SOIL MANAGEMENT PLAN

North Posse Site
3041 Del Amo Boulevard
Torrance, California 90503

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Project No. 01217339.00 | March 27, 2025

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DISCLAIMER

This Soil Management Plan has been prepared with specific application to the property located at 3041 Del Amo Boulevard, Torrance, California, in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances, in this or similar localities. No other warranty, express or implied, is made as to the professional opinions presented herein. No other party, known or unknown to SCS, is intended as a beneficiary of this work product, its content, or information embedded therein. Third parties use this report at their own risk.

1 INTRODUCTION

1.1 INTRODUCTION

SCS Engineers (SCS) was retained by Torrance Black Beauty, LLC (TBB), to prepare this Soil Management Plan (SMP) for planned soil remediation, future development, and related activities at the North Posse property located at 3041 Del Amo Boulevard in Torrance, California (the "Property"). The Property is approximately 31 acres of undeveloped land with planned post-remediation commercial development. Historically, the Property was an out-parcel ancillary to the Torrance Oil Refinery (3700 West 190th Street) ("Refinery"). The general location of the Property and surrounding area is provided as **Figure 1. Figure 2** provides an aerial image of the Property with an overlay of the proposed development.

TBB acquired the Property from the prior owner, Torrance Refining Company, LLC (TORC; the former owner of the Property and the current owner and operator of the Refinery) on August 7, 2018 under the condition that TBB would be responsible for the remediation of impacts to a negotiated depth of 60 feet above mean sea level ("Development Depth"). Although topography varies across the Property, the Development Depth is generally equivalent to approximately 30 feet below ground surface (bgs) at the northwest portion of the property. TORC retained responsibility for impacts below the Development Depth, including groundwater beneath the Property. TORC is under a Cleanup and Abatement Order (CAO; CAO Nos. 88-43 and 89-136) issued by the Los Angeles Regional Water Quality Control Board (RWQCB) associated with the impacts.

This SMP supplements a Response Plan (RP) prepared by SCS, dated January 10, 2025, and submitted to the RWQCB for review. The RP and SMP will be implemented under the lead oversight of the RWQCB in general accordance with the provisions of the California Land Reuse and Revitalization Act (CLRRA) of 2004.

Note that environmental details with respect to building construction, such as design of the proposed vapor intrusion mitigation system (VIMS) will be furnished once the building design drawings are finalized. An operation and monitoring plan related to the planned VIMS will be prepared upon installation of the approved VIMS design and prior to occupancy of the future structure.

1.2 OBJECTIVES

The objective of this SMP is to provide guidance to manage soil disturbance activities at the Property. Specifically, the SMP will be implemented as a companion document to the RP and thus provide guidance to manage impacted and potentially impacted soil and/or subsurface debris or structures (such as underground storage tanks [USTs], sumps, clarifiers, and septic tanks) that might be encountered during planned remediation activities as well as future Property development (i.e., grading, trenching, and excavation) in areas outside of planned remediation zones.

This SMP addresses soil management, movement, and temporary storage during implementation of the planned response remedy and Property improvement activities. The plan is intended to comply with applicable regulations, including:

- RWQCB requirements for stormwater management under their Construction General Permit process

- South Coast Air Quality Management District (SCAQMD) Rules 1166 and 1466 for monitoring chemical and particulate emissions during earthwork

The response remedy is to treat a former Refinery disposal area located in the northwest portion of the Property where subsurface impacts are present. Following numerous environmental site assessments and a remedial technology feasibility screening and evaluation, a remedial alternative was selected based on remedial effectiveness, implementability, cost and other considerations such as community acceptance and sustainability. The selected alternative consists of a combination of *ex-situ* and *in-situ* soil solidification (ESS/ISS) along with the placement of a 5-foot-thick, clean soil cover that will be covered with pavement upon redevelopment. Implementation of this remedial action will consist of the following activities:

- Pre-characterization of subsurface soil in areas with little to no known impacts to assess suitability for potential reuse as cover material. Conditions for soil reuse are provided in Section 4.3.2.

- Removal and replacement, where appropriate, of TORC's groundwater monitoring wells where site remediation and construction are to occur. This activity will be planned and coordinated with TORC and the RWQCB.

- Grade and excavate soil within the disposal area to depths between 5 to 15 feet. Existing sample data and soil pre-characterization results will determine handling and management:

  - Clean soil (i.e., soil that meets the most conservative regulatory screening levels) will be stockpiled for reuse as cover material.

  - Impacted soil (soil above screening levels) from grade to a predetermined depth will be treated using ESS techniques, specifically mixing with Portland cement as a binding agent.

- Implement ISS to the target depth in two areas: ISS North and ISS South. The ISS target depth(s) will not exceed the designated Development Depth of 60 feet above mean sea level (amsl).

- Place ESS treated and ISS swell (expansion) material in pre-excavated areas where clean soil was removed for future on-site reuse. This material will be placed a minimum of 5 feet below the final grade.

- Use clean soil (either reuse and/or imported) to construct a 5-foot-thick cover surfaced with pavement that covers the treated ESS/ISS material and swell material.

Copies of the current redevelopment design and conceptual grading plans are provided in **Appendix A**.

2 BACKGROUND

The following sections briefly summarize historical use, previous environmental investigations, SMP applicability, and the regulatory status associated with the Property.

2.1 SITE LOCATION AND GENERAL DESCRIPTION

The Property is roughly triangular and is located at 3041 Del Amo Boulevard on the northeast corner of West Del Amo Boulevard and Prairie Avenue (**Figure 2**). The Property consists of approximately 31

acres of predominantly undeveloped vacant land and features a former soil borrow pit in the central area.

Railroad tracks are present adjacent to the eastern/northeastern Property boundary. Beyond the railroad tracks to the east and north is the Refinery. Numerous groundwater monitoring wells associated with Refinery environmental investigations are present on the Property. The area to the south of the Property, beyond Del Amo Boulevard, includes an undeveloped lot and commercial buildings near the intersection of Maple Avenue and Del Amo Boulevard. Located to the southwest, across the intersection of Del Amo Boulevard and Prairie Avenue, are condominiums, and to the west, across Prairie Avenue, are commercial buildings, a hotel called Staybridge Suites, and a self-storage facility.

2.2 SITE HISTORY

Historically, the Property was an out-parcel ancillary to the Refinery that was used for the disposal of refinery waste and to supply soil for construction projects on the Refinery. Historical information obtained during a previous Phase I Environmental Site Assessment (SCS, 2018A) indicated that the northwest portion of the Property was used by the Refinery for the placement or disposal of refinery wastes from at least 1947 until sometime between 1963 and 1970. This area is referred to as the "disposal area" and is designated on **Figure 2**. By 1970, it appeared that excavation/grading activities had been conducted in the central area of the Property known as the "borrow pit" (where soil was historically sourced for constructing berms at the Refinery). The eastern portion of the Property appeared to be used for agricultural purposes between at least 1952 and 1970. The Torrance Mounted Posse used approximately 1.5 acres of the southeastern portion of the Property for horse stables from at least 1989 until recently when their operation was relocated to the South Posse site across Del Amo Boulevard. The structures associated with the facility have been demolished. Other than oil pipelines observed on and adjacent to the Property, no oil production or petroleum processing activities were conducted on the Property. The Property is currently fenced and vacant.

2.3 FUTURE SITE USE AND DEVELOPMENT

The current redevelopment plan for the Property includes the construction of a 403,033 square foot (sf) single-story concrete building that consists of a 398,033 sf pad, tilt-up walls, and a 5,000 sf mezzanine. The building will be used as a logistics center and warehouse and located in the central portion of the Property. Paved parking areas will surround the building, coupled with entrances from Del Amo Boulevard and Prairie Avenue. The Property will be nearly fully covered with pavement or the structure (thus nearly eliminating water infiltration), with only a few small, landscaped areas located near the building and in parking areas. The building will be constructed with a VIMS (passive system with ability to be active) due to known methane and soil vapor impacts in the subsurface of the Property.

The conceptual plan for site redevelopment is presented as an overlay on **Figure 3**. Proposed development and conceptual grading plans are provided in **Appendix A.**

2.4 LAND USE/TOPOGRAPHY

The Property is located on the eastern edge of the El Segundo Sand Hills, in the southern Torrance Plain region of the Los Angeles County Coastal Plain. Elevation varies significantly across the Property, ranging from approximately 106 feet amsl along Del Amo Boulevard at the Property's south side to about 61 feet amsl in the central area's low-lying depression (the former borrow pit).

The overall topography slopes northeast toward TORC, with the borrow pit being the only exception to this pattern. No surface water bodies exist within a one-mile radius of the Property.

2.5 GEOLOGY AND SOILS

The surficial geologic unit in the area has been mapped as the unconsolidated Upper Pleistocene Older Dune Sand (California Department of Water Resources, 1961), which is underlain by the Upper Pleistocene Lakewood Formation consisting of unconsolidated sand, silty sand, silt, and clay. Refinery reports (AECOM, 2016, 2019) do not delineate a contact between the Older Dune Sand and the Lakewood Formation on cross-sections, likely because similarities in lithology makes distinguishing the two units difficult.

A report for the Refinery (AECOM, 2019) stated that poorly graded fine sand constitutes the predominant lithology to depths ranging from 50 to 70 feet bgs (or approximately 35 feet msl) below which a lower permeability silt or clay unit is present across much of the area. The AECOM 2019 report indicated that, depending upon the location, this low permeability unit appears to function as the layer upon which perched groundwater may be found. Regionally, the low permeable layer thins southward and becomes discontinuous towards the southern boundary of the Property. AECOM identified this layer as a part of the Bellflower Aquitard and states that it is largely absent south of Del Amo Boulevard.

2.6 HYDROGEOLOGY

The Property is located in the southwestern portion of the West Coast Groundwater Basin and the two shallowest hydrogeological units include the perched aquifer and the first regional water bearing unit, the Gage-Gardena aquifer. Groundwater in the West Coast Basin is designated for municipal and domestic supply, industrial process and service supply, and agricultural supply.

The Refinery Subsurface Cleanup Progress Report and Del Amo Area Soil Vapor and Groundwater Monitoring Report, June 2024 (AECOM, 2024), indicates that the potentiometric surface of the perched aquifer ranges from 21.90 feet msl (well F-02) in the northwestern area of the Property to 37.29 feet msl (well C-29) in the southeastern area. The groundwater in the perched aquifer flows generally southwesterly and has been impacted with up to 2 feet of light non-aqueous phase liquid (LNAPL). The potentiometric surface of the Gage-Gardena aquifer ranges from 2.11 feet msl (well C-23R) located in the southeastern portion of the Property to 3.63 feet msl (well C-13RA) located in the southcentral area. The Gage-Gardena Aquifer flows generally southeasterly, has also been impacted by fuel releases, and contains measurable LNAPL.

Based on depth to water measurements provided on the State Water Resources Control Board GeoTracker database, the measured depth to groundwater in the disposal area is approximately 75 feet bgs, as recorded at wells SWP-MW-P08 (78.9 feet bgs, 9/2024), SWP-MW-P10 (76.8 feet bgs, 9/2024), and C-18 (76.9, 9/2024).

2.7 CLIMATE

The Property is located within the South Coast Air Basin, with a climate generally characterized by sparse winter rainfall and dry hot summers tempered by cool ocean breezes. The mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The annual average temperature is 67°F. On average, August is the warmest month while December is the coolest month. Most of the annual rainfall occurs between November and April and annual average rainfall is approximately 12 inches in the area of the Property.

2.8 PREVIOUS INVESTIGATIONS

A summary of previous investigations is provided in the following section. Detailed summaries of previous assessment and investigation are provided in the RP.

2.8.1 Subsurface Investigation

Based on identified Recognized Environmental Conditions (RECs) identified in the Phase I, SCS conducted several subsurface investigations from 2018 through 2022 to evaluate the nature and extent of impacts at the Property. For the purposes of this SMP, the summary below pertains principally to soil assessment results above the Development Depth (60 ft amsl). Additional details on historical investigation results are provided in the RP, specifically Section 3.0, Nature and Extent of Site Impacts (SCS, 2025).

DTSC guidance was followed to evaluate soil data collected during previous investigations. Specifically, the Human and Ecological Risk Office (HERO) issued an updated Human Health Risk Assessment (HHRA) Note No. 3 in June 2020 – Revised May 2022. HERO Note No. 3 provides DTSC-modified Screening Levels (SLs) for soil, tap water, and ambient air for use in evaluating human health risks at hazardous waste sites and permitted facilities. For a majority of regulated chemicals, HERO Note No. 3 recommends the use of the U.S. Environmental Protection Agency (EPA) Region IX Screening Levels (RSLs; most recently updated in November 2024) for an industrial land use setting, except in cases where DTSC has calculated a more stringent screening level. Human health risks associated with contact with contaminated soil (dermal, ingestion, etc.) in California were evaluated by comparing detected chemical concentrations at the Property to the most stringent (or conservative) of these values for each chemical in an industrial land use setting. These values are referred to herein as the DTSC recommended SLs.

For total petroleum hydrocarbons (TPH) quantified as gasoline (TPH-g), diesel (TPH-d) and motor oil (TPH-o), concentrations were compared to RWQCB soil screening levels (SSLs) to assess potential groundwater impacts where the depth of impacted soil is between 20 to 150 feet above groundwater (RWQCB, 1996). Based on depth to water measurements in on-site monitoring wells, the measured depth to groundwater in the disposal area is approximately 75 feet bgs or approximately 45 feet below the Development Depth.

The following constituents exceeded the SSLs or the DTSC recommended SLs in subsurface soil samples within the disposal area:

- TPH-g exceeded the SSL of 500 milligrams per kilogram (mg/kg) at concentrations up to 10,400 mg/kg.
- TPH-d exceeded the SSL of 1,000 mg/kg at concentrations up to 130,000 mg/kg.
- TPH-o exceeded the SSL of 10,000 mg/kg at concentrations up to 47,300 mg/kg.
- Ethylbenzene exceeded the DTSC recommended SL of 25,000 micrograms per kilogram (µg/kg) at concentrations up to 41,200 µg/kg. No other VOCs exceeded the screening levels.
- Naphthalene exceeded the DTSC recommended SL of 6,500 µg/kg at concentrations up to 387,000 µg/kg.
- Benzo(a)pyrene exceeded the DTSC recommended SL of 1,300 µg/kg at concentrations up to 14,400 µg/kg.
- Benzo(a)anthracene exceeded the DTSC recommended SL of 12,000 µg/kg in one sample at 189,000 µg/kg.

- Benzo(b)fluoranthene exceeded the DTSC recommended SL of 13,000 µg/kg in two samples at concentrations up to 13,200 µg/kg.
- Dibenzo(a, h)anthracene exceed the DTSC recommended SL of 310 µg/kg in two samples at concentrations up to 5,880 µg/kg.
- 1-Methyl naphthalene exceeded the DTSC recommended SL of 30,000 µg/kg at concentrations up to 550,000 µg/kg.
- Lead exceed the DTSC recommended SL of 500 mg/kg at concentrations up to 14,600 mg/kg.
- Hexavalent chromium exceeded the DTSC recommended SL of 6.2 mg/kg in one sample at 7.20 mg/kg.
- Arsenic exceeded the DTSC recommended SL of 12 mg/kg in four samples up to 23.9 mg/kg.

In summary, historical investigations identified six primary constituents of potential concern (COPCs) that exceed screening levels in multiple samples or at significant concentrations:

1. TPH (TPH-g, TPH-d, and TPH-o)
2. Ethylbenzene
3. Naphthalene
4. Benzo(a)pyrene
5. 1-Methyl naphthalene
6. Lead

While a few other constituents (benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, hexavalent chromium, and arsenic exceeded screening levels in a limited number of samples, they were not identified as primary COPCs for the Property.

2.8.2 Asbestos Assessment and Abatement

On May 8, 2020, SCS conducted a survey of the surface to assess the Property for asbestos containing materials (ACMs). The survey included visual observation of the surface for potential ACMs and based on the visual survey, 41 bulk samples were collected in or near the disposal area and analyzed for asbestos by polarized light microscopy (PLM) and dispersion staining. The laboratory results identified the following materials as containing asbestos greater than 1% by weight:

- Silver/black roofing mastic debris
- Woven fabric insulation debris
- Pipe gasket debris
- Gray thin underlayment material debris
- Green thin underlayment material debris
- Black insulation debris

The above materials were found to be significantly degraded. In September 2024, Terracon conducted an additional asbestos survey of debris at the surface in the refinery disposal area (Terracon, 2024a). Insulation material, roofing felt, textured and other paper, woven material, cementitious piping materials were sampled and found to contain various levels and types of

asbestos. Based on the SCS and Terracon surveys, Terracon prepared a Procedure 5 workplan for ACM abatement that was approved by the SCAQMD (Terracon, 2024b).

Approximately 400 total square feet of ACM debris identified in the SCS and Terracon surveys was removed from the Property. On February 28, 2025, Terracon conducted a visual inspection of the regulated work area and confirmed that all visible ACM debris had been removed from the surface of the Property. A copy of Terracon's clearance report is provided in **Appendix B.**

2.9 REMEDIATION OVERVIEW

The disposal area occupies approximately 9.2 acres (400,250 square feet). As shown on **Figure 4**, ESS/ISS is proposed in two areas (outlined in red) within the footprint of the disposal area, ISS North and ISS South. From each of the two areas, shallow soil will be graded and excavated to depths between 5 to 6.5 feet across each area to prepare load-bearing pads for ISS equipment. The shallow soil (less than 3-foot treatment thickness) will be excavated from the two areas and undergo ESS treatment (i.e., bucket mixing with Portland Cement) at the point of generation and subsequently will be placed into the two designated cut and fill areas shaded green and blue on **Figure 4**. The cut and fill areas will have been excavated to depths up to 15 feet prior to placement of ESS treated material. These cut and fill areas will also be utilized for the placement of ESS treated material generated within the cut and fill areas and/or swell (expansion) material resulting from ISS. The entire Disposal Area will subsequently be covered with a 5-foot-thick layer of clean soil covered with pavement. Clean soil will be sourced from the designated cut and fill areas and/or imported from an approved/pre-screened offsite borrow source.

Remediation activities will take place within the footprint of the former disposal area and will not extend beyond the Development Depth defined at 60 feet amsl or approximately 30 feet bgs. The designated target depths (color shaded) of impacted soil to be remediated for ISS North and ISS South are shown on **Figure 5.**

The cut and fill areas shaded green and blue on **Figure 4** will be utilized as a potential borrow source. It is estimated that a portion of the onsite soil will be suitable for reuse, however the total volume will be further refined by the results of pre-characterization soil sampling, discussed further in Section 3.2. Criteria for soil reuse are defined in Section 4.3.2.

3 PRE-CONSTRUCTION ACTIVITIES

3.1 SITE IMPROVEMENT/DEVELOPMENT PLANS

The intended future use of the Property is for commercial/industrial purposes as a logistics center and warehouse. Property improvement entails remediation of the disposal area in the northwest area via ESS/ISS, placement of a clean soil layer paved with pavement, followed by construction of a single-story, slab-on-grade concrete tilt-up building situated in the central portion of the Property with surrounding parking areas. The Property Redevelopment Plan is provided in **Appendix A.** The proposed building will be designed to include a VIMS (with a passive sub-slab ventilation system) due to known methane and soil vapor impacts in the subsurface of the Property. The VIMS design will be developed once building design drawings are finalized. An operation and monitoring plan for the planned VIMS will be prepared upon installation of the approved VIMS design and prior to occupancy. Additional details on the planned VIMS system design and associated Operation and Monitoring Program are provided in the RP in Sections 6.7.1 and 6.9.2, respectively.

3.2 PRE-CHARACTERIZATION SOIL SAMPLING FOR REUSE

Soil pre-characterization will be conducted prior to mobilization of remediation equipment. The objective of the sampling will be to confirm that soil planned for reuse will meet the criteria proposed herein and will be acceptable for use as soil cover, as well as reduce and/or eliminate the need of stockpile characterization of these soils located in proposed cut and fill areas identified as low impact areas outlined in green and blue on **Figure 4**. It is estimated that up to 42,000 cubic yards of onsite soil will be suitable for reuse, which constitutes approximately 60 percent (%) of the estimated volume required to construct the 5-foot soil cover.

To pre-characterize the soil in place, soil borings are proposed to be advanced on approximately 75-foot centers with the collection of three depth-discrete soil samples from each boring. The samples will be analyzed for the COPCs. It is estimated that 20 soil borings will be drilled in the proposed cut and fill areas, as proposed on **Figure 5**. At three soil samples per boring, this would result in the collection and analysis of 60 soil samples, overly sufficient to meet the DTSC's Information Advisory Clean Imported Fill Material Fact Sheet (DTSC, 2001), which is the proposed criteria for sampling for import soils, further discussed in Section 5.8.

Prior to commencing drilling operations, a soil boring permit will be secured from the Los Angeles County Department of Environmental Health (DEH). Proposed boring locations will be pre-marked with staked/flagged and Underground Service Alert (USA)/Dig Alert will be notified a minimum of 72 hours before scheduled drilling activities. In addition, a geophysical survey will be conducted by a certified private utility contractor to confirm the absence of underground utilities or structures within a 5-foot radius of each boring location.

A direct-push drill rig will be used to advance each boring for sample collection. The maximum depth of each boring will not exceed 20 feet bgs. Borings will be continuously sampled to observe soil conditions and lithology with up to three depth-discrete soil samples collected at predetermined depths. The sample collection depth will vary between borings based on the final grade and planned excavation depth for the placement of ESS and swell materials.

Soil samples will be collected using a 2-inch macro core sampler attached to the direct-push drill rods. The sampling tool will be lined with an acetate sleeve and advanced ahead of the borehole to retrieve an undisturbed soil sample. Retrieved cores will be observed for visual observation and logging. Samples will be transferred into pre-cleaned laboratory supplied glass jars samples, labeled, and placed on ice in a pre-chilled cooler. Standard chain-of-custody protocol will be followed for all samples prepared for laboratory analysis. Reusable sampling equipment will be decontaminated prior to arrival and in between each sampling interval using a three-stage decontamination process consisting of a soapy wash with a non-phosphate detergent, tap-water rinse followed by a final rinse with distilled water. Following sample collection, the resulting borehole will be backfilled with hydrated bentonite or equivalent in accordance with permit conditions.

Soil samples will be analyzed by a California certified laboratory for the following analyses:

- TPH with carbon chain range quantification (TPH-cc) using EPA Method 8015M (Modified).
- TPH-g & VOCs using EPA Method 8260B/5035.
- SVOCs using EPA Method 8270C.
- Metals using EPA Methods 6010B/7471

For the purpose of determining soil reuse at the Property, concentrations of COPCs will be compared to most conservative regulatory screening levels for the protection of human health and groundwater as further described in Section 4.4 below. Additionally, soil considered for reuse will not be

considered “VOC” contaminated pursuant to SCAQMD Rule 1166 where PID readings exceed 50 parts per million by volume (ppmv).

Following sampling and laboratory analysis, a technical memorandum will be prepared that summarizes the pre-characterization field activities, sample results, and provides recommendations for potential soil reuse for review and concurrence by the RWQCB.

Assuming samplings determines that the soil is acceptable for reuse, the soil will be excavated at the start of remediation activities and stockpiled at a designated location on the eastern portion of the Property (away from the remediation zone) for later use as soil cover. Handling and stockpiling of this soil is further discussed in Section 4.3.2.

3.3 WELL PROTECTION AND DECOMISSIONING

Twenty-three active groundwater monitoring wells are present on the Property (**Figure 3**), some of which will be impacted by remediation and development activities. Since TORC is the responsible party for groundwater monitoring and reporting to the RWQCB, the wells that require protection and/or decommissioning will need to be coordinated between TORC and the RWQCB. TBB/SCS and TORC/AECOM will work together to determine the locations that will need to be abandoned for work to take place as well as the wells that can be protected in place during construction for later rehabilitation. Similarly, the schedule and well protection and decommissioning protocols and need for replacement wells will need to be developed with TORC's and RWQCB's concurrence. A general description of the well protection and decommissioning approach is provided in the following sections.

3.3.1 Well Protection and Rehabilitation

Any groundwater monitoring wells to remain in place will require protection during grading and Property development. The wells that require protection will be identified and communicated to key project stakeholders: Prologis, TORC, and the RWQCB.

Upon stakeholder approval, SCS will work with the contractors to protect the infrastructure to the extent practical and feasible for future use. Prior to any grading activities on the Property, the well boxes/monuments will be removed, and the well casing will be cut at an appropriate depth of 2-feet below the lowest proposed depth of excavation for grading and re-compaction purposes. The blank well casing will be cut, capped, and covered with a metal plate for protection and to assist in re-locating the well using a magnetometer. The area of the plated well will be surveyed using a handheld GPS device and covered with 1- to 2-feet of soil for added protection.

Following Property development to final grade, SCS will work with contractors and/or TORC to locate, excavate, and restore the protected wells. New blank casing will be affixed to each well and trimmed to extend to just below the final development grade. Well heads will be brought to surface grade prior to final paving activities and secured with a locked, gasket-fitted well cap and protected with a flush-mounted traffic-rated well box set in concrete. A mounded concrete apron will surround the well box and be positively sloped to prevent surface water infiltration into the well box. In addition, the new wellheads will be resurveyed for elevation and location.

3.3.2 Well Decommissioning and Replacement

Based on the remediation and Property development design drawings, there are several groundwater monitoring wells that will need to be decommissioned. Specifically, there are six wells that are located within the disposal area: C-18, C-34, F-01, F-02, SWP-MW-P08 and SWP-MW-P09.

These wells will be decommissioned before commencing with remediation activities. Additional wells to be decommissioned, such as those within the planned building footprint, will be determined once the Property improvement design drawings are finalized.

A groundwater monitoring well decommissioning permit will be obtained from Los Angeles County Department of Environmental Health (LAC-DEH). Well decommissioning will be conducted in accordance per DWR standards (DWR Bulletins 74-81 and 74-90) by over drilling to remove the entire well and annular materials. The borehole will then be filled using a tremie pipe from total depth up to grade. Portland cement hydrated with 5% or less bentonite gel or approved sealant will be placed in the borehole using the tremie as the auger is slowly removed to prevent void space, freefall, bridging, and dilution of sealing materials.

Replacement of any abandoned groundwater wells is to be determined in the future by TORC/AECOM with concurrence by the RWQCB. SCS and TBB with work the TORC/AECOM to propose future locations in areas that will be accessible for sampling and will provide appropriate access for installation and sampling. It is anticipated that any installation would be conducted following completion of development activities.

Note that there are several soil vapor probes on the Property. The probes will be either protected in place or decommissioned in accordance with DTSC Advisory Active Soil Gas Investigations guidance (DTSC, 2015). Soil vapor probe protection/decommissioning will be conducted through coordination with Prologis, TORC, and RWQCB.

3.4 REGULATORY FRAMEWORK

The following regulatory requirements apply to activities at the Property where impacted or potentially impacted soil may be encountered:

- At least three working days prior to conducting any subsurface work, Dig Alert (Underground Service Alert) must be contacted.
- Due to the potential of encountering VOCs during remediation activities planned for the disposal area, activities will be completed in accordance with an SCAQMD Rule 1166 Site-specific Soil Management Plan (the "1166 Plan") for monitoring potentially impacted VOC soils. Notification of excavation activities will be completed prior to commencing excavation or grading soil in the disposal area at the Property in accordance with the 1166 Plan. Compliance with the plan will be the responsibility of SCS and designated excavation/remediation contractor.

  The prescribed VOC monitoring will be conducted in accordance with the 1166 Plan using a photo ionization detector (PID). Monitoring will be conducted at 15-minute intervals and recorded as required per the 1166 Plan. Mitigation measures outlined in the plan will be triggered if VOC-contaminated soil is detected over 50 ppmv. Note: All soil with PID readings over 50 ppmv must be either treated by ESS to mitigate emissions or stockpiled in a segregated pile, sampled, characterized and transported off site for disposal within 30 days of excavation. All VOC measurements, calibration logs, and agency notifications will be recorded in the field log for SCAQMD reporting purposes.

  Upon completion of the activities in the disposal area, the 1166 Plan will no longer be required, as the remainder of the Property, inclusive of the borrow pit and areas to the east, do not have known impacts and will be treated as a typical construction site, with

further monitoring to occur should additional (previously unidentified) VOC-impacted soil be identified.

- The project consists primarily of subsurface activities using heavy equipment (drilling rig, excavator, backhoe, etc.) in operation on unpaved surfaces; consequently, dust control measures are to be in compliance with SCAQMD Rule 403. If impacted soil is encountered, monitoring for nuisance odors will be conducted in accordance with SCAQMD Rule 402. The General or grading contractor will be directed to take additional measures, as necessary, such as application of water or a change in operations or equipment to properly manage dust or nuisance odors.

- Due to the constituents previously detected within the disposal area at the Property, earth-moving activities in this area will be completed in accordance with SCAQMD Rule 1466 (control of particulate emissions from soils with toxic air contaminants) for monitoring air quality. Specifically, real-time PM10 air monitors (e.g., DustTrak Aerosol Monitor) capable of measuring 0-10,000 micrograms per cubic meter ($\mu g/m^3$) will be deployed upwind and downwind of the impacted area.

  Work conducted outside of the disposal area is not anticipated to require Rule 1466, however, if suspected contamination is encountered during the earth moving activities associated with site improvements, soil samples will be collected for laboratory analysis. If laboratory results confirm that "applicable toxic air contaminants" are present further notification and permitting with the SCAQMD will be required and necessary mitigation controls and monitoring pursuant to Rule 1466 will be implemented.

- For sites over one acre, a Storm Water Pollution Prevention Plan (SWPPP) for construction activities is required and will be in in place before the start of remediation and site improvement activities.
- USTs and/or clarifiers are not anticipated to be encountered during site improvement activities. However, if discovered, their removal will be conducted under the oversight of the Torrance Fire Department and in accordance with SCAQMD Rule 1166 monitoring as applicable.
- Workers engaged in managing hazardous waste will be trained in accordance with 29 CFR 1910.120(e) (24-hour or 40-hour HAZWOPER, as appropriate).
- Contractors whose work scopes involve directly working with impacted (i.e., hazardous) soil will be required to possess an active California state contractor's license with a Hazardous Substances Removal certification.

Copies of the above-referenced SCAQMD Rules are provided for reference in **Appendix C**. The notification and requirements of the rules will be implemented as described/required by the rules. Other agency involvement will include items such as filing of a grading plan with the City of Torrance or Los Angeles County.

3.5 HEALTH AND SAFETY PLAN

An updated site-specific Health and Safety Plan (HASP) will be prepared prior to implementation of field activities to address health and safety hazards, personnel protective and monitoring procedures and equipment, and descriptions of specific tasks that will be performed at the Property. Contractors working on the Property are expected to be operating under their own health and safety plans. As noted above, any employee working at a site with hazardous waste, as defined in 29 CFR 1910.120

(or applicable state OSHA standard) shall be trained in accordance with 29 CFR 1910.120(e) (24-hour or 40-hour HAZWOPER, as appropriate).

3.6 ENVIRONMENTAL MONITORING

In accordance with SCAQMD Rules, air monitoring and control measures for fugitive dust will be required. An air monitoring/health and safety professional will be present during relevant remediation activities and responsibilities will include recording monitoring data on field sheets, which will be kept as part of project documentation. Monitoring may include one or more of the following:

- Monitoring meteorological conditions that could lead to excessive dust levels may require use of on-site meteorological instrumentation and/or coordination with off-site meteorological professionals to identify conditions that require cessation of work, for instance winds in excess of 25 miles per hour (mph) for a duration of 15 minutes.
- Deployment of real-time aerosol monitors and industrial hygiene air sampling equipment and media to measure dust levels and/or concentration of COPCs in dust.
- Monitoring of vapor concentrations will be conducted during excavation of the affected area using an organic vapor analyzer fitted with a PID. As discussed above, work in the disposal are will be in accordance with a site-specific 1166 Plan. Outside of the disposal area, if readings using the PID reach or exceed 50 parts per million, the provisions of SCAQMD Rule 1166 will then be implemented.

Air monitoring data will be recorded on the appropriate field form, which will be maintained for project documentation.

3.7 ROLES & RESPONSIBILITIES

3.7.1 Environmental Consultant

SCS will act as the environmental consultant and provide field oversight and management services for the SMP. SCS personnel may include an Environmental Program Manager (EPM) and Environmental Field Coordinator (EFC). The SCS EFC will have current health and safety certifications (40-hr HAZWOPER). The following personnel will be the main points of contact for SCS. The EFC is to be determined.

- Dave Dirkin – EPM, primary point of contact – ddirkin@scsengineers.com; (562) 751-8016
- Ashley Hutchens – secondary point of contact – ahutchens@scsengineers.com; (562) 572-4097

3.7.2 Contractor

The designated general contractor (GC) for the project, ENTACT LLC, will provide oversight and management services for all aspects of the planned work. The GC will be responsible for notifying the Owner and SCS if unanticipated soil impacts are identified. Under that scenario, SCS and the GC will work together as the SMP is implemented. The following will be the main points of contact for ENTACT.

- Tony Moran – Practice Lead (tmoran@entact.com); (517) 490-2376
- Jordan Wipf – Project Director (jwipf@entact.com); (630) 669-3802

- TBD – Construction General Contractor

3.7.3 Owner's Participants

The following will be the main point of contact for the Owner:

- Brett Richer – Project Director (bricher@prologis.com); (451) 733-9574
- Manasi Chavan – Environmental Manager (mchavansharma@prologis.com; (562) 376-9232
- Andrew Resurreccion – Environmental Manager (aresurreccion@prologis.com); (909) 262-1336

3.7.4 Individual Responsibilities

Environmental Consultant's Program Manager

The EPM will perform the following tasks:

- Monitor the work of the EFC.
- Communicate field activities to the Owner's Construction Manager.
- Communicate with the EFC to investigate previously unknown features and other environmental conditions, if encountered.
- After consultation with the EFC and the Owner's Construction Manager, characterize, delineate, and supervise the proper management of unknown features, and other unanticipated environmental conditions.
- Evaluate soil sampling results.
- Review reports of daily field activities.
- Initiate and approve non-emergency contacts with the appropriate agencies.

Environmental Field Coordinator (EFC)

The EFC will perform the following tasks:

- Monitor grading operations visually and with the appropriate monitoring equipment to assess potential unknowns and respond to requests based on questions and findings from the contractor's representative.
- Provide oversight of the implementation of the SMP and Health & Safety Plan including air monitoring.
- Collect soil samples and arrange for laboratory analyses, if determined to be necessary.
- Maintain records of soil sample locations, if necessary.
- Report suspected unknown features and other unanticipated environmental conditions to the EPM.
- Supervise activities related to investigating and remediating unknown features and other unanticipated environmental conditions.

- Review reports of field activities.

Contractor's Field Coordinator

The Contractor's Field Coordinator shall be responsible for the following tasks:

- Coordinate field activities with the EFC.
- Coordinate with the EPM regarding identification and removal of impacted soil or other unknown structures or materials found during grading.
- Excavate and stockpile impacted soil, as directed by the EPC or EPM that may be encountered during grading.
- Cover and assist in labeling and managing stockpiles, as directed by SCS.

4 GENERAL CONSTRUCTION ACTIVITIES

4.1 SOIL HANDLING

Remedial and development activities consisting of grading, trenching, excavation, and ESS/ISS will commence after the completion of the following:

- Pre-characterization soil assessment to profile soil for potential reuse within the two proposed cut and fill areas shown on **Figure 4**. Additional details are provided in Section 3.2.

- Protection and Decommissioning of groundwater monitoring wells that may be affected by planned construction (Section 3.3).

This SMP is a supplemental document to the RP and as such provides a reference to the applicable soil handling guidance with respect to the response remedy (ESS/ISS) for the disposal area, as described in the following sections of the RP:

- Section 6.3.3 – Excavation Staging and Sequencing
- Section 6.3.4 – Material Segregation
- Section 6.3.5 – Debris and Waste Disposal
- Section 6.3.6 – Loading and Transportation
- Section 6.3.7 – Unknown Wastes or Impacts
- Section 6.4 – Solidification/Stabilization – This section pertains to specific ESS/ISS construction and implementation activities, e.g., pad construction, batch plant operations, bucket mixing for ESS, auger mixing for ISS, and swell management.

Before mobilizing construction equipment, the disposal area and other areas where soil impact is known or suspected will be delineated with cones, caution tape, stakes, chalk, or flagging. If new potential impacted areas are encountered during development, those will also be delineated and the area(s) shall not be disturbed until an environmental professional determines whether testing and/or soil disturbance activities can begin. Stockpile staging areas will be delineated prior to the start of excavation. All excavations will conform to the applicable regulations including Cal/OSHA Construction Safety Orders.

The specific equipment, means, and methods to be utilized for soil removal, handling, and disposition will be selected based on the nature of the work to be conducted and its location on the

Property. Following is a summary of potential soil removal and handling tasks; however, certain activities may not involve all of the listed tasks:

- Mobilization of equipment, supplies, and manpower. Anticipated equipment to be used include excavators, drill rigs, backhoes, dump trucks, loaders, and water trucks/tanks. Support facilities such as toilets, trailers fencing, and signage will also be located on-site. Additional details related to work specific to the disposal area are provided in the RP, Section 6.3.3 – Excavation Staging and Sequencing.
- Areas from which contaminated, or potentially contaminated soil is being excavated, disturbed, treated, or handled will be cordoned off using caution tape and/or delineators, as appropriate. Exclusion and support zones, if any, staging areas, and decontamination pads will also be delineated.

  Additional details for the disposal area remediation are provided in the RP, Section 6.1.6 – Decontamination Procedures and Section 6.3.4 – Material Segregation.
- Provide traffic control signage and flagging as necessary.
- Provide appropriate dust and vapor control and monitoring in accordance with applicable SCAQMD rules.
- The EFC will be present full-time during soil removal and handling activities in areas in which contaminated soil has been encountered or has the potential to be encountered. This individual will be responsible for observations of soil conditions, air monitoring, maintaining communications, ensuring compliance with this SMP and applicable guidance in the RP, and any oversight of sampling.

Additional details related to implementation of the remedial actions for the disposal area are outlined in the Section 6.1 (General Implementation Procedures) in the RP.

As previously described, SCAQMD Rule 1466 will be implemented for remedial work in the disposal area. It should be noted that if testing un previously unidentified suspect materials confirms that "applicable toxic air contaminants" are present, notification and permitting with the AQMD will be required and implementation of necessary mitigation controls and monitoring pursuant to Rule 1466 will modify the minimum soil handling procedures describe above.

If excavation is conducted during the rainy season (November through April), provisions will be made to prevent off-site migration of sediment in runoff. Best management practices will be implemented for runoff control in accordance with the construction permit, regulatory requirements, and the SWPPP. Measures may include placement of sandbags, straw rolls, and/or hay bales to control runoff and to act as filters. If precipitation accumulates within any excavation, it will be pumped out and disposed in accordance with federal, state, and local regulations.

4.1.1 ESS/ISS Contingency Plan

In the event that field scale pilot testing and/or confirmation batch sampling indicates ESS/ISS performance criteria are not achieved, contingency measures will be followed to meet the performance criteria for treatment. Specifically, performance criteria for the ISS/ESS material during full-scale implementation include a monolithic mass containing:

- An average unconfined compressive strength greater than 25 pounds per square inch.
- An average hydraulic conductivity of less than 1×10^{-6} centimeters per second (cm/sec) with no single sample higher than 5×10^{-6} cm/sec.

- No visible presence of free product observed during field implementation after mixing is complete.

The goal is to verify the successful remediation of contaminated soil through cement stabilization. If performance criteria are not met, the Contractor may extend the testing duration from 28-days of cure to 56-days of cure. If longer duration testing fails to meet the performance criteria, the Contractor and Owner will discuss mitigation measures to ensure remedy success. Mitigation measures may include reprocessing the treated material with modified mixing parameters and/or reagent changes including dosage increase. An alternative mitigation measure would include excavation and off-site disposal of reprocessed ESS/ISS material and backfilled with clean soil.

The implementation of these contingency measures will follow a progressive approach, with selection based on the specific performance deficiency. Contingency measures will be thoroughly documented and verified through testing to ensure that final treatment meets the performance criteria.

4.2 FUGITIVE DUST AND VAPOR CONTROL

Appropriate procedures will be implemented to control the generation of airborne dust by soil removal activities, including, but not limited to, some or all of the following:

- As previously mentioned, implementation of general dust control measures described in the SCAQMD Rule Book, Rule 403, Fugitive Dust (dated May 7, 1976, amended June 3, 2005) should be followed. Generation of dust and emission of VOCs (if any) during Property improvement activities will be minimized, as necessary, by the use of water as a dust suppressant. The water will be available from on-site water service, via a water truck, or through a metered discharge from a fire hydrant located on or proximate to the Property. When necessary, the responsible contractor will control dust generation by spraying water prior to daily work activities, during excavation/loading activities (as necessary to maintain concentrations below action levels), and at truck staging locations. During the Property construction activities, watering equipment will be continuously available to provide proper control measures. It is the responsibility of the Contractor to ensure that the presence of dust is minimized during construction activities, and that all applicable local and state dust-control and worker protection requirements are met. Should construction activities result in observable dust at the boundary of the Property, enhanced control measures will be performed by the Contractor.
- Activities that have the potential to generate fugitive dust will cease in the event wind conditions change creating an uncontrollable condition. If required, the EFC will monitor on-site meteorological instrumentation and/or coordinate with off-site meteorological professionals to identify conditions that require cessation of work.

4.3 SOIL EXCAVATION AND STOCKPILING

4.3.1 Impacted Material

Impacted soil that is excavated and not immediately removed from the Property will be stockpiled on and covered with 10 mil plastic sheeting to control dust and minimize exposure to precipitation. The edges of the plastic sheeting will have an overlap of at least 24 inches. Plastic sheeting will be secured at the base of the stockpile and along seams of overlapping plastic sheeting, if any, with sandbags or by equivalent means. If a stockpile remains on site during the rainy season, a perimeter sediment barrier, constructed of material such as straw bales or fiber roll, will also be installed. The stockpiles will remain covered until the soil is ready for either ESS treatment or offsite T&D.

All impacted soil unsuitable for ESS will be segregated and stockpiled in volumes not to exceed 400 cubic yards in accordance with Rule 1166 and/or Rule 1466 for chemical analysis, characterization, and/or offsite disposal. Waste profiling will consist of collecting soil samples for laboratory analysis at the frequency required by the disposal/recycling facility to which the soil is to be transported. At a minimum, sample collection shall be at a frequency of one composite sample per 400 cubic yard stockpile. Impacted stockpiles for removal will be contained or covered in order to prevent release to the environment until they can be transported off-site to an approved disposal/treatment facility. Specific analyses for materials going offsite will be based on the requirements of the receiving facility. Some or all of the following analytical methods are anticipated to be used as required for waste soil and/or material characterization:

- TPH-G/TPH-D/TPH-O, carbon chain identification using EPA Method 8015M;
- VOCs using EPA Method 8260B.
- SVOCs including polynuclear aromatic hydrocarbons using EPA Method 8270C.
- Organochlorine pesticides and PCBs using EPA Method 8081/8082.
- CAM 17 metals using EPA Method 6000/7000.
- Soluble threshold limit concentration (STLC).
- Total Threshold Limit Concentration (TCLP).

If no specific analytical program is required by the disposal/recycling facility, analysis will include TPH, VOCs, and metals using the methods listed above.

Daily inspection of any stockpiles related to Rule 1166 or 1466 material will be conducted to verify cover integrity. Any gaps, tears, or other deficiencies in plastic covering will be documented by the EFC and corrected immediately. Records will be kept of stockpile inspections and any repairs made. During stockpile removal, only the working face of the stockpile will be uncovered.

4.3.2 Soil for Reuse

Based on the amount of imported soil required for this project, it is unlikely that any soil acceptable for reuse would be removed from the Property. Soil deemed acceptable for reuse will be stockpiled on site in an area where there are no known environmental impacts. Stockpiled soil for reuse will be covered with plastic sheeting for dust and erosion control and inspected biweekly.

Pre-characterization sampling is planned prior to commencing work at the Property. This sampling will be conducted to confirm that soil in two designated areas (green and blue on **Figure 4**) meets reuse criteria as described below. If the sampling confirms reuse of this soil, it will be excavated, stockpiled, and covered on the Property outside of the work zone for later use as soil cover. This soil is not anticipated to require further sampling, however if during excavation, observations indicate potential impacts, soil will be segregated (based on visual and field monitoring observations) and sampling conducted.

Note that if SCAQMD Rules apply to any material, stockpiling will be conducted as described above in Section 4.3.1. All other stockpiles will be place on and covered with plastic sheeting. Sampling will be conducted with a minimum of four samples to be collected from a stockpile of up to 1,000 cubic yards. For each approximately 500 cubic yards of stockpile material, an additional sample will be collected and analyzed, which meets the sampling frequency described below to evaulate for reuse. Sampling/analysis to evaluate soil for reuse will be conducted in accordance

If the soil is not deemed acceptable for reuse, the data will be used for waste profiling and/or to evaluate the material for treatment by ESS.

4.4 SOIL REUSE CRITERIA

For the purpose of determining soil reuse at the Property, concentrations of COPCs in soil at the Property will be compared to regulatory screening levels for the protection of human health and groundwater quality. Regulatory screening levels under a commercial/industrial land use scenario will be used for the protection of human health, including the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note No. 3 (revised May 2022), U.S. EPA Regional Screening Levels (RSLs; November 2024), and the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs; January 2019). For the protection of groundwater quality, the SFRWQCB Leaching to Groundwater ESLs (January 2019) and LARWQCB soil screening levels (SSLs; Interim Site Assessment & Cleanup Guidebook, May 1996) will be used for comparison. The regulatory screening levels for health risk and groundwater protection for all COPCs detected in soil at the Property are summarized on Tables 1 and 2.

Soil from the Property that is sampled for reuse will be analyzed for the following parameters:

- TPH with carbon chain range quantification (TPH-cc) using EPA Method 8015M (Modified)
- TPH-g & VOCs using EPA Method 8260B/5035
- SVOCs using EPA Method 8270C
- Metals using EPA Methods 6010B/7471

The lowest regulatory screening level based on both the protection of human health and/or groundwater quality for each COPC was selected as the threshold criteria for soil reuse at the Property as highlighted on Tables 1 and 2.

5 SOIL MONITORING DURING CONSTRUCTION

5.1 SOIL MONITORING

The following provides guidelines for characterizing, documenting, and handling soil impacted by potential COPCs that are encountered during site development. The monitoring and sampling activities to be performed include:

- Visual observation performed to detect areas of soil that may be impacted by TPH or other non-VOC hazardous materials, if encountered.
- VOC screening performed to document new or previously undetected sources of VOCs.
- Soil sampling and chemical testing performed to evaluate concentrations of COPCs.

Freshly exposed soil will be evaluated by visual observation by the EFC and with handheld direct read instruments. Depending upon visual, olfactory, and direct reading instrument indicators, soil samples may be collected for chemical testing that will be performed by a state-certified laboratory, as discussed below.

5.2 VISUAL OBSERVATION

During construction activities, visual observation of the condition of exposed soil and potential subsurface features, if encountered, will be conducted. A daily field sheet will be used to record pertinent information such as the removal of impacted soil, soil type and color, potential debris (if any), and other subsurface features. Discolored/stained soil, odor, PID readings, or other evidence of potential hazardous materials will be documented and serve as the basis for further evaluation. Photographic documentation will be used to supplement field sheets, as appropriate.

5.3 SAMPLE COLLECTION AND TESTING

Based on field indications, soil samples may be collected to evaluate the presence of suspected chemicals or compounds in exposed soil. Selected soil samples will be analyzed by an appropriately certified, off-site laboratory, with the analytical methods selected based on the following criteria:

- Visual and Olfactory Observation: Soil that is odorous or appears dark or oil stained will be analyzed for TPH-carbon chain by EPA Method 8015M modified and for VOCs by EPA Method 8260B. Soil that appears discolored in a manner typical of metals impacts (e.g., red, yellow, green, gray, silvery) will be analyzed for California Code of Regulations Title 22 metals using EPA Method 6010B/7000.
- Elevated VOC Levels: A soil sample (or samples) will be collected for laboratory testing if the headspace VOC measurement exceeds 100 ppm, as measured with a PID calibrated to hexane during the on-site screening. Samples may be analyzed for VOCs using EPA Method 8260 (VOCs) and/or TPH by EPA Method 8015M modified.

Soil samples for laboratory analysis will be collected using hand tools (for instance hand auger or hand trowel) and placed in glass jars, brass tubes, or other appropriate containers. Samples to be analyzed for VOCs (if deemed necessary) will be field preserved using EPA Method 5035. After collection, samples will be sealed, uniquely labeled, and placed in a chilled cooler pending delivery to the analytical laboratory. All soil samples will be tracked from point of collection through the laboratory using chain-of-custody documentation.

Re-useable soil sampling equipment (hand auger, trowel, shovel, etc.) will be decontaminated using the following steps to reduce the potential for cross-contamination.

- Wash and scrub in non-phosphate detergent and potable water.
- Rinse in potable water.
- Rinse in deionized water and air dry.

Investigation derived residuals, including decontamination water, will be managed in accordance with regulatory requirements.

5.4 EVALUATION OF ANALYTICAL DATA

Laboratory analytical data will be compared to appropriate regulatory screening levels including the DTSC HERO Note 3, EPA RSLs for VOCs, SVOCs, and metals and the LARWQCB SSLs for TPH with respect to risk to groundwater as described in Section 4.4. Based on the depth to groundwater of approximately 75 feet bgs at the Property, the SSLs for petroleum hydrocarbons between 20 and 150 feet above groundwater are:

- TPH-g or gasoline-range hydrocarbons (C_4-C_{12}) – 500 mg/kg
- TPH-d or diesel-range hydrocarbons (C_{13}-C_{22}) – 1,000 mg/kg
- TPH-o or oil/heavy-range hydrocarbons (C_{23}-C_{40}) – 10,000 mg/kg.

If confirmation soil samples are required, concentrations exceeding their respective screening levels may be subject to further excavation and additional confirmatory soil sampling and chemical testing.

As previously described, laboratory analytical data will be used to characterize excavated soil for reuse potential, suitability for ESS, and/or to determine if off-site transportation and disposal is

warranted. Only soil that contains constituents in exceedance of the respective SLs will be considered for export and disposal off-site. Soil with no visual or olfactory evidence of impacts and not containing COPCs above SLs will be considered for onsite reuse in accordance with the criteria provided in the Section 4.4.

If soil is exported from the Property, waste manifests and weight tickets for the transportation and disposal of soil will be maintained for record keeping and subsequent reporting.

5.5 RESPONDING TO UNKNOWN CONDITIONS

If unanticipated impacted soil is encountered (based on visual staining, odors, PID readings, or other indications), the area of suspected impact will be delineated, and soil disturbance activities will halt in this area. The contractor will notify the EFC and EPM and/or Owner representative (identified in Section 3.7) of the condition within 24 hours. The EFC or EPM will visit the Property and sampling will be conducted, as appropriate. Analyses are expected to be conducted for TPH (includes: TPH-g, TPH-d, and TPH-o), VOCs, SVOCs, and/or metals. Analytical results will be compared to applicable regulatory SLs. Based on this comparison, a determination will be made regarding soil disposition (reuse on site, off-site transport and disposal/recycling, etc.). The number of, and the methods used to collect the soil samples and the analyses to be performed will be selected by the supervising professional (e.g., EPM), and may include the following test methods:

- TPH-d and TPH-o with carbon chain range quantification (TPH-cc) using EPA Method 8015M (Modified).
- TPH-g & VOCs using EPA Method 8260B/5035.
- SVOCs using EPA Method 8270C.
- Metals using EPA Methods 6010B/7471.

Similarly, if a potential structure such as a buried UST or other subsurface features (sumps, clarifiers, vaults, septic tanks, etc.) are encountered, a similar approach will be taken, where the construction contractor halts related work activities, delineates the area, and provides the appropriate notification within 24 hours to the EFC, EPM, and/or Owner representatives. The EFC/EPM will visit the Property to observe conditions in the area(s) of concern and conduct sampling, as necessary. The procedures that will be followed in the event that an unanticipated subsurface structure is discovered are summarized below:

- Visually assess the feature from a safe distance.
- Evaluate atmospheric conditions in the work area/vicinity, using a PID and/or four gas meter.
- If the above conditions are determined to be safe, evaluate the container contents with a PID and four gas meter.
- If all conditions are determined to be safe, a licensed Contractor or an Environmental Professional (SCS) will remove and containerize observed residual liquid, sludge, or sediment in the subsurface structure, and will characterize the residual material(s) as required by the waste-receiving facility(ies);
- Appropriate permitting, as necessary, will be obtained for the removal of any feature(s) that may be identified requiring specific permits. Permitted removals will be conducted with appropriate regulatory oversight, documentation, and reporting.
- The Contractor will remove the subsurface structure in compliance with applicable laws and regulations, and under permit from the applicable regulatory agency, if required.
- Soil removal and sampling actions will be performed in accordance with the procedures outlined in this SMP; and
- The structure will be removed upon regulatory approval to proceed.

- The Contractor will ensure that work is conducted under an appropriate health and safety plan that meets the requirements detailed in Section 3.5.

If suspected asbestos containing material (ACM), such as transite pipe or disposed building material, is discovered, work in the area will stop, the material will be wetted with water, and the area will remain undisturbed until assessed by a California Certified Asbestos Consultant or California Site Surveillance Technician.

As necessary, the RWQCB will be notified of the identification of unknown conditions. Upon completion of any required action, the Contractor will be notified by the EPM that they can resume work in the area.

5.6 GROUNDWATER MANAGEMENT

This section describes the procedures for handling groundwater during groundwater monitoring or dewatering activities conducted at the Property. These procedures do not apply to uncontaminated potable or irrigation water supplies. Because the depth to perched groundwater is approximately 75 feet bgs, which is about 45 feet deeper than the planned development depth, it is unlikely that groundwater will be encountered. Groundwater beneath the Property is known to be impacted with motor-fuel related substances. As previously mentioned, TORC maintains responsibility for the monitoring of groundwater at the Property. If groundwater is encountered, it should be presumed to be contaminated and managed accordingly. Any contact, suspected contact, or proposed contact with the water table must be reported to TBB, who will subsequently report it to the EPM.

5.7 STORMWATER MANAGEMENT

Stormwater management regarding sediment runoff will be consistent with local, state, and federal rules and regulations, including those set forth by Los Angeles County, the Los Angeles County Regional Water Quality Control Board and by the Department of Toxic Substances Control, as applicable. As outlined in Section 3.4, a SWPPP is required for sites over one acre. Applicable stormwater pollution control measures will be implemented to prevent runoff of sediment in stormwater from flowing to nearby storm drains and from entering local creeks, rivers, and other water bodies. The Contractor is required to obtain the necessary stormwater permits, and to implement the appropriate best management practices during construction.

5.8 IMPORT FILL SOIL REQUIREMENTS

As appropriate, off-site soils brought to the Property for use as backfill (import fill) for the 5-foot cover of the remediation area, for backfill of the borrow pit, and/or other import required for construction activities will be tested in general conformance with the DTSC Information Advisory Clean Imported Fill Material document (DTSC, 2001), included as **Appendix D**. The Advisory recommends reviewing site history for source soils, and if the source soil passes initial screening a sampling plan will be developed in general accordance with the Advisory based on the volume of soil to be sources and whether it is in place or stockpiled.

The Advisory recommends the following sampling frequencies for imported soil stockpiles:

Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1,000 cubic yards plus 1 sample for each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards plus 1 sample for each additional 1,000 cubic yards

If the source soil is in place (has not been stockpiled), review of the grading plans for the source site will assist in determining a sample plan. We anticipate sampling plans to consist of borings at a frequency similar to that described below (per the Advisory), with specific sampling depths based on depth of planned grading or excavation. In general, this will involve samples from a shallow depth of 1 to 2 feet bgs and then at approximately 5-foot vertical intervals to total depth. Samples would be composited by depth prior to analysis. At each depth interval the number of sample points would follow the frequency suggested by DTSC, as listed below:

Area of Individual Borrow Area	Sample Points per Area
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample point per ½ acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location

Import fill will be tested for target compounds based on knowledge of the fill source area; however, at a minimum, the fill will be tested for the following constituents (or have been tested and documented at the source):

- TPH-cc (TPH-d and TPH-o) using EPA Method 8015.
- TPH-g using EPA Method 8260B/5035.
- VOCs using EPA Method 8260B/5035.
- Title 22 metals using EPA Methods 6010B/7471.
- Pesticides using EPA Method 8081A.

Other analyses may be required contingent on the source of the import fill or recommendations by the supervising professional. Additionally, due to the volume of soil required for the construction portion of the project (to backfill the borrow pit), a minimum of one sample for laboratory analysis is suggested per 1,000 tons of import fill per borrow site (single source). For quantities above 5,000 tons of import fill per borrow site (single source), one sample for laboratory analysis is suggested per 5,000 tons of import fill.

6 POST-CONSTRUCTION ACTIVITIES

6.1 SURVEYING

The Contractor will conduct surveys throughout the duration of the project to document the remediation work scope as defined in the RP. Field surveys will be conducted in accordance with the remedial design and specified requirements as needed to prepare final as-built drawings for future regulatory reporting. Note that it is anticipated that a minor amount of residual soil impact will remain in place, especially within the easement of adjacent underground pipeline/utility corridors. The location of residual soil impact will be surveyed or recorded by use of geographic positioning system equipment. Survey results, including maps, and survey notes will become part of project documentation for future reporting.

6.2 DOCUMENTATION

Following the completion of construction activities, i.e., grading, excavation and solidification (ESS/ISS), and soil disposition, surveying etc., a RP implementation report will be prepared. The

report will include a description of field activities, figures, tables, estimated material quantities, laboratory test results, manifests, and discussion of typical procedures. In addition, this document will provide the location and estimated quantities of residual soil impacts. Further, removal of potential USTs or other subsurface structures will be appropriately reported to the Torrance Fire Department and/or other applicable regulatory agencies. Additionally, if any previously unknown conditions are identified during development activities, a report documenting sampling, oversight, and related activities will be prepared.

7 REFERENCES

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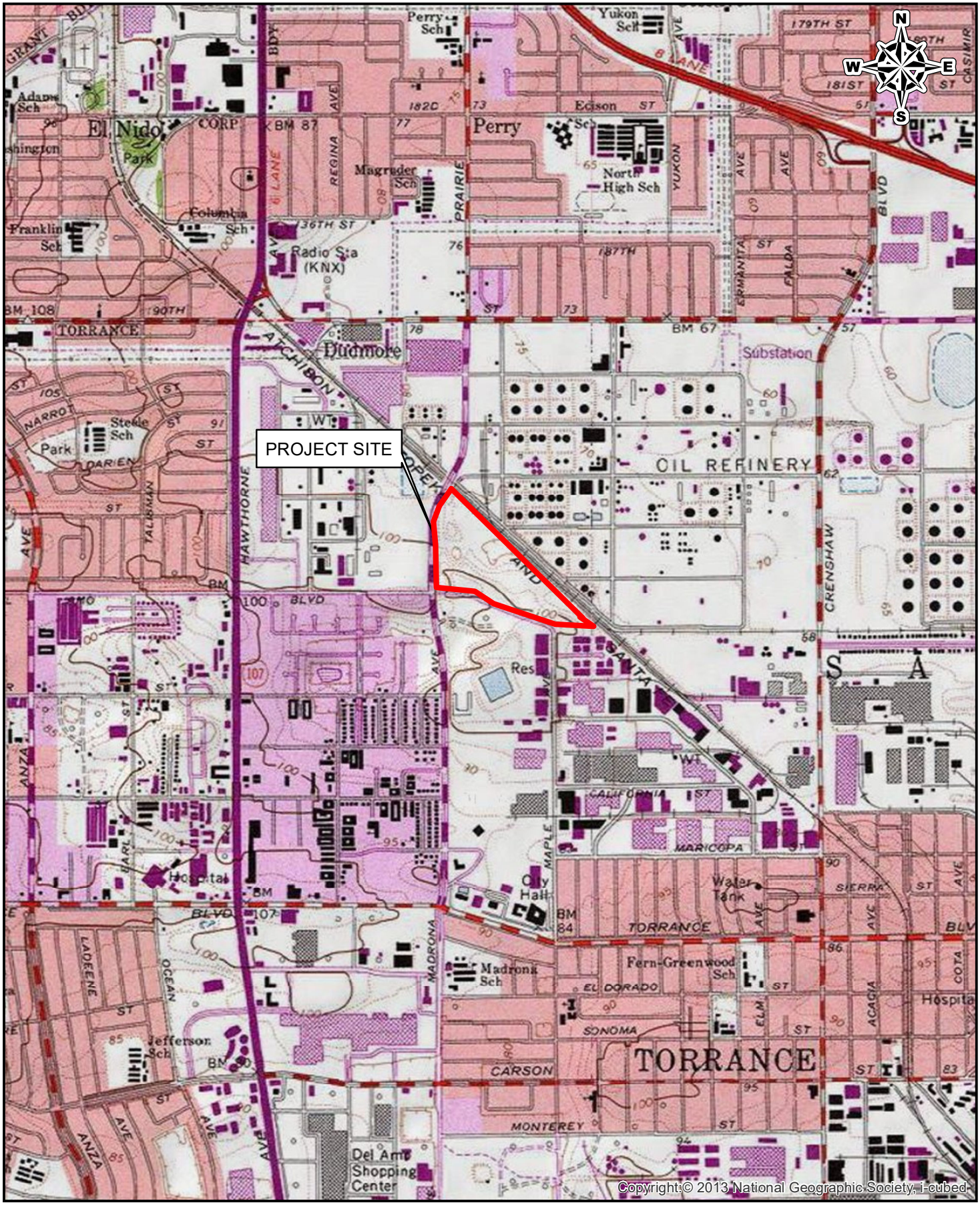
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Terracon, September 24, 2024 (2024b). Procedure 5 Letter to South Coast Air Quality Management District, 3041 Del Amo Boulevard, Torrance, California 91325.

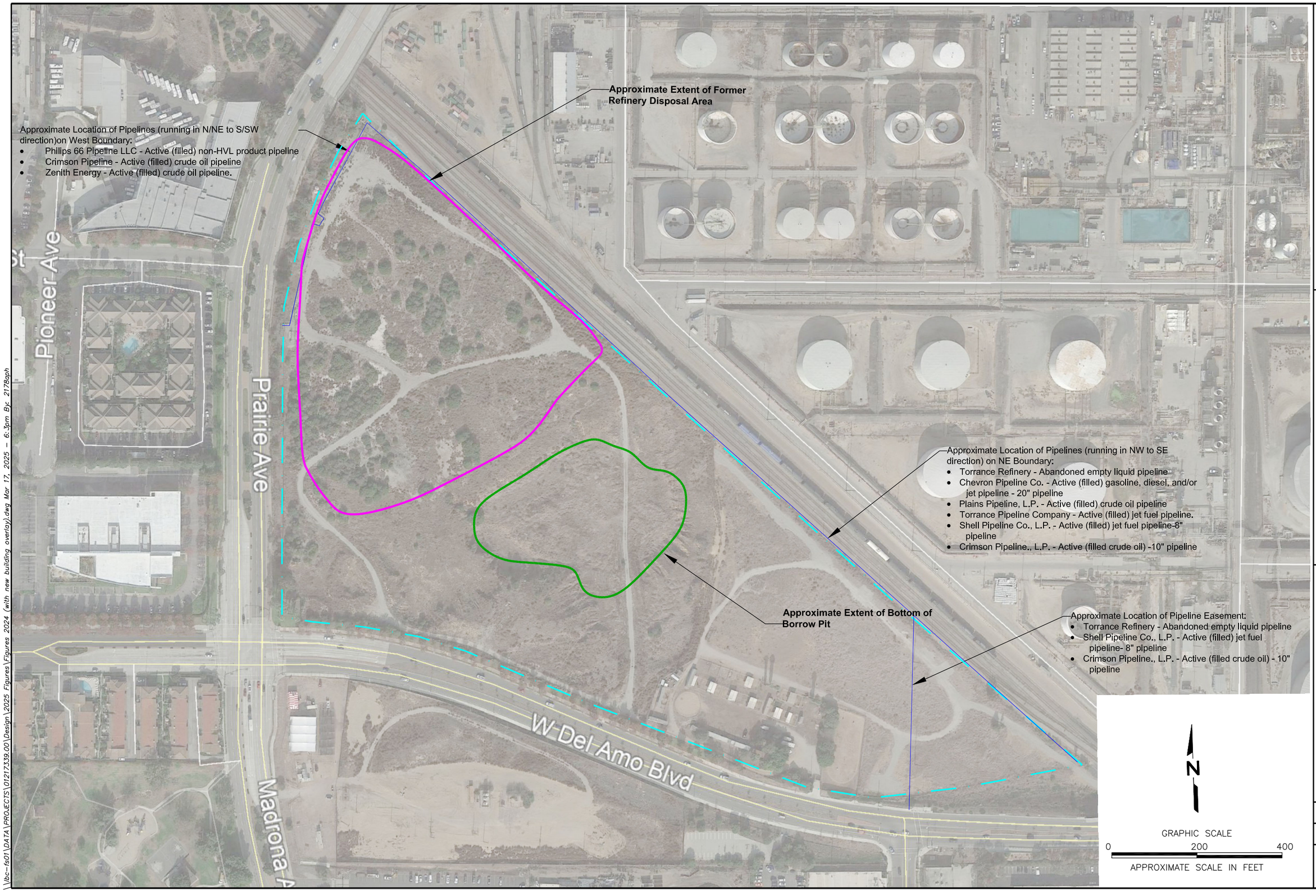
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Figures



SCS ENGINEERS 3900 KILROY AIRPORT WAY, STE 100 LONG BEACH, CALIFORNIA 90806-6816	SITE: North Posse Site 3041 Del Amo Blvd. Torrance, California 90503	Job No.: 01217339.00 T2 Title: SITE LOCATION MAP	FIGURE 1



SHEET TITLE: SITE MAP

PROJECT TITLE:
NORTH POSSE
3041 DEL AMO BOULEVARD
TORRANCE, CALIFORNIA 90503

CLIENT:
TORRANCE BLACK BEAUTY LLC
PIER 1, BAY 1
SAN FRANCISCO, CALIFORNIA 94111

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH. (562) 426-9544 FAX. (562) 427-0805

PROJ. NO.	DWN. BY:	CHK. BY:	DSN. BY:	ACAD FILE:	APP. BY:
01217339.00	APH	DD	DESIGN	LOCATION	DD

DATE: MARCH 2025

SCALE: 1" = 200'

FIGURE NO. 2

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LEGEND

- PERCHED ZONE GROUNDWATER MONITORING WELL
- GAGE-GARDENA AQUIFER GROUNDWATER MONITORING WELL
- DATA GAP GROUNDWATER MONITORING WELL
- DESTROYED GROUNDWATER MONITORING WELL
- MULTI-NESTED SOIL VAPOR PROBE (SCS, 2019)
- MULTI-NESTED SOIL VAPOR PROBE (AECOM)

Approximate Extent of Former Refinery Disposal Area

Approximate Extent of Bottom of Borrow Pit

SB41 C-18 SB37 F-02 SB36 SB26 SWP-VMP-P01 (BH1) SWP-MP-P08 (BH2) SB33 SB27 SB25 F-01 SB31 SWP-MW-P09 (BH5) SB24 SWP-VMP-P02 (BH4) C-31 SWP-MW-P10 (BH6) SB29 SB20 C-20 C-10 C-10A SWP-MW-P13 I-08 I-08R C-19 XII-07 C-28 C-35 SWP-MW-P11 C-30 C-13RA SWP-MW-P12 C-13R C-29 C-23R SWP-MW-G04

Pioneer Ave

Prairie Ave

Madrona Ave

W Del Amo Blvd

EXISTING RAILROADS

CHALLENGER ST.

PRAIRIE AVENUE

DEL AMO BLVD

CYPRESS PL

N

GRAPHIC SCALE

0 200 400

APPROXIMATE SCALE IN FEET

SHEET TITLE:
SITE MAP WITH PROPOSED DEVELOPMENT PLAN AND EXISTING GROUNDWATER WELLS AND SOIL VAPOR PROBES

PROJECT TITLE:
NORTH POSSE
3041 DEL AMO BOULEVARD
TORRANCE, CALIFORNIA 90503

CLIENT:
TORRANCE BLACK BEAUTY LLC
PIER 1, BAY 1
SAN FRANCISCO, CALIFORNIA 94111

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH. (562) 426-9544 FAX. (562) 427-0805

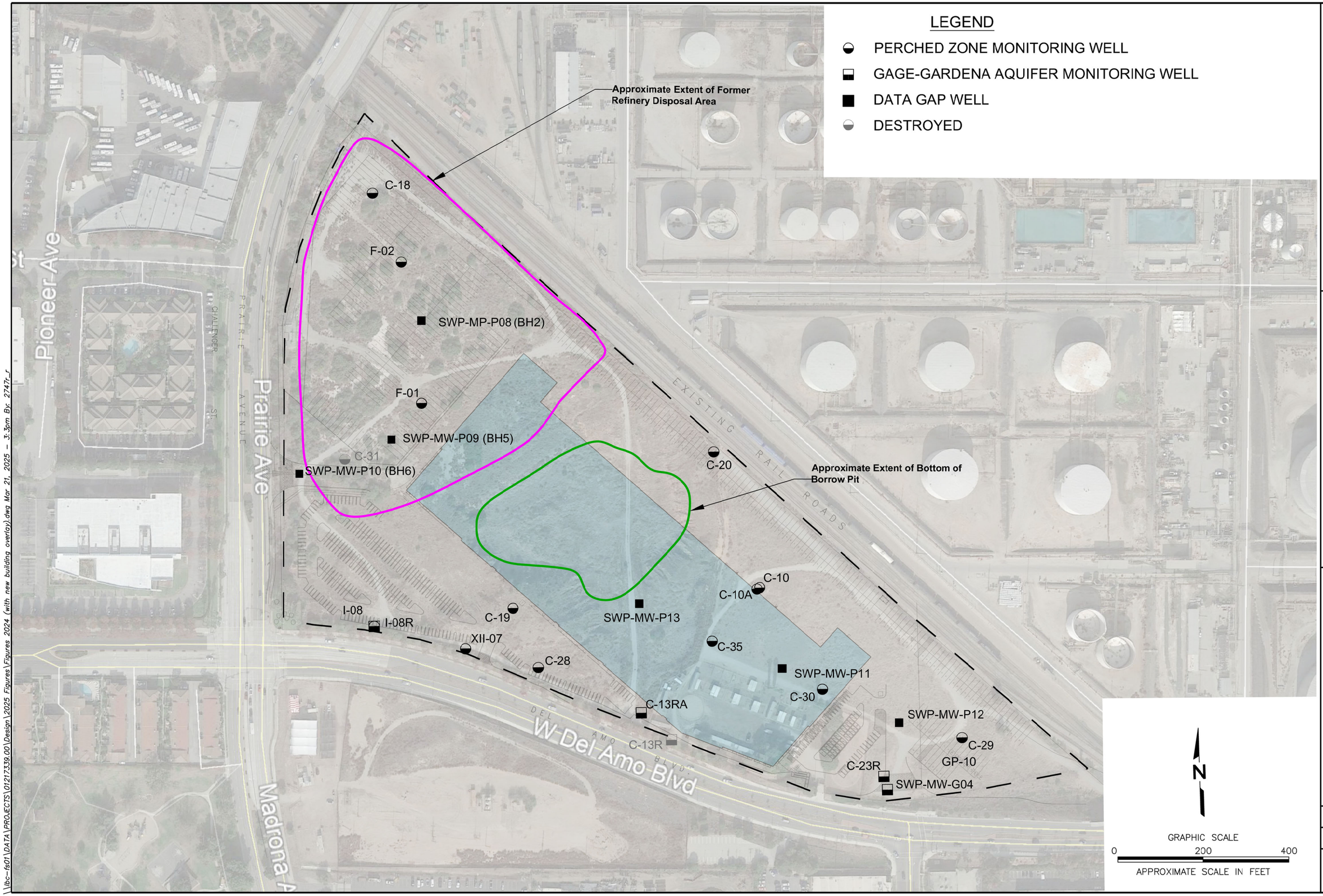
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01217339.00	APH	DD	LOCATION	DD
DSN. BY	DESIGN			

DATE: MARCH 2025

SCALE: 1" = 200'

FIGURE NO. 3

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SHEET TITLE:
SITE MAP WITH PROPOSED DEVELOPMENT PLAN AND EXISTING GROUNDWATER WELLS

PROJECT TITLE:
NORTH POSSE
3041 DEL AMO BOULEVARD
TORRANCE, CALIFORNIA 90503

CLIENT:
TORRANCE BLACK BEAUTY LLC
PIER 1, BAY 1
SAN FRANCISCO, CALIFORNIA 94111

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH. (562) 426-9544 FAX. (562) 427-0805

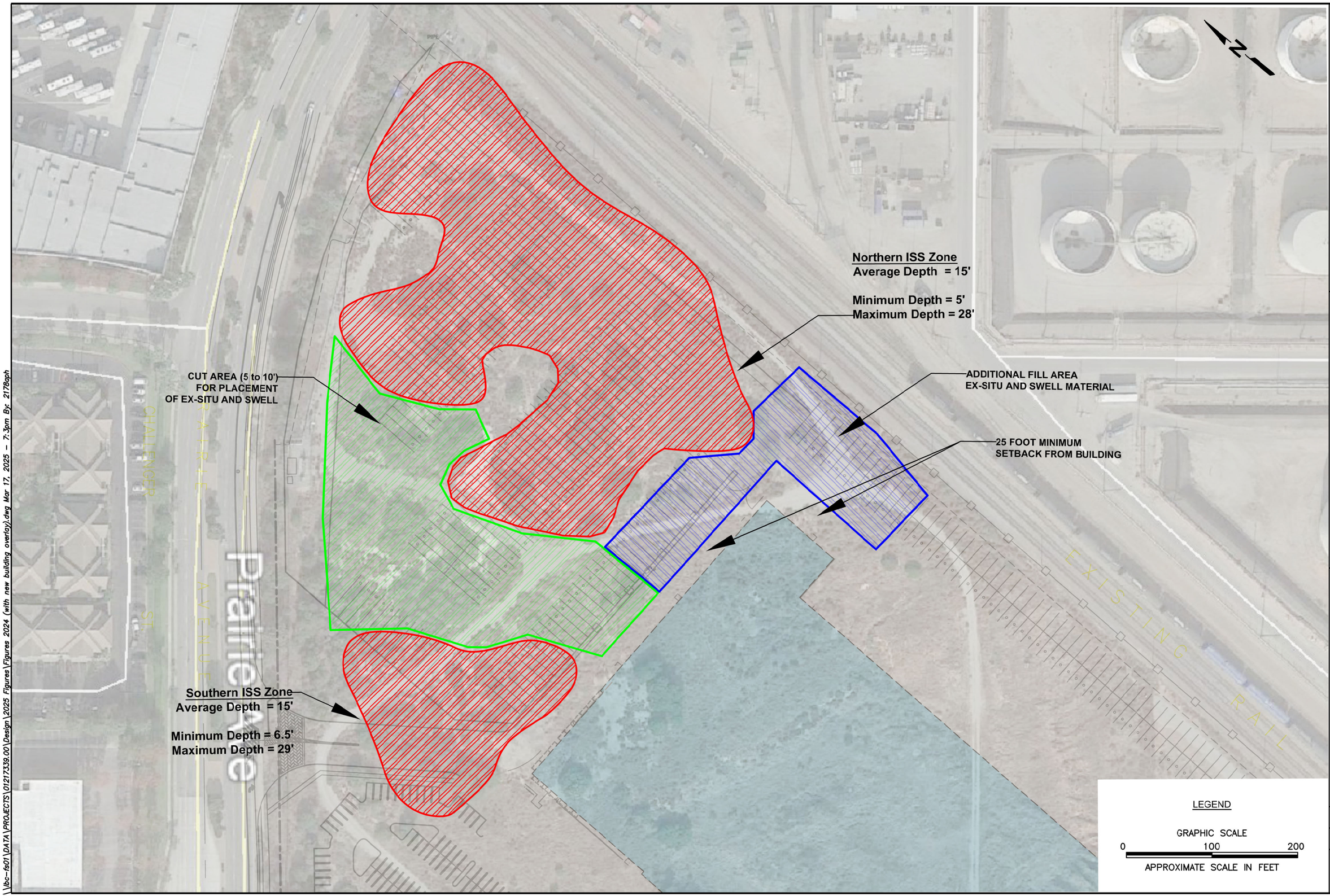
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01217339.00	APH	APP. BY:	DD
DSN. BY:	CHK. BY:		
DESIGN	DD		

DATE:
MARCH 2025

SCALE:
1" = 200'

FIGURE NO.
3

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SHEET TITLE:
ISS AND ESS ZONES AND PLACEMENT AREAS

PROJECT TITLE:
NORTH POSSE
3041 DEL AMO BOULEVARD
TORRANCE, CALIFORNIA 90503

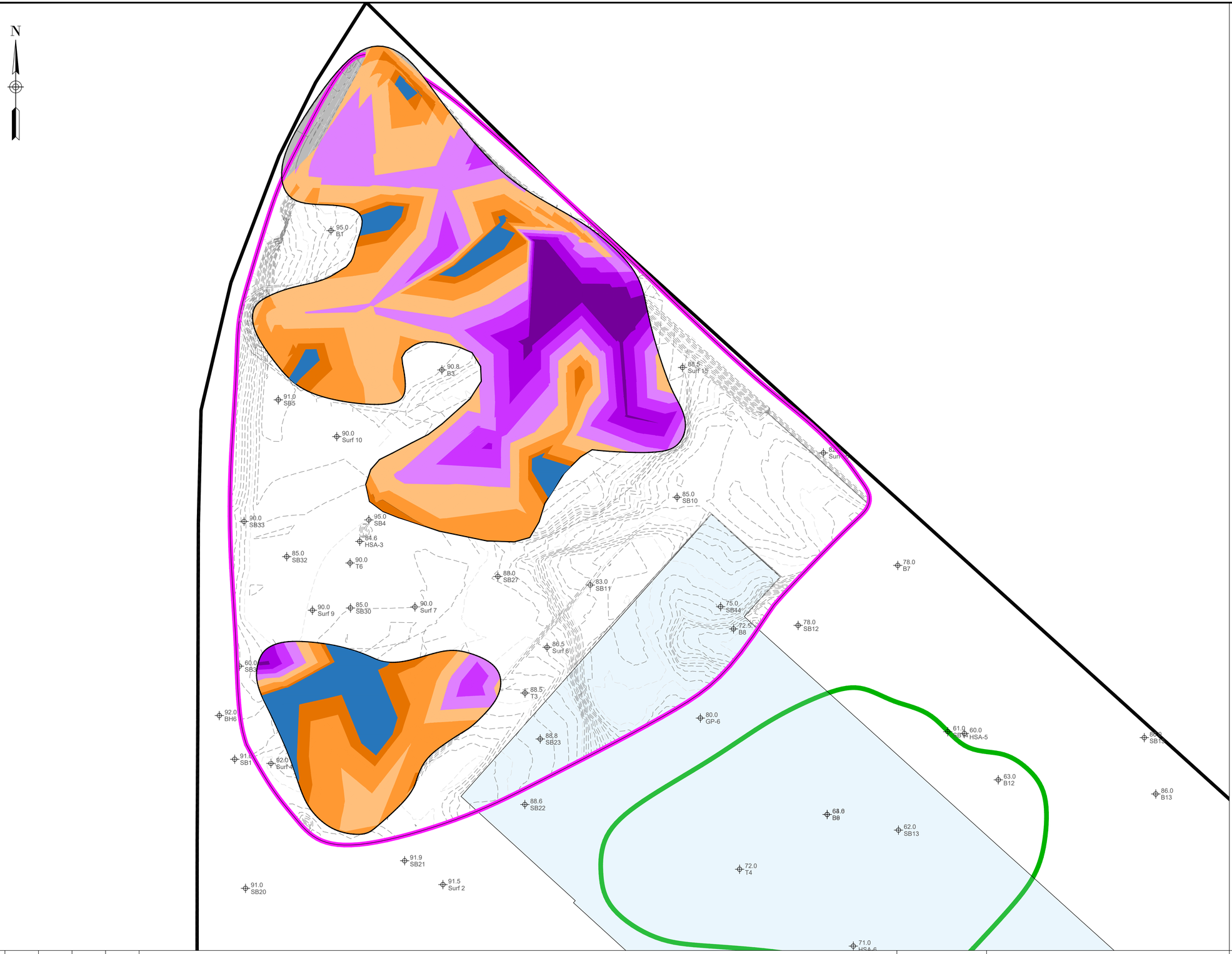
CLIENT:
TORRANCE BLACK BEAUTY LLC
PIER 1, BAY 1
SAN FRANCISCO, CALIFORNIA 94111

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH: (562) 426-9544 FAX: (562) 427-0805

PROJ. NO:	01217339.00
DSN. BY:	RR
DWN. BY:	APH
CHK. BY:	DD
APP. BY:	DD
ACAD FILE:	LOCATION

DATE: MARCH 2025
SCALE: 1" = 100'
FIGURE NO. 4

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LEGEND

- ISS WORKPAD MAJOR CONTOURS — 50
- ISS WORKPAD MINOR CONTOURS — 48
- PROPERTY BOUNDARY
- FORMER DISPOSAL AREA
- BORROW PIT
- PROPOSED ISS AREAS
- PROPOSED BUILDING FOOTPRINT
- ESS > 3 FT
- ISS DEPTH 0-5 FT
- ISS DEPTH 5-10 FT
- ISS DEPTH 10-15 FT
- ISS DEPTH 15-20 FT
- ISS DEPTH 20-25 FT
- ISS DEPTH 25-30 FT
- ISS DEPTH 30 - 35 FT
- MISSING DATA (SEE NOTE 4)
- SOIL BORINGS — MAX. EXCEEDANCE ELEV. BORING ID

NOTES

1. BASEMAP DATA PROVIDED BY SCS BASED ON JULY 2024 FIGURES.
2. THE DATA DEPICTED HEREIN ARE BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83) FOR HORIZONTAL AND GEOMETRIC CONTROL DATUM AND NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
3. PROPOSED ISS WORKPAD SURFACE IS BASED ON 5 FEET BELOW THE PROPOSED FINAL GRADE TO ALLOW FOR 5 FEET OF CLEAN FILL ABOVE THE TOP OF ISS. ISS WORKPAD WILL BE DESIGNED FOR A MAXIMUM SLOPE OF 2% IN ISS AREAS FOR EQUIPMENT STABILITY PURPOSES. ISS QUANTITIES MAY CHANGE +/- 10% FROM THIS RAP TO REMEDIAL DESIGN.
4. FINAL GRADE SURFACE DOES NOT OVERLAP WITH PROPOSED ISS AREAS.

0 25 50 100
SCALE:1"=50'

REVISION	DATE	BY	CHECKED	APPROVED	DESCRIPTION

Signature_____

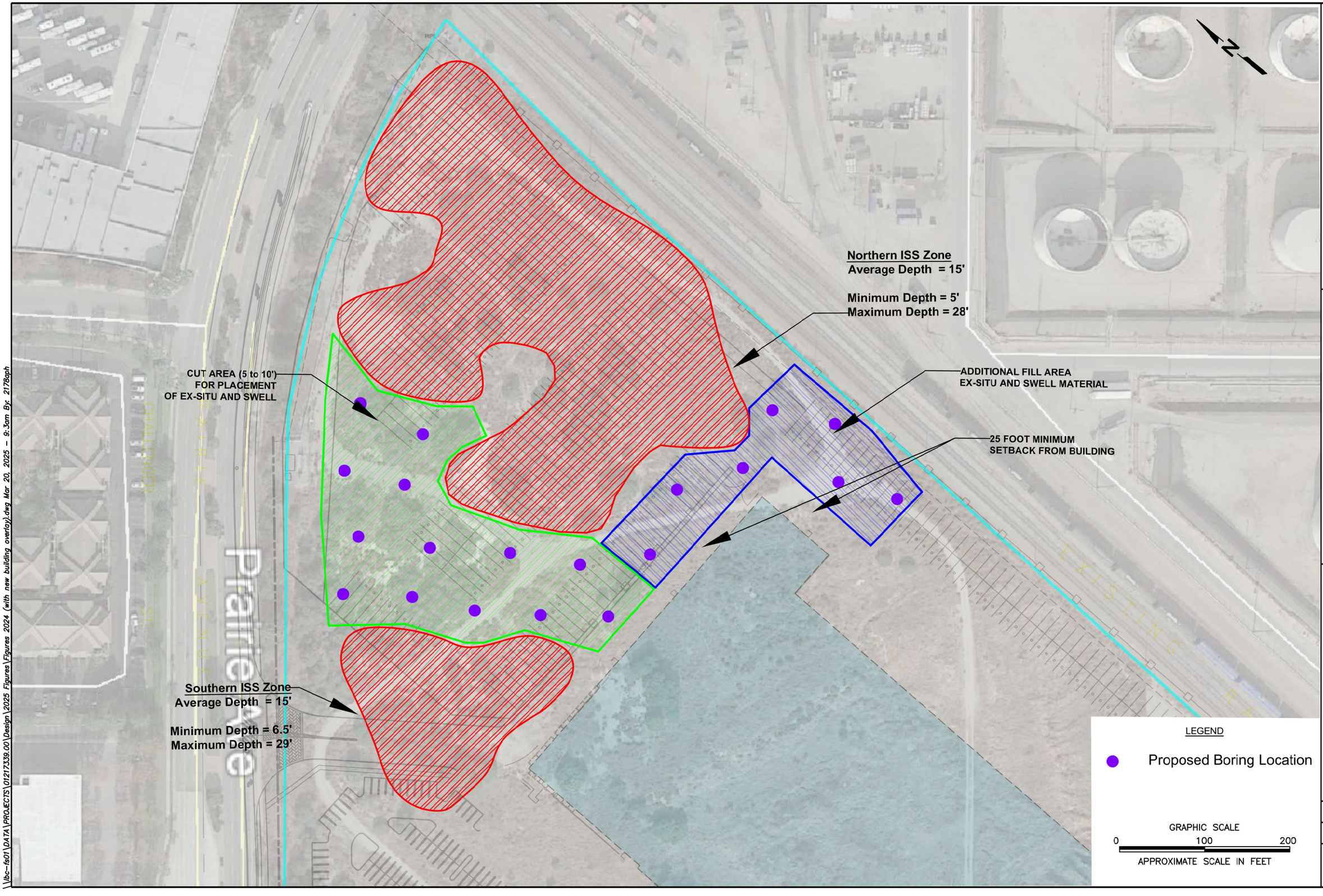
NOT FOR CONSTRUCTION

ENTACT.

DRAWING NAME: FIGURE 5 - ESS/ISS PLACEMENT DEPTHS

PROJECT NAME & LOCATION: TORRANCE POSSE, TORRANCE, CA

DRAWN BY	J.CARR	APPROVED BY	T.MORAN	DRAWING NO.	3 OF 3
DATE	12/6/2024	DATE	12/6/2024	PROJECT NO.	E9109



SHEET TITLE:
PROPOSED BORINGS FOR PRE-SAMPLING

PROJECT TITLE:
NORTH POSSE
3041 DEL AMO BOULEVARD
TORRANCE, CALIFORNIA 90503

CLIENT:
TORRANCE BLACK BEAUTY LLC
PIER 1, BAY 1
SAN FRANCISCO, CALIFORNIA 94111

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH. (562) 426-9544 FAX. (562) 427-0805

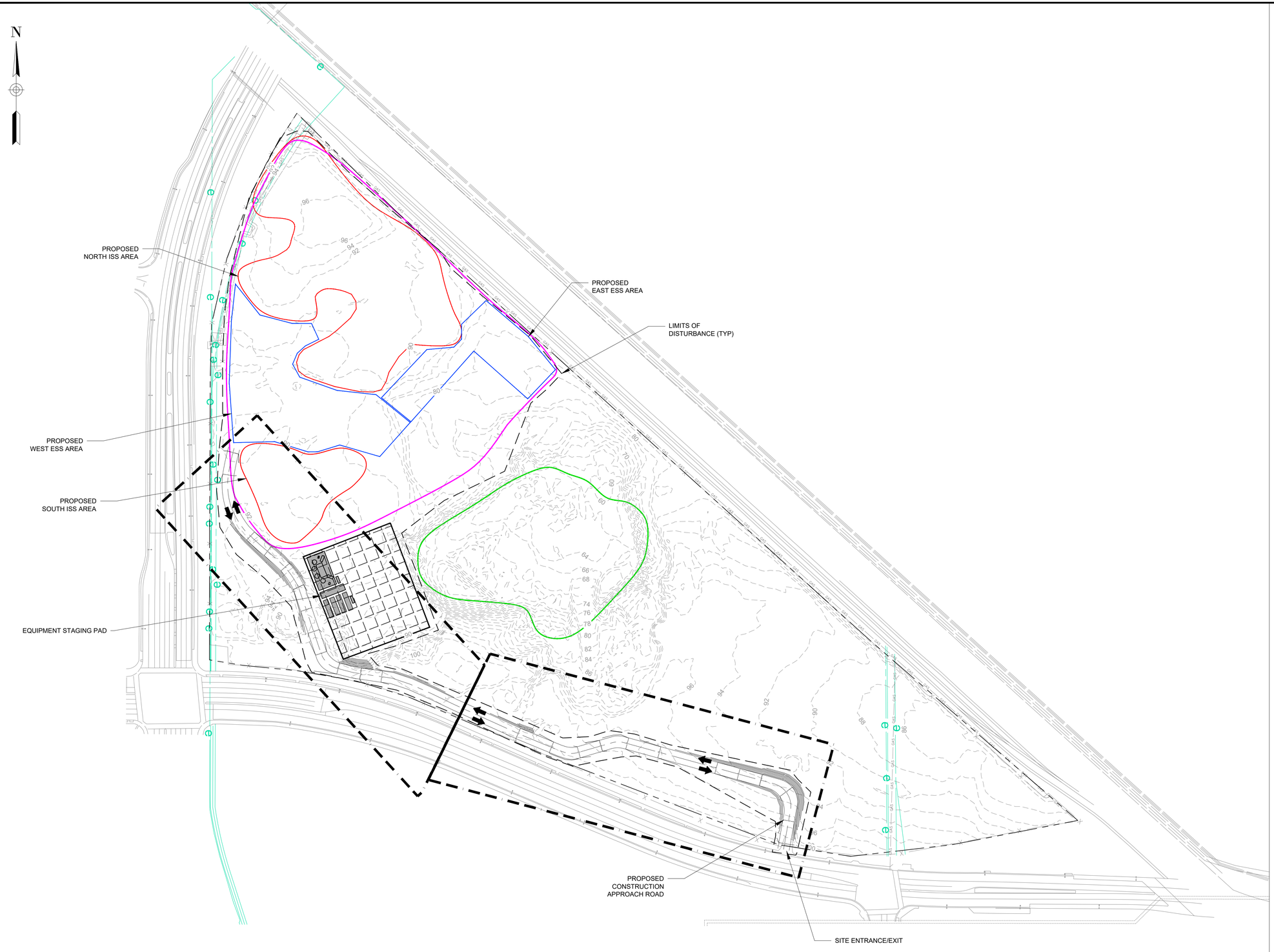
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DATE:
MARCH 2025

SCALE:
1" = 100'

FIGURE NO.
5

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LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPERTY LINE
- EXISTING GAS LINE
- EXISTING FENCE LINE
- PIPELINE EASEMENT
- TRAFFIC DIRECTION
- LAYDOWN AREA
- CONSTRUCTION ROAD MAJOR CONTOURS
- CONSTRUCTION ROAD MINOR CONTOURS
- LIMITS OF DISTURBANCE
- ISS AREAS
- ESS AREAS
- FORMER DISPOSAL AREA
- BORROW PIT AREA

NOTES

1. THE DATA DEPICTED HEREIN ARE BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83) FOR HORIZONTAL AND GEOMETRIC CONTROL DATUM AND NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
2. IMAGERY CAPTURED = 2025 © Microsoft Corporation © 2025 Maxar CNES (2025) Distribution Airbus DS © 2025 TMAP MOBILITY Earthstar Geographics SIO.

0 50 100 200
SCALE: 1"=100'

REVISION	DATE	BY	CHECKED	APPROVED	DESCRIPTION

Signature_____

PREPARED FOR:

ENTACT.

DRAWING NAME
FIGURE 7 - CONSTRUCTION OPERATIONS LAYOUT

PROJECT NAME & LOCATION
TORRANCE PROLOGIS TECH CENTER REMEDIAL DESIGN
LOS ANGELES, CALIFORNIA

DRAWN BY	J.REI	APPROVED BY	X.XXX	DRAWING NO.	C-102A
DATE	XX-XX-XX	DATE	XX-XX-XX	PROJECT NO.	E9418

File location: C:\Users\jreinhardt\Entact\E9109 - Prologis Torrance Tech Center - Bench Scale Study - Documents\2.0 Project\2.4 Construction Mgmt\2.4.1 Drawings\Design Drawings\E9418 Torrance_Planset.dwg Last saved: 3/13/2025 By: jreinhardt

Tables

TABLE 1

INDUSTRIAL SOILS REUSE THRESHOLDS - TPH, VOCs, AND SVOCs

NORTH POSSE SITE

3041 DEL AMO BOULEVARD

TORRANCE, CALIFORNIA 90503

COPC	DTSC-Recommended SL	USEPA RSL	SFRWQCB ESL	LARWQCB SSLs	SFRWQCB ESLs (Leaching)	Industrial Soils Reuse Threshold
	Milligrams per kilogram (mg/kg), equivalent to parts per million (ppm)					
TPH as Gasoline (C4 - C12)	--	--	2,000	500	1,100	**500**
TPH as Diesel (C13 - C22)	--	--	1,200	1,000	1,100	**1,000**
TPH as Oil (C23 - C40)	--	--	180,000	10,000	--	**10,000**
Ethylbenzene	--	25	26	--	0.43	**0.43**
Naphthalene	6.5	9	17	--	0.042	**0.042**
Benzo(a)pyrene	1.3	2.1	2.1	--	5.7	**1.3**
1-Methyl naphthalene	30	73	--	--	--	**30**

Notes:

-- = Not Established

COPC = Constituents of Potential Concern

DTSC-Recommended SL = Department of Toxic Substance Control Human and Ecological Rick Office (HERO) Note 3 Screening Level (June 2020; Revised May 2022)

LARWQCB SSLs = Los Angeles Regional Water Quality Control Board Soil Screening Levels for soils located 20-150 feet above groundwater (Interim Site Assessment and Cleanup Guidebook. May 1996).

VOCs = volatile organic compounds

SVOCs - Semi-volatile organic compounds

SFRWQCB ESLs = San Francisco Bay Regional Water Quality Control Board's Environmental Screening level (January 2019)

TABLE 2

INDUSTRIAL SOILS REUSE THRESHOLDS - METALS

NORTH POSSE SITE

3041 DEL AMO BOULEVARD

TORRANCE, CALIFORNIA 90503

COPC	DTSC-Recommended SL	USEPA RSL	SFRWQCB ESL	Typical Range for CA Soils*	Industrial Soils Reuse Threshold
	Milligrams per kilogram (mg/kg), equivalent to parts per million (ppm)				
Antimony	--	470	160	0.15-1.95	**160**
Arsenic^	0.36	3.0	0.31	0.6-11	**12^**
Barium	--	220,000	220,000	133-1,400	**220,000**
Beryllium	210	2,300	230	0.25-2.7	**210.0**
Cadmium	7.3	100	1,100	0.05-1.7	**7.3**
Chromium	170,000	--	--	23-1,579	**170,000**
Cobalt	--	350	350	2.7-46.9	**350**
Copper	--	47,000	47,000	9.1-96.4	**47,000**
Lead	500	800	^^	12.4-97.1	**500**
Mercury (elemental)	4.5	46	190	0.1-0.9	**4.5**
Molybdenum	--	5,800	5,800	0.1-9.6	**5,800**
Nickel	3,100	18,000	11,000	9-509	**3,100**
Selenium	--	5,800	5,800	0.015-0.430	**5,800**
Silver	1,500	5,800	5,800	0.1-8.3	**1,500**
Thallium	--	12	12	0.17-1.1	**12**
Vanadium	1,000	5,800	5,800	39-288	**1,000**
Zinc	--	350,000	350,000	88-236	**350,000**

Notes:

-- = Not Established

COPC = Constituents of Potential Concern

DTSC-Recommended SL = Department of Toxic Substance Control Human and Ecological Rick Office (HERO) Note 3 Screening Level (June 2020; Revised May 2022)

USEPA RSL = United States Environmental Protection Agency Regional Screening Level (November 2024)

SFRWQCB ESLs = San Francisco Bay Regional Water Quality Control Board's Environmental Screening level (January 2019)

^ = In HERO Note No. 11, DTSC indicated that mitigation and remediation is not usually taken to reduce the concentration of contaminants below ambient levels. Collated a data set of arsenic concentrations in soil from five Southern California counties (Los Angeles, Orange, Riverside, San Bernardino, and San Diego), which established an upper-bound estimate of the regional ambient arsenic soil concentration that can be used as a screening tool for sites throughout Southern California. DTSC Site Mitigation and Restoration Program (SMRP) made a risk management decision on the acceptability of estimated risk associated and stated that site-specific soil concentrations which exceed 12 mg/kg may be indicative of a release.

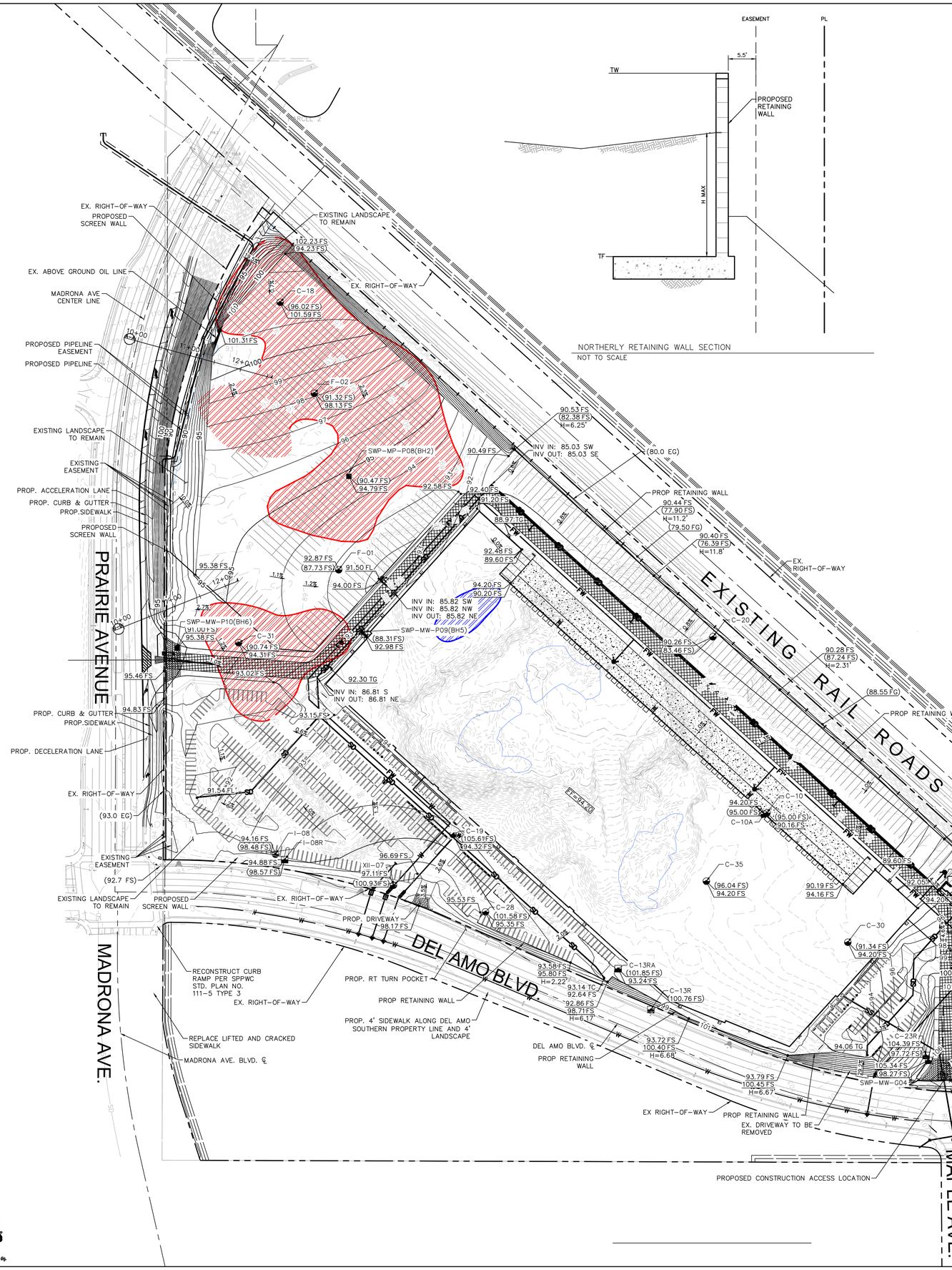
^ ^= DTSC-Recommended SL will be used for soil reuse screening criteria for lead based on DTSC HERO Note 4 (March, 2022) revisions to the LeadSpread model to include updates to the lead exposure parameters

* = Bradford, G.R., Chang, A.C., Page, A.L., Bakhtar, D., Fampton, J.A., and Wright, H., 1996, Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation of Soil Science Special Report, Division of Agriculture and Natural Resources, University of California.

Appendix A

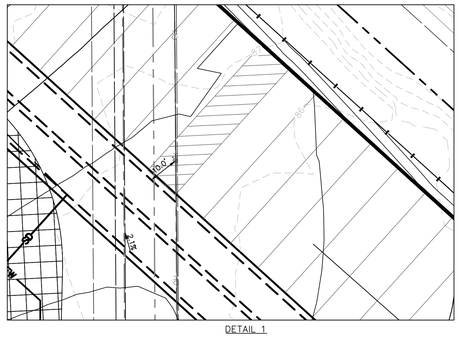
Property Redevelopment Plan and

Conceptual Grading Plans

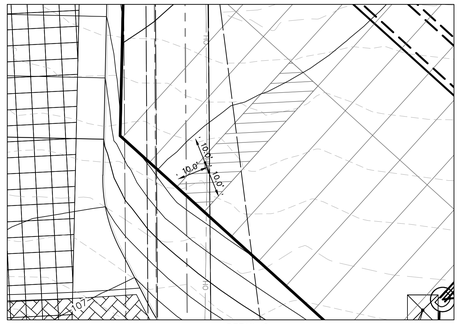


NORTHERLY RETAINING WALL SECTION
NOT TO SCALE

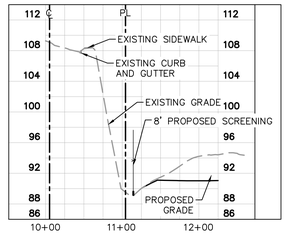
ELECTRICAL POLE DETAILS
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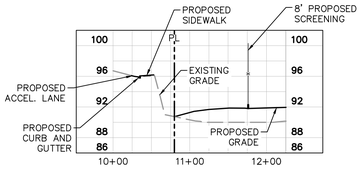
DETAIL 1



DETAIL 2



A–A SECTION
1:80 H AND 1:8 V



B–B SECTION
1:80 H AND 1:8 V

LEGEND

- PROPERTY LINE
- RIGHT–OF–WAY LINE
- CENTER LINE
- EASEMENT LINE
- LIMITS OF GRADING
- SD — PROPOSED STORM DRAIN PIPE
- FLOW LINE
- POINT OF CONNECTION (@ BLDG)
- POINT OF CONNECTION (TO EXISTING)
- PIPE END CAP
- PROPOSED CLEANOUT
- STORM DRAIN AND SANITARY SEWER MANHOLE
- MONITORING WELLS

SITE DATA

SITE AREA:	1,364,209 SF (31.318 AC)
BUILDING AREA:	403,033 SF (9.252 AC)
FLOOR AREA RATIO (FAR):	403,033 SF/1,364,209 SF = 0.30 FAR

NOTE

PER CONDITIONS OF APPROVAL FOR FUTURE EQUESTRIAN FACILITY ON THE SOUTH SIDE OF DEL AMO BLVD:

1. REPLACE LIFTED, AND CRACKED SIDEWALK ON MADRONA AVE. AND SOUTH SIDE OF DEL AMO BLVD. ALONG FUTURE EQUESTRIAN FACILITY FRONTAGE PER CITY OF TORRANCE STD. NO. T102.
2. REPLACE EXISTING WHEELCHAIR RAMP AT SOUTHEAST CORNER OF MADRONA AVE. AND DEL AMO BLVD.
3. MAINTAIN 4' SIDEWALK ALONG DEL AMO SOUTHERN PROPERTY LINE AND REPLACE REMAINING 4' WITH APPROVED DROUGHT TOLERANT LANDSCAPING.
4. MAINTAIN AND REPAIR EXISTING PERIMETER CHAIN LINK FENCE AND PRIVACY SCREEN ON THE SOUTH SIDE OF DEL AMO BLVD.

NOTE

ALL EXISTING TREES WITHIN THE LIMITS OF IMPROVEMENTS WILL BE DEMOLISHED. ALL EXISTING TREES WITHIN THE PUBLIC RIGHT–OF–WAY, NOT AFFECTED BY PROPOSED DRIVEWAY APPROACH AND DECELERATION/ACCELERATION LANES, WILL BE PROTECTED IN PLACE.

ESTIMATED EARTHWORK QUANTITIES

CUT:	49,200 CY
FILL:	340,700 CY
NET:	291,500 CY (FILL)

NOTE: THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THE CONTRACTOR IS NOT AUTHORIZED TO USE THE ESTIMATES HEREIN FOR BIDDING AND CONSTRUCTION PURPOSES WITHOUT THE EXPLICIT WRITTEN PERMISSION OF THE ENGINEER OF RECORD. NO REPRESENTATIONS OF SUCH QUANTITIES OR A BALANCED SITE CONDITION ARE MADE BY THE ENGINEER OF RECORD.

UNLESS EXPLICITLY STATED OTHERWISE HEREIN, THE ABOVE QUANTITIES ARE APPROXIMATE, IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISHED GRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS AND SPOT GRADES ON THE BASE SURVEY. PROPOSED FINISHED GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN(S) AS FINISHED GROUND, FINISHED SURFACE, AND FINISHED FLOOR ELEVATIONS.

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KHA PROJECT	194187001
DATE	9/23/2024
SCALE	AS SHOWN
DESIGNED BY	ML
DRAWN BY	CL
CHECKED BY	JM

DATE:

PRELIMINARY GRADING PLAN

TORRANCE REFINERY

PREPARED FOR
TORRANCE BLACK BEAUTY, LLC

CITY OF TORRANCE CA

C1

Plotted By:Gutierrez, Kevin Sheet Set:Kha Layout:C1 PRELIMINARY GRADING PLAN September 23, 2024 01:54:47pm K:\ORA_LDE\V\194187001 – Prologis Torrance\CAD\PlanSheets\PRELIM GRADING\C1 GRADING AND DRAINAGE PLAN.dwg
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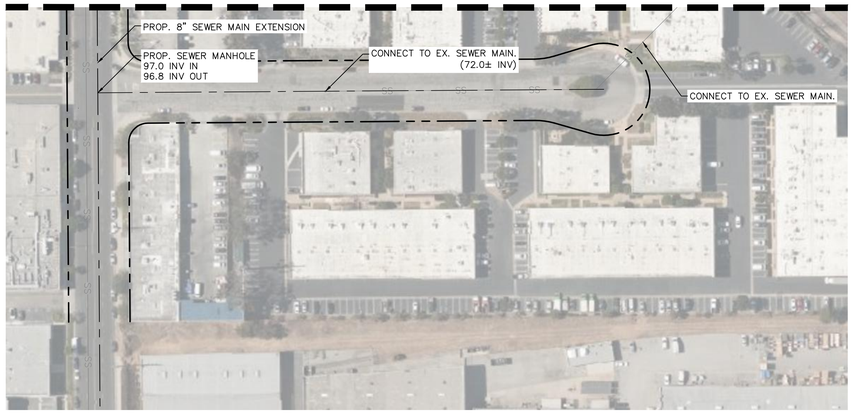
LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT LINE
- SD — PROPOSED STORM DRAIN PIPE
- FLOW LINE
- POINT OF CONNECTION (@ BLDG)
- POINT OF CONNECTION (TO EXISTING)
- PIPE END CAP
- PROPOSED CLEANOUT
- D S — STORM DRAIN AND SANITARY SEWER MANHOLE
- MONITORING WELLS

UTILITY NOTES

1. ABANDON ALL EXISTING UNUSED SERVICES AT THE MAIN.
2. A METER AND DOUBLE CHECK VALVE SHALL BE INSTALLED AT EACH POINT OF CONNECTION FOR PROPOSED ONSITE FIRE HYDRANTS.

PROPOSED SEWER EXTENSION MATCH LINE



EX. DRAINAGE CHANNEL
EX. ABOVE GROUND OIL LINE
EX. RAIL 20' EASEMENT
EX. PROPERTY LINE
EXISTING RAIL ROADS
PRAIRIE AVENUE
MADRONA AVE.
DEL AMO BLVD
PROPOSED BUILDING FFE=94.20
PROP. HYDRANT (TYP.)
PROP. 10" FIRE WATER
SWP-MW-P10(BH6)
SWP-MW-P09(BH5)
SWP-MP-P08(BH2)
F-01
F-02
C-18
C-31
C-20
C-10
C-10A
C-35
C-19
C-28
C-30
C-13RA
C-13R
C-29
C-23R
WATER BUILDING POC
PROP. BACKFLOW PREVENTER (TYP.)
I-08
I-08R
XII-07
PROP. WATER METER
EX. HYDRANT (TYP.)
EX. WATER
EX. SEWER
EX. STORM DRAIN
EX. RIGHT OF WAY
RELOCATE EX. LIGHT POLE
PROP. 12" WATER MAIN POC
PROP. 2" IRRIG. SERV.
PROP. 3" WATER SERV.
PROP. 10" FIRE SERV.
PROP. 12" WATER MAIN APPROX. 1450 LF
MADRONA AVE. BLVD. ℄
DEL AMO BLVD. ℄
SEWER BUILDING POC 77.8 INV
PROP. SIDEWALK EASMENT
PROP. SEWER LIFT STATION 76.8 INV IN 100.9 INV OUT
SWP-MW-G04
GP-10
PROP. 8" SEWER.
EX. POWER POLE TO REMAIN
EX. OVERHEAD UTILITY
EX. RIGHT-OF-WAY
PROPOSED PUBLIC SEWER LINE MAIN EXTENSION TO OREGON CT SEWER MAIN APPROX. 750 LF
PROP. 12" WATER MAIN POC
PROP. 8" GRAVITY SEWER
PROP. SEWER LATERAL FOR FUTURE DEVELOPMENT
MAPLE AVE. ℄
PROP. SEWER MANHOLE 99.0 INV IN 98.9 INV OUT
PROPOSED SEWER EXTENSION MATCH LINE ABOVE

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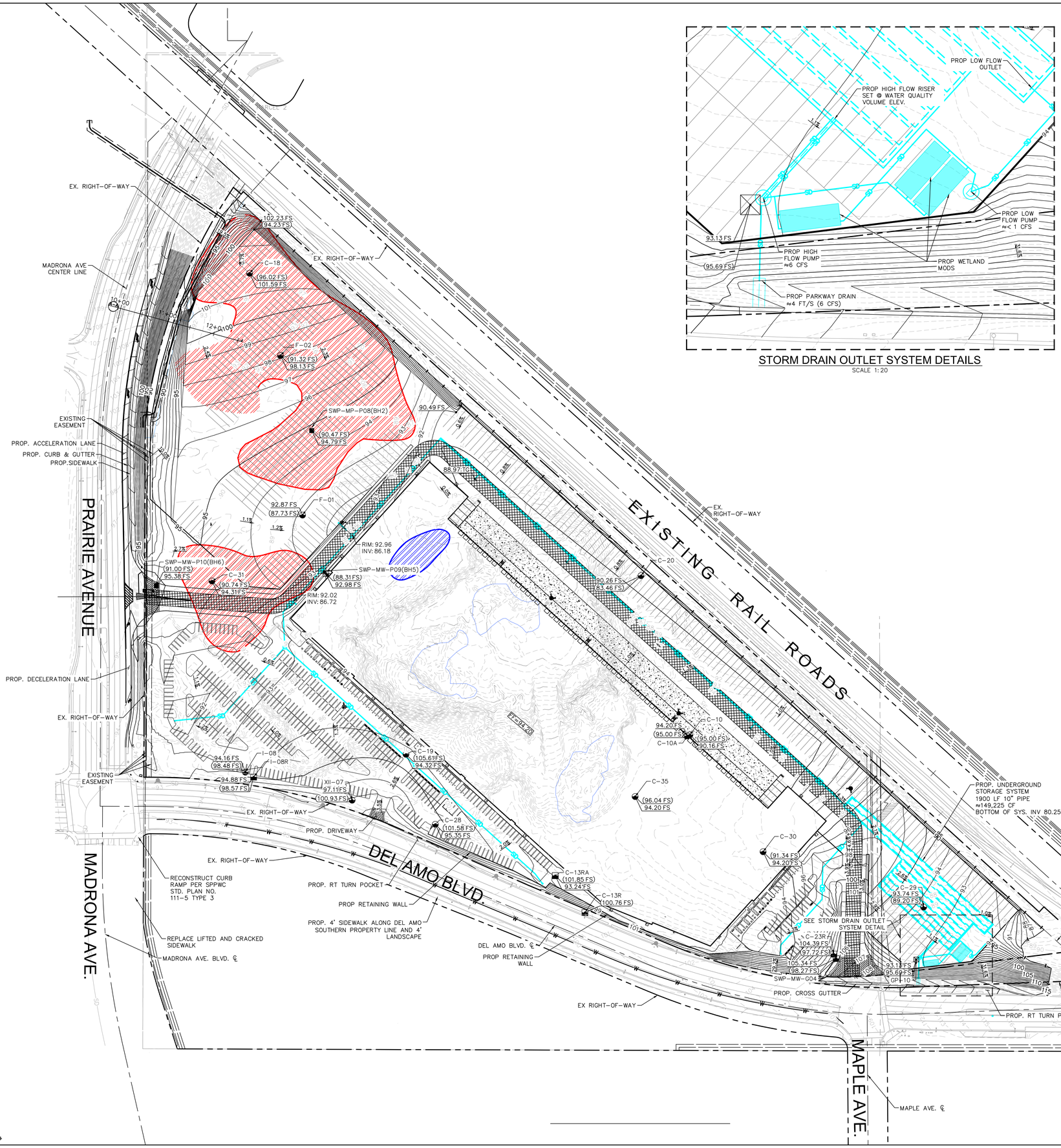
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DESIGNED BY	ML
DRAWN BY	CL
CHECKED BY	JM

PRELIMINARY UTILITY PLAN

TORRANCE REFINERY
PREPARED FOR
TORRANCE BLACK BEAUTY, LLC
CITY OF TORRANCE CA

2

Plotted By:Gutierrez, Kevin Sheet Set:Kha Layout:C2 PRELIMINARY UTILITY PLAN September 23, 2024 01:55:07pm K:\ORA_LDEV\194187001 — Prologis Torrance\CAD\PlanSheets\PRELIM GRADING\2 UTILITY PLAN.dwg
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STORM DRAIN OUTLET SYSTEM DETAILS

SCALE 1:20

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT LINE
- LIMITS OF GRADING
- PROPOSED STORM DRAIN PIPE
- FLOW LINE
- POINT OF CONNECTION (@ BLDG)
- POINT OF CONNECTION (TO EXISTING)
- PIPE END CAP
- PROPOSED CLEANOUT
- STORM DRAIN AND SANITARY SEWER MANHOLE
- WETLAND MODS
- MONITORING WELLS

SITE DATA

SITE AREA:	1,364,209 SF (31.318 AC)
BUILDING AREA:	403,033 SF (9.252 AC)
FLOOR AREA RATIO (FAR):	403,033 SF/1,364,209 SF = 0.30 FAR

NOTE

PER CONDITIONS OF APPROVAL FOR FUTURE EQUESTRIAN FACILITY ON THE SOUTH SIDE OF DEL AMO BLVD:

1. REPLACE LIFTED, AND CRACKED SIDEWALK ON MADRONA AVE. AND SOUTH SIDE OF DEL AMO BLVD. ALONG FUTURE EQUESTRIAN FACILITY FRONTAGE PER CITY OF TORRANCE STD. NO. T102.
2. REPLACE EXISTING WHEELCHAIR RAMP AT SOUTHEAST CORNER OF MADRONA AVE. AND DEL AMO BLVD.
3. MAINTAIN 4' SIDEWALK ALONG DEL AMO SOUTHERN PROPERTY LINE AND REPLACE REMAINING 4' WITH APPROVED DROUGHT TOLERANT LANDSCAPING.
4. MAINTAIN AND REPAIR EXISTING PERIMETER CHAIN LINK FENCE AND PRIVACY SCREEN ON THE SOUTH SIDE OF DEL AMO BLVD.

NOTE

ALL EXISTING TREES WITHIN THE LIMITS OF IMPROVEMENTS WILL BE DEMOLISHED. ALL EXISTING TREES WITHIN THE PUBLIC RIGHT-OF-WAY, NOT AFFECTED BY PROPOSED DRIVEWAY APPROACH AND DECELERATION/ACCELERATION LANES, WILL BE PROTECTED IN PLACE.

ESTIMATED EARTHWORK QUANTITIES

CUT:	49,200 CY
FILL:	340,700 CY
NET:	291,500 CY (FILL)

NOTE: THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THE CONTRACTOR IS NOT AUTHORIZED TO USE THE ESTIMATES HEREIN FOR BIDDING AND CONSTRUCTION PURPOSES WITHOUT THE EXPLICIT WRITTEN PERMISSION OF THE ENGINEER OF RECORD. NO REPRESENTATIONS OF SUCH QUANTITIES OR A BALANCED SITE CONDITION ARE MADE BY THE ENGINEER OF RECORD.

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DATE:

KHA PROJECT 194187001

DATE 9/23/2024

SCALE AS SHOWN

DESIGNED BY ML

DRAWN BY CL

CHECKED BY JM

TORRANCE REFINERY

PREPARED FOR

TORRANCE BLACK BEAUTY, LLC

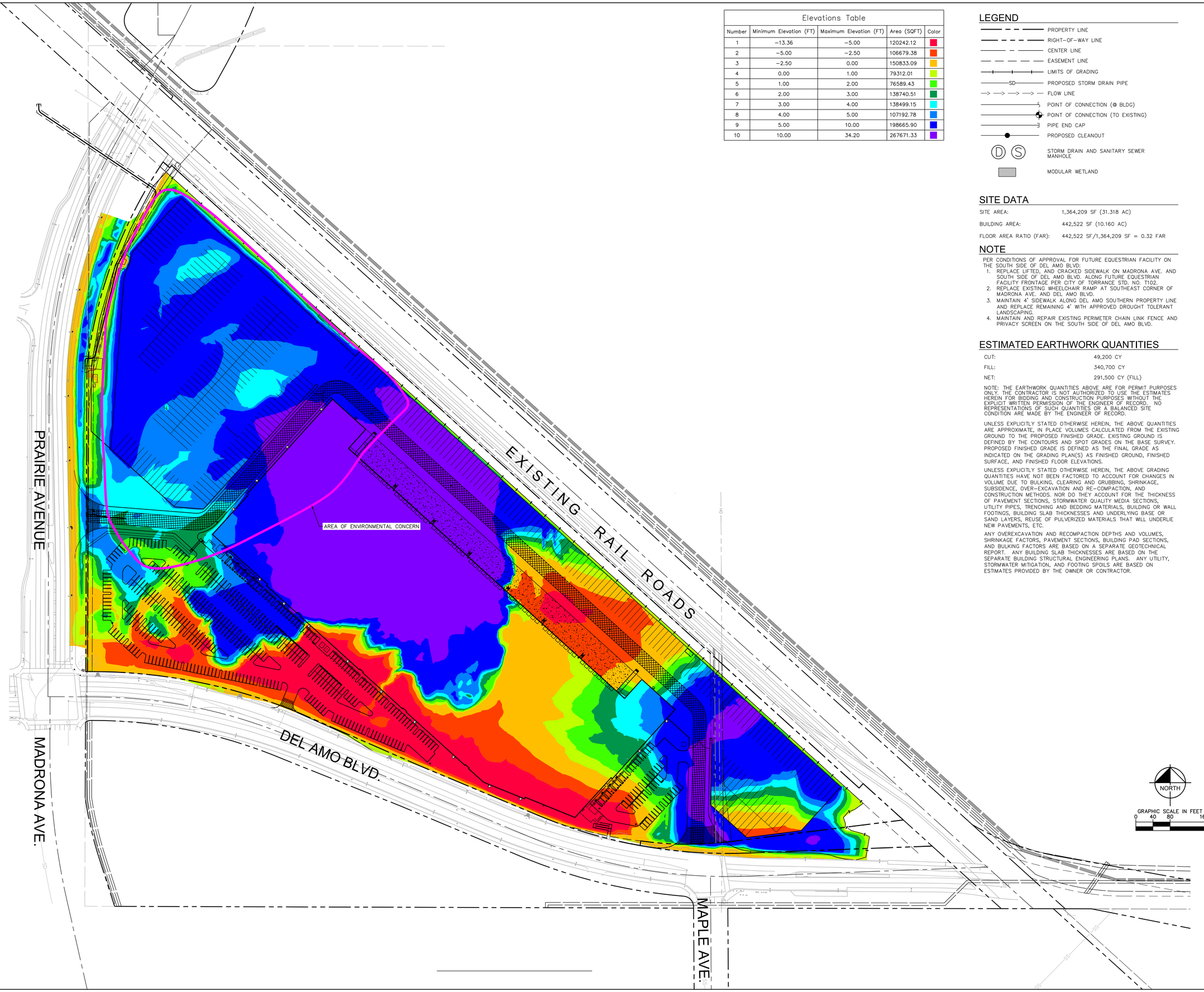
CITY OF TORRANCE CA

PRELIMINARY DRAINAGE PLAN

C3

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Elevations Table				
Number	Minimum Elevation (FT)	Maximum Elevation (FT)	Area (SQFT)	Color
1	-13.36	-5.00	120242.12	
2	-5.00	-2.50	106679.38	
3	-2.50	0.00	150833.09	
4	0.00	1.00	79312.01	
5	1.00	2.00	76589.43	
6	2.00	3.00	138740.51	
7	3.00	4.00	138499.15	
8	4.00	5.00	107192.78	
9	5.00	10.00	198665.90	
10	10.00	34.20	267671.33	

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT LINE
- LIMITS OF GRADING
- SD — PROPOSED STORM DRAIN PIPE
- FLOW LINE
- POINT OF CONNECTION (@ BLDG)
- POINT OF CONNECTION (TO EXISTING)
- PIPE END CAP
- PROPOSED CLEANOUT
- D S — STORM DRAIN AND SANITARY SEWER MANHOLE
- MODULAR WETLAND

SITE DATA

SITE AREA:	1,364,209 SF (31.318 AC)
BUILDING AREA:	442,522 SF (10.160 AC)
FLOOR AREA RATIO (FAR):	442,522 SF/1,364,209 SF = 0.32 FAR

NOTE

PER CONDITIONS OF APPROVAL FOR FUTURE EQUESTRIAN FACILITY ON THE SOUTH SIDE OF DEL AMO BLVD:

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DESIGNED BY	ML
DRAWN BY	CL
CHECKED BY	JM

PRELIMINARY GRADING HEAT MAP

TORRANCE REFINERY

PREPARED FOR
TORRANCE BLACK BEAUTY, LLC

CITY OF TORRANCE, CA

C4

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Appendix B

Asbestos Abatement Clearance Report

Asbestos Abatement Clearance Report

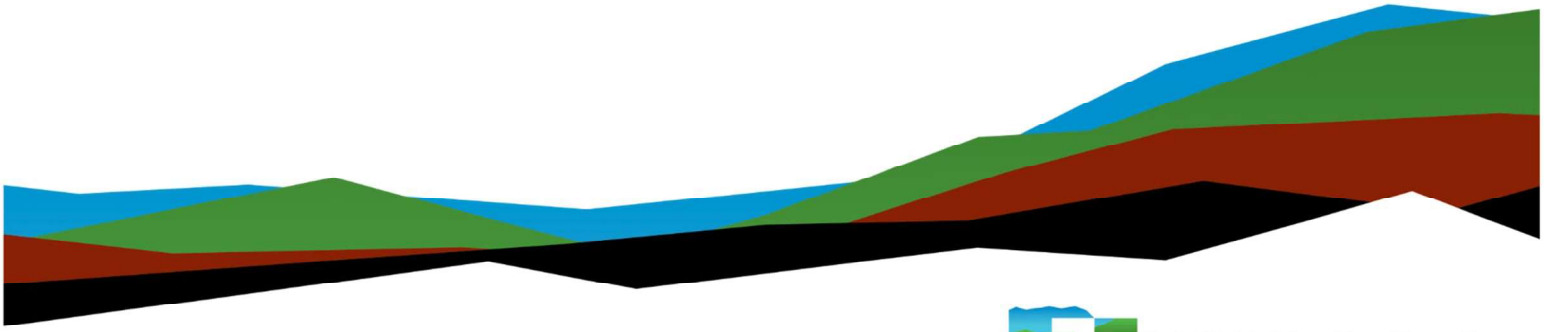
3041 Del Amo Boulevard

Torrance, California 91325

March 27, 2025 | Terracon Project Number: LA247394

Prepared for:

AMPCO Contracting, Inc.
Irvine, California



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Carson, California
P (310) 627-3430
Terracon.com

March 27, 2025

AMPCO Contracting, Inc.
17991 Cowan
Irvine, California 92614

Attn: Mr. Colin Padilla
P: (909) 376-3194
E: cpadilla@ampcocontracting.com

RE: Asbestos Visual Clearance Inspection Report
3041 Del Amo Boulevard
Torrance, California 91325
Terracon Project Number: LA247394

Dear Mr. Padilla:

Terracon Consultants, Inc. (Terracon) conducted a visual clearance inspection on February 28, 2025, following abatement of surface level asbestos-containing material (ACM) identified in Terracon report, dated October 14, 2024, and reported findings of a May, 2020 survey by SCS Engineers. The visual clearance inspection was performed by Mark Korte, a California Occupational Safety and Health Administration (Cal/OSHA) Certified Asbestos Consultant (CAC).

The purpose for the asbestos abatement was to properly remove previously identified asbestos consistent with and following the approved alternative outline in Terracon's South Coast Air Quality Management District (SCAQMD) Procedure 5 Abatement Work Plan. Approximately 400 total square feet of the ACM debris was removed.

Terracon was not present during abatement activities.

Following the reported completion of abatement activities, Terracon performed a visual inspection of the regulated work area on the undeveloped land at the subject address to ensure all known visible ACMs scheduled for removal had been satisfactorily removed.

Table I
Post Abatement Work Area Clearance

Date of Clearance	Location of Demarcated Area	Pass/Fail
February 28, 2025	Exterior Demarcated Area	Visual Pass

Following the completion of the visual inspection, Terracon informed the client of the findings of visual clearance inspection of the exterior demarcated work area. Terracon advised that demarcated barriers could be removed and the areas were cleared for un-regulated work.

Copies of the inspector visual clearance inspection form and inspector certification are attached to this letter.

Terracon appreciates this opportunity to provide environmental consulting services to AMPCO Contracting, Inc. If additional information is needed, feel free to contact the undersigned at (949) 383-1977.

Sincerely,

Terracon Consultants, Inc.

Mark Korte, CAC
Project Manager

Chris Blake, CAC
Senior Project Manager

ATTACHMENTS: Visual Clearance Form, Inspector Certification

VISUAL CLEARANCE FORM

February 28, 2025

Terracon

Southern California Metro
Los Angeles – Orange County – Inland Empire – San Diego

ABATEMENT FINAL CLEARANCE

PAGE ____OF_____

PROJECT NAME:	Del Amo P5 Abatement	**TERRACON PROJECT #:**	LA247394
SITE ADDRESS:	3041 Del Amo Blvd, Torrance	**DATE:**	2/28/2025
CLIENT CONTACT:		**TIME:**	8am
CLIENT PHONE #:			
ABATEMENT CONTRACTOR:	TriSpan	**CONTRACTOR SUPERVISOR:**	
CLEARANCE AREA:	Undeveloped Land		

[x] **Clearance by Visual Inspection**

In accordance with Cal/OSHA and the local air quality management district, the Terracon representative has visually inspected the surfaces in and around the regulated work area and has observed no visible asbestos-containing debris, residue or wastes from the area where asbestos was specified for removal. Exceptions to this statement are noted below. Each exception has been corrected as of the date listed:

DEFICIENCY	DATE AND TIME CORRECTED

[ ] **Clearance by Air Sampling and Analysis**

Terracon Representative hereby certified that air samples from the regulated work area have been collected in accordance with all applicable regulations and specifications. All samples were analyzed in the field by NIOSH 582 certified personnel or an appropriately accredited laboratory. Results of the final air sampling are attached.

Comments:

The regulated abatement area may be: _____ REOCCUPIED ___x___ RENOVATED/DEMOLISHED

Terracon Representative Name:

Mark Korte

Terracon Representative Signature:

Certification Number:
19-6503

Date:

INSPECTOR CERTIFICATIONS

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Mark A Korte

Name



Certification No. **19-6503**

Expires on **05/15/2026**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq of the Business and Professions Code

Appendix C

SCAQMD Rules

(Adopted August 5, 1988)(Amended July 14, 1995)(Amended May 11, 2001)

RULE 1166. VOLATILE ORGANIC COMPOUND EMISSIONS FROM DECONTAMINATION OF SOIL

(a) Applicability

This rule sets requirements to control the emission of Volatile Organic Compounds (VOC) from excavating, grading, handling and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.

(b) Definitions

(1) EXCAVATION is the process of digging out and removing materials, including any material necessary to that process such as the digging out and removal of asphalt or concrete necessary to expose, dig out and remove known VOC contaminated soil.

(2) GRADING is the process of leveling off to produce a smooth surface including the removal of any material necessary to that process such as asphalt and concrete necessary to expose known VOC contaminated soil.

(3) SOIL DECONTAMINATION MEASURE is any process approved by the Executive Officer to remediate, destroy, remove, or encapsulate VOC and VOC-contaminated soil.

(4) UNDERGROUND STORAGE TANK means any one or combination of tanks, including pipes connected thereto, which is used for the storage of organic liquid which is more than 50% beneath the surface of the ground.

(5) VOC CONTAMINATED SOIL is a soil which registers a concentration of 50 ppm or greater of Volatile Organic Compounds as measured before suppression materials have been applied and at a distance of no more than three inches from the surface of the excavated soil with an organic vapor analyzer calibrated with hexane.

(6) VOC CONTAMINATED SOIL MITIGATION PLAN is a plan to minimize VOC emissions to the atmosphere during excavation and any subsequent handling of VOC-contaminated soil.

(7) VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds. Exempt compounds are defined in Rule 102—Definition Of Terms.

(8) VOLATILE ORGANIC MATERIALS include gasoline, diesel, crude oil, lubricant, waste oil, adhesive, paint, stain, solvent, resin, monomer, and/or any other material containing VOC.

(c) Requirements

(1) A person excavating an underground storage tank and/or transfer piping storing or previously storing VOC materials, or excavating or grading soil containing VOC materials shall:

(A) Apply for, obtain and operate pursuant to a mitigation plan approved by the Executive Officer prior to commencement of excavation or handling. The mitigation plan general requirement and application requirements are found in Attachment A to this rule. A copy of the approved plan must be on site during the entire excavation period.

(B) Notify the Executive Officer at least 24 hours prior to excavation using a form approved by the Executive Officer which is fully completed.

If the excavation does not commence on start date, renotification is required.

An alternative notification procedure may be authorized for multiple excavations within a single facility, with prior written approval from the Executive Officer.

(C) Monitor for VOC contamination pursuant to subdivision (e), at least once every 15 minutes commencing at the beginning of excavation or grading and record all VOC concentration readings in a format approved by the Executive Officer; and

(D) When VOC-contaminated soil is detected during excavation or grading:

(i) Implement the approved mitigation plan (Attachment A).

(ii) Notify the Executive Officer within 24 hours of detection of VOC-contaminated soil.

(iii) Monitor and record VOC concentration readings as prescribed in the plan. Monitoring records must be kept available on site.

(iv) Keep calibration records for all monitoring instruments available on site.

(2) A person handling VOC-contaminated soil at or from an excavation or grading site shall:

(A) Segregate VOC-contaminated stockpiles from non-VOC contaminated stockpiles such that mixing of the stockpiles does not take place.

(B) Spray VOC-contaminated soil stockpiles with water and/or approved vapor suppressant and cover them with plastic sheeting for all periods of inactivity lasting more than one hour.

(C) Conduct a daily visual inspection of all covered VOC contaminated soil stockpiles to ensure the integrity of the plastic covered surfaces. A daily inspection record must be maintained on site.

(D) Comply with the provisions in subparagraph (c) (1)(A) and clause (c)(1)(D)(i).

(E) Maintain a record of the identification and business addresses of the generator, transporter and storage/treatment facilities. Such record shall be signed by each party at the time custody is transferred.

(F) Treat or remove contaminated soil from an excavation or grading site within 30 days from the time of excavation.

(3) If the VOC concentration in the excavated soil is measured at greater than 1000 ppm, spray the soil with water or vapor suppressant and:

(A) As soon as possible, but not more than 15 minutes, place the soil in sealed containers, or

(B) As soon as possible, but not more than 15 minutes, load into trucks, moisten with additional water, cover and transport off site, or

(C) Implement other alternative storage methods approved in writing by the Executive Officer.

(4) A person treating VOC-contaminated soil shall:

(A) Obtain a permit to construct and operate treatment equipment, as applicable, from the Executive Officer, and

(B) Implement VOC-contaminated soil decontamination measures, as approved by the Executive Officer in writing, which result in Best Available Control Technology applied during all segments, and which include, but are not limited to, at least one of the following:

(i) Installation and operation of an underground VOC collection system and a disposal system prior to excavation.

(ii) Collection and disposal of the VOC from the excavated soil on-site using equipment approved by the Executive Officer.

(iii) Any equivalent VOC-contaminated soil control measure previously approved in writing by the Executive Officer.

(5) A person shall not engage in or allow any on-site or off-site spreading, grading or screening of VOC-contaminated soil, which results in uncontrolled evaporation of VOC to the atmosphere.

(6) Loading trucks for contaminated soil must meet the following:

(A) The truck and trailer shall be adequately tarped prior to leaving the site; no excavated materials shall extend above the sides or rear of the truck or trailer to prevent soil spillage during transport, and

(B) The exterior of the truck, trailer and tires shall be cleaned off prior to the truck leaving the site.

(d) Exemptions

(1) The provisions of this rule shall not apply to the following:

(A) Excavation, handling, and treating of less than one (1) cubic yard of contaminated soil.

(B) Removal of soil for sampling purposes.

(C) Accidental spillage of five (5) gallons or less of VOC containing material.

(2) The provisions of paragraphs (c)(1) and (c)(2) shall not apply to soil excavation or handling as a result of an emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer. Whenever possible, the Executive Officer shall be notified by telephone prior to commencing such excavation. The Executive Officer shall be notified in writing no later than 48 hours following such excavation. Written notification shall include written emergency declaration from the authorized officer.

(e) Test Methods

(1) A person shall measure excavated soils for volatile organic compounds to determine contamination by:

(A) Using an organic vapor analyzer calibrated with hexane, complying with 40 CFR Part 60 Appendix A, EPA Reference Method 21 Section 3 or any equivalent method with prior approval in writing by the Executive Officer. If other calibrating gases are used, then the measured readings shall be correlated to and expressed as hexane.

(B) Placing the probe inlet at a distance of no more than three inches from the surface of the excavated soil and while slowly moving the probe across the soil surface, observe the instrument readout. If an increased meter reading is observed, continue to sample the excavated soil until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately double the instrument response time. If the maximum observed meter reading is greater than the 50 ppm standard in the regulation, record and report the results.

(2) The presence of VOC in stored or spillage materials shall be determined by SCAQMD Method 313 [Determination of Presence of Volatile Organic Compounds (VOC) in Headspace] and/or Method 304 (Determination of Volatile Organic Compounds in Various Materials) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

(f) Enforcement

(1) Violation of any provision of this rule or the violation of the approved mitigation plan shall be grounds for the Executive Officer to amend or revoke the mitigation plan, in addition to penalties provided by the Health & Safety Code.

(2) If the owner or operator is served with a Notice of Violation for creating a public nuisance, the owner or operator shall suspend operation until the public nuisance is mitigated to the satisfaction of the Executive Officer.

ATTACHMENT A
GENERAL MITIGATION PLANS REQUIREMENTS

VOC Contaminated Soil Mitigation Plans shall be written to minimize VOC emissions to the atmosphere during excavation, grading, handling and treatment of VOC contaminated soil. VOC Contaminated Soil Mitigation Plans shall consist of three types: Various Locations, Site Specific and Facility Treatment.

(1) General Requirements

(A) A plan is not transferable.

(B) A person responsible for the excavation, grading or handling of VOC contaminated soil must be completely familiar with the plan and must adhere to the plan requirement. The Executive Officer may require that the plan be signed by the owner and/or operator.

(C) A plan may be amended upon renewal.

(D) Permission to excavate, grade or handle VOC contaminated soil may be withdrawn by the District upon a finding by the Executive Officer that the excavation, grading or handling of the VOC contaminated soil is causing a public nuisance or violating other AQMD rules or regulations.

(2) Various Location Plans:

(A) Shall be limited to the excavation of 2000 cubic yards or less of VOC contaminated soil in any consecutive 12 month period at the same site.

(B) Shall not be used in conjunction with any other various location plan at the same site within a consecutive 12-month period.

(C) Shall expire after one year from issuance unless renewed.

(D) Shall not be issued for nor used for operations that involve grading, soil treatment or remediation, or landfills.

(3) Site Specific Plans:

(A) Shall be for excavation of greater than 2000 cubic yards of VOC contaminated soil.

(B) Shall be issued for specific excavation or grading locations for a period not to exceed two years.

(C) Shall not be renewable.

(4) Facility Treatment Plans:

(A) Shall be issued for a treatment facility at a permanent location.

(B) Shall expire after one year from issuance unless renewed.

(5) Applications for Site Specific Plans shall contain as a minimum:

(A) Reasons for excavation or grading.

(B) Cause of VOC soil contamination and history of the site.

(C) Description of tanks or piping associated with the soil contamination.

(D) An estimate of the amount of contaminated soil.

(E) The operating schedule for excavation and removal.

(F) Description of how the excavation or grading will be conducted.

(G) Description of mitigation measures for dust, odors and VOC.

(H) Details of disposal of VOC contaminated soil, including the ultimate receptor.

(I) Description of monitoring equipment and techniques.

(J) A map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential areas or other sensitive receptors such as hospitals or locations where children or elderly people live or work.

(K) Designation of a person who can conduct a site inspection with the Executive Officer prior to issuance of the plan.

(6) Applications for Facility Treatment Plans shall at a minimum:

(A) Include a list of all AQMD permits to construct or operate which have been issued for that treatment and control equipment.

(B) Provide for the implementation of VOC-contaminated soil decontamination measures, as approved by the Executive Officer in writing, which result in Best Available Control Technology during all operations.

(C) Provide a map showing the facility layout including the location of all proposed VOC and non-VOC contaminated soil stockpiles.

(D) Specify the total amount of VOC contaminated soil proposed to be stockpiled on site.

(E) Provide for VOC contaminated soil stockpiles to be kept moist with water or suppressant and be covered to prevent fugitive emissions.

(F) Provide for VOC contaminated soil stockpiles to be segregated from non-VOC contaminated soil stockpiles.

(G) Provide for maintenance of records for stockpiles according to the source name, address and dates of reception.

(H) Provide for records of the generator, transporter and storage/treatment facilities and indicate their identification and business addresses. Such records shall be signed by each party at the time custody is transferred.

(I) Provide a map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential area or other sensitive receptors such as hospitals, or locations where children or elderly people live or work.

(J) Designation of a person who can conduct a site inspection with the Executive Officer prior to issuance of the plan.

(K) Specify the operating schedule and maximum amount of VOC-contaminated soil proposed to be remediated on a daily basis.

(7) In approving a plan, the Executive Officer require reasonable conditions deemed necessary to ensure the operations comply with the plan and AQMD rules. The conditions may include, but shall not be limited to, procedures for ensuring responsibility for the implementation of the plan, accessibility to the site for AQMD staff, notification of actions required by the plan, identification of emission receptors, monitoring and testing, suppression and covering of stockpiles, prevention of public nuisance from VOC or dust emissions, prevention of fugitive emissions of VOC contaminated soil, loading of truck trailers, and disposal and treatment.

(8) In approving a plan, the Executive Officer may require any records deemed necessary to be maintained by the operator to demonstrate compliance with the plan. Such records shall be retained for at least 2 years and be made available to the Executive officer upon request.

(Adopted July 7, 2017)(Amended December 1, 2017)(Amended June 4, 2021)

RULE 1466. CONTROL OF PARTICULATE EMISSIONS FROM SOILS WITH TOXIC AIR CONTAMINANTS

(a) Purpose

The purpose of this rule is to minimize the amount of off-site fugitive dust emissions containing toxic air contaminants by reducing particulate emissions in the ambient air as a result of earth-moving activities, including, dredging, excavating, grading, earth-cutting and filling, loading, unloading, handling, mechanized land clearing, treating, stockpiling, transferring, and removing of soil that contains applicable toxic air contaminants, from sites that meet the applicability requirements of subdivision (b).

(b) Applicability

(1) This rule shall apply to any owner or operator conducting earth-moving activities of soil with applicable toxic air contaminant(s) as defined in paragraph (c)(16) that have been identified as contaminant(s) of concern at a site that has been designated and notified by:

(A) The U.S. Environmental Protection Agency (U.S. EPA) as a Superfund National Priorities List site;

(B) The California Department of Toxic Substances Control (DTSC) as a Brownfield or Cleanup Program site;

(C) The State Water Resources Control Board (State Water Board) or Regional Water Quality Control Board (Regional Water Board) as a Site Cleanup Program site;

(D) A county, local, or state regulatory agency as a Hazardous Material Release site, as defined in California Health and Safety Code Section 25260; or

(E) The Executive Officer pursuant to subdivision (i).

(2) This rule shall not apply to:

(A) Earth-moving activities of soil with applicable toxic air contaminant(s) of less than 50 cubic yards; or

(B) Removal of soil for sampling purposes.

(c) Definitions

(1) ADEQUATELY WET means the condition of being sufficiently mixed or penetrated with water to prevent the release of particulates or visible emissions. The process by which an adequately wet condition is achieved is by using a dispenser

or water hose with a nozzle that permits the use of a fine, low-pressure spray or mist.

(c) (2) ADJACENT ATHLETIC AREA means any outdoor athletic field or park where youth organized sports occur that is in physical contact or separated solely by a public roadway or other public right-of-way to a SCHOOL.

(3) ADJOINING means in physical contact with or separated solely by a public roadway or other public right-of-way.

(4) CHEMICAL STABILIZERS means any non-toxic chemicals that are used to bind soil together to control FUGITIVE DUST emissions.

(5) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for FUGITIVE DUST. This definition excludes those areas which have:

(A) Been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) Been paved or otherwise covered by a permanent structure; or

(C) Sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(6) DUST SUPPRESSANTS means water or hygroscopic materials, other than CHEMICAL STABILIZERS, that are used as a treatment material to reduce FUGITIVE DUST emissions.

(7) EARTH-MOVING ACTIVITIES means, for the purpose of this rule, any activity on a site that meets the applicability requirements of subdivision (b) where SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S) is being moved or uncovered, including: dredging, excavating, grading, earth-cutting and filling operations, loading, unloading, handling, mechanized land clearing, treating, transferring, removing, and adding to or removing from STOCKPILES, and vehicular movement of equipment associated with these activities. EARTH-MOVING ACTIVITIES do not include vehicular movement from: delivery vehicles, passenger vehicles transporting personnel to and from the site, vehicles used for administrative purposes, vehicles transporting personnel for the purposes of soil sampling and conducting ambient PM_{10} monitoring requirements, watering trucks, and equipment used exclusively on a portion(s) of the site where there is no SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S).

(c) (8) FUGITIVE DUST means, for the purpose of this rule, any solid particulate matter that is in contact with ambient air and has the potential to become airborne, other than solid particulate matter that is emitted from an exhaust stack.

(9) JOINT USE AGREEMENT PROPERTY means a shared public facility in which a formal agreement exists between a SCHOOL and another government entity setting forth the terms and conditions for shared use.

(10) OWNER OR OPERATOR means any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, contractor, or other capacity.

(11) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excludes access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal, or any other governmental or quasi-governmental agencies. Private paved roads are any PAVED ROADS not defined as public.

(12) PROPERTY LINE means the boundary of an area where a person has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(13) SCHOOL means any public or private education center, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the education center in kindergarten through grade 12. A SCHOOL also includes an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Starts, Head Start, First Five, and Child Development Centers. A SCHOOL does not include any private education center in which education is primarily conducted in private homes. A SCHOOL includes any building or structure, playground, athletic field, or other area of school property.

(14) SLAG means, for the purpose of this rule, the by-product material that is separated from metals during smelting or refining of ore.

(15) SOIL means dirt, sand, gravel, clay, SLAG, and aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(16) SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S) means, for the purpose of this rule, SOIL that has been identified by the U.S. EPA, the DTSC, the

State Water Board, the Regional Water Board, or a county, local, or state regulatory agency, to contain one or more of the applicable toxic air contaminants listed in Table I that exceed action levels as specified by the designating agency, or soil that has been identified by the Executive Officer to contain one or more of the toxic air contaminants listed in Rule 1401 – New Source Review of Toxic Air Contaminants (Table I) or Hazardous Air Pollutants Identified as Toxic Air Contaminants as listed in California Code of Regulations Section 93001, excluding volatile organic compounds regulated under Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil.

(c) (17) STABILIZED SURFACE means any previously DISTURBED SURFACE AREA or STOCKPILE, which through the application of CHEMICAL STABILIZERS or DUST SUPPRESSANTS, shows visual or other evidence of surface crusting and is resistant to WIND-DRIVEN FUGITIVE DUST, and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the most current version of the South Coast AQMD *Rule 403 Fugitive Dust Implementation Handbook* or in Volumes I and II of South Coast AQMD's *Dust Control in the Coachella Valley*.

(18) STOCKPILE means any accumulation of SOIL, which is not fully enclosed and which attains a height of three feet or more and a total surface area of 150 square feet or more.

(19) TRACK-OUT means, for the purpose of this rule, any SOIL that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that has been released onto a PAVED ROAD and that can be removed by a vacuum sweeper under normal operating conditions.

(20) WIND-DRIVEN FUGITIVE DUST means visible emissions from any DISTURBED SURFACE AREA, which is generated by wind action alone.

(d) Monitoring Requirements

(1) When on-site earth-moving activities occur, the owner or operator shall conduct continuous direct-reading near real-time ambient monitoring of PM_{10} concentrations pursuant to paragraph (d)(3).

(2) If the PM_{10} concentration exceeds 25 micrograms per cubic meter, as measured pursuant to paragraph (d)(3) and as determined pursuant to paragraph (d)(9), the owner or operator shall cease on-site earth-moving activities, apply dust suppressant to fugitive dust sources, or implement other dust control measures as

necessary until the PM_{10} concentration is equal to or less than 25 micrograms per cubic meter averaged over 30 minutes.

(d) (3) The owner or operator conducting on-site earth-moving activities shall install PM_{10} monitors and conduct ambient PM_{10} monitoring:

(A) In accordance with a U.S. EPA-approved equivalent method for PM_{10} monitoring or using a Rule 1466 Approved PM_{10} Monitor;

(B) Using a minimum of two monitors, placing each monitor as close to the property line as feasible, where:

(i) One or more monitors is in the seasonal prevailing wind direction upwind of the area(s) of on-site earth-moving activity, indicative of background PM_{10} levels, and not generally influenced by fugitive dust sources from the site; and

(ii) One or more monitors is in the seasonal prevailing wind direction downwind of the area(s) of on-site earth-moving activity;

(C) Using PM_{10} monitors that are identical in: make and model, settings, and configuration; and

(D) Using ambient PM_{10} monitors that are operated, maintained, and calibrated in accordance with appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent methods for PM_{10} and manufacturer's instructions.

(4) On and before December 31, 2021, the owner or operator shall collect ambient PM_{10} data with a data acquisition system (DAS) that is capable of logging direct-reading near real-time data providing the date, time, and PM_{10} concentration in micrograms per cubic meter every 10 minutes or less.

(5) On and after January 1, 2022, the owner or operator shall collect ambient PM_{10} data with a DAS that is capable of logging direct-reading near real-time data providing the date and time, calibrated to Pacific Standard Time (PST), and PM_{10} concentration in micrograms per cubic meter every 1 minute or less.

(6) On and after January 1, 2022, the owner or operator shall operate PM_{10} monitors with the heated sampler inlet on.

(7) On and after January 1, 2022, prior to conducting any on-site earth-moving activities, and weekly thereafter, the owner operator shall conduct intra-instrument precision tests with the PM_{10} monitors in accordance with *Appendix 2 – Procedures to Demonstrate Intra-Instrument Precision*, or make available documentation and supporting data certifying that such intra-instrument precision tests were run by an

equipment rental company or other third party, that demonstrate an intra-instrument precision of:

(d) (7) (A) No more than 25 percent as calculated pursuant to Step 7a in *Appendix 2* when ambient PM_{10} concentrations are equal to or greater than 15 micrograms per cubic meter; or

(B) No more than 5 micrograms per cubic meter as calculated pursuant to Step 7b in *Appendix 2* when ambient PM_{10} concentrations are less than 15 micrograms per cubic meter.

(8) On and after January 1, 2022, each day prior to conducting on-site earth-moving activities, the owner or operator shall conduct a passing zero check on each PM_{10} monitor in accordance with:

(A) Steps 4 and 5 of *Appendix 2* that demonstrates an average PM_{10} concentration of 0 ± 3 micrograms per cubic meter; or

(B) Manufacturer's instructions if a monitor is operated using an auto-zero check procedure that directs filtered particle-free air into the measurement chamber.

(9) The owner or operator shall calculate the PM_{10} concentration as a 120-minute rolling average, where:

(A) The initial average starts at the commencement of on-site earth-moving activities and ends 120 minutes after the commencement of on-site earth-moving activities;

(B) On and before December 31, 2021, the averages subsequent to the initial average specified in subparagraph (d)(9)(A) are to be calculated every 10 minutes and cover the previous 120-minute period;

(C) On and after January 1, 2022, the averages subsequent to the initial average specified in subparagraph (d)(9)(A) are to be calculated every 1 minute and cover the previous 120-minute period;

(D) The PM_{10} concentration is calculated by subtracting the results of the upwind monitor(s) from the downwind monitor(s) for the same averaging period;

(i) If the wind direction is in the seasonal prevailing wind direction, then the monitor(s) described pursuant to clause (d)(3)(B)(i) shall be designated as the upwind monitor(s) and the monitor(s) described pursuant to clause (d)(3)(B)(ii) shall be designated as the downwind monitor(s); and

(d) (9) (D) (ii) If there is greater than a ± 90 degree change in wind direction from the seasonal prevailing wind direction, then the monitor(s) described pursuant to clause (d)(3)(B)(i) shall be designated as the downwind monitor(s) and the monitor(s) described pursuant to clause (d)(3)(B)(ii) shall be designated as the upwind monitor(s);

(E) If there is more than one upwind monitor, the upwind result is the average concentration of all upwind monitors for the same rolling averaging period;

(F) If there is more than one downwind monitor, the downwind result is the maximum concentration of any of the downwind monitors for the same rolling averaging period;

(G) On and before December 31, 2021, when on-site earth-moving activities resume after ceasing pursuant to paragraph (d)(2), the average shall start when on-site earth-moving activities resume and shall end 120 minutes after on-site earth-moving activities resume, and the subsequent averages are to be calculated every 10 minutes and shall cover the previous 120-minute period; and

(H) On and after January 1, 2022, when on-site earth-moving activities resume after ceasing pursuant to paragraph (d)(2), the average shall start when on-site earth-moving activities resume and shall end 120 minutes after on-site earth-moving activities resume, and the subsequent averages are to be calculated every one minute and shall cover the previous 120-minute period.

(10) An owner or operator that elects to move the monitors accordingly when there is a change in wind direction in place of meeting the requirements specified in clauses (d)(3)(B)(i), (d)(3)(B)(ii), (d)(9)(D)(i), and (d)(9)(D)(ii), shall:

(A) Place a minimum of one upwind monitor in the upwind direction of the area(s) of on-site earth-moving activity, indicative of background PM_{10} levels, and not generally influenced by fugitive dust sources from the site;

(B) Place a minimum of one downwind monitor in the downwind direction of the area(s) of on-site earth-moving activity; and

(C) Move the monitor(s) in subparagraph (d)(10)(A) to the new upwind location and the monitor(s) in subparagraph (d)(10)(B) to the new downwind location when there is a change in wind direction.

(11) In the event that a DAS fails to log ambient PM_{10} data pursuant to paragraph (d)(5) or that the data management system integrated with the PM_{10} monitor(s) and

DAS(s) fails to calculate PM_{10} concentrations pursuant to subparagraph (d)(9)(C) due to a technical issue beyond the reasonable control of an owner or operator, including, but not limited to, internet connection disruptions and computer malfunctions, the owner or operator shall:

(d) (11) (A) Restore the DAS or data management system to working condition as soon as practicable and no later than the start of the next working day; and

(B) Manually record the PM_{10} concentration from the monitor(s) associated with the non-operational DAS once every 10 minutes or less and calculate the PM_{10} concentration pursuant to the averages specified in subparagraph (d)(9)(B) until the DAS is restored or calculate the PM_{10} concentration pursuant to the averages specified in subparagraph (d)(9)(B) until the data management system is restored.

(12) When conducting ambient PM_{10} monitoring as required in paragraph (d)(1), the owner or operator shall monitor wind direction and speed using a minimum of one stationary anemometer or wind sensor that:

(A) Is sited over open, level terrain within the project site with minimal obstructions to the wind flow at a minimum height of eight feet above grade;

(B) Meets the performance criteria of:

(i) Wind direction accuracy of ± 7 degrees and resolution of 1 degree; and

(ii) Wind speed accuracy of 2 miles per hour (mph) or ± 5 percent of the observed wind speed, whichever is greater, and resolution of 1 mph;

(C) Has a National Institute of Standards and Technology (NIST) Traceability certification;

(D) Is equipped with a data logger that records wind direction and speed data once every 1 minute or less and archives the recorded wind direction and speed data, including the date and time, calibrated to PST; and

(E) Is operated, calibrated, and maintained in accordance with manufacturer's specifications, but no less frequent than once every 6 months of cumulative operation.

(13) The Executive Officer may approve a PM_{10} monitor to be added as a Rule 1466 Approved PM_{10} Monitor if the PM_{10} monitor meets the specifications listed in *Appendix 1 – Rule 1466 Approved PM_{10} Monitors*. The request for a PM_{10} monitor to be added as a Rule 1466 Approved PM_{10} Monitor shall:

(A) Be submitted to Rule1466ApprovedMonitors@aqmd.gov;

(d) (13) (B) Include a description of the PM_{10} monitor, any accessories, and all monitor specifications; and

(C) Include documentation demonstrating compliance with each specification listed in *Appendix 1*.

(e) Requirements to Minimize Fugitive Dust Emissions

(1) On and before December 31, 2021, an owner or operator shall not conduct on-site earth-moving activities unless the area is surrounded with fencing that is a minimum of 6 feet tall and at least as tall as the height of the tallest stockpile, with a windscreen that has a porosity of 50 ± 5 percent. A section of the perimeter surrounding an on-site earth-moving activity area may be excluded from this requirement if that section:

(A) Has a solid physical barrier, such as a solid wall or other solid feature that minimizes air flow, that is a minimum of 6 feet tall but at least 6 inches taller than the height of the tallest stockpile; or

(B) Does not have on-site earth-moving activity occurring within 300 feet from the perimeter of that section.

(2) On and after January 1, 2022, an owner or operator shall not conduct on-site earth-moving activities unless the area is surrounded with fencing that is a minimum of 6 feet tall but at least 6 inches taller than the height of the tallest stockpile, with a windscreen that has a porosity of 50 ± 5 percent or a mesh windscreen that has a shade value or opacity of 85 ± 5 percent. A section of the perimeter surrounding an on-site earth-moving activity area may be excluded from this requirement if that section meets the conditions as specified in subparagraph (e)(1)(A) or (e)(1)(B).

(3) An owner or operator conducting on-site earth-moving activities shall:

(A) Adequately wet to the depth of earth-moving activity and allow time for penetration; and

(B) Adequately wet at frequencies to prevent the generation of visible dust plumes.

(4) An owner or operator that is moving vehicles on, within, or off a site shall:

(A) Post signs at all entrances of the site to designate the speed limit as 15 mph;

(B) Stabilize the surface of all vehicular traffic and parking areas by applying gravel, paving, chemical stabilizers pursuant to paragraph (e)(13), or dust suppressant;

(C) Not allow any track-out outside of the property line that is 25 feet or more in cumulative length. Remove any track-out at a minimum frequency of

once each day using a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent control efficiency for 0.3 micron particles;

(e) (4) (D) Clean the soil from the exterior of trucks, trailers, and tires prior to the truck leaving the site, without the use of forced air; and

(E) Utilize at least one of the following measures at each vehicle egress from the site to a public road:

(i) Install a pad consisting of washed gravel (minimum-size: 1 inch), maintained in a clean condition, to a depth of at least 6 inches and extending at least 30 feet wide and at least 50 feet long;

(ii) Pave the surface extending at least 100 feet from the property line and at least 30 feet wide;

(iii) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipes, or grates) at least 24 feet long and 30 feet wide; or

(iv) Install and utilize a wheel washing system to remove soil from tires and vehicle undercarriages.

(5) An owner or operator conducting on-site earth-moving activities shall ensure that stockpiles with any soil with applicable toxic air contaminant(s) be:

(A) Segregated from non-contaminated stockpiles;

(B) Labelled with "South Coast AQMD Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminant(s) Applicable Soil";

(C) Maintained to avoid steep sides or faces that exceed the angle of repose;

(D) No more than 400 cubic yards of soil;

(E) Maintained to minimize fugitive dust emissions containing toxic air contaminants by applying chemical stabilizers pursuant to paragraph (e)(13), applying dust suppressant, or completely covering pursuant to paragraph (e)(14); and

(F) Either chemically stabilized pursuant to paragraph (e)(13) and/or completely covered pursuant to paragraph (e)(14) at all times when earth-moving activities and ambient PM_{10} monitoring are not occurring.

(6) An owner or operator conducting truck and trailer loading activities of soil containing applicable toxic air contaminant(s) shall:

(A) Apply dust suppressant to material prior to loading;

(B) Empty the loader bucket slowly so that no visible dust plumes are generated;

(e) (6) (C) Minimize the drop height from the loader bucket;

(D) Maintain at least 6 inches of space between the soil and the top of the truck bed and trailer while transporting within a site; and

(E) Completely cover the truck bed and trailer prior to leaving the site.

(7) An owner or operator conducting truck and trailer unloading activities of soil containing applicable toxic air contaminant(s) shall:

(A) Apply dust suppressant to material prior to unloading; and

(B) Empty the trailer slowly so that no visible dust plumes are generated.

(8) The owner or operator shall immediately remove any spilled soil.

(9) The owner or operator shall cease on-site earth-moving activities if the wind speed is greater than 15 mph averaged over a 15-minute period or the instantaneous wind speed exceeds 25 mph.

(10) During on-site earth-moving activities, the owner or operator shall have an on-site dust control supervisor that:

(A) Is employed by or contracted with the owner or operator;

(B) Is located on the site during working hours;

(C) Is in a position to expeditiously employ sufficient dust control measures to ensure compliance with all rule requirements;

(D) Has completed the South Coast AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(E) Has the following credentials, if asbestos is an applicable toxic air contaminant:

(i) Successfully completed the Asbestos Abatement Contractor/Supervisor course pursuant to the Asbestos Hazard Emergency Response Act (AHERA), and obtained and maintained accreditation as an AHERA Asbestos Abatement Contractor/Supervisor; and

(ii) Trained on the provisions of 40 CFR Part 61.145, 61.146, 61.147 and 61.152 (Asbestos NESHAP provisions) and Part 763, and has the means to comply with these provisions.

(11) An owner or operator shall apply a chemical stabilizer pursuant to paragraph (e)(13) and/or use a cover pursuant to paragraph (e)(14) on potential sources of fugitive dust when earth-moving activities are not occurring in the specific location(s) containing the potential source(s) of fugitive dust.

(e) (12) An owner or operator shall inspect daily, including days when no on-site earth-moving activities are occurring, labeled stockpiles pursuant to subparagraph (e)(5)(B) and stabilized or covered stockpiles pursuant to (e)(5)(F).

(A) For a stabilized stockpile, such inspections shall include a demonstration of stabilization by one or more of the applicable test methods contained in the most current version of the South Coast AQMD *Rule 403 Fugitive Dust Implementation Handbook* or Volumes I and II of South Coast AQMD's *Dust Control in the Coachella Valley*.

(B) For a covered stockpile, such inspections shall include a visual inspection of all seams and plastic cover surfaces to ensure that no portion of the soil is exposed to the atmosphere.

(13) When utilizing a chemical stabilizer, an owner or operator shall:

(A) Ensure the chemical stabilizer meets any specifications, criteria, or tests required by any federal, state, or local agency or any applicable law, rule, or regulation; and

(B) Unless otherwise indicated, use a sufficient concentration of the chemical stabilizer and an application frequency sufficient to maintain a stabilized surface and no less than what is specified by the manufacturer for the period of inactivity.

(14) When using a cover for stockpiles, an owner or operator shall ensure the cover:

(A) Is at least 10 mil thick plastic sheeting that overlaps a minimum of 24 inches; and

(B) Is anchored and secured so that no portion of the soil is exposed to the atmosphere.

(15) An owner or operator that is conducting earth-moving activities of soil with applicable toxic air contaminant(s) at a school, joint use agreement property, adjacent athletic area, or at a site that is adjoining a school, joint use agreement property, or adjacent athletic area shall:

(A) Only conduct earth-moving activities at a school or at a site that is adjoining a school outside of the hours between 7:30 a.m. and 4:30 p.m. on days when the school is in session;

(B) Not conduct earth-moving activities at a school, joint use agreement property, adjacent athletic area, or at a site that is adjoining a school, joint use agreement property, or adjacent athletic area if there is a school sponsored activity or youth organized sports taking place at that site;

(e) (15) (C) Handle excavated soils with applicable toxic air contaminant(s) by:

(i) Immediately placing soil in a leak-tight container whereby any contained solids or liquids are prevented from escaping or spilling out;

(ii) Directly loading soil in truck beds, trailers, and bins for transport, applying chemical stabilizer pursuant to paragraph (e)(13) or dust suppressant, and completely covering prior to transporting; or

(iii) Stockpiling pursuant to paragraph (e)(5), in a fenced area that is not accessible to the general public, and locked when not in use; and

(D) Within five days of its excavation, remove all soil with applicable toxic air contaminant(s) from the site.

(f) Notification Requirements

(1) The owner or operator shall electronically submit an initial notification to the Executive Officer, using a format approved by the Executive Officer, of the intent to conduct any on-site earth-moving activities.

(A) Initial notifications shall be submitted:

(i) At least 72 hours but no more than 30 days prior to conducting any earth-moving activities on any site meeting the applicability requirements of subdivision (b); or

(ii) As soon as the information becomes available but no later than 48 hours after the information becomes available that on-site earth-moving activities of soil with applicable toxic air contaminant(s) exceed 50 cubic yards.

(B) Initial notifications shall include the following requirements:

(i) Name, address, telephone number, and e-mail address of the owner or operator;

(ii) Name, telephone number, and e-mail address of the on-site dust control supervisor;

(iii) Project name and, if applicable, the project identification number from the designating agency;

(iv) Project location (address and/or coordinates);

(v) Identify whether the site is a school, joint use agreement property, adjacent athletic area, or is adjoining a school, joint use agreement property, or adjacent athletic area;

(f) (1) (B) (vi) A map indicating the specific location(s) of each on-site earth-moving activity and the concentrations of the applicable toxic air contaminant(s) and location of PM_{10} monitors;

(vii) A description of the on-site earth-moving activities, estimated volume of soil with applicable toxic air contaminant(s), and a schedule that includes the anticipated start and completion dates of on-site earth-moving activities;

(viii) Current and/or previous type of operation(s) and use(s) at the site;

(ix) Applicable exemption(s); and

(x) Whether the notice being provided is a revised notification.

(2) Notification Updates

Initial notifications pursuant to paragraph (f)(1) shall be updated when any of the following conditions arise:

(A) Earlier Start Date

A change in the start date of on-site earth-moving activities to an earlier date shall be reported to the South Coast AQMD no later than 72 hours before any on-site earth-moving activities begin.

(B) Later Start Date

A delay in the start date of on-site earth-moving activities shall be reported to the South Coast AQMD as soon as the information becomes available, but no later than the original start date.

(C) Change in Exemption Status

Any change(s) in exemption status pursuant to subdivision (k) shall be reported to the South Coast AQMD as soon as the information becomes available, but no later than 48 hours after the information becomes available.

(D) Completion Date

The completion date of on-site earth-moving activities shall be reported to the South Coast AQMD no later than 48 hours after on-site earth-moving activities are completed.

(3) Within 72 hours of an exceedance of the PM_{10} emission limit specified in paragraph (d)(2), the owner or operator shall electronically submit a notification to the Executive Officer, using a format approved by the Executive Officer, of the exceedance and shall include the following information:

(f) (3) (A) Name, address, telephone number, and e-mail address of the owner or operator;

(B) Name, telephone number, and e-mail address of the on-site dust control supervisor;

(C) Project name and, if applicable, the project identification number from the designating agency;

(D) Project location (address and/or coordinates);

(E) PM_{10} monitoring results and wind direction and speed results pursuant to subdivision (d), including location of monitors, result, date and time of exceedance(s), 12 hours before first exceedance, and 12 hours after last exceedance;

(F) On-site earth-moving activities occurring at the date and time of exceedance(s); and

(G) Dust control measure(s) taken to mitigate fugitive dust.

(g) Signage Requirements

When conducting on-site earth-moving activities, the owner or operator shall install and maintain project signage.

(1) Unless otherwise approved in writing by the Executive Officer, signage shall:

(A) Be installed at all entrances and at intervals of 1,000 feet or less along the property line or perimeter of the site, with a minimum of one sign along each side;

(B) Be located between 6 and 8 feet above grade from the bottom of the sign;

(C) Display lettering at least 4 inches tall with text contrasting with the sign background; and

(D) Display the following information:

(i) Local or toll-free phone number for the site contact or pre-recorded notification center that is accessible 24 hours a day; and

(ii) Warning statement:

"THIS SITE CONTAINS SOILS THAT CONTAIN THE FOLLOWING CHEMICALS: [LIST APPLICABLE TOXIC AIR CONTAMINANT(S)]
TO REPORT ANY DUST LEAVING THE SITE PLEASE CALL [FACILITY CONTACT AND PHONE NUMBER] OR THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AT 1-800-CUT-SMOG".

(g) (2) If signage pursuant to paragraph (g)(1) exceeds 48 inches by 96 inches, the owner or operator or designating agency shall include the warning statement referenced in clause (g)(1)(D)(ii), displaying lettering at least 4 inches tall with text contrasting with the sign background, but may use 2.5 inch tall lettering to list applicable toxic air contaminant(s). All other signage requirements set forth in paragraph (g)(1) shall remain the same. If signage continues to exceed 48 inches by 96 inches with these parameters, the owner or operator or designating agency may use alternative signage as set forth in paragraph (g)(3).

(3) The owner or operator or designating agency may use alternative signage approved by the Executive Officer pursuant to subdivision (j). Notwithstanding subdivision (j), the request shall include a visual representation of the alternative sign, including proposed lettering height, and locations and, at a minimum, the alternative signage shall:

(A) Display text contrasting with the sign background; and

(B) Display the following warning statement:

"THIS SITE CONTAINS SOILS THAT CONTAIN THE FOLLOWING CHEMICALS: [LIST APPLICABLE TOXIC AIR CONTAMINANT(S)] TO REPORT ANY DUST LEAVING THE SITE PLEASE CALL THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AT 1-800-CUT-SMOG".

(4) The owner or operator may be excluded from installing and maintaining project signage pursuant to subparagraph (g)(1)(A) at any entrance(s) or interval(s) along the property line or perimeter of the site that is not visible and not accessible to the public unless the site is a school, joint use agreement property, or adjacent athletic area or the site is adjoining a school, joint use agreement property, or adjacent athletic area.

(h) Recordkeeping Requirements

The owner or operator shall maintain records for a period of not less than 3 years and shall make such records available to the Executive Officer upon request. At a minimum, records shall be maintained daily and shall include:

(1) Inspections of all stabilized or covered stockpiles containing soils with applicable toxic air contaminant(s) and all re-stabilization, cover repair, and label maintenance activities, including dates and times the specific activities were conducted;

(2) Results of wind and PM_{10} monitoring, including: ambient PM_{10} data; rolling average PM_{10} concentrations and calculations; wind direction and speed

corresponding to the rolling average PM_{10} concentrations; movement of monitoring instruments corresponding to wind direction changes; instrument make and model; settings; proof of valid calibration in accordance with manufacturer's recommended schedule; configuration; calibration, correction, and correlation factors; maintenance; operator training; daily instrument performance check records and manual zero or auto-check results; weekly zero calibration records and intra-instrument precision test data and calculation results; and all instrument logs for all monitoring instruments;

(h) (3) All instrument maintenance activities, including: zero calibration, cleaning, filter replacement, and performance checks, including dates and times of the specific procedures;

(4) Documentation of all DAS and data management system failures, including date and time of the failure, date and time of the correction, the technical issue(s) causing the failure, and activities performed to restore the failed DAS or data management system to working condition;

(5) On-site earth-moving activities conducted and the corresponding volume of soil with applicable toxic air contaminant(s);

(6) Names and business addresses of the transporting and receiving facilities, and a copy of the shipping manifest;

(7) Complaints called in, including the name of complainant and contact information, date and time, on-site earth-moving activities occurring at the date and time, complaint, and action taken to mitigate the source of the complaint; and

(8) A copy of all submitted notifications for the project.

(i) Executive Officer Designated Sites

(1) The Executive Officer may designate a site if the Executive Officer has evidence that the site contains soil with applicable toxic air contaminant(s) as defined in paragraph (c)(16), after consultation with U.S. EPA, DTSC, the State Water Resources Control Board, the Regional Water Quality Control Board, and/or local, county, or state regulatory agencies, and consideration of the following:

(A) Site history, including current and/or previous type(s) of operation(s) and use(s) at the site and regulatory history;

(B) Concentration(s) of applicable toxic air contaminant(s) in the soil;

(C) Background concentration(s) of applicable toxic air contaminant(s);

(D) Volume of soil with applicable toxic air contaminant(s);

(i) (1) (E) Distance to a residence, park, school, joint use agreement property, adjacent athletic area, or a site adjoining a school, joint use agreement property, or adjacent athletic area;

(F) Meteorological data;

(G) Health risk information or other data provided by the owner or operator, if available; and

(H) Ambient monitoring data and other applicable data, if available.

(2) Prior to making a determination, the Executive Officer will notify the owner or operator in writing that the site may be subject to this rule.

(A) In the event the owner or operator exercises this opportunity to demonstrate that this rule does not apply, the owner or operator shall submit information to the Executive Officer within 14 days of the notification substantiating why the site should be excluded from this rule.

(B) Upon final determination, the Executive Officer will notify the owner or operator in writing if the site is subject to this rule.

(3) During the determination period, the owner or operator shall comply with the provisions of this rule or cease all on-site earth-moving activities until a determination is made.

(j) Alternative Provisions

(1) If requesting an alternative provision pursuant to paragraph (g)(3), the owner or operator or designating agency shall submit the request in writing at least 30 days prior to conducting any earth-moving activities and include all information to the Executive Officer to substantiate its position.

(2) The Executive Officer may request additional information from the owner or operator or designating agency.

(3) The owner or operator or designating agency shall submit all requested information within 14 days of the request for additional information.

(4) The Executive Officer will review the request for an alternative provision and will approve or reject the data and notify the owner or operator or designating agency in writing. Approved alternative provisions may not be used retroactively.

(5) Alternative provisions that were approved and notified in writing by the Executive Officer before June 4, 2021 shall be deemed compliant with the requirements of the applicable provisions of the rule, shall remain in effect only for the period of time and for the specific project for which they were granted, and shall not be renewed or extended.

(k) Exemptions

(1) The owner or operator may be exempt from one or more provisions of this rule provided there is written confirmation that the designating agency under subparagraphs (b)(1)(A) through (b)(1)(D) has consulted with the Executive Officer and has determined that the provision(s) are not needed based on information specified in subparagraphs (i)(1)(A) through (i)(1)(H).

(2) On-site earth-moving activities performed within an enclosed system vented to South Coast AQMD permitted air pollution control equipment shall be exempt from all requirements except: subparagraphs (e)(4)(C) through (e)(4)(E), subparagraphs (e)(6)(D) and (e)(6)(E), and subdivisions (f), (g), and (h).

(3) Linear trenching for natural gas, power, sewer, and water projects on roadways with soil with applicable toxic air contaminant(s), directly loaded into a truck bed, trailer, or bin for transport, shall be exempt from all requirements except: paragraphs (e)(3) through (e)(9), paragraphs (e)(13) and (e)(15), and subdivisions (f), (h), and (i).

(4) On-site earth-moving activities consisting only of excavation activities of soil with applicable toxic air contaminant(s) of less than 500 cubic yards, directly loaded into a truck bed, trailer, or bin for transport, shall be exempt from all requirements except: paragraphs (e)(3) through (e)(9), paragraphs (e)(13) and (e)(15), and subdivisions (f), (h), and (i).

(5) On-site earth-moving activities conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer shall be exempt from all requirements. The Executive Officer shall be notified electronically no later than 48 hours following such on-site earth-moving activities. Written notification shall include written emergency declaration from the authorized officer.

(6) On-site earth-moving activities conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency disruptions shall be exempt from all requirements. The Executive Officer shall be notified electronically no later than 48 hours following such on-site earth-moving activities.

Table I – Applicable Toxic Air Contaminants

CAS Number	Substance
7440-38-2	**arsenic and arsenic compounds (inorganic)**
	including, but not limited to:
	arsenic compounds (inorganic)
7784-42-1	arsine
1332-21-4	Asbestos
7440-43-9	cadmium and cadmium compounds
57-74-9	chlordane
	dibenzo-p-dioxins (chlorinated)
1746-01-6	tetrachlorodibenzo-p-dioxin, 2,3,7,8-
40321-76-4	pentachlorodibenzo-p-dioxin, 1,2,3,7,8-
39227-28-6	hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-
57653-85-7	hexachlorodibenzo-p-dioxin, 1,2,3,6,7,8-
19408-74-3	hexachlorodibenzo-p-dioxin, 1,2,3,7,8,9-
35822-46-9	heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8-
3268-87-9	octachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8,9-
41903-57-5	total tetrachlorodibenzo-p-dioxin
36088-22-9	total pentachlorodibenzo-p-dioxin
34465-46-8	total hexachlorodibenzo-p-dioxin
37871-00-4	total heptachlorodibenzo-p-dioxin
72-54-8	dichlorodiphenyldichloroethane
72-55-9	dichlorodiphenyldichloroethylene
50-29-3	dichlorodiphenyltrichloroethane

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
18540-29-9	**chromium (hexavalent) and chromium compounds**
	including, but not limited to:
10294-40-3	barium chromate
13765-19-0	calcium chromate
7758-97-6	lead chromate
10588-01-9	sodium dichromate
7789-06-2	strontium chromate
13530-65-9	zinc chromate
7439-92-1	**lead and lead compounds (inorganic, including elemental lead)**
	including, but not limited to:
	lead compounds (inorganic)
301-04-2	lead acetate
7758-97-6	lead chromate
7446-27-7	lead phosphate
1335-32-6	lead subacetate
7439-97-6	**mercury and mercury compounds (inorganic)**
	including, but not limited to:
7487-94-7	mercuric chloride
593-74-8	methyl mercury

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
7440-02-0	**nickel and nickel compounds**
	including, but not limited to:
373-02-4	nickel acetate
3333-67-3	nickel carbonate
13463-39-3	nickel carbonyl
12054-48-7	nickel hydroxide
1313-99-1	nickel oxide
12035-72-2	nickel subsulfide
1271-28-9	nickelocene
	refinery dust from the pyrometallurgical process
1336-36-3	**polychlorinated biphenyls (PCBs)**
32598-13-3	3,3’,4,4’-tetrachlorobiphenyl (PCB 77)
70362-50-4	3,4,4’,5-tetrachlorobiphenyl (PCB 81)
32598-14-4	2,3,3’,4,4’-pentachlorobiphenyl (PCB 105)
74472-37-0	2,3,4,4’,5-pentachlorobiphenyl (PCB 114)
31508-00-6	2,3’,4,4’,5-pentachlorobiphenyl (PCB 118)
65510-44-3	2,3',4,4',5'-pentachlorobiphenyl (PCB 123)
57465-28-8	3,3’,4,4’,5-pentachlorobiphenyl (PCB 126)
38380-08-4	2,3,3’,4,4’,5-hexachlorobiphenyl (PCB 156)
69782-90-7	2,3,3’,4,4’,5’-hexachlorobiphenyl (PCB 157)
52663-72-6	2,3’,4,4’,5,5’-hexachlorobiphenyl (PCB 167)
32774-16-6	3,3’,4,4’,5,5’-hexachlorobiphenyl (PCB 169)
39635-31-9	2,3,3’4,4’,5,5’-heptachlorobiphenyl (PCB 189)

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
	polycyclic aromatic hydrocarbons (PAHs)
56-55-3	benzo[a]anthracene
50-32-8	benzo[a]pyrene
205-99-2	benzo[b]fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-c,d]pyrene

Appendix 1 – Rule 1466 Approved PM_{10} Monitors

The Executive Officer may approve PM_{10} monitors that meet the following physical and performance requirements.

1. Physical Requirements
   - 1.1. PM_{10} monitors shall be continuous direct-reading near-real time monitors and shall monitor particulate matter less than 10 microns.
   - 1.2. PM_{10} monitors shall be equipped with:
     - 1.2.a. Omni-directional heated sampler inlet;
     - 1.2.b. Sample pump with active flow control mechanism;
     - 1.2.c. Enclosure;
     - 1.2.d. Data logger capable of logging each data point with average concentration, time, date, and data point number; and
     - 1.2.e. Conductive tubing that minimizes particle loss for any external tubing used to carry sampled air prior to measurement.

2. Performance Requirements
   - 2.1 PM_{10} monitors shall have the following minimum performance standards:
     - 2.1.a. Range: 0 - 10,000 $\mu g/m^3$;
     - 2.1.b. Accuracy, determined through factory testing against a U.S. EPA Federal Reference Method or Federal Equivalent Method, for a minimum of 30 measurements each averaged over 24 hours, to show:
       - 2.1.b.i. ± 5% of reading ± precision; or
       - 2.1.b.ii. Coefficient of determination (R^2) of ≥ 0.95 through simple linear regression;
     - 2.1.c. Resolution: 1.0 $\mu g/m^3$;
     - 2.1.d. Flow control accuracy of ± 5% of factory setpoint; and
     - 2.1.e. Measurement Cycle: User selectable (30 minute and 2 hour).
   - 2.2 Monitors that have a valid *Monitoring Certification Scheme* certification meeting the latest version of the *Monitoring Certification Scheme* (*MCERTS): Performance Standard for Indicative Ambient Particulate Monitors* may be exempt from meeting the performance requirements listed above, but shall meet all stated physical requirements.

3. Quality Assurance/Quality Control Requirements

In order to ensure the validity of the PM_{10} measurements performed, there shall be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the owner or operator to adequately supplement QA/QC Plans to include the following critical features: instrument calibration, instrument maintenance, operator training, and daily instrument performance checks.

Appendix 2 – Procedures to Demonstrate Intra-Instrument Precision

An owner or operator shall perform the following procedures to demonstrate the intra-instrument precision of all PM_{10} monitors as required in paragraph (d)(7).

1. Ensure monitors are identical in make and model, settings, and configuration.
2. Ensure monitor inlets are at the same height and located within 4 meters of each other but no less than 1 meter apart for the duration of the test.
3. Power on the monitors and turn on the heated sampler inlet. Allow the monitors to warm-up per manufacturer's recommendations or when readings have stabilized.
4. For each monitor, conduct a zero calibration in accordance with manufacturer's instructions, then conduct a manual zero check by removing any sampling inlet and installing a filter, rated by the manufacturer to achieve a 99.97 percent control efficiency for 0.3 micron particles, on the inlet of the monitor for a minimum of 10 minutes. If the monitors are operated using an auto-zero check procedure that directs filtered particle-free air into the measurement chamber, conduct the zero check in accordance with manufacturer's instructions.
5. Log the PM_{10} concentration reading every minute, and calculate and record the average of the readings of the manual zero check. The average of the manual zero check readings shall be 0 ± 3 micrograms per cubic meter before proceeding to Step 6. If conducting an auto-zero check, the monitor shall pass the zero check in accordance with manufacturer's instructions before proceeding to Step 6. If any monitors fail either the manual zero check or the auto-zero check, the owner or operator shall conduct a zero calibration in accordance with manufacturer's instructions and/or correct any issue(s) causing the failure, followed by conducting a passing zero check on the PM_{10} monitor(s) in accordance with Steps 4 and 5.
6. Remove the filter and install the monitor inlet as required. After waiting 10 minutes, operate the monitors simultaneously and log the PM_{10} concentration reading every minute for a minimum of 60 minutes.

7. Calculate the intra-instrument precision using either of the following equations:
   a. Intra-instrument precision in relative standard deviation or correlation of variation (%) when ambient PM_{10} concentrations are greater than or equal to 15 micrograms per cubic meter:

$$P = \frac{S_t}{C_t} \, x \, 100\%$$

where,

P = Intra-instrument precision in percent (%);

S_t = Standard deviation of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration, to be calculated as:

$$S_t = \sqrt{\frac{\sum(x_i - \bar{x})^2}{(n-1)}}$$

where,

x_i = Mean of the PM_{10} concentration readings for a tested monitor over time t of testing duration,

$\bar{x}$ = Mean of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration, and

n = Number of tested monitors; and

C_t = Mean of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration; or

   b. Intra-instrument precision in absolute value (micrograms per cubic meter) when ambient PM_{10} concentrations are less than 15 micrograms per cubic meter:

$$P = S_t$$

where,

P = Intra-instrument precision in micrograms per cubic meter, and

S_t = Standard deviation of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration.

8. Record the results of the calculations.

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

Appendix D

DTSC Advisory Clean Imported Fill Material

DTSC Information Advisory Clean Imported Fill Material Fact Sheet

October 2001

Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed.

It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used.

The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses.

The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to

human health or the environment at some future time.

Overview

Both natural and man-made fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contamination and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous materials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil.

Undesirable commercial sites include:

- Former gasoline service stations
- Retail strip malls that contained dry cleaners or photographic processing facilities
- Paint stores
- Auto repair and/or painting facilities

Undesirable industrial facilities include:

- Metal processing shops
- Manufacturing facilities
- Aerospace facilities
- Oil refineries
- Waste treatment plants, etc.

Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples

Area of Individual Borrow Area	Sampling Requirements
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location

Volume of Borrow Area Stockpile	Samples per Volume
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated.

At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all compounds of concern to ensure that the imported soil is

uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses).

This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

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