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# **ASBESTOS DUST MONITORING PLAN**

## **Golden State Warriors Arena**

### **Blocks 29 through 32, Mission Bay**

### **San Francisco, California**

***Prepared For:***

**Golden State Warriors  
San Francisco, California**

***Prepared By:***

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**Dustyne Sutherland  
Senior Project Scientist**



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**Dorinda Shipman, PG, CHG  
Principal**

**4 November 2015  
731617205**

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***LANGAN TREADWELL ROLLO***

4 November 2015

Randy Lee  
San Francisco Bay Regional Water Quality Control Board  
Toxics Cleanup Division, Central Bay Section  
1515 Clay Street, Suite 1400  
Oakland, California 94612

**Subject: Asbestos Dust Monitoring Plan  
Golden State Warriors Arena  
Blocks 29 through 32 Mission Bay  
San Francisco, California  
Langan Project: 731617205**

Dear Mr. Lee:

On behalf of the Golden State Warriors, we present this Asbestos Dust Monitoring Plan (ADMP), to be implemented during construction of the proposed development at Blocks 29 through 32 Mission Bay (the "site") in San Francisco, California. This Asbestos Dust Monitoring Plan was prepared to comply with Title 17 of the California Code of Regulations (17 CCR) Section 93105, Asbestos Airborne Toxic Control Measure (ATCM), and Article 22B of the San Francisco Public Health Code. This ADMP was revised per Kevin Vo's comments dated 3 November.

If you have any questions or need any information clarified, please call Dustyne Sutherland at (415) 955-5283.

Sincerely yours,  
**Langan Treadwell Rollo**



Dustyne Sutherland  
Senior Project Manager



Dorinda Shipman, PG, CHG  
Principal



cc: Clarke Miller– Strada Investment Group  
David Kelly – Golden State Warriors  
Martita M Lee Weden– San Francisco Department of Public Health

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**ASBESOTS DUST MONITORING PLAN  
Golden State Warriors Arena  
Blocks 29 through 32 Mission Bay  
San Francisco, California**

## **1.0 INTRODUCTION**

This Asbestos Dust Monitoring Plan (ADMP), prepared on behalf of the Golden State Warriors, presents the proposed asbestos dust monitoring procedures and general asbestos dust control measures to be implemented during the proposed construction activities for the Golden State Warriors Sports and Entertainment Center, Blocks 29 through 32 Mission Bay (MB) in San Francisco, California. This ADMP was prepared to comply Title 17 of the California Code of Regulations (17 CCR) Section 93105, Asbestos Airborne Toxic Control Measure (ATCM), and Article 22B of the San Francisco Public Health Code.

## **2.0 REGULATORY FRAMEWORK**

Construction and development activities at Mission Bay are subject to the Mission Bay Subsequent Environmental Impact Report (EIR, City and County of San Francisco Planning Department and San Francisco Redevelopment Agency, September 17, 1998). In response to certain EIR mitigation measures, a Risk Management Plan (RMP) was prepared to mitigate potential risks associated with the construction and development planned for the MB Project Area (Environ, 1999). The California Environmental Protection Agency designated the San Francisco Regional Water Quality Control Board (Water Board) as the Administering Agency under California Assembly Bill (AB) 2061 on 15 July 1997. As the Administering Agency, the Water Board has exclusive responsibility and jurisdiction for providing direction on the environmental aspects of Mission Bay Site development activities. The Administering Agency also coordinates its decisions and actions with state, regional and local agencies. Locally, the San Francisco Department of Public Health (SFDPH) assists with overseeing RMP implementation and compliance activities and oversees compliance with Articles 22A (Maher Ordinance) and 22B (Construction Dust Control Requirements) of the San Francisco Public Health Code.

The RMP presents the decision framework and the specific protocols for managing chemicals in the soil and groundwater in a manner that is protective of human health and the ecological environment, consistent with the existing and planned future land uses, and compatible with

long-term phased development. The RMP contains two sections on dust control and dust monitoring (4.3.1 and 4.3.2, respectively).

Langan has prepared a Revised Dust Control Plan (Appendix A) to address compliance with the RMP and Article 22B. This ADMP has been prepared specifically for the Golden State Warriors Sports and Entertainment Center project in response to Mitigation Measure F.2 outlined in the EIR, Volume II, Chapter VI, Section F (Air Quality).

Regulatory authority for compliance with the ATCM typically resides with the Bay Area Air Quality Management District (BAAQMD). However, as described above, the Water Board is the Administering Agency for MB, and, therefore, will provide review and approval of this ADMP and oversee compliance with the ATCM.

### **3.0 BACKGROUND**

#### **3.1 Site Description**

The site and surrounding area is located in the Mission Bay district of San Francisco and is bounded by South Street on the north, 16<sup>th</sup> Street on the south, Terry A. Francois Boulevard on the east and Third Street on the west. The site is rectangular with plan dimensions of approximately 600 feet by 800 feet and is currently occupied by an asphalt paved parking lot and open undeveloped land surrounded by a chain link fence (Figure 1).

#### **3.2 Site Background**

The project is within the Maher zone of San Francisco (bayward of the historic 1852 high tide line). Construction projects within the Maher zone that disturb more than 50 cubic yards of soil require that the site history (Phase I ESA) and soil quality be assessed (Phase II ESA) in accordance with Article 22A of the San Francisco Public Health Code (Maher Ordinance). A Phase I Environmental Site Assessment (ESA) was performed by Strata in 2010 with an updated Phase I ESA performed by Langan in 2014. Based on site history information obtained during the Phase I ESA, the site was originally below water in a shallow bay known as Mission Bay. Starting in the late 1860s, the bay was reclaimed by placing fill. Based on historic maps, it is our opinion that the majority of the site was reclaimed between 1869 and 1910 with fill, and then with building rubble and debris from the 1906 San Francisco earthquake and fire. The site was previously occupied by railyards and associated warehouses. The southern half of the site was used as a bulk oil storage and distribution facility. Other uses include a boiler house, steel

mill, well casing manufacturer, fruit cannery, junk yards, vehicle parking, vehicle maintenance and a ready-mix concrete facility.

Based on a review of regulatory files, site history, and site reconnaissance, the Phase I ESA and Phase I ESA update revealed evidence of one recognized environmental condition (REC) in connection with the site.

- Elevated concentrations of petroleum hydrocarbons and heavy metals have been detected in the shallow fill throughout the Mission Bay area. Several phases of soil, soil gas and groundwater investigations have been completed throughout Mission Bay. Based on these previous investigations, the soil likely contains elevated concentrations of heavy metals, total petroleum hydrocarbons (TPH), and semi-volatile organic compounds (SVOCs). Additionally, groundwater beneath the site may be impacted with TPH as diesel (TPHd) and TPH as motor oil (TPHmo).

Based on the findings of the Phase I ESA, Langan performed a Phase II Environmental Site Assessment (Phase II ESA) in December 2014 and January 2015 to further evaluate the impacts of the above-mentioned REC. The Phase II ESA included drilling 33 soil borings to a maximum depth of 31 feet below ground surface (bgs) for soil sampling, chemical testing of soil and groundwater samples, and evaluating the results. Concentrations of chemical compounds and metals detected in soil were compared to State and Federal hazardous waste criteria to outline soil disposal options during construction. The results of the investigation indicated portions of the fill beneath the site contain elevated concentrations of TPHd and TPHmo, heavy metals (specifically lead, chromium, and nickel) exceeding State of California hazardous waste criteria, and low concentrations of volatile organic compounds (VOCs) and SVOCs. Detailed results of this investigation are provided in Langan's Phase II ESA , *Golden State Warriors Arena, Blocks 29 through 32, Mission Bay, San Francisco, California* dated 3 June 2015.

### **3.3 Proposed Development**

According to the design plans, and Basement Slab and Pile Cap Overview dated March 2015 provided by Manusson Klemencic Associates (MKA), the proposed development will consist of three main areas, as shown on Figure 2 and described below. Additionally, Terry A. Francois Boulevard will be re-aligned to run north to south on the east side of Blocks 30 and 32, in accordance with the Mission Bay master infrastructure plan, following arena construction.

- Arena – The arena structure will be approximately eight stories high. The arena has a total planned excavation depth of 12 feet bgs.
- Parking and Plaza – The parking and plaza will consist of restaurants, retail and office buildings up to 11 stories high. The parking and plaza areas have a total planned excavation depth of 24.5 feet bgs. Some portions of the plaza area will not include subgrade parking and have a total excavation depth to approximately 14 feet bgs.
- Practice Courts – The practice court has a total planned excavation depth of 18.5 feet bgs.

Design excavation depths are shown on Figure 2. The below grade structures will be designed to prevent groundwater infiltration and therefore long-term dewatering will not be required.

### **3.4 Sensitive Receptors**

In accordance with Article 22B, projects that disturb more than 50 cubic yards of soil and are greater than one-half acre, must have “sensitive receptors” located within 1,000 feet of the site boundary. Sensitive receptors may include residential areas, day care centers, hospitals, and schools. The Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses (BAAQMD, 2012). Figure 3 shows the approximate 1,000-foot sensitive receptor zone around the site.

## **4.0 ASBESTOS DUST MONITORING PLAN**

### **4.1 General**

Asbestos dust monitoring will generally be conducted during potential dust generating activities. Please note that this ADMP does not include worker health and safety monitoring, monitoring for volatiles or methane gas, personnel dust monitoring, or personnel asbestos monitoring. These items will be addressed in the Health and Safety Plan (HASP), which will be prepared for and used by the contractor.



## **4.2 Asbestos Sampling Equipment**

Sampling at all airborne asbestos monitoring stations will be conducted using battery operated heavy duty vacuum pumps. Either model SKC 1532 and/or Model BGI 100 or an equivalent model vacuum pump will be used for each of the monitoring stations. Selected equipment will be of the type that is used extensively in air sampling for asbestos.

The sampling train will consist of the following; pump, a flow regulator/dampener, a lockable air flow adjustment valve, Tygon® tubing and filter cassette assembly. The cassette will be attached to a tripod, or equivalent, to ensure the filter cassette maintains an elevation of 4 to 6 feet above ground surface. The filter cassettes will have a 25-millimeter open face cowl and will consist of a mixed cellulose ester (MCE) filter with a 0.45 micron pore size.

Each of the pumps, battery packs, sampling trains and cassettes will be inspected regularly to ensure proper operation. To prevent tampering or vandalism, sampling equipment will be placed in locked boxes and, if possible, behind locked fences. In the event monitors are found to not be operating properly, as soon as practicable the Water Board will be notified of the location, monitor name, time discovered, plan of action and estimated time needed to complete repairs.

## **4.3 Sampling Frequency**

Asbestos monitoring stations will be sampled on a daily basis during the duration of potential dust-generating activities. Each high-volume air monitoring sample will consist of a continuous 24-hour sampling period from approximately 3:00 PM to 3:00 PM the next day. During holidays and weekends in which no earth disturbing activities occur, air monitoring may alternatively consist of an 8-hour sampling period from approximately 7:30 AM to 3:30 PM. The same 8-hour sampling period may be used for Mondays or Fridays to facilitate the flow of laboratory analytical data. At the time of sample collection and set up for the next monitoring run, a field technician will record in a field notebook the sample ID number, the sample location, the date and time the pump was activated, the date and time the pump was deactivated, the flow rate at the start of sampling, the flow rate at the end of sampling, the calculated average flow rate, and the calculated total volume of air pumped during the sampling run. All relevant data will be transcribed onto the chain-of-custody form that will remain with the samples until they are delivered to the analytical laboratory.

At the conclusion of set up at all monitoring locations for the next sampling period, the samples will be promptly delivered to a State of California certified analytical laboratory for analysis. The chain-of-custody filled out for that day's sampling will accompany the samples to the laboratory. Sampling methodologies and quality control/quality assurance (QA/QC) parameters shall be made available to the Water Board and BAAQMD upon request.

#### **4.4 Sampling Locations**

Two asbestos monitoring stations will be placed at the site perimeter. One asbestos monitoring station will be placed at an upwind location, and one asbestos monitoring station will be placed at a downwind location. Wind direction will be evaluated based on a wind sock or flag located at the site per the nearest weather station (KCASANFR102 zip 94111) with live wind reporting. Weather forecasting and reporting can be found on a website such as <http://www.wunderground.com>. Asbestos monitoring stations will be re-located in the event of significant changes in the wind direction. Significant changes in wind direction would include sustained winds traveling in a different direction than the prevailing winds for greater than 30 minutes. The predominant wind direction is from west to east and the asbestos monitoring stations will be located along the site perimeter as indicated on Figure 2 (upwind, west side and downwind, east side). The asbestos monitoring station locations will be recorded in dedicated field logs in the event they are relocated (see Section 5.0).

#### **4.5 Analytical Method and Procedure**

All asbestos air samples will be analyzed by transmission electron microscopy (TEM) per the United States Environmental Protection Agency, Asbestos Hazard Emergency Act (AHERA) criteria pursuant to Title 17 of the California Code of Regulations (17 CCR) Section 93105. The following exceptions are required by the ATCM and will be included:

- The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and
- All asbestos structures with an aspect ratio greater than three to one (3 to 1) shall be counted irrespective of length.

For purposes of consistency with other airborne asbestos monitoring programs, the asbestos data will be reported in structures per cubic meter (s/m<sup>3</sup>). All procedures for sample collection, how measurements are verified, and other QA/QC procedures will be made available to the Water Board and BAAQMD upon request.

#### **4.6 Air Monitoring Triggered Dust Mitigation Measures**

In the event that ambient air monitoring results within the monitoring network indicate levels equal to or greater than 16,000 s/m<sup>3</sup> from any airborne asbestos monitor, Langan will notify the Water Board as soon as practical of the monitoring results indicating: sample ID and location, actual TEM structures per cubic meter, the date the sample was taken and the date analysis was reported. Additionally, all earth disturbing activity will be suspended until dust is abated and asbestos concentrations are acceptable. Acceptable criteria are defined as all readings from all monitors within the monitoring network being less than 16,000 s/m<sup>3</sup>. Asbestos dust monitoring data will be collected for approximately one month and submitted to the Water Board for discussion on the need for continued monitoring.

#### **5.0 GENERAL DUST CONTROL METHODS**

Dust suppression measures will be implemented by the contractor in accordance with Article 22B of the San Francisco Public Health Code (City and County of San Francisco, 2012), San Francisco Building Code Section 106A.3.2.6.3 (City and County of San Francisco, 2011), and in accordance with the SFDPH comment letter dated 17 June 2015. The goal of this ADMP is no visible dust. Based on the air monitoring results, visual observations of fugitive dust, and/or complaints of excessive dust generation by off-site parties, additional dust suppression measures may need to be implemented. Dust suppression measures could include, but are not limited to, the following:

- Wetting down soil improvement operations, visibly dry disturbed soil surface areas, and visibly dry disturbed unpaved driveways, parking areas, and staging areas to minimize or prevent dust from becoming airborne.
- Construction areas and roads will receive watering every two hours and at a minimum three times per eight hour shift during active operations or sufficiently often to keep the area adequately moisture conditioned. Moisture conditioning may be increased during above average temperatures, when dust generating activities intensify, or wind speeds increase.
- Covering stockpiles of excavated materials, backfill material, import material, gravel, sand, road base, and soil with polyethylene plastic sheeting, tarp, or other equivalent cover. Active stockpiles will be thoroughly wetted and excess material will be removed and/or consolidated regularly to limit the size and extent of the stockpile. The frequency

of such activity will be adjusted based on weather and site conditions.

- If necessary, apply non-toxic chemical dust suppressants consistent with manufacturer's directions and facilitate reapplication for non-active stockpiles.
- Using dust enclosures, dust curtains, plastic tarps, windbreaks, and dust collectors as necessary to control dust.
- Utilizing alternate work methods.
- Construction traffic on paved and unpaved roads, parking lots and staging areas will adhere to a maximum vehicle speed limit of ten (10) miles per hour (mph).
- Maintain a gravel or asphalt cover with a silt content that is less than five percent to a depth of three inches on the surfaces being used for travel.
- Paved roads within a construction site will be swept twice daily with a wet street sweeper during dust-generating activities.
- At least the first 500 feet of any public roadway exiting from the construction site and the surrounding streets and sidewalks will be swept, via wet sweeping techniques, twice daily during dust generating activities.
- Implementation of erosion control best management activities (BMPs) to control dust emissions from public roadways, parking areas, and any above grade unpaved staging areas or roadways.
- Construction workers will park on paved or graveled areas to reduce dust emissions.
- To the extent possible, heavy equipment will be left on the construction site and not staged outside the construction site to minimize potential for tracking soil off-site.
- Reduce vehicle trips via efficient trucking and equipment usage. Whenever possible, minimize equipment mobilization and demobilization.
- Utilize a rumble strip at all exits around the project area.
- Minimize drop heights while loading transportation vehicles.

- Use tarpaulins or other effective covers for trucks transporting soils.
- Wet sweeping or vacuuming paved streets, sidewalks, paths, and intersections where work is in progress.
- Wet sweeping the surrounding streets and sidewalks at least once per day during demolition, excavation, and construction so that dust is not allowed to leave the construction area.
- Installing wheel washers to clean all trucks and equipment leaving the site. In the case where wheel washers cannot be installed, brushing tires or tracks and spoil trucks off before they re-enter City streets to minimize deposition of dust-causing materials.
- Additional wetting will be required for weekends and end of workdays, should dust issues and complaints arise.
- Use of reclaimed water for dust control where applicable per San Francisco Health Code, Article 22B, Section 1242 (c)(11) and (14). Because construction dewatering discharge is anticipated to be authorized under the San Francisco Regional Water Quality Control's (Water Board) Order Number R2-2012-0012: Volatile Organic Compounds (VOCs) and Fuel General Permit, Langan will discuss the approval to use of reclaimed water with Randy Lee, the Water Board case worker.
- To reduce dust, dirt, or concrete fines from causing eye injuries during high winds, employees and onsite visitors will have proper eye protection and access to eye wash stations. The Cal/OSHA requirements for personal protection and safety will be established throughout the site.

## **6.0 ATCM DUST MITIGATION MEASURES**

This section describes mitigation measures that must be employed at the site when earth disturbing activities are taking place as required by the ATCM.

### **6.1 Track-out Prevention and Control**

Track-out results when vehicles leave the site with residual dirt or dust on the tires or undercarriage of the vehicle. This residual dirt or dust becomes deposited on the paved road

surfaces leaving the site and can later be stirred up as airborne dust by subsequent vehicle traffic. In order to control track-out, the following control measures will be implemented:

- Removal of any visible track-out from a paved public road at any location where vehicles exit the site; this shall be accomplished using wet sweeping or a high-efficiency particulate arrestance (HEPA) filter equipped vacuum device at the end of the work day or at least one time per day.
- Installation of one or more of the following track-out prevention measures:
  - A gravel pad designed using good engineering practices to clean the tires of exiting vehicles.
  - A tire shaker.
  - An automated wheel wash system.
  - Pavement extending for not less than fifty (50) consecutive feet from the intersection with the paved public road.
- Wheel wash stations.
- Inspection and cleaning of horizontal surfaces on trucks that can collect soil (e.g., bumpers, fenders, etc.).

## **6.2 Active Storage Piles**

A storage pile is considered active if material is added to, or removed from the storage pile in question within seven calendar days. In order to control fugitive dust emissions from active soil storage piles one of the following control measures will be used:

- Adequately wetting the exposed surface with water or
- Use of a temporary cover (plastic sheeting, tarp, soil stabilizer, etc.).

### **6.3 Inactive Surface Areas and Storage Piles**

Dust emissions from excavations, other exposed soil-disturbed areas, and storage piles that will remain inactive for more than seven calendar days shall be controlled by one or more of the following control measures:

- Adequately wetting the exposed and inactive surface with water at a frequency necessary to control dust emissions. This watering will occur on a daily basis such that adequate moisture is maintained.
- Establishing and maintenance of a surface sufficient to satisfy the test requirements in Section (h)(6) of the ATCM.
- Application of non-toxic chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations.
- Covering with tarps or vegetated cover.

To prevent the general public from accessing the work site and storage piles, security fencing will be erected and maintained, as per RMP Section 4.3.6.

### **6.4 Dust Mitigation Measures for Unpaved Roads, Parking Lots, and Staging Areas**

In order to control fugitive dust emissions from construction traffic traveling on unpaved surfaces, the following mitigation measures shall be used:

- No vehicle will exceed 5 miles per hour (mph) on unpaved surfaces or 15 mph on paved surfaces within the site. Visible speed limit signs will be posted at the site entrances.
- Watering every 2 hours during active operations or sufficiently often to keep the area adequately wetted.
- Applying non-toxic chemical dust suppressants consistent with manufacturer's directions.
- Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel.

Implementation of erosion control measures identified in the construction stormwater pollution prevention plan (SWPPP), to be provided separately but implemented concurrently, will help control fugitive dust emissions within the site as well as on public roadways, staging areas and parking areas.

## **6.5 Dust Mitigation Measures for Paved Public Roads**

The following mitigation measures shall be used to control fugitive dust emissions from construction traffic traveling on paved public roads:

- No vehicle of any type will be allowed to exit unpaved portions of the site except through treated site exits. For a description of these site exits, see Section 6.1.
- Construction areas adjacent to and above grade from any paved public roadway will be treated with best management practices (BMPs), as specified in the construction SWPPP.
- The use of dry rotary brushes is prohibited except where preceded or accompanied by sufficient wetting to limit visible dust emissions. Use of blower devices is prohibited.

## **6.6 Dust Mitigation for Earth Moving Activities**

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or disturbance to control dust.

In order to control fugitive dust emissions generated from earth moving activities the following methods shall be used:

- Pre-wetting the ground to the depth of anticipated cuts. A dedicated water source (e.g., fire hose) will be used at each point of excavation to ensure that adequate moisture is present to minimize dust generation. This water source will be directed both at the point of excavation and the point of drop off into an awaiting dump truck or an existing storage pile, as appropriate.
- Suspending grading operations during periods of sustained strong winds (hourly average wind speeds of 25 mph or greater) or when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures.



- Application of water prior to any land clearing.

## **6.7 Control for Off-site Transport**

Any material generated from activities conducted within the site, and later is to be transported off-site must be done so with vehicles that are maintained such that:

- No spillage can occur from holes or other openings in cargo compartments.
- The loads are adequately wetted and/or covered with a tarp.
- Material is loaded onto the trucks such that the material does not touch the front, back or sides of the cargo compartment at any point less than twelve (12) inches from the top and that at no point the load extends above the top of the cargo compartment.

Trucks carrying loose soil or sand will be covered before they leave the site. If concrete and/or asphalt are to be hauled off-site, reasonable effort will be made to remove excess soil adhered to the material to be hauled off-site.

## **6.8 Post-Construction Stabilization**

One or more of the following post construction measures to mitigate dust emissions of serpentine-containing soil shall be utilized:

- Establishing a vegetative cover.
- Placements of at least three (3) inches of clean fill containing less than 0.25% asbestos.
- Installation of hardscape (e.g., sidewalk, road, building foundation).

Note that the deed restriction recorded against all areas within Mission Bay requires the installation of a durable cover. The Mission Bay RMP defines acceptable cover types as the following:

- Hardscape (e.g., sidewalk, road, building foundation)
- 12 to 18-inches of clean fill in landscaped areas.

## **7.0 REPORTING**

All results from monitoring stations will be made available to the Water Board and BAAQMD upon request. In the event that ambient air monitoring results within the monitoring network indicate levels equal to or greater than 16,000 s/m<sup>3</sup> from any airborne asbestos monitor, the Water Board and BAAQMD will be notified as soon as practical. The monitoring results will be transmitted to the Water Board and BAAQMD including: sample ID and location, actual TEM structures per cubic meter, the date the sample was taken, the date analysis was reported, and the actions taken to abate dust and reduce asbestos concentrations.

## **8.0 CLOSURE REPORT**

A summary of the asbestos monitoring activities will be prepared and included in the regulatory Closure Report to be prepared once site development activities are completed as outlined in the SMP. At a minimum, information on the dust generating activities, dust suppression measures implemented, dust monitoring activities, and exceedances, if any, will be included. Asbestos monitoring data will be included as an appendix to the report.

## REFERENCES

City and County of San Francisco. *City and County of San Francisco Building Industry Commission (BIC) Codes, Building, Electrical, Housing, Mechanical and Plumbing Codes, Section 106A.3.2.6.3., Construction Dust Control*. Ordinances approved through 30 November 2011 and Administrative Bulletins approved through 1 January 2011.

Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* May 2012.

California Air Resources Board (CARB), *Ambient Air Quality Standards*. <http://www.arb.ca.gov/research/aags/aags2.pdf>. 7 June 2012.

City and County of San Francisco. *San Francisco Health Code, Article 22B, Construction Dust Control Requirements*. Last amended by [Ordinance 229-12](#), File No. 120815, approved 14 November 2012, effective 14 December 2012.

Langan Treadwell Rollo, Phase II *Environmental Site Assessment, Golden State Warriors Arena, Blocks 29 through 32 Mission Bay, San Francisco, California* dated June 2015.

Langan Treadwell Rollo, *Site Mitigation Plan, Golden State Warriors Arena, Block 29 through 32 Mission Bay, San Francisco, California* dated June 2015.

Langan Treadwell Rollo, *Revised Dust Monitoring Plan, Golden State Warriors Arena, Blocks 29 through 32 Mission Bay, San Francisco, California* dated September 2015.

Langan Treadwell Rollo. Updated *Phase I Environmental Site Assessment, Golden State Warriors Arena, Blocks 29 through 32 Mission Bay, San Francisco, California* dated September 2015.

## FIGURES

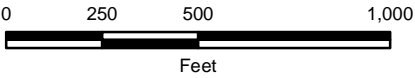


**Legend**

Blocks

Project Site

- Notes:**
1. Aerial orthophoto mosaic is courtesy of the City and County of San Francisco and is from April 2012.
  2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

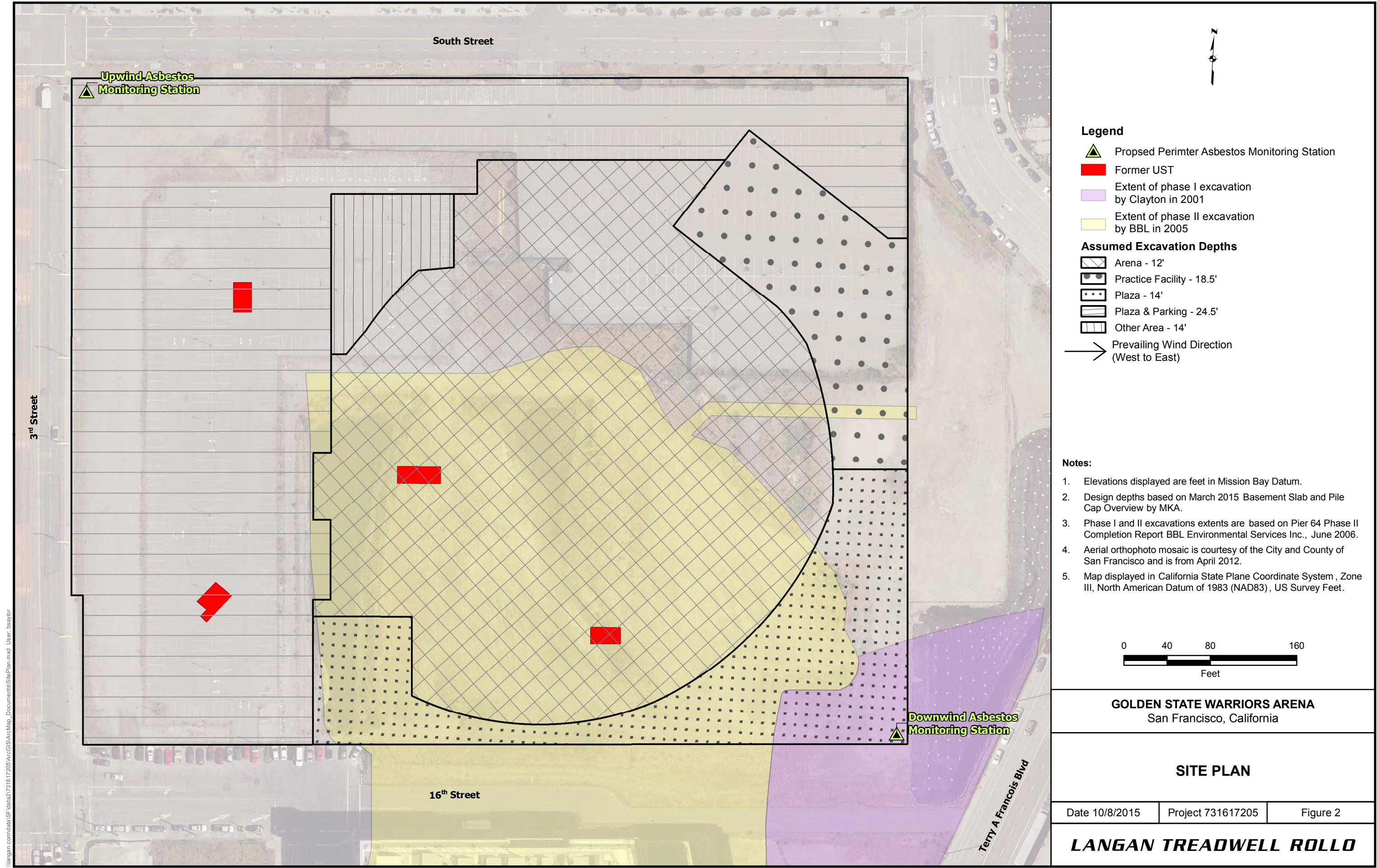


**GOLDEN STATE WARRIORS ARENA**  
San Francisco, California

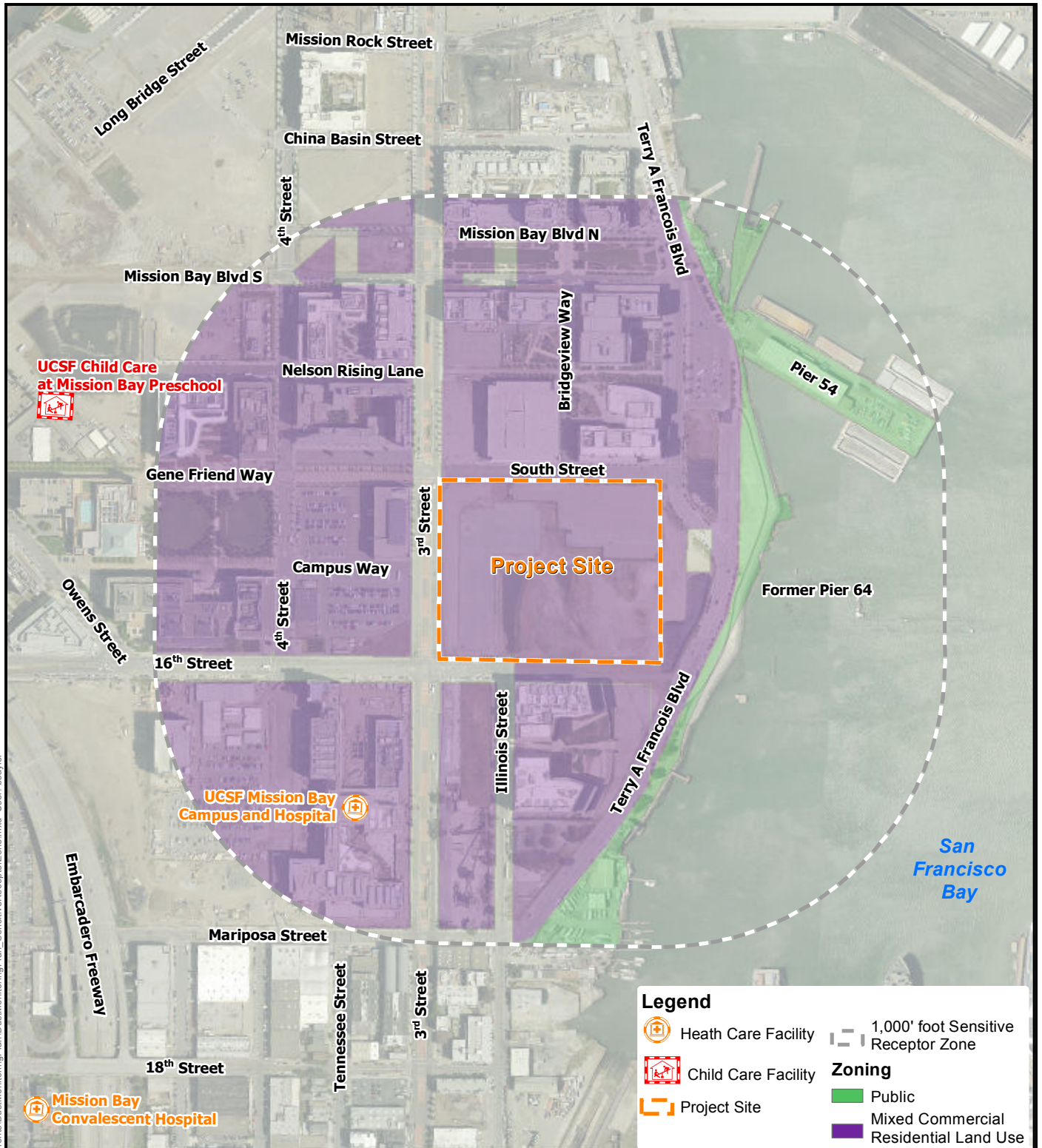
**SITE LOCATION**

**LANGAN TREADWELL ROLLO**



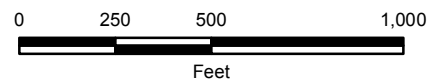






**Notes:**

1. Aerial orthophoto mosaic is courtesy of the City and County of San Francisco and is from April 2012.
2. Sensitive sites and zoning data provided by the County of San Francisco (datasf.org)
3. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.



**GOLDEN STATE WARRIORS ARENA**  
San Francisco, California

**DUST MONITORING PLAN  
SENSITIVE RECEPTOR ZONE**

**LANGAN TREADWELL ROLLO**

Date 6/3/2015

Project 731617205

Figure 3