was also interviewed prior to and during the Site Reconnaissance.

6.2 On-Site Observations in Accordance with ASTM E1527-13 Sections 9.4.2.3 through 9.4.4.7

The following table lists items of potential concern at the Site. The only structures on the Site are the overhangs on the driving range.

Those with a reported yes answer are discussed after the table.

TABLE 6.2-1 INTERIOR AND EXTERIOR SITE RECONNAISSANCE OBSERVATIONS

Potential Environmental Condition	Indications Observed/Reported On- Site (Yes or No)
General observations of concern	
Hazardous substances in connection with identified uses	Yes
Petroleum products in connection with identified uses	No
Underground storage tanks	No

TABLE 6.2-1 INTERIOR AND EXTERIOR SITE RECONNAISSANCE OBSERVATIONS

Potential Environmental Condition	Indications Observed/Reported On-Site (Yes or No)
Above-ground storage tanks	No
Odors	Yes
Pools of liquid	No
Drums	No
Hazardous substance or petroleum product containers not necessarily in connection with identified uses	No
Unidentified substance containers	No
PCB-containing equipment	No
Interior Observations of Concern	
Stains or corrosion	No
Drains and sumps	No
Exterior Observations of Concern	
Pits, ponds, or lagoons	No
Stained soil or pavement	No
Stressed vegetation	No
Solid waste disposal	Yes
Wastewater	No
Wells	No
Septic systems	No

NA – Not Applicable to Site.

General Observations

Very few issues were observed on the Site. However, the following were noted on adjacent properties:

- Multiple ASTs were observed on the WWTP to the west of the Site. The contents could not be identified, but the tanks are assumed to be associated with the treatment processes. The replacement diesel AST mentioned in Section 5.4 was not visible.
- Groundwater and landfill gas monitoring wells were observed on the landfill perimeter.
- A small eroded area was observed on the north slope of the landfill. This location is not on the Site.
- Settlement was observed around playground equipment northeast of the driving range.

None of these issues is considered to represent a significant environmental concern to the Site.

Potential Hazardous Substances in Connection with Identified Uses

Two roll-off containers were observed on the south side of the Site. Mr. Miller stated that the roll-offs contained cuttings from the geotechnical investigation that were waiting on chemical analytical results to determine appropriate disposal procedures. These cuttings are not considered an environmental concern due to the controlled nature of materials.

Odors

Odors were observed at various locations that appeared to be associated with the wastewater treatment plant to the west of the Site. The odors were noticed as far away from the WWTP as the club house on the east side of the landfill.

Exterior Observations

Solid Waste Disposal

This was not observed, but the Site is a known closed pre-Subtitle D municipal landfill.

6.3 On-Site Observations Associated with Non-Scope Items

Non-scope considerations include such things as asbestos, lead-based paint, PCB-containing caulk and light fixtures, mold, radon, wetlands, lead in drinking water, and other items that are not regulated under CERCLA. In the absence of structures on the Site, most of these non-scope issues are not relevant. Non-scope considerations may be relevant to business environmental risks, which are risks “which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.” Evaluation of these risks was not requested under this Phase I ESA.

7.0 INTERVIEWS AND INFORMATION REQUESTS

Interviews and/or information requests were conducted to determine the current and past uses of the Site and Site vicinity. The extent of the information requested was based on suspect land use in the area, information from environmental databases, and findings during the Site Reconnaissance.

7.1 Interviews with or Information from Current and Prior Owners

Current Owner(s)

The City of Burlingame is the current owner of the Site. Mr. Art Morimoto, Assistant Public Works Director, did not complete the Owner Questionnaire provided by EAE, but deferred technical questions to Mr. Joe Miller, Project Manager, SCS Engineers, who was interviewed during the Site Reconnaissance. SCS has had a contract with the City since 2001. SCS Engineers currently conducts semi-annual groundwater monitoring, quarterly and annual LFG monitoring and reporting, and acts as the City's consultant with respect activities that have affected or may affect landfill conditions. On the basis of the extensive historical reports provided and the information obtained from Mr. Miller and other interviewees, the lack of the Owner Questionnaire is not considered to be a significant data gap.

Some of the information provided by Mr. Miller has been captured in other sections, but other specific items are summarized below:

- The ongoing construction on the east soccer fields involves installation of underdrains below the ground surface and above the clay cap and replacement of natural grass and topsoil with artificial turf. SCS is providing support to the City to ensure the underlying clay cap is not damaged during the underdrain installation.
- The property use is considered to be a park (not industrial), so an NPDES storm water permit is not required, although they continue to sample storm water at outfalls on the north into San Francisco Bay and on the south into the Burlingame Lagoon. Storm water is collected in underdrains above the cap in some areas and from surface runoff at the landfill perimeter in others.
- The driving range is covered in artificial turf, so pesticide and herbicide treatments are not required.
- A former LUST site was identified on the northwest side of the landfill after high readings were detected in gas monitors on that perimeter. The LUST site has been remediated.
- There is a cutoff trench with LFG monitors on the east side between the landfill and the DoubleTree hotel.
- The low landfill gas production is probably an indication that the waste placed in the landfill had a lower organic content than typical municipal solid waste.
- He is not aware of any notices of violation or regulatory actions for the landfill.

Prior Owner(s)

The City has owned the property since filling of the area began in at least 1946. The area was part of the San Francisco Bay and was inundated with water before the fill was placed.

7.2 Key Site Manager Interview

The Key Site Manager and the Owner are the same entity. Please refer to Section 7.1 and other applicable sections of this report for interview information.

7.3 Interviews with Current and Prior Occupants/Operators

The Current and Prior Occupant/Operator is the same entity as the Owner/Key Site Manager. Please refer to Section 7.1.

7.4 Interviews with or Information from Local Government Officials and Agencies

San Mateo County Environmental Health Department

EAE submitted a written request to the San Mateo County Environmental Health Department regarding hazardous materials incidents, spills, or registered USTs and ASTs at the Site. According to the response received, the Department has no records of any of these items for the Site.

City Parks and Recreation Department

The City Parks and Recreation Department was contacted regarding operations in the Maintenance Area on the north side of the landfill. Ms. Margaret Glomstad stated in an email that they do not store chemicals or oils in the maintenance area, and maintenance supplies are brought in and removed once maintenance is completed. Maintenance is limited to light repairs, reel mower adjustments, mower tune-ups, flat tire repairs, etc. On the Burlingame Golf Center small quantities (10 gallons or less) of gasoline and used oil are stored in small containers. Approximately two gallons of used oil is disposed of at Mariners Point in Foster City for recycling on a monthly basis. No spills of toxic materials have been known to have occurred in the area. The Maintenance Area is not considered to be an environmental concern based on the small quantities of chemicals stored and the limited maintenance performed at the facility.

City Wastewater Treatment Plant

Ms. Antrena Trimble, Veolia, Project Manager III, provided information in response to an EAE email regarding the adjacent City WWTP, which Veolia operates. In addition to providing the information summarized regarding the USTs in Section 5.1, the following information was provided regarding other wastes generated at the WWTP:

- Waste oil, in 2017, 230 gals/year, 120 gals used in co-generation, 110 used in small motors and gearboxes. Recycled through Safety Kleen.
- Anti-freeze, 95 gals in 2017, Recycled through Safety Kleen.
- Fluorescent light bulbs: 82, recycled through Stericycle.

Wastes generated at the WWTP are not considered to be an environmental concern based on the quantity generated and the waste management/recycling operations outlined above.

Central County Fire Department

EAE submitted a written request to the Central County Fire Department regarding hazardous materials incidents, spills, or registered USTs and ASTs at the Site. According to the response received, the Fire Department has no records of any of these items for the Site. The only records provided were applications for business licenses for property maintenance (current), massage therapist (2014), golf instruction (2005, 2008 and 2010), golf club fitting and repairs (2007), and a restaurant café (2003); a 2016 (false alarm) medical emergency report; reports on 2003 and 2006 inspections with minor deficiencies rectified; a report on a 2005 inspection with minor deficiencies; and a 2003 approved application for public fireworks display.

The files provided also included a September 2, 1998, letter from the City of Burlingame changing the address of the Burlingame landfill site from 1001 Airport Boulevard to 250 Anza Boulevard and including a map showing the change in the entrance location from Airport Boulevard to Anza Boulevard. The file included fire department approval on September 3, 1998, of the plans for the driving range and buildings (plans not included) with recommendations for sprinkler systems and requirements to provide a fire hydrant on site and a kitchen extinguishing system.

8.0 VAPOR ENCROACHMENT SCREENING

A Tier 1 Vapor Encroachment Screening (VES) was considered to be unnecessary, because 1) a vapor encroachment condition (VEC) is known to exist, and 2) vapor encroachment control measures are in place at the Site. The purpose of a VES is to identify, to the extent feasible

pursuant to the guidelines set by ASTM E2600-15, if a VEC exists at the Site. A VEC is the presence or likely presence of chemical of concern (COC) vapors in the vadose zone of the Site caused by the release of vapors from contaminated soil and/or groundwater either on or near the Site. On the basis of this definition, a VEC does exist at the Site. However, although methane is generated and other VOCs may be generated from wastes within the landfill, they are removed through the LFG extraction system, as described in previous sections. Therefore, the Site has an existing vapor removal system to minimize potential vapor encroachment. Buildings on and near the landfill are also required to have gas monitoring systems. The LFG extraction system and the monitoring program are regulatory requirements of the landfill permit and must be maintained indefinitely. This is considered to be a controlled VEC.

9.0 FINDINGS

Based upon the findings of this Phase I ESA, EAE has identified the following recognized environmental conditions, controlled recognized environmental conditions, historical recognized environmental conditions, and de minimis conditions associated with the Site:

Recognized Environmental Conditions

No recognized environmental conditions were identified.

Controlled Recognized Environmental Conditions

- The closed Burlingame Landfill, which is beneath the Site and areas adjacent to the Site, as well as the adjacent landfill to the west variously identified as Browning Ferris Industries, San Mateo Disposal, and Burlingame Disposal Site are considered to be a controlled recognized environmental condition. VOCs detected in groundwater and leachate samples from the Site are considered to be part of the controlled recognized condition at the landfill, although it is possible they are from off-site sources.

It is not implied that EAE has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required controls that have been or are intended to be implemented for the controlled recognized environmental conditions identified above.

Historical Recognized Environmental Conditions

No historical recognized environmental conditions were identified.

Vapor Encroachment Conditions

The landfill is also considered to be a controlled vapor encroachment condition due to the presence of methane and VOCs that are collected by the LFG extraction system.

De minimis Conditions

No de minimis conditions were identified.

Data Gaps, Limitations, and Interpretations

- The driving range was fenced and locked at the time of the Site Reconnaissance and access to the area was not possible. However, the entire area was visible, and this is not considered to be a significant data gap.
- Mr. Art Morimoto, Assistant Public Works Director and Owner representative, did not complete the Owner Questionnaire, but deferred technical questions to Mr. Joe Miller, SCS Engineers, who was interviewed during the Site Reconnaissance. On the basis of the extensive historical reports provided and the information obtained from Mr. Miller and other interviewees, this is not considered to be a significant data gap.

10.0 OPINION AND CONCLUSIONS

Based upon the findings of this Phase I ESA, the EAE environmental professional has determined the following impact on the property of conditions identified in the findings:

- The Burlingame landfill which is beneath the Site and areas adjacent to the Site, as well as the adjacent landfill to the west variously identified as Browning Ferris Industries, San Mateo Disposal, are considered to be a controlled recognized environmental condition. VOCs detected in groundwater and leachate samples from the landfill are considered to be part of the controlled recognized condition at the landfill, although it is possible they are from off-site sources. The landfill also represents a controlled vapor encroachment condition due to the presence of methane and VOCs that are collected by the LFG extraction system.

No investigation is recommended at this time for potential CERCLA liability associated with these controlled recognized environmental and vapor encroachment conditions for the following reasons:

- The landfill will continue to be owned and managed by the City of Burlington.
- Regulatory compliance requires that the landfill cap be maintained, LFG be controlled and monitored, and groundwater be monitored.
- The proposed development does not involve storage or use of significant quantities of hazardous substances. Materials that would be used are limited to routine cleaning products, paints, and maintenance materials, and proposed

operations would not contribute to additional future contamination on the property.

11.0 DEVIATIONS FROM ASTM E 1527-13

The Phase I ESA for the Site was completed without deletion of, or deviation from, the requirements specified in ASTM E 1527-13, and consistent with the United States Environmental Protection Agency's "all appropriate inquiries" rule established in 40 CFR Part 312.

12.0 ADDITIONAL SERVICES

No additional services were requested by the client.

13.0 SIGNATURES AND QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR Part 312, and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

We have developed and performed the all appropriate inquiries in conformance with the standards set forth in 40 CFR Part 312.



Deborah A. English, P.E.

Environmental Professional
Senior Project Manager

Date: July 23, 2018

Corporate credentials and resumes of the Environmental Professionals are provided in Appendix F.

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FIGURES

APPENDIX A
SITE PHOTOGRAPHS AND FIELD RECONNAISSANCE FORM

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APPENDIX B
QUESTIONNAIRES/TITLE AND LIEN INFORMATION

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APPENDIX C
REGULATORY DATABASE/PHYSICAL SETTING SOURCES

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APPENDIX D
HISTORICAL SOURCES

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APPENDIX E
REGULATORY AGENCY RESPONSES AND OTHER
REGULATORY AGENCY FILES

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APPENDIX F
QUALIFICATIONS OF PERSONS PERFORMING THE
ASSESSMENT

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APPENDIX G
PRIOR REPORTS

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APPENDIX H