SOIL MANAGEMENT PLAN

CLOW VALVE COMPANY
1375 MAGNOLIA AVENUE
CORONA, CALIFORNIA

PREPARED FOR:

CLOW VALVE COMPANY
1375 MAGNOLIA AVENUE
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June 23, 2021

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1.0 INTRODUCTION AND REGULATORY STATUS

On behalf of Clow Valve Company (Clow), a Division of McWane, EarthCon Consultants CA, Inc (EarthCon), has prepared this Soil Management Plant (SMP) to guide future on-site activities that disturb the soil at the property located at 1375 Magnolia Avenue in Corona, California (Site; see Figures 1 and 2). Clow is currently in the process of implementing the field activities as identified in the Corrective Measures Implementation Workplan (CMIWP) for the Site. Proposed CMIWP activities will be conducted under the supervision of the Department of Toxic Substances Control (DTSC) and in accordance with the Corrective Action Consent Agreement between the California Department of Toxic Substances Control (DTSC) and Clow [Docket No. SPRD 00/01SCC-4208, March 2002]. The DTSC-approved corrective measures will be implemented to yield conditions suitable for continued commercial/industrial use. The entire Site will be restricted for industrial use in accordance with the future Land Use Covenant (LUC). Therefore, the future use of the Site must be in accordance with the deed restrictions identified in the proposed LUC. (See Appendix C draft LUC.)

The purpose of this SMP is to provide guidance for management of soils in the event soil disturbance is required during future construction and maintenance activities on-Site. Clow intends to implement the SMP during grading and capping activities at AOC1 and AOC5 associated with the approved CMIWP. Additionally, to support the future Site activities, this SMP has also been prepared to facilitate implementation of future projects and compliance with applicable laws. The current plan for the Site is industrial redevelopment with one or more tilt-up type building(s). This will entail limited over-excavation and re-compaction of the soil on-Site under the future building(s) and concrete truck courts and drive aisles for geotechnical purposes. Current plans are for Clow to retain ownership and redevelop the property in cooperation with a long-term lessee. In addition, both the DTSC and USEPA will be notified of such activities prior to implementation, as specified in Section 6.1.1.

A summary of previous investigations as well as elements of the SMP are described in detail in the following sections.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS

In October of 2000, the DTSC conducted a Compliance Evaluation Inspection at the Site and determined that there may have been potential releases of hazardous waste into the environment. A Corrective Action Consent Agreement (CACA) was prepared for the Site in October 2001 and was subsequently revised on March 6, 2002.

As required by the CACA and through negotiations with DTSC a Preliminary Endangerment Assessment and Facility Work plan was prepared (June 21, 2004) was prepared, which identified the following nine (9) areas of concern (AOC) at the Site (see Figure 2 and Figures 3A through 3J)):

- AOC1 – Rail Spur Area (including area of diesel impact)
- AOC2 – Chip-Bin Storage Area
- AOC3 – Water Pressure Test Area
- AOC4 – Former Iron Foundry Sand Cleanup Area
- AOC5 – Oil-Stained Pad (eastern portion of AOC1)
- AOC6 – Former Asphalt Dip Tank
- AOC7 – Transformer Area 1
- AOC8 – Transformer Area 2
- AOC9 – Former Test-Pond (filled)

Upon review of the revised PEA, the DTSC determined that interim measures were necessary due to the presence of a stockpile of dry, unconsolidated foundry sand waste located in the Rail Spur Area (AOC1).

Approximately 393 cubic yards of stockpile material containing elevated concentrations of copper, lead, and zinc was removed from the Site and transported to the Chemical Waste Management Class I disposal facility in Kettleman City, California in June 2005.

Additional investigation included the following:

- A soil sampling investigation was subsequently conducted in June and July of 2005 and the

results were provided in a document titled *Preliminary Summary of Site Assessment Results and Proposed Further Assessment* (November 29, 2005).

- Further delineation of the vertical and lateral extent of subsurface impacts was conducted at AOC1, AOC2, AOC3, AOC5, and AOC7 in September 2006 along with Site wide near surface soil sampling, to address a DTSC concern that metal impacted fill material may have been used on-Site. In addition, one groundwater well was installed at AOC1 to facilitate groundwater sampling. Results from this investigation were provided in a document titled *Report of Findings* (Fero, December 18, 2006).
- Groundwater sampling results from 2006 investigation showed a low level of TCE (1.43 ug/L, which is below the Maximum Contaminant Level of 5 ug/L) in groundwater beneath the Site. Given the absence of any chlorinated solvent use at the Site, the TCE detection was postulated to be related to an off-Site source.

In October 2015, Clow and DTSC reached a mutual decision to restart the stalled process due to the economic uncertainty associated with Site redevelopment. Clow subsequently contracted with EarthCon to assist with restarting the process and revising the Site Corrective Measures Study in the absence of site redevelopment. EarthCon and Clow met with the DTSC on March 15, 2016 to provide an overall project update and identify a path to move forward as requested. EarthCon evaluated the previous environmental activities, site assessment investigations, and the associated analytical results. The analytical results from the previous investigations are illustrated on Figures 1 through 3K. The results from the previous investigations were evaluated and subsequently included in a Site-specific Human Health Risk Assessment.

In February 2017, two additional groundwater monitoring wells were installed on-Site as identified by the locations illustrated on Figure 2. Installation of these wells allowed for calculation of the Site-specific groundwater flow direction and gradient, which confirmed that MW-1 was appropriately positioned to evaluate potential groundwater impacts related to the former TPH-d release at AOC-1. Groundwater monitoring events were conducted in March 2017 and subsequently in May 2017. Groundwater samples reported concentrations of various compounds below their associated MCLs with the exception of arsenic (March 2017 event only). However, the arsenic concentrations reported in MW-1 through MW-3 was within the local background arsenic concentrations. Therefore, it was determined that groundwater would not be incorporated into the overall scope of this CMS and the wells were removed.

The historical data, Human Health Risk Assessment, and current Site operations were used to prepare a CMS for the Site (EarthCon, 2018). The CMS identified that excavation (AOC7) and capping in place (AOC1, AOC5, and AOC7) as the selected remedy. However, due to the presence of PCBs at AOC-7, additional Site assessment activities were conducted in July 2018, October 2018, and January 2019 under the oversight of the USEPA. The USEPA also required that further assessment of potential PCB impacted soil would be evaluated at AOC3 and AOC6 as well. The results were summarized in a document titled *Risk-Based Approval Application 40 CFR 761.61 (c)(1)* (EarthCon, 2019). Based on the results from the PCB related Site assessment activities, EarthCon recommended that rather than excavating PCB-impacted soil at AOC7 that the Site remained capped, with the existing concrete cap having the ability to protect industrial workers from exposure to PCB concentration in the underlying soil. In a letter dated April 23, 2019, the USEPA approved the application with the conditions including preparation of the following: Deed Restriction, Operations and Maintenance Plan, and Soil Management Plan, and PCB Cleanup Report (CMI Report).

Upon receipt of the approval letter from the USEPA, the DTSC approved the CMS in a letter dated May 16, 2019. The CMIWP presented details associated with the cap design, installation and implementation schedule for AOC1 and AOC5. The proposed schedule for the evaluation and repair of the exiting ground cover in AOC2, AOC4, and AOC9 is also addressed. Additionally, potential cap repair and/or construction, if necessary, associated with AOC3, AOC6, and AOC7 was identified to require the oversight of the USEPA.

3.0 SOIL MANAGEMENT

3.1 Pre-Field Activities

Requirements of the Soil Management Plan apply to a portion of the Site depicted in Figure 4, a land survey of an area of the Site subject to 40 CFR 761.3 (PCB impacted soil), and an area subject to SMP and O&M Plan (lead impacted soil at or above 320 mg/kg). Figure 4 was prepared by a California licensed Professional Land Surveyor. Figure 4A, "Site Plan With Areas Subject to Land Use Covenant", depicts historical Site features and identifies the boundary of the area to be capped during the Corrective Measures implementation in addition to depicting the boundary of the area with lead concentrations exceeding 320 mg/kg (the same as in the land survey).

Prior to the commencement of activities that disturb soil, designated Site personnel will ensure that all proper underground utility clearances are conducted and marked with white paint as appropriate. Underground Services Alert (USA) will be subsequently notified at least 72-hours prior to initiation of field activities. Persons conducting soil disturbing activities will coordinate with knowledgeable Site personnel to determine the location of subsurface utilities and a geophysical survey will be conducted if necessary. In addition, field activities should not occur without a Site-specific Site Health and Safety Plan (HASP), elements of which should be discussed daily during tail-gate safety meetings. The current HASP for the Site, associated with the implementation of the CMIWP by Clow, is provided for reference in Appendix A. Updated health and safety documentation (e.g. HAZWOPER) for on-Site personnel will be provided to the DTSC prior to implementing field work.

Site personnel will notify the DTSC a minimum of 30 days before field work begins (see Section 6.1.1). Should the scope of work involve management of soil containing PCBs over 1 part per million (ppm) (AOC-6 or AOC-7), Site personnel will also notify the USEPA[1]. Notification to the DTSC and USEPA may require the submittal of documentation, such as excavation plan, soil confirmation sampling plan, waste profiling, transportation plan, destination facility, and City and/or County approved grading plans, to show how the soil under the LUC will be disturbed and ensure proper soil management. See Section 6.1 for details.

3.1.1 Work Description

In accordance with the CMIWP, grading operations within areas with lead impacted soil will involve

1 The Site Cleanup criteria for PCBs is based on the USEPA approved industrial cleanup level of 15 mg/kg. However, McWane may elect to remove impacted soil exceeding 1 mg/kg PCBs in order to remove references to PCBs from the LUC.

moisture conditioning for dust suppression purposes and recompacting of soil in place. Areas AOC-1 and AOC-5 depicted on Figure 4A and in Appendix D, Drawing No. 20-026P will be graded and paved to establish a barrier between lead contaminated soil and surface receptors and also to facilitate proper Site drainage. Moisture will be applied to soil prior to recompacting it within the borders of areas AOC1 and AOC5. The soil will not be moved to other areas of the project. The project is not anticipated to generate any excess lead contaminated soil to be transported from the Site for off-Site disposal so long as current conditions are encountered.

During Site redevelopment activities, if soil in the vicinity of AOC-6 and/or AOC-7 with PCB concentrations exceeding 1 mg/kg is disturbed, that soil will be removed and managed appropriately. Likewise, areas identified by samples AOC1-B3, AOC1-B17, SW-2, and SW-3 containing lead concentrations exceeding 1,000 mg/kg will be removed and appropriately managed, as discussed further in Sections 4.0, 4.1.1. and 4.2.1.

3.1.2 Unknowns

DTSC will be notified within 24 hours should previously unknown features such as underground storage tanks and/or odorous/discolored soil be encountered during soil excavation or grading activities. If such conditions are encountered, that area will be isolated and samples will be collected for laboratory analysis to assess the nature of the unknown condition.

3.1.3 Off Site Disposal

Any soil brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law. In the event soil is excavated from areas identified on Figure 3K with lead concentrations detected at or above California Code of Regulations, Title 22, Toxicity Threshold Limit Concentrations (1,000 mg/kg) the soil will be profiled and transported to an off-Site permitted hazardous waste treatment or disposal facility consistent with the procedures presented in Section 4 and Section 5.

For disposal purposes, in-situ sampling of PCB-impacted soil is required prior to excavation. Prior to excavating soil from areas identified on Figure 3F or Figure 3G with PCB concentrations above 1 mg/kg, McWane will provide a PCB Removal Workplan, including an in-situ soil sampling plan to US EPA for approval. Consistent with the procedures presented in Section 4 and Section 5, excavated soil will be profiled and soil at or above 50 ppm PCBs will either be transported to a TSCA landfill or with a TSCA

approval to a RCRA hazardous waste landfill. Additionally, McWane will notify USEPA, at a minimum 30 days prior to any soil disturbing activity at the Site, further details are provided in Section 6.1.1(b).

3.1.4 Soil Import

If needed, any off-Site soils brought to the Site for use as backfill (import fill) must be tested in general conformance with the DTSC, *Information Advisory Clean Imported Fill Material* document (DTSC, 2001). Import fill shall be tested for target compounds based on the location of the fill source area; however, at a minimum, the fill should be tested for the following constituents:

- TPHcc using EPA Method 8015;
- VOCs using EPA Method 5035/8260B;
- PCBs using EPA Method 8082 (using soxhlet extraction method 3540C); and
- Title 22 metals using 6010B/7271 A

Other analyses may be required contingent on the source of the import fill or recommendations by the supervising PG or PE. A minimum of one sample will be collected for laboratory analysis per each 1,000 tons, up to 5,000 tons, of import fill per borrow site (single source). For quantities above 5,000 tons of import fill per borrow site (single source), one additional sample will be collected for laboratory analysis per each additional 5,000 tons of import fill. In-situ samples (from the borrow source) will be collected randomly from surface, two feet, and five feet below ground surface, and from the bottom of the excavation if deeper than 5 feet. For PCBs, import soil shall contain less than 1 mg/kg of total PCBs.

3.2 Stockpile Management

Prior to initiation of earthmoving/soil disturbing activities, areas for stockpiling excess soil should be established to control contact by Site employees and dispersal into the environment. Management of excavated soil and subsequent characterization for proper off-Site disposal to an appropriate disposal facility is discussed in further detail in Section 4.

3.3 Air Quality Management

The constituents of concern at the Site do not include Volatile Organic Compound (VOC) contaminated soil. Therefore, Site activities conducted in accordance with this SMP are not expected to require a Rule 1166 permit under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). However, based on the metal and PCB concentrations present in

the soil, earth-moving activities are required to be conducted in accordance with SCAQMD Rule 1466. Rule 1466 requires training and certification from SCAQMD, monitoring, notification, and record keeping.

Ambient air monitoring (AAM) will be conducted during on-Site activities to quantify dust concentrations in the work area breathing zone and at the Site fence line. In accordance with SCAQMD Rule 1466, AAM will be conducted to determine if a two (2) hour average PM_{10} concentration exceeds 25 micrograms per cubic meter (ug/m^3). If the average concentration has been exceeded, earth-moving activities will cease, and dust suppression measures will be implemented as needed until the PM_{10} concentration is equal to or less than 25 ug/m^3 averaged over 30 minutes. At a minimum, PM_{10} AAM will include one (1) upwind monitor and one (1) downwind monitor which will record the collected direct-reading data every 10 minutes or less using a DustTrak, or equivalent. In addition, when earth-moving activities occur, the wind direction and speed will also be monitored using a weather station.

AAM data will be collected by a qualified designee at each monitoring location (which will include on-Site and fence line locations). Measurements will be recorded via electronic data logging and/or an air monitoring log. Windspeed and direction will be monitored and, if the wind speed is greater than 15 mph average over a 15-minute period or instantaneous wind speeds greater than 25 mph, earth moving activities will cease.

AAM monitoring for dust within the on-Site work zones will be conducted on a continuous basis using a direct reading instrument such as a Miniram, or equivalent. The detected values will be compared to the DTSC required criteria for total dust of 0.05 mg/m^3.

During excavation activities, Site workers will implement standard engineering controls available in the industry to manage dust emissions. Minimizing dust will also minimize potential hazards associated with airborne contaminants. The following table summarizes the control measures for the different activities:

Activity	Control Measure
Earth Moving Activities	- Apply water to prevent generation of visible dust plumes - Adequately wet to the depth of earth moving activity and allow time for penetration. - Setup fencing with windscreen (50+/-5% porosity). - Stabilize soil once earth-moving activities are completed.

Activity	Control Measure
	- If earth-moving activities will not occur for three (3) or more consecutive days, application of a chemical stabilizer to potential sources of fugitive dusts, diluted to the concentration required to maintain a stabilized surface for the period of inactivity, is required. - Within five (5) days of excavation, excess soil will be removed from the site.
Export of Material	- Pre-water material prior to loading into the hauling trucks, if applicable. - Provide water while loading/unloading to reduce visible dust plumes. - Post signs stating that vehicle speed will be limited on-Site to 15 mph or less. - Maintain at least six inches of freeboard on the hauling trucks. - Stabilize material while transporting. Use tarps or other suitable enclosures on the hauling trucks. - Comply with track-out prevention/mitigation requirements. Stabilize surface of vehicular traffic by applying dust suppressant, as needed.
Truck Loading	- Pre-water material prior to loading. - Empty loader bucket slowly so no dust plumes are created. - Ensure that freeboard exceeds six inches. - Ensure that the loader bucket is close to the truck to minimize drop height while loading. - Completely tarp the truck prior to leaving site.
Off-Site/ Perimeter	- Track-out will not extend beyond 25 feet of property line. Remove track-out each day using a vacuum sweeper equipped with a filter(s) rated by the manufacturer to achieve 99.97% capture efficiency for 0.3 micron particles. - Use shaker plates (minimum of 24 feet long and 10 feet wide) and stabilized construction entrance. - Sweep the immediate surroundings continuously or on an as-needed basis. - Clean soil from exterior of trucks prior to leaving site, if applicable. - Apply water as required.
Backfilling	- Apply water to prevent generation of visible dust plumes. - Empty loader buckets slowly so dust plumes are not created. - Stabilize material when not actively handling. - Stabilize material during handling. - Stabilize soil at completion of activity. - Minimize drop height from loader bucket.

Site personnel will provide an on-Site dust control supervisor that will be present during earthmoving activities to expeditiously employ sufficient dust control measures to ensure compliance with SCAQMD Rule 1466. Site personnel will have previously completed the SCAQMD Fugitive Dust Control Class and subsequently received a Certificate of Completion. Certificates will be retained with the project related records in accordance with the project record keeping

requirements identified in Section (h) of Rule 1466.

Site personnel will electronically notify the SCAQMD Executive Officer of the intent to conduct soil disturbing activities a minimum of 72 hours, and no more than 30 days, prior to such activities. Requirements of notification are listed in Section (f)(1) of Rule 1466. In addition, the Executive Officer must also be notified electronically of any exceedance of the PM_{10} emission limit within 72 hours of occurrence (See Section (f)(2) of Rule 1466).

3.4 Storm Water Management

Construction activities that result in land disturbance of 1 acre or greater are regulated by the NPDES *General Permit for Storm Water Discharges Associated with Construction Activity* (Construction General Permit) administered by the State Water Resources Control Board. However, land disturbance of less than 1 acre may be identified as a "Significant Redevelopment Project" according to the City of Corona. This designation requires preparation of a Water Quality Management Plan (WQMP) per the City of Corona Public Works Department for the Site. Therefore, field work associated with the capping of AOC1 and AOC5 (less than 1 acre) requires the preparation of a WQMP in accordance with the City of Corona and/or County of Riverside guidance is required prior to initiating field work, elements of which will be incorporated into Grading Plans for the Site. Future Site activities associated with redevelopment will involve a project area of greater than 1 acre; therefore, preparation of a construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to initiation of earth disturbing activities.

3.5 Noise Management

Soil disturbing activities at the Site will be conducted from Monday through Friday between the hours of 7:00 AM and 5:00 PM, without causing a nuisance, as defined in the City of Corona municipal code. Noise will be monitored on an as-needed basis with a calibrated noise level meter at the perimeter of the Site and recorded on field logs. Whenever possible, Site workers will conduct the more noise intense activities during less intrusive times such as mid-morning to mid-afternoon. Internal combustion equipment will be equipped with proper and well-maintained mufflers. Access doors and hatches will remain closed when the units are in operation. The Site is located in an industrial area; therefore, noise is not expected to be a concern.

4.0 WASTE MANAGEMENT & CLASSIFICATION

4.1 Waste Management

Any soil removed from the areas of higher lead levels (AOC1-B3, AOC1-B17, SW-2, and SW-3) identified on Figure 3K will be placed into stockpiles and sampled. As noted previously, areas for stockpiles of excess soil will be designated prior to implementation of field activities. Areas with unpaved surfaces will have the upper surface wheel rolled and lined with thick gauge plastic sheeting prior to accepting the excess soil. Soil stockpiles will be covered with thick gauge plastic sheeting at the end of each working day and perimeter berms will be constructed to provide run-on and run-off control. Stockpiled excess material will be characterized prior to transport to an appropriate off-Site disposal facility as discussed in Section 4.2. Stockpiled soil must be transported to a permitted off-site disposal facility within 90 days.

However, soil and/or concrete containing PCBs, that has not been previously characterized, must be tested in-situ prior to excavation and cannot be stockpiled. Further details on the PCB sampling protocol will be provided to the USEPA in a PCB Removal Workplan that will be approved by USEPA prior to implementation.

Following removal of the lead and PCBs hot spot areas, the planned future redevelopment of the Site may include removal of the concrete and asphalt and over-excavation and re-compaction of the soil as part of geotechnical requirements. As the soil is of economic value, it will be the intent of the future redevelopment to reuse all soil excavated during geotechnical grading on Site. Future Site redevelopment must include construction of a cover in the area subject to the Soil Management Plan and Operation & Maintenance Plan as depicted on Figure 4A to prevent exposure to contaminated soil by future Site occupants.

4.1.1 PCBs and Lead

If Site remedial activities during capping of AOC1 and AOC5 include soil disturbance in the vicinity of lead “hot spot” areas exceeding 1,000 mg/kg, or in the event future Site redevelopment activities warrant the removal of soil from areas with elevated lead concentrations associated with sample locations AOC1-B3, AOC1-B17, SW2, and SW3, soil hot spots will be excavated and transported off-Site to Soil Safe facility in Adelanto, CA, the Waste Management facility in Kettleman Hills, CA, or another waste disposal facility subject to DTSC approval upon review of waste profile report.

As noted previously, the Site cleanup criteria for PCBs is based on the USEPA approved Site-specific industrial cleanup level of 15 mg/kg. However, McWane may elect to remove impacted soil exceeding 1 mg/kg PCBs in order to remove references to PCBs from the LUC. PCB "hot spot" areas (>15 mg/kg) in AOC6 and AOC7 are identified on Figure 4 as the area subject to PCB management in accordance with 40 CFR 761.61. In the event soil from this area is being disturbed during future Site development activities following Corrective Measures Implementation, soil with PCB concentrations of 15 ppm or greater will be removed as required by the USEPA[2], and soil with PCB concentrations greater than 1 ppm may also be removed at McWane's discretion under the oversight of the USEPA. Once sampled in-situ and characterized, excavated PCB-impacted soil will be loaded directly into labeled containers and securely covered pending transportation. Soil characterized with PCB concentrations at or above 50 ppm will be transported off-Site for disposal at a TSCA-approved facility. Soil from lead impacted areas and soil characterized with PCB concentrations below 50 ppm will be managed and transported to either the Soil Safe facility in Adelanto, CA, the Waste Management facility in Kettleman Hills, CA, or another appropriate facility in accordance with applicable federal, state, and local laws and 40 CFR 761.50(a)(6).

DTSC and USEPA notification requirements, including details associated with confirmation soil sampling for soil disturbing activities, are provided in Section 6.1.1.

4.1.2 Sampling and Analysis Plan

As noted above, in-situ sampling required for the PCB impacted material will be conducted prior to excavation. Characterization sampling for PCB impacted soil will be conducted in-situ, details of which will be provided in a PCB Workplan submitted for approval to the USEPA prior to initiation of field work activities.

Soil and impacted material from area identified on Exhibit E "Legal Description" and Exhibit D "Sketch to Accompany Legal Description" and illustrated on Figure 4A as subject to SMP and O&M Plans with lead concentration at or above 320 mg/kg will be excavated, stockpiled and sampled for waste characterization purposes to determine appropriate management and disposal requirements. Each stockpile will be uniquely numbered in consecutive order and marked in the field with labeled stakes to ensure accurate management.

For stockpiles of lead impacted soil, a sufficient number of samples will be collected to represent the volume of soil to be classified. Therefore, for stockpiles containing up to 1,000 cubic yards, a total of 6 samples will be collected (Simple Random Sampling – USEPA SW-846 Chapter 9). However, the appropriate number of samples should be verified with the selected receiving facility, including for volumes that exceed 1,000 cubic yards.

Each sample container will be labeled with the following information, as appropriate, at the time of sampling:

- Sample Number
- Sample Date
- Container Designation
- Sample Location
- Time of Sampling
- Preservatives, if any
- Sample Type
- Handling Precautions
- Requested Analyses
- Laboratory Name
- Initials of Sampling Personnel

After labeling, the laboratory samples should be placed in a cooler on ice for transportation to the appropriate laboratory. In accordance with Chapter 9, Section 9.2.2.7 of SW-846, a chain of custody record will document sample possession from the time of collection until the samples are analyzed. The record also serves as a sample inventory and analysis order form.

The chain of custody record should be completed with a waterproof pen. When possession of the samples is transferred from sampling personnel to a courier or to the laboratory, both parties will sign the chain of custody. The chain of custody record should be placed in a large resealable plastic bag inside the cooler. Sampling personnel, a courier, a laboratory representative, or a commercial carrier can transport samples to the laboratory. The laboratory should be notified of the time by which analysis must begin so that the sample holding times are not exceeded.

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2 A PCB Removal Workplan will be submitted to the USEPA and approved prior to removal of PCB impacted soil.

Based on previous analytical results, the analytical methods required for waste classification will include one or more of the following:

- CAM 17 Metals in accordance with USEPA Methods 6010B and 7471A
- PCBs in accordance with USEPA Method 8082 with Soxhlet extraction (SW-846 Method 3500B/3540C)

4.2 Waste Classification

4.2.1 Metals

Total metals concentrations for soil that is to be disposed should initially be compared to the Toxicity Threshold Limit Concentrations (TTLC)[3] and the screening levels for Soluble Threshold Limit Concentrations (STLC)[5] and Toxicity Characteristic Leaching Potential (TCLP)[4] analyses. Additional analysis to determine soluble metal concentrations should be performed for those samples that indicate total concentrations greater than 10 times the STLC. If the constituent concentration exceeds 10 times the STLC limit but does not exceed the California TTLC limit, the California Waste Extraction Test (WET) should be performed for the specific metal, or metals, exceeding the criterion. A TCLP extraction and subsequent analysis of a constituent should be performed if the constituent total concentration exceeds 20 times the toxicity characteristic leaching procedure (TCLP) limit.

Reported concentrations exceeding the applicable TTLC and/or STLC criteria should be identified as California Hazardous Waste and concentrations exceeding the applicable TCLP criteria should be identified as RCRA Hazardous Waste. Materials to be transported off-Site for disposal must be classified and profiled in accordance with the results of the waste classification analyses. A reference containing both state and federal hazardous waste criteria is provided in Appendix B.

4.2.2 PCBs

Previous investigations identified PCB concentrations ranging up to 2,220 mg/kg at AOC-6 and AOC-7. Additional PCB impacted soil with concentrations greater than the USEPA's Site-specific industrial risk-based threshold of 15 mg/kg are not expected to be encountered. However, PCB impacted soil will be characterized in-situ and transported to the appropriate disposal facility, as noted in Section 4.1.1.

3 As defined in 22CCR 66261.24 a.2.A
4 As defined in 22CCR 66261.24 a.1.B

5.0 Transportation and Disposal

The trucks will be staged on the Site and out of traffic lanes to the extent possible. Once on the Site, the trucks will be loaded by a front-end loader. Water will be sprayed on the material to limit dust emissions during the loading process. Once loaded, the truck will proceed to the decontamination area where the load will be covered with a tarp, and material will be removed from the tires and flat surfaces of the trailer as necessary prior to leaving the Site. A stabilized entrance/exit will be used to clean the truck tires. The area outside the access gate will be swept as necessary to remove any residual material.

Each load will be issued a uniquely identified manifest for transportation and each truck will use the appropriate placard as required by the Department of Transportation. Based on previous soil characterization and off-Site disposal, it is assumed that non-hazardous material (soil, concrete, etc.) will be transported via Interstate 15/395 to the Soil Safe facility in Adelanto, CA, or another appropriate location. Depending on the characterization of PCB-impacted soil, subsequent transportation will likely be to a TSCA disposal facility such as the Waste Management facility in Kettleman, CA, or another appropriate location, subject to DTSC approval upon review of the waste profile report. After characterization, PCB impacted material not required to go to a TSCA disposal facility and lead impacted soil will be transported to either a non-hazardous, Cal-haz, or RCRA disposal facility, as appropriate.

Trucks leaving the Site will travel west on Magnolia Street to the entrance of Interstate 15. The trucks will be operated Monday through Friday between 7:00 AM and 5:00 PM only and avoid leaving the Site during peak traffic hours. A hazardous materials response company will be available on an on-call basis for response to any accidents involving the trucks utilized to transport Site wastes.

5.1 Disposal Facility

The proposed off-Site disposal facilities identified above should be contacted to determine if their environmental permits have additional required laboratory testing requirements for the acceptance of soil from the Site. Waste classification/profiling by a proposed disposal facility may include additional or modified parameters. Therefore, the specific list of analyses should be verified with the selected receiving facility. The property owner is responsible for appropriate management of waste soil that is transported off-Site. Laboratory reports and facility disposal information associated

with waste characterization will also be provided to the DTSC prior to transportation off-Site

6.0 IMPLEMENTATION OF SOIL MANAGEMENT PLAN

6.1 Responsibilities

The property owner has ultimate responsibility for following the SMP, HASP, LUC, and grading plan/permit (See Appendix D). The property owner shall oversee implementation of this SMP at the Site. In addition, the property owner shall make available a copy of the SMP to contractors performing soil disturbance activities at the Site. The contractor shall be responsible for adhering to this SMP, following project specifications, and ensuring job site safety. The contractor also is responsible for providing a copy of the SMP to its subcontractors.

6.1.1 Notifications

McWane will notify DTSC and/or the USEPA, as appropriate, at a minimum 30 days prior to any soil disturbing activity at the Site as described in the LUC as Exhibit C, "Legal Description" and/or illustrated in Exhibit D, "Sketch", also illustrated in Figure 4A as the "Area subject to SMP and O&M Plan (lead concentrations > 320 mg/kg)".

a. Notification of soil disturbing activities associated with lead and/or PCB "hot spot" areas will include details of the excavation activities and associated confirmation sampling protocol using the timeline provided below: McWane will notify DTSC 30 days prior to excavation of lead impacted soil (>1,000 mg/kg) (Figure 3K). The notification will include a detailed excavation, disposal, transportation route, and confirmation soil sampling plan and field work schedule. DTSC approval is required before initiating work.
b. McWane will notify USEPA 30 days prior to excavation of PCB impacted soil (>1 mg/kg) (Figure 3F and Figure 3G). In addition, USEPA approval is required before initiating any future work proposed that will impact the soil, concrete, and/or asphalt with PCB levels over 1 ppm.

6.2 Reporting

Following completion of soil disturbing and associated off-Site disposal activities, a final report will be prepared documenting the results of such activities. The report will summarize on-Site activities, provide figures illustrating soil disturbing activities, and will provide the associated supporting documentation including but not limited to, laboratory data, including waste characterization and confirmation sampling; air monitoring; field sampling data; field notes; pictures; and waste manifest documents. The report will be submitted to the DTSC and the USEPA within 30 days from

receiving the manifests from the destination disposal facility.

7.0 REFERENCES

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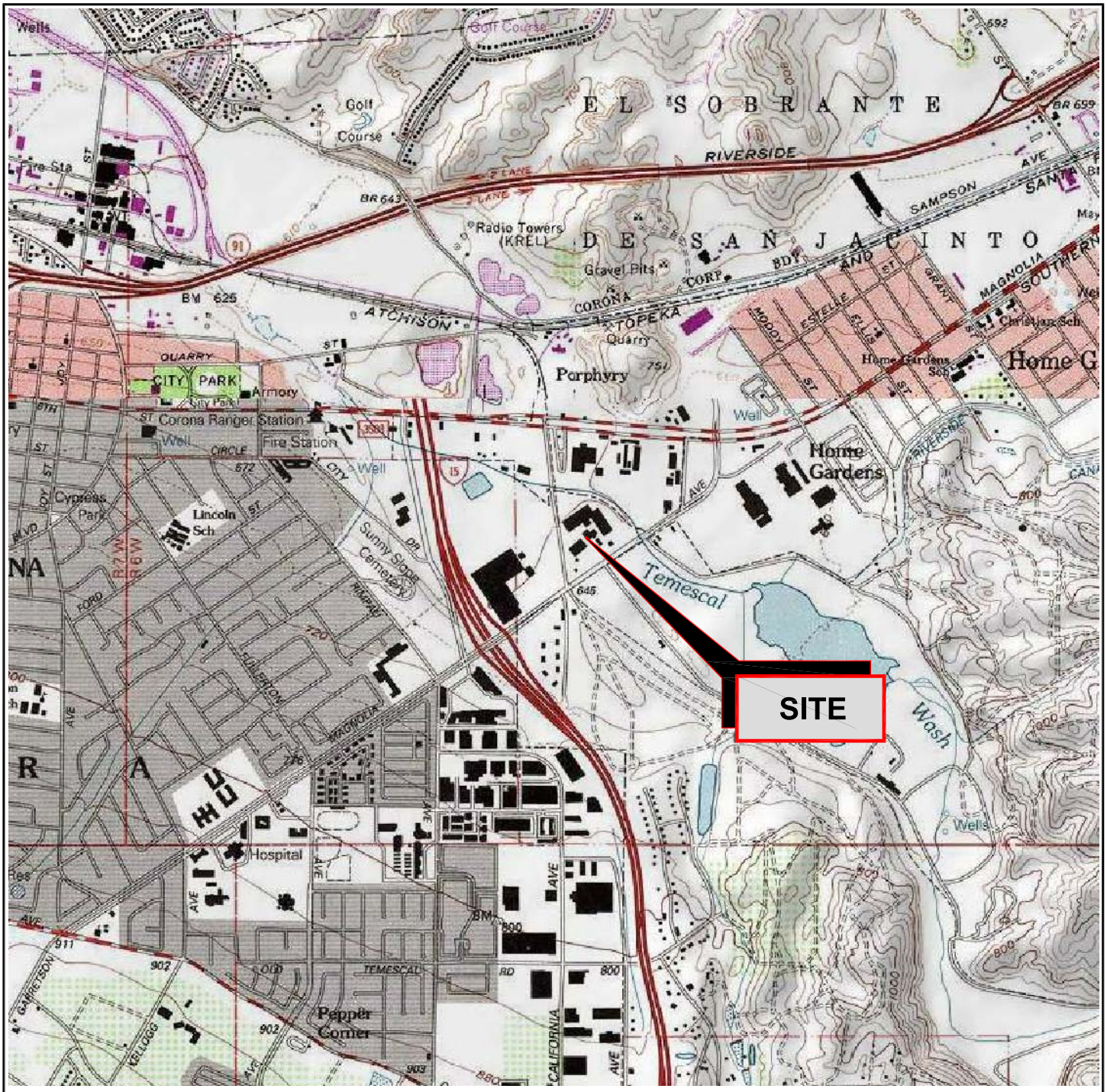
FIGURES



FROM: U.S. GEOLOGICAL SURVEY, 1997
QUADRANGLE: CORONA SOUTH
COUNTY: RIVERSIDE
SERIES: 7.5-MINUTE QUAD

NOTE: ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE

N
W E
S

0 2000 Feet
SCALE

CLOW VALVE

1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®

EARTHCON CONSULTANTS CA, INC
1914 W. ORANGEWOOD AVENUE, SUITE 102, ORANGE, CA 92868

VICINITY MAP

DRAWN:	CHECKED:	DATE:	FIGURE:
DCN	JB	12/30/15	1

FILENAME: S:\CAD\EARTHCON CAD\CLOW VALVE 1375 MAGNOLIA AVENUE, CORONA, CA_VICINITY MAP

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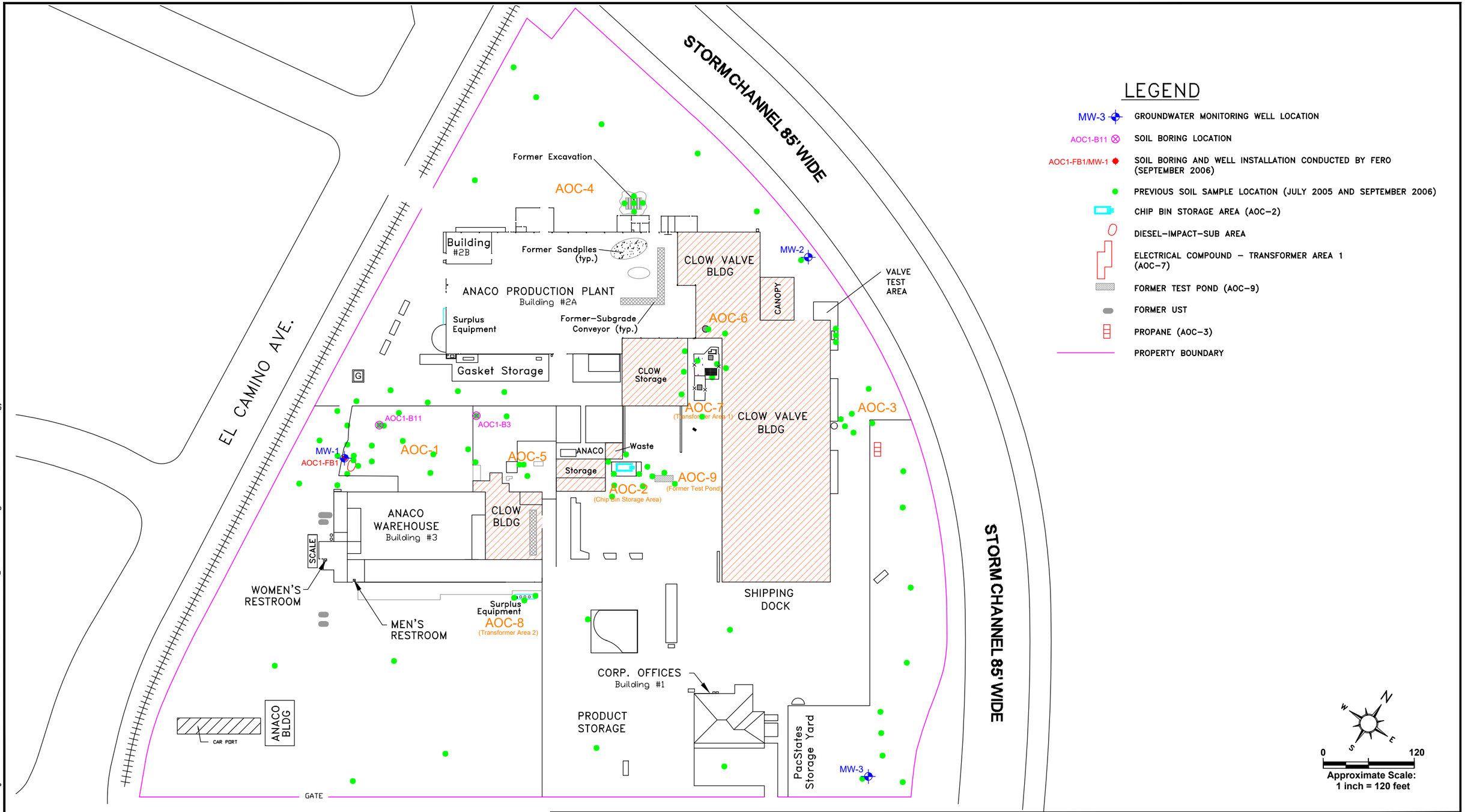

LEGEND

- MW-3 — GROUNDWATER MONITORING WELL LOCATION
- AOC1-B11 — SOIL BORING LOCATION
- AOC1-FB1/MW-1 — SOIL BORING AND WELL INSTALLATION CONDUCTED BY FERO (SEPTEMBER 2006)
- PREVIOUS SOIL SAMPLE LOCATION (JULY 2005 AND SEPTEMBER 2006)
- CHIP BIN STORAGE AREA (AOC-2)
- DIESEL-IMPACT-SUB AREA
- ELECTRICAL COMPOUND – TRANSFORMER AREA 1 (AOC-7)
- FORMER TEST POND (AOC-9)
- FORMER UST
- PROPANE (AOC-3)
- PROPERTY BOUNDARY

N W E S

0 120

Approximate Scale: 1 inch = 120 feet

CLOW VALVE
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SITE PLAN

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/21/19	2

FILENAME: S:\Common\DrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 10-21-19_Site Plan F2.dwg (F2) 10/21/19 15:40 - kgyawali

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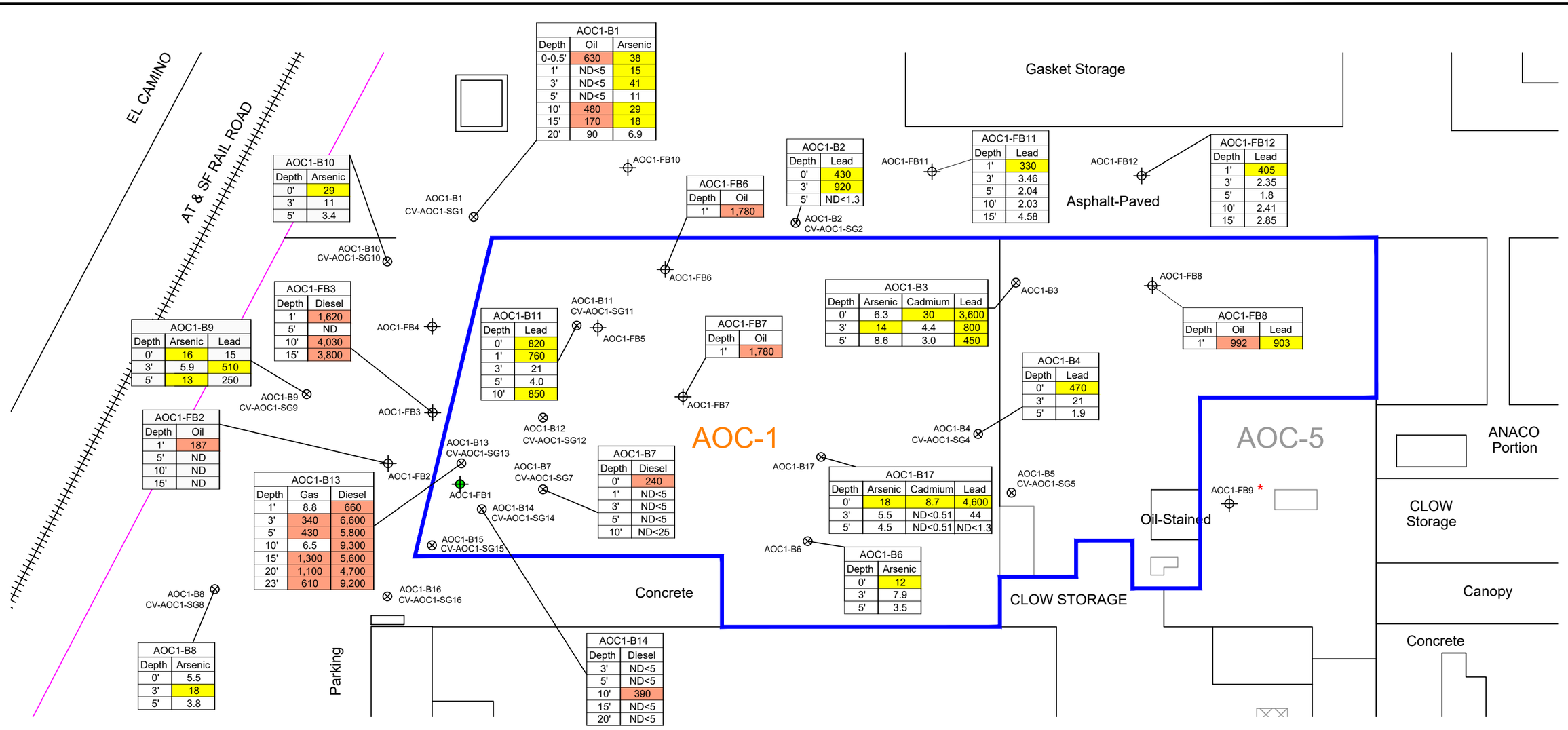

LEGEND

- AOC7-B3 ⊗ — PREVIOUS BORING CONDUCTED BY EST (JULY 2005)
- AOC1-FB7 ⊕ — SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)
- AOC1-FB1 ⊕ — SOIL BORING AND WELL INSTALLATION CONDUCTED BY FERO (SEPTEMBER 2006)
- * — ORIGINALLY IDENTIFIED AS AOC1–FB9
- PROPOSED AREA OF CAPPING AT AOC–1 (UNPAVED)

ND = not detected
LUFT = Leaking Underground Fuel Tank (California Guidance 2012)
RSLs = USEPA Regional Soil Screening Levels. November 2015. HQ=1.0
(1) = General California Background Concentration (DTSC, January 2009)
(2) = DTSC HHRA Note 3 (August 2017)
(3) = OEHHA CHHSL (September 2009)
= meet/exceeds the LUFT criteria
= meet/exceeds the associated RSL

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

	LUFT	RSLs
TPH-gas	100	--
TPH-diesel	100	--
TPH-oil	100	--
Arsenic	--	12 (1)
Cadmium	--	7.3 (2)
Lead	--	320 (3)

N W E S
0 30
Approximate Scale: 1 inch = 30 feet

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AOC1 - RAIL SPUR AREA

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	03/26/20	3A

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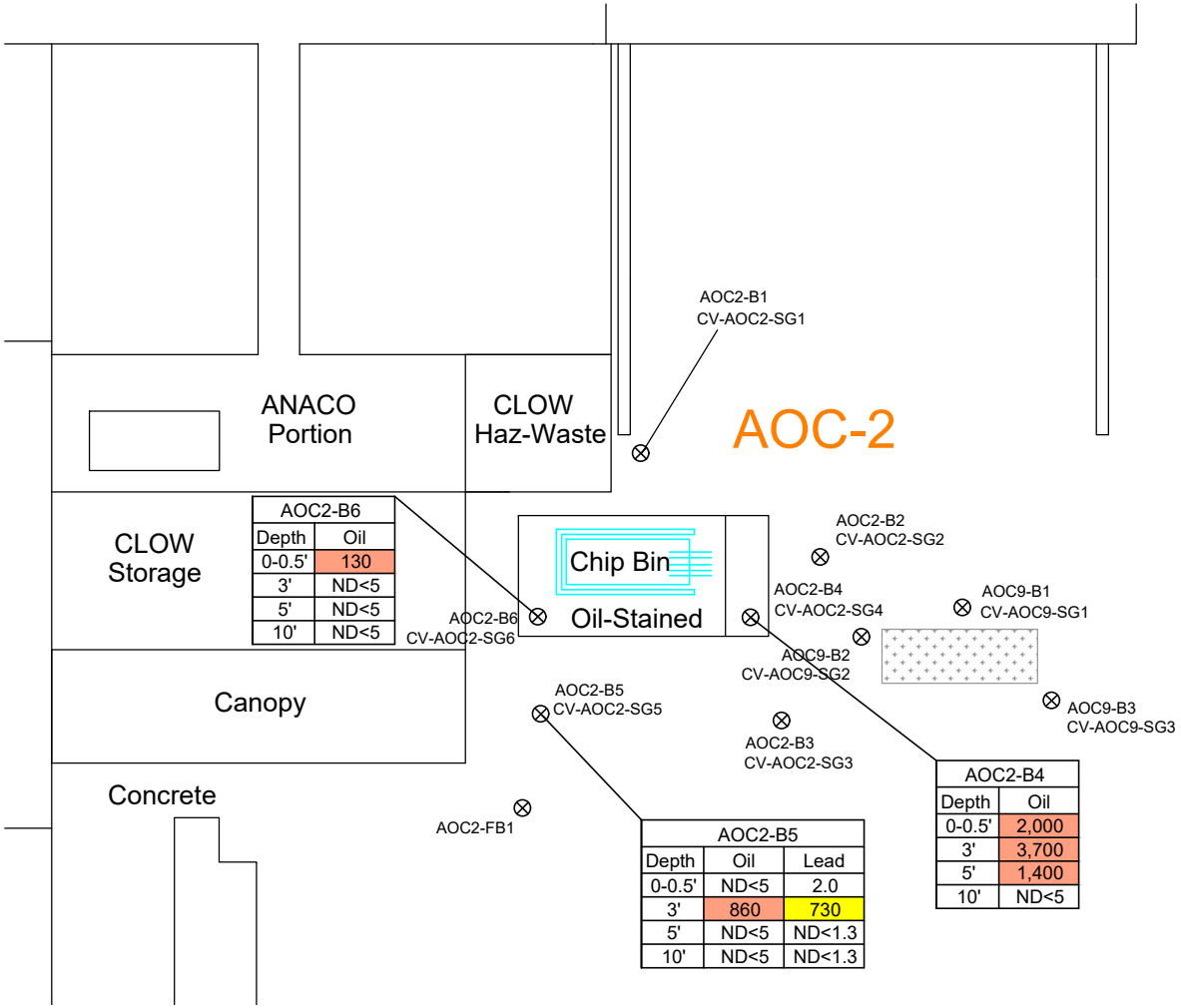

AOC2-B6	
Depth	Oil
0-0.5'	130
3'	ND<5
5'	ND<5
10'	ND<5

AOC2-B4	
Depth	Oil
0-0.5'	2,000
3'	3,700
5'	1,400
10'	ND<5

AOC2-B5		
Depth	Oil	Lead
0-0.5'	ND<5	2.0
3'	860	730
5'	ND<5	ND<1.3
10'	ND<5	ND<1.3

LEGEND

AOC7-B3 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

ND = not detected
LUFT = Leaking Underground Fuel Tank (California Guidance 2012)
RSLs = USEPA Regional Soil Screening Levels. June 2017. HQ=1.0
(2) = DTSC HHRA Note 3 (August 2017)
= meet/exceeds the LUFT criteria
= meet/exceeds the associated RSL

	LUFT	RSLs
TPH-oil	100	--
Lead	--	320 (2)

N W E S

0 30

Approximate Scale: 1 inch = 30 feet

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AOC 2 - CHIP BIN AREA

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3B

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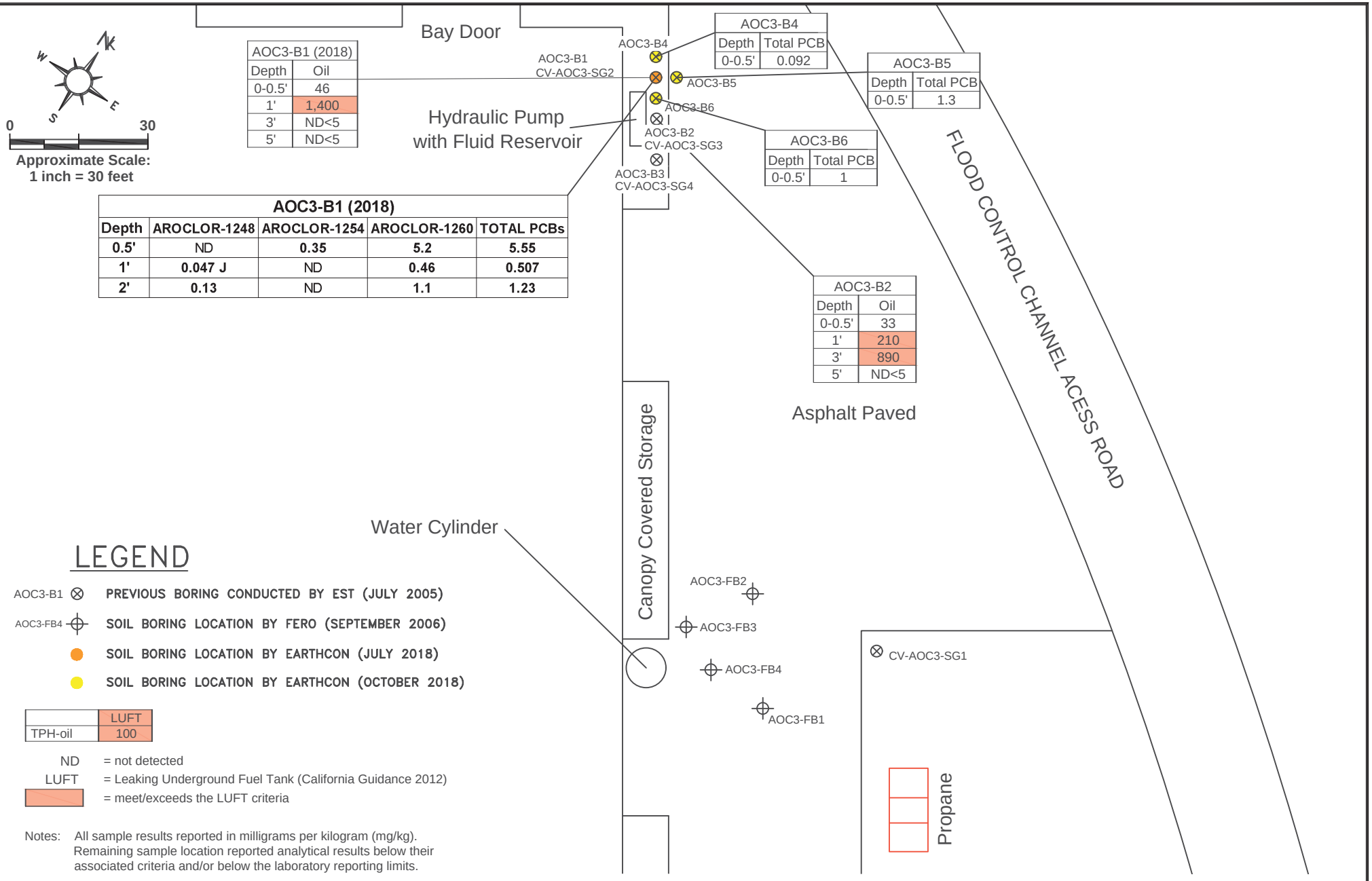

AOC3-B1 (2018)

Depth	AROCLOR-1248	AROCLOR-1254	AROCLOR-1260	TOTAL PCBs
0.5'	ND	**0.35**	**5.2**	**5.55**
1'	**0.047 J**	ND	**0.46**	**0.507**
2'	**0.13**	ND	**1.1**	**1.23**

LEGEND

AOC3-B1 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)

AOC3-FB4 ⊕ SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)

● SOIL BORING LOCATION BY EARTHCON (JULY 2018)

● SOIL BORING LOCATION BY EARTHCON (OCTOBER 2018)

	LUFT
TPH-oil	100

ND = not detected

LUFT = Leaking Underground Fuel Tank (California Guidance 2012)

= meet/exceeds the LUFT criteria

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

CLOW VALVE

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AOC 3 - WATER PRESSURE TEST AREA

DRAWN:	CHECKED:	DATE:	FIGURE:
KNB	JB	03/05/2019	3C

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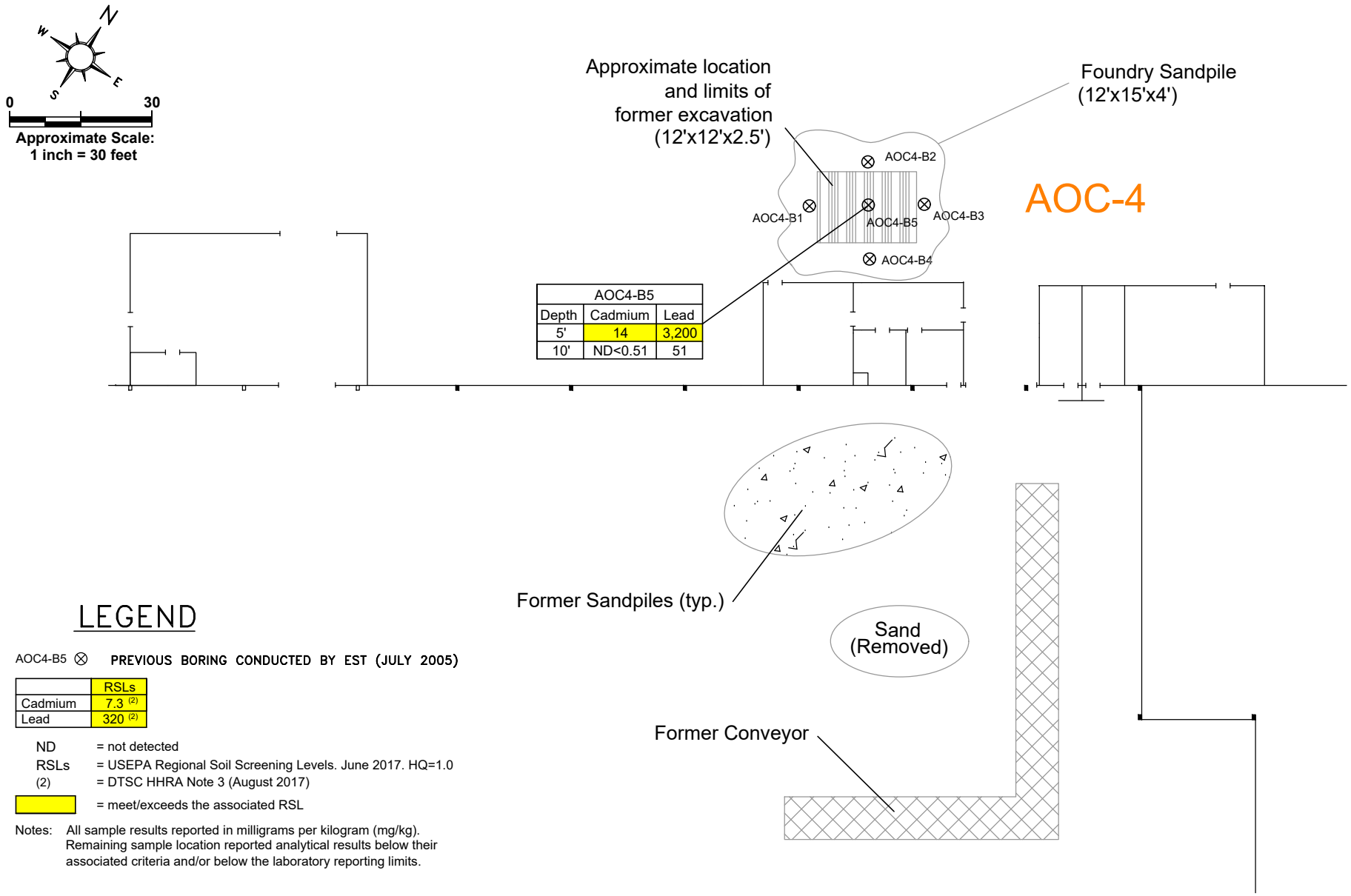

LEGEND

AOC4-B5 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)

	RSLs
Cadmium	7.3 (2)
Lead	320 (2)

ND = not detected
RSLs = USEPA Regional Soil Screening Levels. June 2017. HQ=1.0
(2) = DTSC HHRA Note 3 (August 2017)
= meet/exceeds the associated RSL

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

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AOC 4 - FORMER IRON
FOUNDRY SAND CLEANUP AREA

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3D

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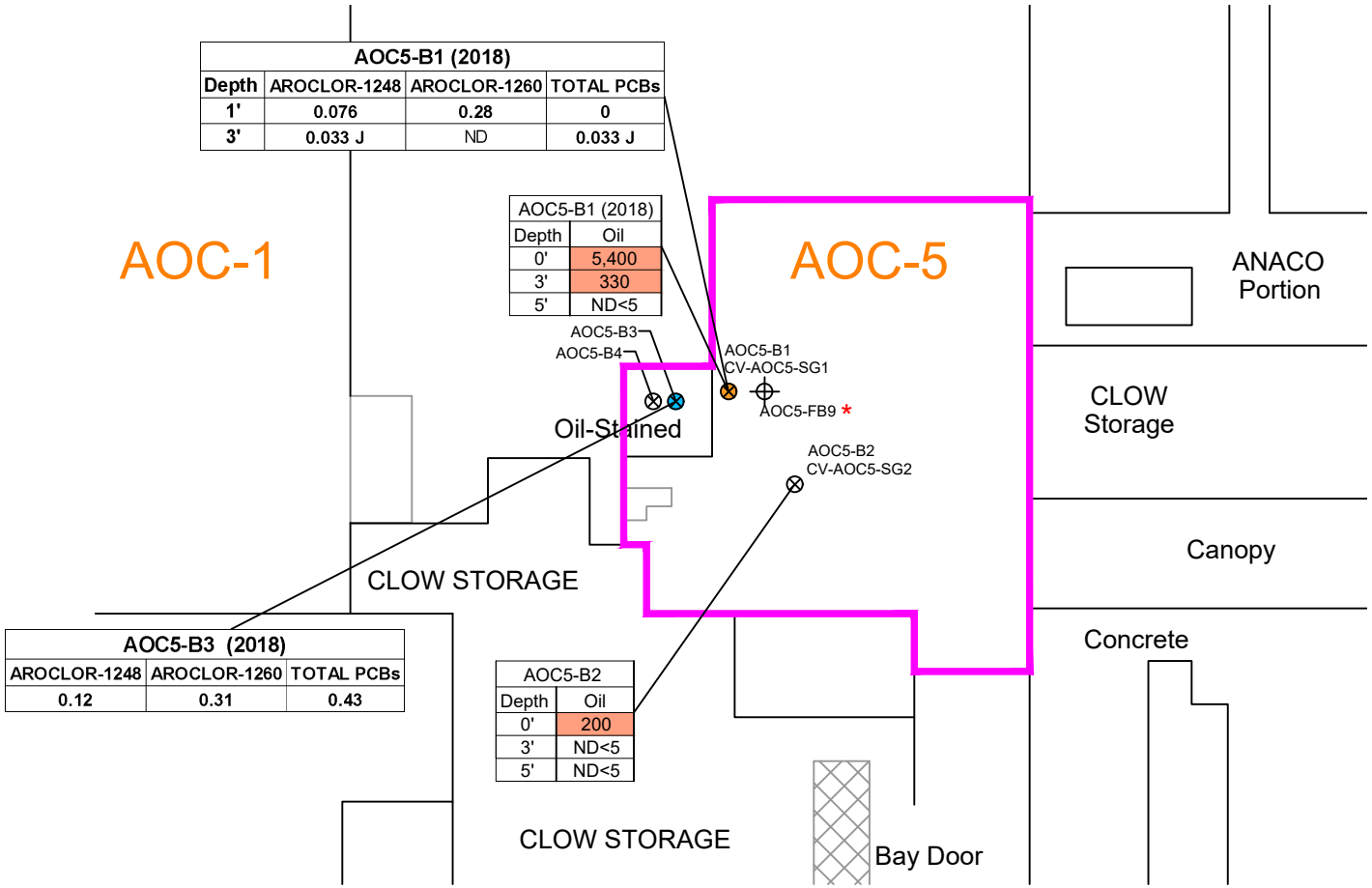

LEGEND

AOC5-FB9 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)

AOC5-B2 ⊕ SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)

● SOIL BORING LOCATION BY EARTHCON (JULY 2018)

● CONCRETE SAMPLE LOCATION BY EARTHCON (JULY 2018)

* ORIGINALLY IDENTIFIED AS AOC1-FB9

ND = not detected

LUFT = Leaking Underground Fuel Tank (California Guidance 2012)

= meet/exceeds the LUFT criteria

= Proposed Area of Capping at AOC- 5 (Primarily Unpaved)

	LUFT
TPH-oil	100

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

N W E S

0 30

Approximate Scale:
1 inch = 30 feet

CLOW VALVE

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AOC 5 - OIL STAINED PAD AREA
PCB SAMPLE LOCATIONS

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	03/26/20	3E

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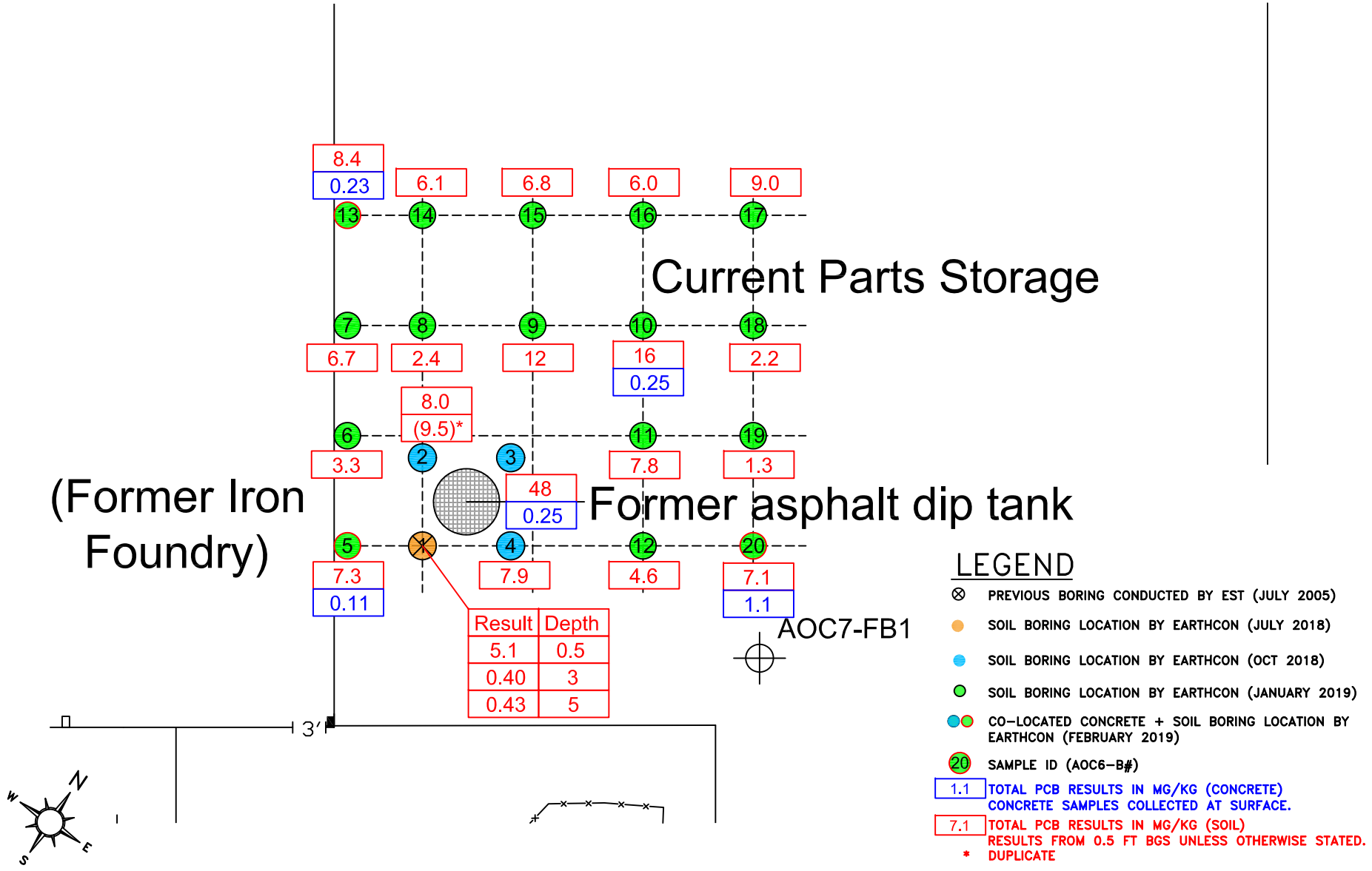

CLOW VALVE

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PROJECT NO.04.20150013.17

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AOC 6 - FORMER ASPHALT DIP TANK AREA

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3F

FILENAME:S:\Common\OrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 10-18-19_F3EFHI.dwg (3F (AOC6 NEW)) 05/11/21 11:08 - kgyawall

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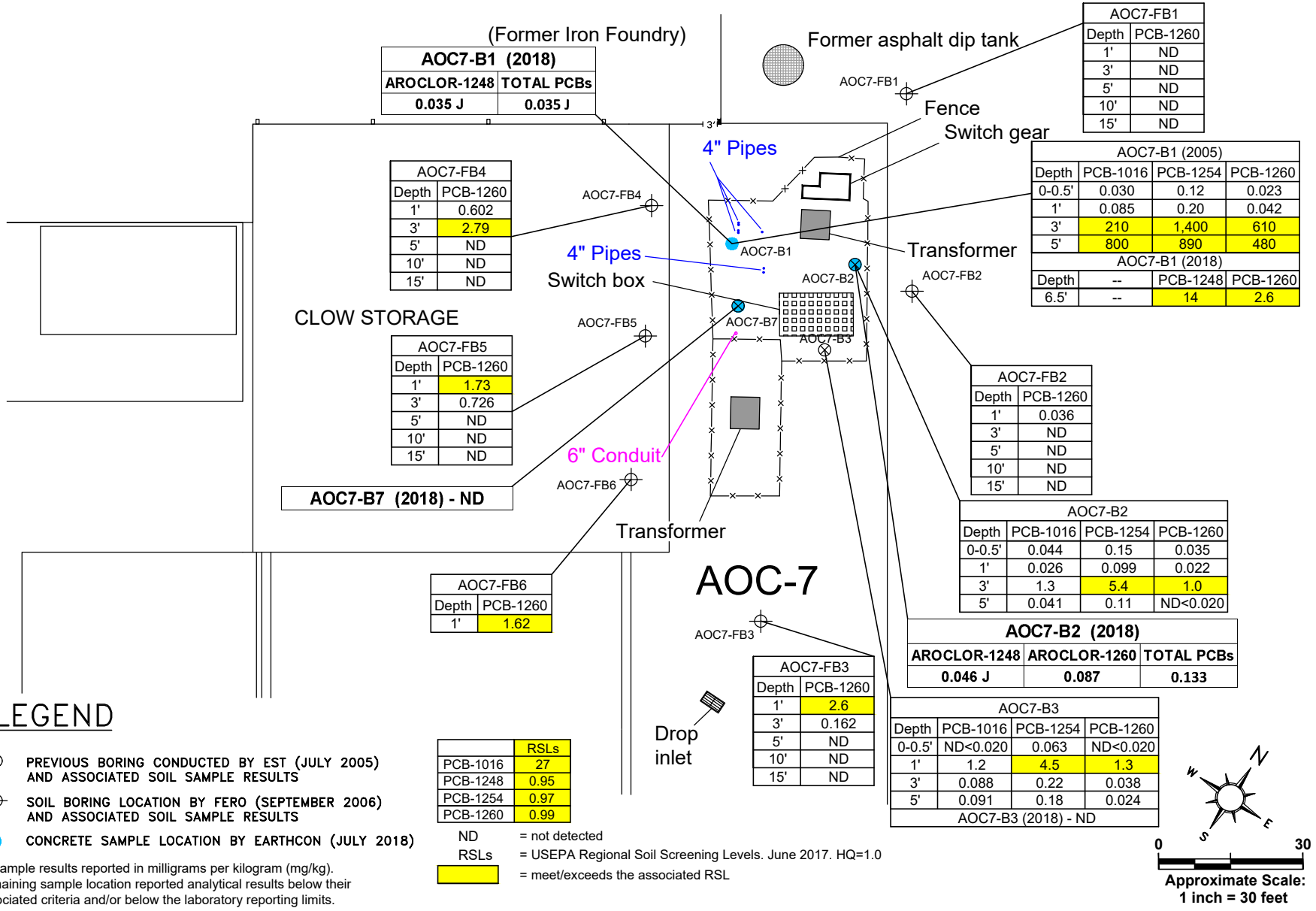

AOC7-B1 (2018)	
AROCLOR-1248	TOTAL PCBs
0.035 J	0.035 J

AOC7-FB1	
Depth	PCB-1260
1'	ND
3'	ND
5'	ND
10'	ND
15'	ND

AOC7-B1 (2005)			
Depth	PCB-1016	PCB-1254	PCB-1260
0-0.5'	0.030	0.12	0.023
1'	0.085	0.20	0.042
3'	210	1,400	610
5'	800	890	480
AOC7-B1 (2018)			
Depth	--	PCB-1248	PCB-1260
6.5'	--	14	2.6

AOC7-FB4	
Depth	PCB-1260
1'	0.602
3'	2.79
5'	ND
10'	ND
15'	ND

AOC7-FB5	
Depth	PCB-1260
1'	1.73
3'	0.726
5'	ND
10'	ND
15'	ND

AOC7-FB2	
Depth	PCB-1260
1'	0.036
3'	ND
5'	ND
10'	ND
15'	ND

AOC7-B2			
Depth	PCB-1016	PCB-1254	PCB-1260
0-0.5'	0.044	0.15	0.035
1'	0.026	0.099	0.022
3'	1.3	5.4	1.0
5'	0.041	0.11	ND<0.020

AOC7-B2 (2018)		
AROCLOR-1248	AROCLOR-1260	TOTAL PCBs
0.046 J	0.087	0.133

AOC7-FB6	
Depth	PCB-1260
1'	1.62

AOC7-FB3	
Depth	PCB-1260
1'	2.6
3'	0.162
5'	ND
10'	ND
15'	ND

AOC7-B3			
Depth	PCB-1016	PCB-1254	PCB-1260
0-0.5'	ND<0.020	0.063	ND<0.020
1'	1.2	4.5	1.3
3'	0.088	0.22	0.038
5'	0.091	0.18	0.024
AOC7-B3 (2018) - ND			

LEGEND

AOC7-B3 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005) AND ASSOCIATED SOIL SAMPLE RESULTS

AOC7-FB6 ⊕ SOIL BORING LOCATION BY FERO (SEPTEMBER 2006) AND ASSOCIATED SOIL SAMPLE RESULTS

● CONCRETE SAMPLE LOCATION BY EARTHCON (JULY 2018)

	RSLs
PCB-1016	27
PCB-1248	0.95
PCB-1254	0.97
PCB-1260	0.99

ND = not detected

RSLs = USEPA Regional Soil Screening Levels. June 2017. HQ=1.0

= meet/exceeds the associated RSL

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

CLOW VALVE

1375 MAGNOLIA AVENUE

CORONA, CA 92879

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AOC 7 - TRANSFORMER AREA 1

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3G

FILENAME: S:\Common\Projects\04.20150013.00-Clow Valve\CAD 2019\SP 10-18-19-3G.dwg (AOC7 3G) 10/18/19 10:29 - kgvowell

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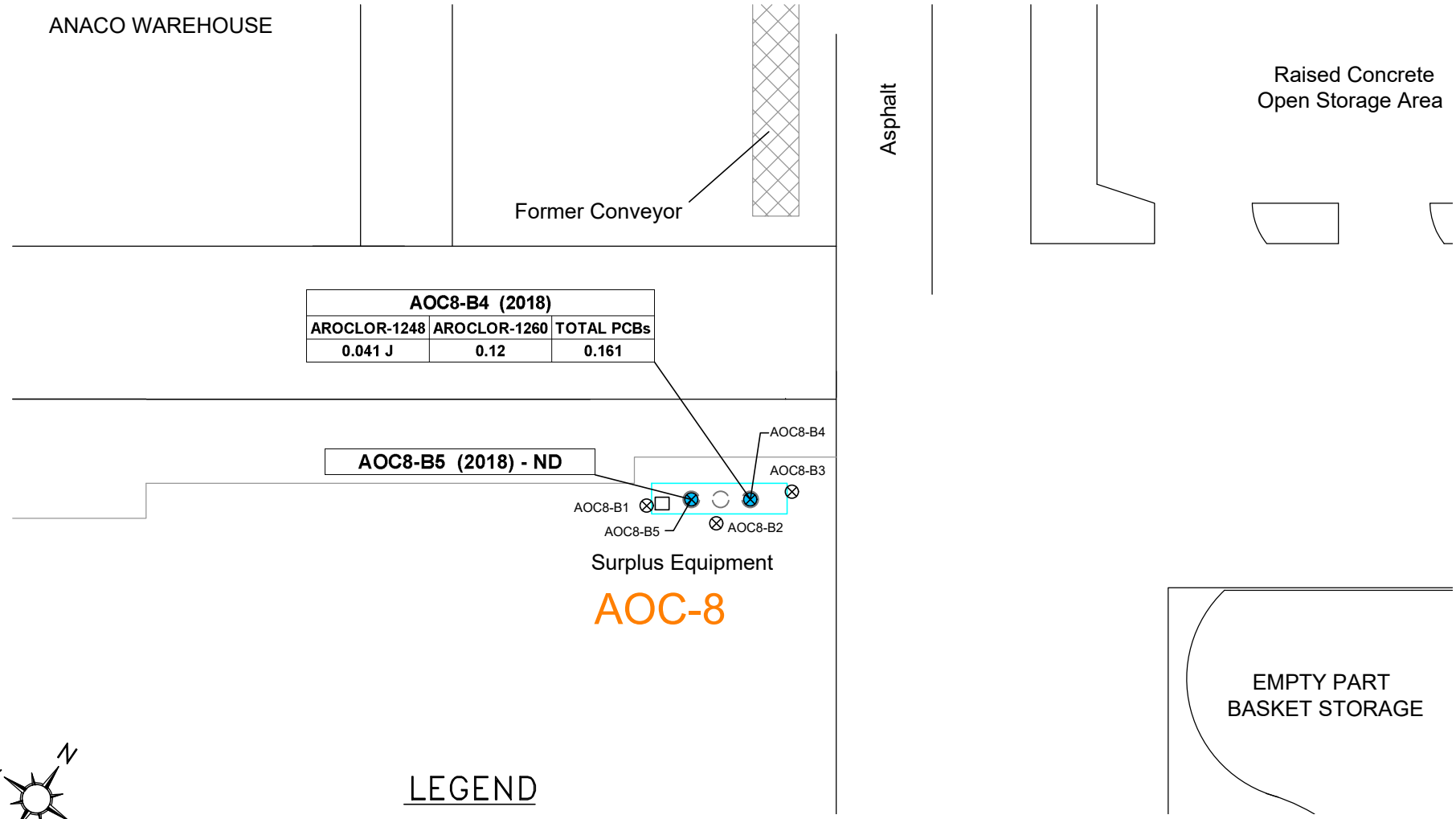

CLOW VALVE

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CORONA, CA 92879

PROJECT NO. 04.20150013.00

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AOC 8 - TRANSFORMER AREA 2
PCB SAMPLE LOCATIONS

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3H

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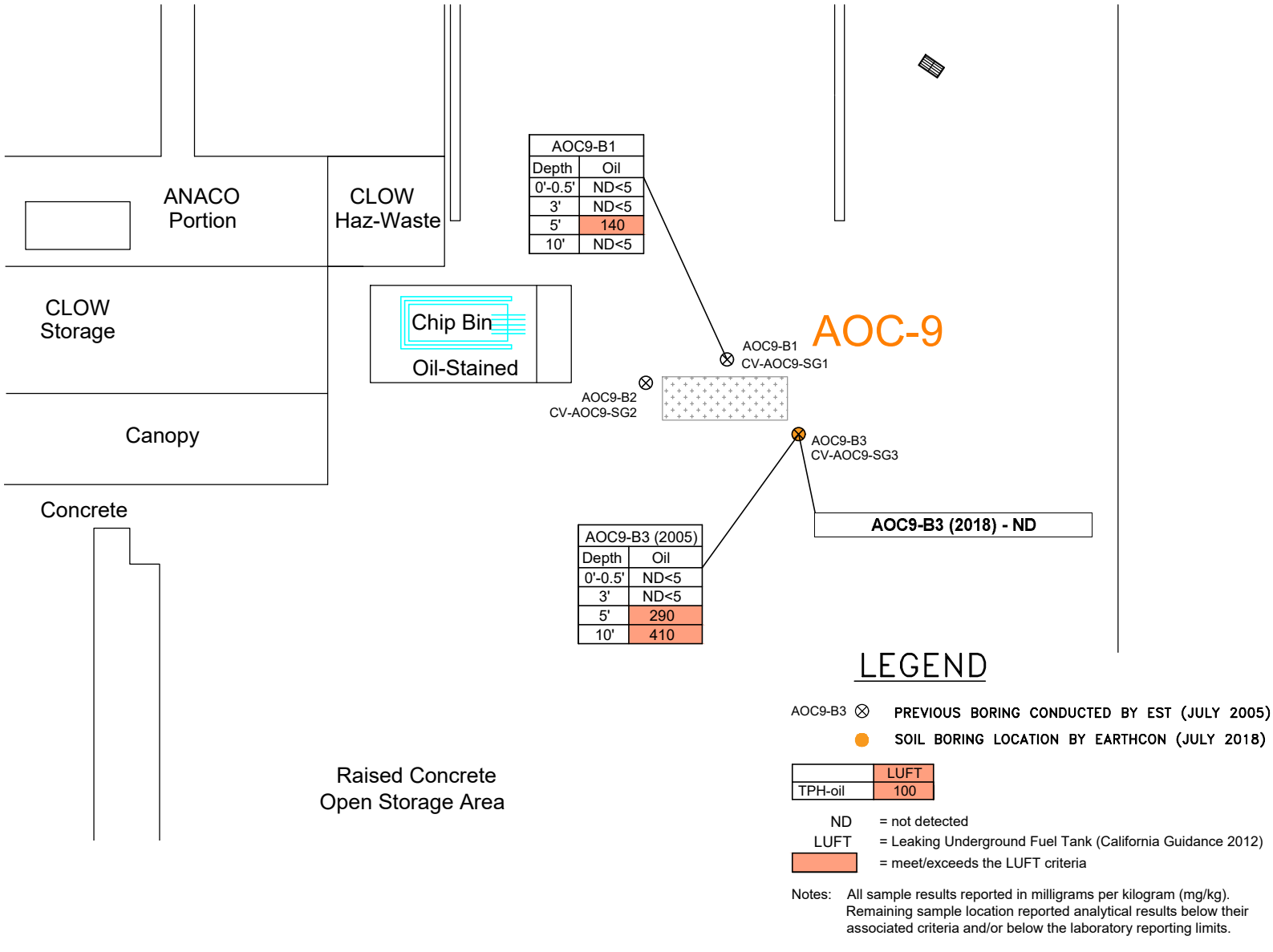

CLOW VALVE

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AOC 9 - FORMER TEST POND PCB SAMPLE LOCATIONS

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3I

FILENAME:S:\Common\OrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 10-18-19_F3EFHI.dwg (3I (AOC9)) 10/18/19 10:47 - kgyawall

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SW2			
Depth	Arsenic	Cadmium	Lead
1'	6.28	43.9	7,360
3'	24.6	ND	5.25
5'	10.0	ND	4.16

CV-BG3	
Depth	Lead
1'	360
3'	130
5'	3.6
10'	3.3
15'	4.9
20'	3.2
25'	6.6

SW1		
Depth	Arsenic	Lead
1'	3.37	828
3'	17.2	2.41
5'	6.28	2.23

SW3		
Depth	Cadmium	Lead
1'	25	4,650
3'	ND	74.1
5'	ND	253

SW4	
Depth	Lead
1'	209
3'	185
5'	352

SW5	
Depth	Lead
1'	218
3'	533
5'	1.98

SW6	
Depth	Lead
1'	239
3'	182
5'	897

CV-BG4	
Depth	Diesel
1'	ND<5
3'	ND<5
5'	ND<5
10'	ND<5
15'	110
20'	ND<5

SW21	
Depth	Arsenic
1'	52.9
3'	1.68
5'	2.11

CV-BG2	
Depth	Hex Cr
1'	ND<0.5
3'	4.2
5'	3.3
10'	ND<0.5
15'	ND<0.5
20'	6.6

LEGEND

- CV-BG4 — BACKGROUND SOIL BORING BY EST (JULY 2005)
- AOC7-B3 — PREVIOUS BORING CONDUCTED BY EST (JULY 2005)
- SW9 — SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)
- AOC1-FB1 — SOIL BORING AND WELL INSTALLATION CONDUCTED BY FERO (SEPTEMBER 2006)

	LUFT	RSLs
TPH-diesel	100	--
Arsenic	--	12 (1)
Cadmium	--	7.3 (2)
Hex Cr	--	6.3
Lead	--	320 (2)

ND = not detected
LUFT = Leaking Underground Fuel Tank (California Guidance 2012)
RSLs = USEPA Regional Soil Screening Levels. June 2017. HQ=1.0
(1) = General California Background Concentration (DTSC, January 2009)
(2) = DTSC HHRA Note 3 (August 2017)
= meet/exceeds the LUFT criteria
= meet/exceeds the associated RSL

Notes: All sample results reported in milligrams per kilogram (mg/kg). Remaining sample location reported analytical results below their associated criteria and/or below the laboratory reporting limits.

STORM CHANNEL 85' WIDE

EL CAMINO AVE.

Former Excavation

Building #2B

Former Sandpiles (typ.)

CLOW VALVE BLDG

ANACO PRODUCTION PLANT
Building #2A

CANOPY

VALVE TEST AREA

Surplus Equipment

Former-Subgrade Conveyor (typ.)

Gasket Storage

CLOW Storage

ANACO

Waste

Storage

ANACO WAREHOUSE
Building #3

CLOW BLDG

SCALE

Surplus Equipment

SHIPPING DOCK

CORP. OFFICES
Building #1

PRODUCT STORAGE

PacStates Storage Yard

CAR PORT

ANACO BLDG

GATE

MAGNOLIA AVE

SW1 SW2 SW3 SW4 SW5 SW6 SW7 SW8 SW9 SW10 SW11 SW12 SW13 SW14 SW15 SW16 SW17 SW18 SW19 SW20 SW21

CV-BG1 CV-BG2 CV-BG3 CV-BG4

0 120

Approximate Scale: 1 inch = 120 feet

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®
EARTHCON CONSULTANTS CA, INC
1500 SOUTH SUNKIST STREET, SUITE D, ANAHEIM, CA 92806

BACKGROUND AND SITEWIDE SOIL BORINGS

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	10/18/19	3J

FILENAME: S:\Common\DrangeCAD\Projects\04.20150013.00-Clow Valve\CAD 2019\SP 10-18-19_F3BDJ.dwg (3J (ADC10)) 10/18/19 10:49 - kgyawall

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SW2	
Depth (ft)	Lead (mg/kg)
1	7,360

SW3	
Depth (ft)	Lead (mg/kg)
1	4,650

AOC1-B3	
Depth (ft)	Lead (mg/kg)
0	3,600

AOC1-B17	
Depth (ft)	Lead (mg/kg)
0	4,600

STORM CHANNEL 85' WIDE

EL CAMINO AVE.

Former Excavation

AOC-4

Building #2B

Former Sandpiles (typ.)

MW-2

CLOW VALVE BLDG

CANOPY

VALVE TEST AREA

ANACO PRODUCTION PLANT
Building #2A

Surplus Equipment

Former-Subgrade Conveyor (typ.)

AOC-6

Gasket Storage

CLOW Storage

AOC-7
(Transformer Area 1)

CLOW VALVE BLDG

AOC-3

AOC1-B11

AOC1-B3

MW-1

AOC1-FB1

AOC-1

AOC-5

ANACO Storage

Waste

AOC-9
(Former Test Pond)

AOC-2
(Chip Bin Storage Area)

ANACO WAREHOUSE
Building #3

CLOW BLDG

SCALE

WOMEN'S RESTROOM

MEN'S RESTROOM

Surplus Equipment

AOC-8
(Transformer Area 2)

SHIPPING DOCK

CORP. OFFICES
Building #1

PRODUCT STORAGE

PacStates Storage Yard

MW-3

CAR PORT

ANACO BLDG

GATE

MAGNOLIA AVE

STORM CHANNEL 85' WIDE

LEGEND

- MW-3 — GROUNDWATER MONITORING WELL LOCATION
- AOC1-B11 — SOIL BORING LOCATION
- AOC1-FB1/MW-1 — SOIL BORING AND WELL INSTALLATION CONDUCTED BY FERO (SEPTEMBER 2006)
- PREVIOUS SOIL SAMPLE LOCATION (JULY 2005 AND SEPTEMBER 2006)
- CHIP BIN STORAGE AREA (AOC-2)
- DIESEL-IMPACT-SUB AREA
- ELECTRICAL COMPOUND - TRANSFORMER AREA 1 (AOC-7)
- FORMER TEST POND (AOC-9)
- FORMER UST
- PROPANE (AOC-3)
- PROPERTY BOUNDARY

Notes: Sample results reported in milligrams per kilogram (mg/kg).

Remaining sample locations reported analytical results below their associated criteria and/or below the laboratory reporting limits.

N W E S

0 120

Approximate Scale:
1 inch = 120 feet

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

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SHALLOW SOIL SAMPLES WITH LEAD EXCEEDING 1,000 MG/KG

DRAWN:	CHECKED:	DATE:	FIGURE:
KG	JB	12/28/20	3K

FILENAME: S:\Common\DrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 12-28-20_Fig3K.dwg (F3K) 12/28/20 13:34 - kgyawali

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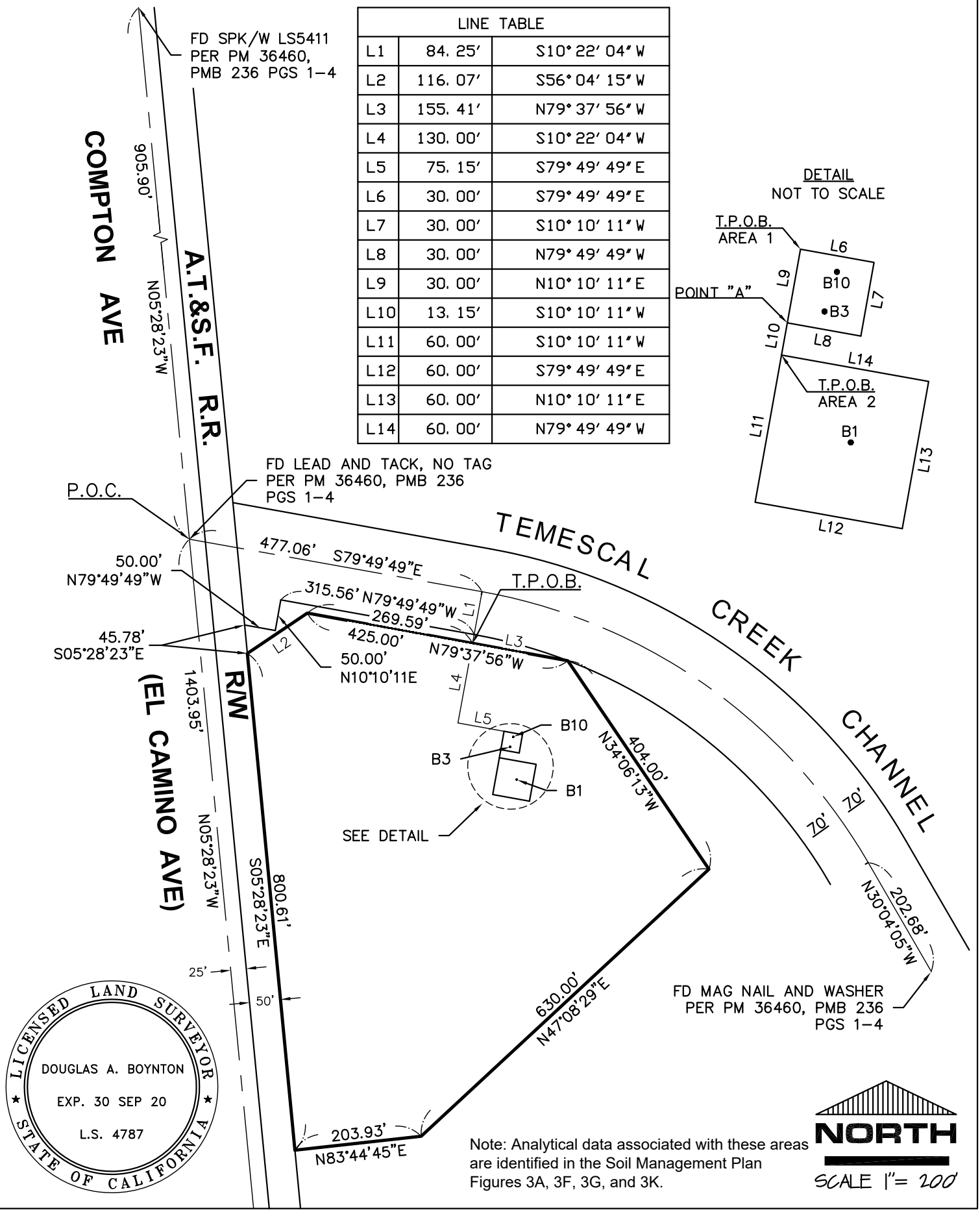
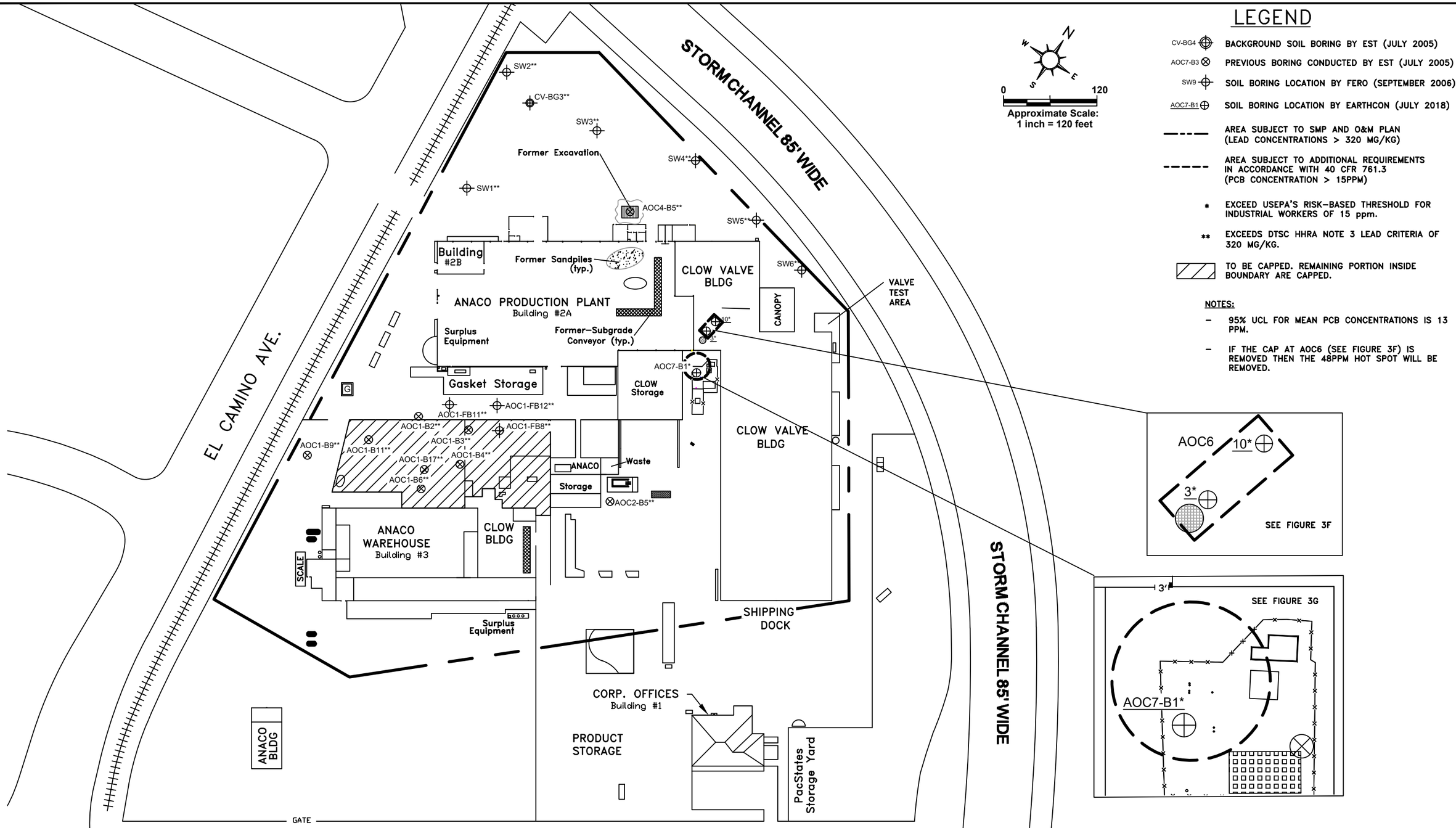
FIGURE 4

SURVEY OF AREA SUBJECT TO LAND USE COVENANT



LINE TABLE		
L1	84. 25'	S10° 22' 04" W
L2	116. 07'	S56° 04' 15" W
L3	155. 41'	N79° 37' 56" W
L4	130. 00'	S10° 22' 04" W
L5	75. 15'	S79° 49' 49" E
L6	30. 00'	S79° 49' 49" E
L7	30. 00'	S10° 10' 11" W
L8	30. 00'	N79° 49' 49" W
L9	30. 00'	N10° 10' 11" E
L10	13. 15'	S10° 10' 11" W
L11	60. 00'	S10° 10' 11" W
L12	60. 00'	S79° 49' 49" E
L13	60. 00'	N10° 10' 11" E
L14	60. 00'	N79° 49' 49" W

Note: Analytical data associated with these areas are identified in the Soil Management Plan Figures 3A, 3F, 3G, and 3K.



LEGEND

- CV-BG4 ⊕ BACKGROUND SOIL BORING BY EST (JULY 2005)
- AOC7-B3 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)
- SW9 ⊕ SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)
- AOC7-B1 ⊕ SOIL BORING LOCATION BY EARTHCON (JULY 2018)
- AREA SUBJECT TO SMP AND O&M PLAN (LEAD CONCENTRATIONS > 320 MG/KG)
- AREA SUBJECT TO ADDITIONAL REQUIREMENTS IN ACCORDANCE WITH 40 CFR 761.3 (PCB CONCENTRATION > 15PPM)
- * EXCEED USEPA'S RISK-BASED THRESHOLD FOR INDUSTRIAL WORKERS OF 15 ppm.
- ** EXCEEDS DTSC HHRA NOTE 3 LEAD CRITERIA OF 320 MG/KG.
- TO BE CAPPED. REMAINING PORTION INSIDE BOUNDARY ARE CAPPED.

NOTES:

- 95% UCL FOR MEAN PCB CONCENTRATIONS IS 13 PPM.
- IF THE CAP AT AOC6 (SEE FIGURE 3F) IS REMOVED THEN THE 48PPM HOT SPOT WILL BE REMOVED.

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

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SITE PLAN WITH AREAS SUBJECT TO THE LAND USE COVENANT

DRAWN:	CHECKED:	DATE:	FIGURE:
AB	JB	06/21/2021	4A

FILENAME: S:\Common\DrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 05-12-21_F4.dwg (Subject area) 06/21/21 1505 - abasford

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APPENDICES

APPENDIX A

PROJECT HEALTH & SAFETY PLAN (HASP)

Corrective Measures Study
Clow Valve
1375 Magnolia Avenue
Corona, California

EarthCon Project No. 04.20150013.00

August 22, 2016
Revised October 2, 2017

Project Health and Safety Plan (HASP)

Project Name: Corrective Measures Study - Clow Valve
1375 Magnolia Avenue
Corona, California

Project Number: 04.20150013.00

Prepared by:	Jennifer McGervey EarthCon Consultants CA, Inc.	8/19/16
Project Manager:	Jeff Bennett, PG EarthCon Consultants CA, Inc.	8/19/16
Approved by:	J. Ryan Clarke EarthCon HASP Reviewer	08/20/2016

Brief Description of Amendment	**Amendment Date**
Update field scope to include capping; updated dust action level;	10/2/17
Update of EarthCon H&S personnel	10/2/17

Health and Safety Plan Consent Agreement

Because of the potentially hazardous nature of this site and activity occurring at the site, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth in this document will reduce, but may not eliminate, the potential for injury and illness at this site. Guidelines in this Plan were prepared specifically for this site and should not be used on any other site without prior evaluation by trained health and safety personnel.

Site workers must also review this HASP. The Site Safety Officer (SSO) must conduct a pre-work briefing prior to initiating this project. All sections of this HASP must be reviewed during this briefing and documented via **Appendix A**. Any worker not attending the initial meeting must be trained by the SSO on the information covered in the pre-work briefing meeting. ***The SSO must hold tailgate meetings at the beginning of each work shift to discuss important safety and health issues concerning tasks to be performed on that day.***After reading the HASP and attending a pre-work briefing, workers must sign the following acknowledgment statement.

I have read, understand, and will abide by the information set forth in this HASP. I have also attended a pre-work briefing. I agree to perform my work in accordance with this HASP **(See Appendix F).**

Name (Print)		Signature	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

TABLE OF CONTENTS

1.0 HASP SUMMARY INFORMATION

The first phase of this project is anticipated to include the collection of soil samples, using a direct push drill rig, at a total depth of 10 feet below ground surface (ft bgs) and installation of two groundwater monitoring wells. The second phase is to implement the CMS activities which includes removing impacted soil, collection of soil confirmation samples, and capping the identified exposed surfaces. This HASP will be updated or amended, as necessary, to reflect any changes that may be encountered. Personnel responsibilities are described in **Table 1** and personnel training requirements are provided in **Table 2.**

Project Name…….	Corrective Measures Study
Project Location…..……..…….	Clow Valve 1375 Magnolia Avenue Corona, California (see Figures 1 and 2)
Project Number……..	04.20150013.00
Project Manager……	Jeff Bennett714-500-5400 ext.5454
Start Date / End Date	September 2016-October 2016
Site Safety Officer(s)…….	Tim Eyres
Client Contact	Larry Bowers 256-388-0001
Supervisor……...	Jeff Bennett 714-500-5400 ext. 5454
Regional Health & Safety Coordinator…..	Hugh Walker, Jr. – 662-871-8753 (Cell)
Planned Activities……..	Monitoring well install & sampling; soil sampling, capping
Chemical Hazards…….	PCBs, Lead, Cadmium, Arsenic, Diesel, Gasoline
Initial PPE……..	Level D
Emergency Phone……..	**911**
Hospital Information……	**(951) 737-4343** **Corona Regional Medical Center** **800 S Main St, Corona, CA 92882**

2.0 INTRODUCTION

This HASP serves the following purposes:

- Identifies and describes the potentially hazardous substances and working conditions that may be encountered during the field work;
- Specifies personal protective and monitoring equipment to be used during onsite activities; and
- Outlines measures to be implemented in the event of an emergency.

2.1 Site Location and Description

The Site is southwest corner of the intersection at 1375 Magnolia Avenue in Corona, California. **Figure 1** shows the site location. **Figure 2** provides a site layout for the facility. It is identified as Riverside County Assessor Parcel Number 107-030-022-3 and covers approximately 16 acres. Approximately 60% of the property is currently used for machining, product finishing and testing, and product storage. The remaining 40% includes asphalt-paved parking areas and unpaved areas. Unused foundry buildings, small offices and open areas are leased to other tenants.

2.2 Project Objectives

EarthCon will collect soil samples to assess the extent of soil contamination on-Site. The soil samples will be managed according to the workplan protocol.

EarthCon will provide oversight of advancement for well installation using a subcontracted drilling company. EarthCon will collect and manage water samples according to the workplan protocol.

EarthCon will provide oversight of the grading and asphalt cap placement associated with AOC-1 and AOC-5.

The ultimate objective is to conduct all activities in a safe and compliant manner.

2.3 Personnel Requirements and Responsibilities

Provisions of this HASP apply to all EarthCon personnel and subcontractors that will be participating in the above noted field activities. On-site personnel will be required to review the HASP prior to commencement of field activities and conduct all field activities in accordance with plan specifications. Other personnel on the site are expected to follow the provisions of the health and safety procedures outlined in this HASP as a minimum base standard but will retain full responsibility for the health and safety of their own employees or sub-subcontractors.

General safe work practices that must be implemented during work activities at this site are included in **Table 3**.

EarthCon considers each subcontractor to be an expert in all aspects of the work operations which they are tasked to provide, and each subcontractor is responsible for compliance with those regulatory and/or legal requirements which pertain to those services. While the EarthCon HASP will be the minimum H&S requirements for the work completed by EarthCon and its subcontractors, each subcontractor, in coordination with EarthCon's H&S personnel, is expected to perform its operations in accordance with its own H&S plans, policies and procedures unique to the subcontractor's work to ensure that hazards associated with the performance of the subcontractor's work activities are properly controlled. Copies of any required safety documentation for a subcontractor's work activities will be provided to EarthCon for review prior to the start of on-site activities. No review of any subcontractor plan or document by EarthCon will serve as an approval or ratification of such plan by or on behalf of EarthCon, and no such review will operate as any assumption of any duty or responsibility on the part of EarthCon (or any EarthCon employee or representative) for or as to any aspect of any subcontractor's own H&S responsibilities. Any comments or feedback from EarthCon to any subcontractor following any review by EarthCon of any subcontractor document or practice is provided solely for informational purposes and not for reliance.

In the event that the subcontractor's procedures/requirements conflict with requirements specified in this HASP, the more stringent guidance will be adopted after discussion and agreement between the subcontractor and EarthCon project H&S personnel. Hazards not listed in this HASP, but known to the subcontractor or known to be associated with the subcontractor's services, must be identified by the subcontractor and addressed to the EarthCon Project Manager prior to beginning work operations.

EarthCon personnel who have responsibility for the safe operations of this project include the Project Manager (PM), EarthCon Corporate Safety and Health Manager (CSHM), the Site Safety Officer (SSO) and the Project Field Staff. Responsibilities of each of the above referenced personnel as they relate to project safety and health are provided in **Table 1**.

2.4 Site Control

Site control procedures must be implemented **before** the start of site tasks to control worker exposures to hazardous substances. A Vicinity Map that shows the site location is included as **Figure 1**. A Site Layout Plan with proposed sampling locations is included as **Figure 2**. Changes may be made to the site map by the SSO, as needed, based on site conditions. The site map should be posted in the work area and/or field notebook.This site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft. The Site Safety Officer is responsible for evaluating site conditions and for verifying that the

site control program functions effectively. The site control program will be updated regularly to reflect current site conditions, work operations, and procedures.

2.4.1 Site Access

Access to the site shall be controlled using the following method(s):

☐	Security fence	☒	Temporary barricades and/or warning tape
☐	Sign in/Sign out log	☐	Guard
☐	Identification badges	☐	Other: Onsite Manager

2.4.2 Work Zones

Restricted work zones may be established to limit the spread of hazardous substances (when applicable) by workers from potentially affected areas to non-affected areas. The exact location and extent of the work zones will be modified as necessary as site investigation information becomes available. Delineation of work zones is as follows:

- Exclusion Zone: The Exclusion Zone is the area where the potential for exposure to hazards and contact with hazardous materials could occur. The zone may be marked by caution tape. Personnel working within the Exclusion Zone will be expected to follow protective measures as prescribed by the SSO.

- Contamination Reduction Zone: The Contamination Reduction Zone is a transition area between the potentially affected areas/materials and assumed non-affected areas/materials. Decontamination of personnel and equipment, if necessary, shall be conducted in this area to reduce the probability of contamination transfer to a non-affected area. The Contamination Reduction Zone shall be situated upwind of the Exclusion Zone.

- Support Zone: The Support Zone is the area, outside the Exclusion and Contamination Reduction Zone, where administrative and other project support functions are performed. The Support Zone shall be situated upwind of the Contamination Reduction Zone and/or the Exclusion Zone.

See Figure 2A for the location of the work zones.

2.4.3 Communications

Typical on-site communications may be conducted through the use of:

☒	Verbal		
☐	Two-way radio	☐	Horn
☒	Cellular telephone	☐	Siren
☒	Hand signals	☐	Other:_____

Off-site communications may be conducted through the use of:

☒ Cellular telephone: Verify cell phone reception in all work areas prior to starting work.
☐ Site Phone: Location & No. _____
☐ Pay phone: Location & No. _____
☐ Other: _____

Cell Phone reception should be verified throughout the site prior to commencing work.

2.4.4 Visitors

Visitors to the Site shall be continually escorted in order to assure their safety. Visitors will not be allowed past the Support Zone (if such a zone is established at this Site) unless they read, understand, sign, and abide by the requirements outlined in this HASP.

2.5 Worker Training

Table 2 will be used to document on-site workers who have received the appropriate training according to the company Environmental, Health, and Safety (EH&S) Training Program**. Table 2** must be completed prior to initiation of field activities. Pre-work briefing and routine tailgate meetings will be conducted to facilitate on-site training. Subcontractors must provide information requested in **Appendix G** prior to starting to work.

2.6 Safety Meetings

Project personnel who will be involved with on-site field activities must be appropriately trained in accordance with 29 CFR Part 1910.120 "Hazardous Waste Operations and Emergency Response". Before field work begins, the SSO will review the HASP with the field workers addressing the potential hazards associated with the proposed field activities. Components of the safety meeting will include, but will not be limited to, a review of the following:

- Location of sanitation facilities as seen on site plan.
- Potential chemical, operational and physical hazards present at the site.
- Personal protective equipment (PPE)/personal protection procedures.
- Hazardous materials handling procedures.
- Buddy system.
- Personal hygiene - general guidelines.
- Personal and equipment decontamination procedures.
- Emergency response procedures.
- Symptom awareness.
- Stop Work Authority

Periodic meetings with project personnel may be conducted by the SSO pending changes to the scope of work or modification to this HASP. To document the meetings, the SSO will complete

the Site Safety Meeting Minutes Form provided in **Appendix A**. Verification will be provided to the CHSM upon request.

2.7 Medical Monitoring Requirements

OSHA requires medical monitoring for personnel potentially exposed to chemical hazards at concentrations in excess of the PEL for more than 30 days per year and for personnel who must use respiratory protection for more than 30 days per year.

Will personnel working at this site be enrolled in a medical monitoring program? ☐**Yes** ☒**No**

Personnel who are diagnosed as having medical conditions which could directly or indirectly be aggravated by either exposure to chemical substances suspected of being present at the Site, or by the use of Personal Protective Equipment (PPE), will not be allowed to participate in field activities. In addition, personnel with injuries or illnesses involving open wounds may not be allowed on-site. Field personnel who develop an illness or injury during the project may be examined by a physician. A physician must determine if the employee is fit to return to work before they can return to field activities. In addition, the CHSM, SSO, or Site employees may request additional medical testing if a chemical exposure is suspected.

2.8 Hazard Communication Requirements

When chemicals are used on-site, EarthCon workers must adhere to the company's Hazard Communication Program (29 CFR §1910.1200). The following procedures must be followed for chemicals brought on-site (i.e., decontamination solution, sampling preservatives, etc.):

- Labels on incoming primary chemical containers must not be defaced (until after the container is empty, decontaminated and ready for disposal).
- Chemical containers must be stored in appropriate storage cabinets.
- Secondary containers and storage cabinets must be correctly and clearly labeled using the Hazardous Materials Identification System (HMIS).
- Incompatible chemicals must not be stored together.
- Workers must receive training on the hazards indicated in **Table 4.**
- Containers must be secured closed unless adding to or removing something from the container.
- Safety Data Sheets for the chemicals should be recent and are included in **Appendix B**.; they should be made available to workers upon request and applicable hazards covered during safety meetings.
- Workers must receive training on the hazards of the chemicals indicted in **Appendix C.**
- Include a safety training sign off sheet to document this training and provide a copy to the CHSM.
- Training on this information should be documented in **Appendix F**.

3.0 GENERAL PERFORMANCE REQUIREMENTS

General safe work practices that must be implemented during work activities at this site are included in **Table 3**.

3.1 Performance Requirements

- Workers are expected to show up alert and ready to work. No sleeping is allowed on the job.
- Any unsafe equipment, condition or work practice and injuries, no matter how slight, must be reported to the SSO immediately.
- Procedures for the proper set up and control of the worksite task area should be planned and implemented prior to starting individual tasks.
- Field personnel must have ready access to a telephone and a vehicle in case of emergency.
- Field personnel working in the Exclusion Zone are to work with another person at all times. The subcontractor's representative can serve as the second person while the work is being conducted in the field.

3.2 Hygiene Requirements

- Long hair will be secured away from the face so it does not interfere with any activities.
- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as being potentially affected by site related chemicals.
- Hands and face must be thoroughly washed upon leaving the work area, and before eating, drinking, or other non-project activities.
- Personnel leaving potentially contaminated areas will shower (including washing hair) and change to clean clothing as soon as possible after leaving the site.
- Kneeling, sitting, leaning, or general contact with potentially affected surfaces or with surfaces suspected of being potentially affected by hazardous materials (i.e., puddles, mud, leachate, etc.) should be avoided.
- Medicine and alcohol can potentiate the effects of exposure to toxic chemicals. Neither should be taken by personnel if the likelihood of risk exists. Ingestion of alcohol during and immediately prior to field activities is prohibited.
- Sanitation facilities are provided on site. Potable water and restroom facilities are available and in accordance with 8 CCR 5192 for all employees and visitors.

4.0 HAZARD EVALUATION

A preliminary hazard evaluation was performed to identify existing site conditions and is documented in **Table 4**. The preliminary hazard evaluation addressed the following, where applicable:

- Identification of the suspected hazardous materials/wastes on-site;
- Toxicological aspects of the suspected hazardous materials on-site;
- Suspected chemical/elemental concentrations within the various media on-site;
- Inherent site hazards;
- Operational hazards; and
- Climate extremes.

Environmental site personnel have indicated fire, inhalation and skin absorption to pose a hazard on site. Reactivity including ionizing radiation is not of concern for the site due to past investigations and the operational history. All scrap steel and raw steel entering the site has been screened by radiation detection devices. Further information is documented in **Table 4**.

4.1 Suspected Chemical/Elemental Hazards

To select those contaminants that may cause health and safety concerns, henceforth referred to as potential Contaminants of Concern (COCs), a review of the site remediation and sampling history was performed. Based on this review, potential COCs were selected and are listed in **Table 5**. Chemical information for each of the potential COCs are provided in the NIOSH Pocket Guide pages located in **Appendix C**.

Information from the NIOSH Pocket Guide (e.g., flash point, water reactive, etc.) has been used in performing the chemical hazard analysis in **Table 5** (e.g., fire, inhalation, reactivity, and skin absorption hazards). If, based on the hazard analysis, chemical hazards exist, hazard mitigators must be implemented (**Appendix D**). In addition, air monitoring and personal protective equipment must also be used to evaluate airborne concentrations and protect workers.

After review of the relevant background information and data, if there is a potential for dermal and/or respiratory exposure to the materials or contaminants of concern, personnel shall perform the monitoring requirements summarized in **Section 5.2** and execute actions as appropriate. If action levels are exceeded, work shall be suspended until on-site conditions can be re-assessed and this HASP modified.

4.2 Operational/Physical Hazards/Biological Hazards

Potential operational/physical associated with tasks to be performed and the site have been analyzed in **Table 4**. If, based on the hazard analysis, these hazards exist; the hazard mitigators described in **Appendix D** must be implemented.

- **Utility (e.g., Electrical) hazards:** Utility hazards include buried cables, which pose a danger of shock or electrocution if workers or equipment contact or sever them during site operations. Onsite personnel are advised to pay special attention to the presence of utility hazards. Observe as built plans (if available) for the presence of underground hazards and advance the borings cautiously. A subsurface survey shall be conducted at each of the suspect locations, if necessary.

Lockout/Tag out procedures, in accordance with the EarthCon Lockout/Tag out Program, will be followed when working in the vicinity of electrical equipment. Electrical equipment will be considered energized unless tested and determined otherwise. Energized parts will be insulated or guarded from personal contact. Extension cords used with electrical tools will be the 3-wire type and connected to a ground fault circuit interrupter (GFCI). Wooden or fiberglass ladders will be used. Metal ladders will not be used in the work area.

- **Mechanical hazards:** Mechanical hazards include being struck by heavy equipment and being injured by excavation cave-ins. Onsite personnel are advised to stand at least 15 feet clear of heavy equipment and excavations, and wear appropriate protective equipment, including steel-toe boots and hard hats during the field activities. Fall, slip, and/or trip hazards exist when working with equipment and tools. Field personnel will observe walking surfaces in the work area to prevent tripping on equipment/tools placed on the ground. Good housekeeping will also be practiced. All walking surfaces with a drop of more than six feet will have fall protection devices. Fall protection devices may include adequate delineation of the excavation and trenches, guardrails, or climbing devices such as a harness and lanyard.

- **Noise Hazards:** Noise hazards may exist when working around heavy equipment. Loud noises interfere with communication and also lead to temporary and/or permanent hearing loss. Noise hazards may exist wherever heavy equipment such as loaders and any operating machinery, produce noise levels at or above the Action Level of 85 dBA for 8-hr Time Weighted Average (TWA). Noise in excess of 85 dBA may produce the following effects:

  1. Distraction, annoyance, or sudden surprise
  2. Inability to effectively communicate with co-workers
  3. Physical damage expressed initially as a Temporary Threshold Shift (TTS) and then, as a Permanent Threshold Shift (PTS), or immediately as a Permanent Threshold Shift if the impact noise is sufficient enough (usually greater than 100 dBA)

  Appropriate hearing protection must be utilized in areas of unacceptable noise levels.

If, based on the hazard analysis (**Table 4**), biological hazards exist associated with tasks to be performed and site location (e.g., allergic reactions to poisonous plants or insects indigenous to the area, etc.); hazard mitigators (**Appendix D**) must be implemented.

5.0 PERSONAL PROTECTION

5.1 Personal Protective Equipment (PPE)

The levels of personal protection required for each task are provided **in Appendix E.** This PPE is based on the hazards identified in **Section 4.** Required equipment and types of protective clothing materials are listed, as well as an indication of the initial level of protection.

Is there potential for a respirator to be donned during fieldwork? ☐Yes ☒No

It is not anticipated that the use of respirators will be needed, however during the drilling work and sampling the area will be monitored via dust particulate monitor (MiniRam or equivalent). If there is an indication that a respirator is required work will be halted until tasks have been re-evaluated and the HASP has been updated as needed.

The general use of PPE is acceptable when engineering controls cannot adequately eliminate the hazard. The use of PPE is intended to provide protection for on-site personnel from chemical, physical, and operational hazards that cannot be controlled through other safety procedures. Initially, Level D Protection will be employed by on-site personnel and will include varying levels of eye, head, body, hand, foot, and hearing protection.

Respiratory protection will not be required. However, if respirators are worn, workers must adhere to the company's Respiratory Protection Program (29 CFR §1910.134). **Table 2** should be used to provide a record of the site workers' last fit test. Beards (i.e., facial hair interfering with the respirator seal) are not allowed.

Acceptable PPE are further described below.

- Eye Protection: Eye protection will include the use of chemical splash goggles and/or face shields and impact resistant safety glasses with side shield protection that meet the current ANSI standard Z87.1.

- Head Protection: Non-metallic hard hats meeting the current ANSI standard Z89.1 will be worn by on-site personnel as required during field activities.

- Body Protection: Body protection will include the use of long sleeved shirt and pants work clothes.

- Hand Protection: Hand protection will include the use of nitrile gloves when hand contact with affected materials (e.g., groundwater and soil) may occur. Otherwise use work gloves of leather or other appropriate material.

- Foot Protection: Foot protection will include the use of impact resistant boots meeting the current ANSI standard Z41.1.

These levels shall only be downgraded upon approval by either the CSHM or SSO. Project personnel are not permitted to deviate from the specified levels of protection without prior approval of the SSO.

5.2 Personal Air Monitoring

Corrective measure activities may have the potential to generate dust; therefore, dust monitoring will be conducted on-Site. Airborne particulate concentrations will be measured with a portable particulate monitor (MiniRam or equivalent) to ensure compliance with the action levels (stop work level) and Cal OSHA Permissible Exposure Limits (PELs). The PELs for COCs potentially present on-Site, along with stop work levels are provided in Table 5.

According to calculations using the site specific maximum concentrations documented in **Table 5** and the OSHA Permissible Exposure Limit (PEL) for total dust, the only constituent of concern is lead. Total dust must measure below 6.8 mg per cubic meter (mg/m^3) to remain below the PEL for lead. However, at the direction of the DTSC the action level for total dust is 0.05 mg/m^3. A MiniRam will be on site at all times monitoring dust concentrations. The MiniRam is gravimetrically calibrated in mg/m^3using the standard SAE Fine (ISO fine) test dust. A zeroing kit will be present to accomplish zeroing in particle free air when on-site. In the case where dust levels measure over 0.05 mg/m3, work will be suspended and on-site conditions will be re-assessed.

5.3 Vehicle Safety

Vehicle safety requires the following:

- Vehicles are to be operated in a safe manner and in compliance with statutory traffic regulations and ordinances.
- Operators are to practice defensive driving and drive in a courteous manner.
- Operators are required to have a valid driver's license and liability insurance (per local/state laws).
- Seat belts are to be worn by the driver and passengers.
- No persons are allowed to ride in the back of any trucks or vans.
- Vehicles are to be driven in conformance with local speed limits.
- Personnel who are impaired by fatigue, illness, alcohol, illegal or prescription drugs, or who are otherwise physically unfit, are not allowed to drive.
- Personnel are to avoid using cellular phones or engaging in other distractions while driving.
- Vehicles should be maintained in a safe and clean condition.
- Field vehicles should be equipped with the following items; first-aid kit, fire extinguisher, spares tire and jack.
- Motor vehicle accidents shall be reported to the responsible law enforcement agency (when appropriate), the EarthCon CHSM, the EarthCon HR Director, the SSO and the EarthCon PM.
- Daily and monthly check lists to verify safe operations have been generated and should be utilized prior to operating a vehicle.
- If the site has specific driving rules, these should be reviewed and adhered to.

5.4 Illumination

Work will be completed during daylight hours only. This will ensure all work is done in accordance with 8 CCR 5192(m) illumination requirements.

6.0 DECONTAMINATION

The following decontamination (cleansing) procedures for the sampling equipment and PPE have been developed with the intent of reducing the potential for the transfer of hazardous chemicals.

6.1 Sampling Equipment

To reduce the potential for the distribution of contaminants or cross contamination of samples, the following procedures will be used. Decontamination of the sampling equipment will include washing the equipment in a detergent solution (Liqui-nox and water), rinse with potable water, rinse with organic-free/distilled water, and allow to air dry. Disposable equipment will be used when practical to eliminate the need for on-site decontamination.

6.2 Personnel and PPE

During this project the goal will be to use disposal PPE (nitrile gloves), therefore no PPE decontamination will be required. If this cannot be accomplished, PPE must be decontaminated (cleaned) per 29 CFR §1910.120(k). In an emergency, the primary concern is *to prevent the loss of life or severe injury to site personnel. If immediate medical treatment is* required to save a life, decontamination should be delayed until the victim is stabilized. If decontamination can be performed without interfering with essential life saving measures or first-aid, or if a worker has been contaminated with an extremely toxic or corrosive material that could cause severe injury or loss of life, decontamination must be performed in coordination with or prior to initial medical treatment at the scene.

Decontamination of PPE (e.g., gloves) shall be accomplished by passing personnel through appropriate stages of contamination reduction and removing contaminated clothing and equipment in decreasing order of the degree of potential contamination. Personnel who have entered areas suspected of containing hazardous materials (i.e., the Exclusion Zone) will be subjected to decontamination. The personnel decontamination corridor may be comprised of the following procedural stages. These stages/procedures are listed sequentially below.

Stage No. 1: Segregated Equipment Drop – Personnel will brush off loose dirt and wash off remaining soil, sediment, and dirt from clothes and shoes upon completion of sampling and field work. Equipment and consumables that require either disposal or special handling (e.g., special and/or equipment decontamination) shall remain in this area and be decontaminated, if appropriate, or disposed of with the excavated materials or other potentially contaminated materials.

Stage No. 2: PPE Decontamination - PPE that has been potentially contaminated will be washed with a TSP and water mixture followed by a water rinse.

Stage No. 3: General Field Wash - Personnel shall wash and rinse face and hands with soap and water before leaving the site and/or eating. If a change of clothing is necessary, it shall be done at this time.

6.3 Decontamination Fluids and Investigation-Derived Waste Disposal

Decontamination water and drill cuttings will be placed in appropriate containers. Disposal methods will be determined after characterizations have been completed. Solid waste generated during decontamination and field activities (i.e., paper towels, plastic tarps, used PPE) will be removed from the Site and disposed as refuse/trash.

6.4 Vehicles

Typically, vehicles will not be allowed inside the exclusion zone. If vehicles are required in the exclusion zone (e.g., drill rigs) the following procedures will be used. Personnel will wash or remove boots and change to dry clothing prior to vehicle entry. Non-disposable equipment will be washed or bagged before placement into field vehicles. Drill rigs will be decontaminated with detergent solution and rinsed with water before leaving the exclusion zone.

7.0 EMERGENCY PROCEDURES

A list of Emergency Response contacts and telephone numbers for applicable local off-site emergency responders is provided in **Table 6**. The following emergency response equipment is required for this project:

☒ Fire Extinguisher(s): ☐ Type A ☐ Type B ☐ Type C ☒ Type ABC
☒ Air Monitoring: ☐ PID ☐ Air Sampling Pumps ☐ CG/O2 meter
☒ MiniRam ☐ H2S Meter ☐ Radiation Meter
☐ Draeger Pump w/ Sample Tubes ☐ Other:
☒ Eyewash (Note: portable eyewash bottle)
☐ SCBA
☒ First Aid Kit
☐ Shower (Note: for acids and caustics)
☐ Personal Flotation Device(s)
☐ Windsock
☐ Stop Watch &Thermoscan for Measuring Heart Rate and Heat Stress
☐ Global Positioning System
☐ Other:

As a minimum, the project shall have the following equipment available during field activities:

- A first aid kit (mandatory, including adhesive Band-Aids, gauze, tape, gloves, CPR shield, triangle bandage) shall be available in the Support Zone at all times.

  Check additional items required for the site.

  ☐ Emergency Blanket ☒ Sunscreen (as needed)

  ☒ Insect Repellent (as needed) ☐ Other: ointment for poison plants and insect bites_____

- Copious amounts of cool potable water shall be readily available for both drinking purposes and for personal hygiene purposes (e.g., washing, rinsing, and cooling of face and body, etc.).
- Emergency references (e.g., nearest phone, emergency phone numbers and services, etc.) shall accompany the first aid kit.
- Communication equipment such as a cellular phone will be accessible in case of an emergency.
- A vehicle shall be easily accessible for transport/emergency.

The emergency response communication system for the site is:

- ☒ Verbal
- ☐ Two-way radio
- ☒ Hand signals: Hand gripping throat =“Out of Air, Can’t Breathe”
  Grip partner’s wrist or both hands around waist =“Leave area immediately”
  Hands on top of head =“Need assistance”
  Thumps up =“OK; I am all right; I understand”
  Thumps down =“No; negative”
- ☐ Horn
- ☐ Siren
- ☒ Other: Cellular Phone

If an on-site emergency develops, the procedures outlined in **Table 7** shall be followed immediately.

7.1 Natural Disasters

In the event of emergency conditions associated with natural disasters, such as severe weather, site personnel will remain calm, turn off equipment and ignition sources, and move away from buildings, cranes, and overhead utilities. Following an emergency, personnel will proceed to a designated meeting place. The SSO will take a head count to ensure that all personnel are present. Crews must remain together until accounted for. The SSO will assess any injuries and the need for emergency assistance.

7.2 Workplace Violence

If any employee or visitor is confronted by a potentially hostile person, he/she will remain calm and refrain from further aggravating the individual. Site personnel should contact the SSO. Protocol established by the site will be followed or local police will be contacted for assistance when needed.

8.0 SHIPMENT OF RESTRICTED ARTICLES

Federal laws and international guidelines place restrictions on what materials may be shipped by passenger and cargo aircraft. In the course of field activities, the following items may be shipped to and from the site in the following manner.

Item	Hazardous Constituent	Quantity	Packaging	How Shipped
Soil samples	*NA	5	8 oz. glass jar with Teflon lid. Laboratory provided	EarthCon Personnel

Item	Hazardous Constituent	Quantity	Packaging	How Shipped
Groundwater Samples	HCL & HNO3 – lab preservatives	3	VOAs and HDPE laboratory provided containers	EarthCon Personnel

*soil samples do not have preservatives

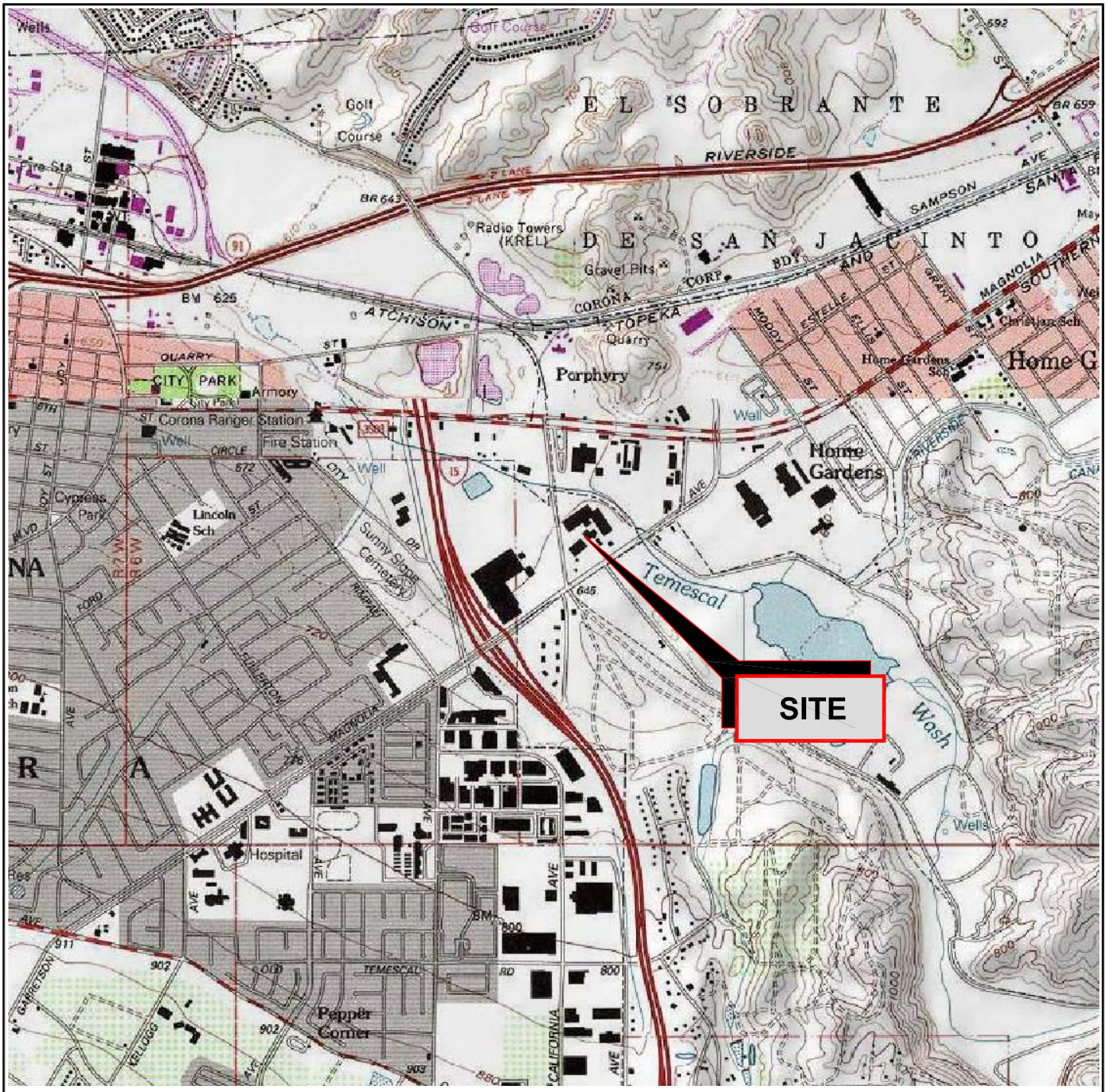
9.0 SPILL CONTAINMENT

An evaluation was conducted to determine the potential for hazardous substance spills at this site. That evaluation indicates that there is no potential for a hazardous substance spill of a sufficient quantity to require containment planning, equipment, and procedures. For that reason, no spill containment program is implemented at this site. Employee training on how to respond and take protective measures during incidental releases of hazardous substances are provided consistent with the Hazard Communication Standard, 29 CFR 1910.12

Incidental spills are different from emergency releases. Incidental spills can safely be absorbed, neutralized, or otherwise controlled by EarthCon employees or contractors with the appropriate training.

Figure 1

Vicinity Map



FROM: U.S. GEOLOGICAL SURVEY, 1997
QUADRANGLE: CORONA SOUTH
COUNTY: RIVERSIDE
SERIES: 7.5-MINUTE QUAD

NOTE: ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE

N
W E
S

0 2000 Feet
SCALE

CLOW VALVE

1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®

EARTHCON CONSULTANTS CA, INC
1914 W. ORANGEWOOD AVENUE, SUITE 102, ORANGE, CA 92868

VICINITY MAP

DRAWN:	CHECKED:	DATE:	FIGURE:
DCN	JB	12/30/15	1

FILENAME: S:\CAD\EARTHCON CAD\CLOW VALVE 1375 MAGNOLIA AVENUE, CORONA, CA_VICINITY MAP

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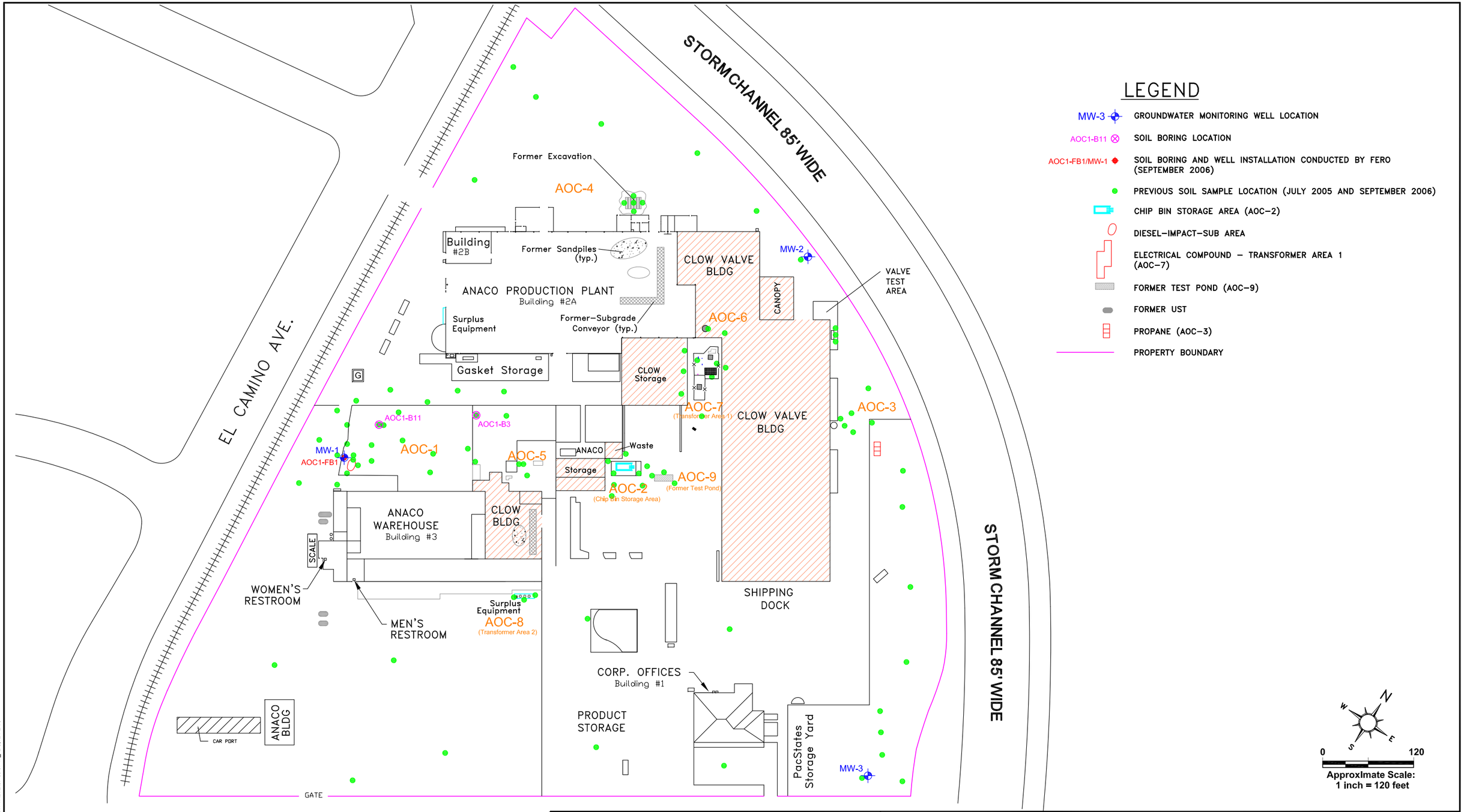
Figure 2

Site Plan



LEGEND

- MW-3 — GROUNDWATER MONITORING WELL LOCATION
- AOC1-B11 — SOIL BORING LOCATION
- AOC1-FB1/MW-1 — SOIL BORING AND WELL INSTALLATION CONDUCTED BY FERO (SEPTEMBER 2006)
- PREVIOUS SOIL SAMPLE LOCATION (JULY 2005 AND SEPTEMBER 2006)
- CHIP BIN STORAGE AREA (AOC-2)
- DIESEL-IMPACT-SUB AREA
- ELECTRICAL COMPOUND – TRANSFORMER AREA 1 (AOC-7)
- FORMER TEST POND (AOC-9)
- FORMER UST
- PROPANE (AOC-3)
- PROPERTY BOUNDARY

N W E S

0 120

Approximate Scale:
1 inch = 120 feet

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®
EARTHCON CONSULTANTS CA, INC
1914 W. ORANGEWOOD AVE., SUITE 102, ORANGE, CA 92868

SITE PLAN

DRAWN:	CHECKED:	DATE:	FIGURE:
DCN	JB	09/07/17	2

FILENAME: S:\CAD\EARTHCON CAD\CLOW VALVE\SP 09-07-17_F2 SITE PLAN

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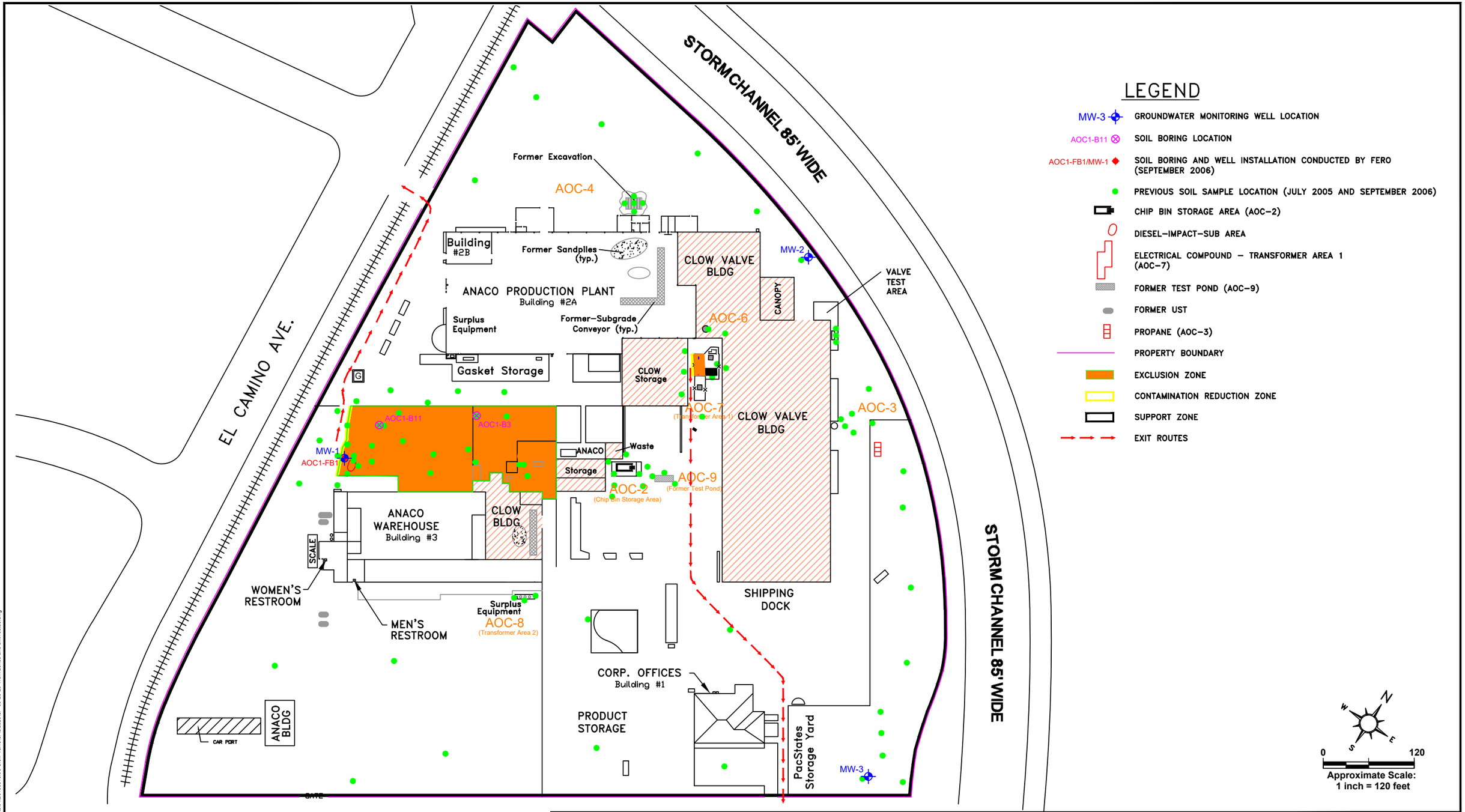
Figure 2A

Site Plan with Work Zones and Exit Routes



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- FORMER TEST POND (AOC-9)
- FORMER UST
- PROPANE (AOC-3)
- PROPERTY BOUNDARY
- EXCLUSION ZONE
- CONTAMINATION REDUCTION ZONE
- SUPPORT ZONE
- EXIT ROUTES

N W E S

0 120

Approximate Scale:
1 inch = 120 feet

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®

EARTHCON CONSULTANTS CA, INC
1914 W. ORANGEWOOD AVE., SUITE 102, ORANGE, CA 92868

SITE PLAN WITH WORK ZONES AND EXIT ROUTES

DRAWN:	CHECKED:	DATE:	FIGURE:
DCN	JB	03/26/20	2A

FILENAME: S:\Common\Orange\CAD\Projects\04.20150013.00-Clow Valve\CAD\2020\SP 03-26-20-Work zones and exit routes.dwg

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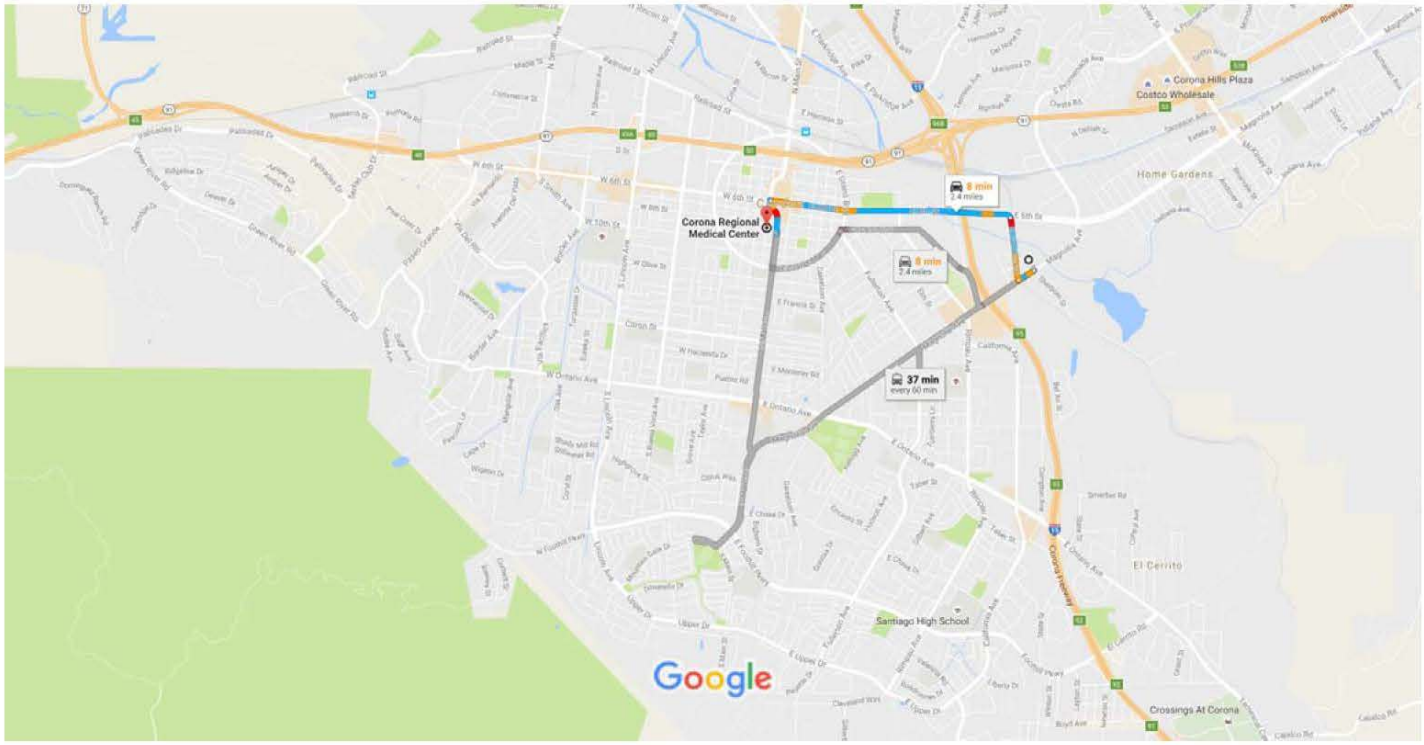
Figure 3

Hospital Location Map

Google Maps

1375 Magnolia Avenue, Corona, CA 92879 to Corona Regional Medical Center

Drive 2.4 miles, 8 min



Map data ©2016 Google 2000 ft

1375 Magnolia Avenue

Corona, CA 92879

Head southwest on Magnolia Ave toward Sherborn St

0.1 mi

Turn right onto El Camino Ave

0.4 mi

Turn left onto E 6th St

1.6 mi

Turn left onto S Main St

0.2 mi

Corona Regional Medical Center

800 South Main Street, Corona, CA 92882

Table 1

Key Personnel and Health & Safety Responsibilities

Project Manager (PM) Jeff Bennett	**Regional H&S Coordinator** Hugh Walker	**Site Safety Officer (SSO)** Lindsey Langer/Jenn McGervey	**Project Field Staff** Lindsey Langer/Jenn McGervey
• Coordinate, approve, implement and manage this HASP and amendments, if any. • Incorporate H&S planning, implementation, and supplies (PPE, decontamination materials) into project plans and budget. • Select and assign responsibility to the SSO to implement HASP. • Monitor the Field Logbooks for health and safety work practices employed. • Coordinate with SSO so that emergency response procedures are implemented, if needed. • Inform CSHM of HASP violations, if any, and verify corrective actions are implemented. • Ensure personnel receive this plan, are aware of its provisions, are aware of the potential hazards associated with site operations, are instructed in safe work practices, are familiar with emergency response procedures and document this information • Coordinate with Client and SSO. • In the event of an incident or other emergency complete & submit appropriate forms and make proper notifications.	• Review and approve HASP; approve any associated amendments. • Evaluate documentation presented of site hazards for HASP preparation. Maintain a final copy of the completed HASP. • Perform periodic audits of documentation of project activities to evaluate general compliance with policies, procedures, directives and guidelines presented in this HASP. • Assist with the implementation of the Corporate Health and Safety Program. • Provide environmental, health and industrial hygiene consultation as needed. • In the event of an emergency, if required set up an incident investigation team and notify applicable outside agencies.	• Be present on-site, as appropriate, with the authority to implement HASP and EarthCon H&S protocols. • Confirm that site personnel meet the training and medical requirements. • Verify that monitoring equipment and personal protective equipment is operating correctly according to manufacturer's instructions and such equipment is utilized by on site personnel. Calibrate or verify calibration of monitoring equipment and record results. • Verify that decontamination procedures are being implemented and Site Control Plan is in place. • Provide and document pre-work briefing and daily tailgate safety meetings, monitor activities for safe work practices and HASP compliance. • Perform routine H&S inspections. Document meetings and inspections. Provide copies to CHSM as requested. • Report to the Project Manager deviations from the anticipated conditions, and authorize the cessation of work if necessary. • Notify the PM and CSHM in the event an emergency occurs, and implement site emergency response and follow-up procedures, provide First Aid, as needed. • Work with PM to verify appropriate notifications and forms are completed for any incident or near miss. • Secure the scene after an emergency until given notification to release the scene by the CHSM.	• Provide verification of required health and safety training and medical surveillance prior to arriving at the site. • Notify the SSO of any special medical conditions (e.g., allergies). • Review, be familiar with and abide by the HASP. • Attend pre-work briefings and daily tailgate safety meetings. • Comply with requests of PM, SSO, and HASP. • Perform work using safe techniques; be responsible for their personal safety. • Immediately report any accidents and/or unsafe conditions to the SSO.

Table 2

Training / Medical Surveillance / Respirator Fit Test Records

Name	*EHS Category*	*Initial 40-Hour*	*Annual 8-Hour Refresher*	*8-Hour Supervisor (if applicable)*	*CPR/ First Aid[1] (initial or refresher)*	*Medical Surveillance[2] (if applicable)*	*Annual Respirator Fit Test[3] (if applicable)*	*Other:[4]*
		Date	***Date***	***Date***	***Date***	***Date***	***Date***	***Date***
Jeff Bennett	I	1990	1/2017	6/1990	1/2016	N/A	N/A	---
Jenn McGervey	I	8/2015	1/2017		1/2016	NA	NA	---
Lindsey Langer	I	8/2019						

Footnotes:

1 CPR Refresher: every year; First Aid Refresher: every three years.
2 Annual Medical Surveillance for EHS Category I.
3 For EHS Categories I & II only.
4 Could include task-specific training, project-specific training, or project-specific medical surveillance.

Table 3

General Safe Work Practices

- Report to work alert and ready to perform assigned duties; no sleeping is allowed at the jobsite.
- Immediately report any unsafe acts, incidents, accidents, or near misses. Utilize Stop Work Authority if needed.
- Minimize contact with excavated or contaminated materials. Do not place equipment on the ground. Do not sit or kneel on potentially contaminated surfaces.
- Smoking, eating, or drinking after entering the work zone and before decontamination is prohibited. Use of illegal drugs and alcohol are prohibited. Workers taking prescribed medication that may cause drowsiness should not be operating heavy equipment, and should be prohibited from performing tasks where Level C, B, or A personal protective equipment is required.
- Practice good housekeeping. Keep everything orderly and out of potentially harmful situations.
- Use of contact lenses on-site shall only be allowed when dictated by working conditions.
- The following conditions must be observed when operating a motor vehicle.
  - Wearing of seat belts is mandatory
  - During periods of rain, fog, or other adverse weather conditions, the use of headlights is mandatory
  - A backup warning system or use of vehicle horn is mandatory when the vehicle is engaged in a backward motion
  - Posted traffic signs and directions from flagmen must be observed
  - Equipment and/or samples transported in vehicles must be secured from movement
  - The use of contractor acquired vehicles by non-contractor personnel is prohibited
  - Daily inspection sheets should be completed by driver and kept with equipment for the duration of the project.
- In an unknown situation, always assume the worst conditions.
- Be observant of your immediate surroundings and the surroundings of others. It is a team effort to notice and warn of impending dangerous situations. Withdrawal from a hazardous situation to reassess procedures is the preferred course of action.
- Conflicting situations may arise concerning safety requirements and working conditions and must be addressed and resolved rapidly by the SSO and PM to relieve any motivations or pressures to circumvent established safety policies.
- Unauthorized breaches of specified safety protocol must not be allowed. Workers unwilling or unable to comply with the established procedures must be removed from the site immediately.

Table 4

Hazard Analysis

Tasks	
① Capping	⑤
② Soil Sampling	⑥
③ Well Installation	⑦
④ GW Sampling	⑧

	①	②	③	④	⑤	⑥		
I. Chemical Hazards								
Fire	X	X	X	X				
Inhalation	X	X	X	X				
Reactivity								
Skin absorption	X	X	X	X				
Cold Stress	X	X	X	X				
Compressed Gas Cylinder								
Drowning								
Drum Handling	X	X	X	X				
Electrocution	X	X	X	X				
Excavation/Trenching			X					
Eye Injury	X	X	X	X				
Hand/Foot Injury	X	X	X	X				
Heat Stress	X	X	X	X				
Heavy Equipment	X		X					
Lifting Heavy Loads	X		X					
Noise	X		X					
Portable Power/Hand Tool	X	X	X	X				
Radiation Exposure								
Slipping/Tripping/Falling	X	X	X	X				
III. Biological Hazards								
Poisonous Plants								
Insect/Vermin/Snake Bites								
Medical Waste								

Instructions: For each task, place an "X" in the blank corresponding to associated hazards.

Table 5

Potential Contaminants of Concern

Contaminant	***IP(eV)***	***REL** (ppm) or **PEL*** (mg/m3)	***IDLH*** (mg/m3)	***LEL/UEL %***	***Flash Point (°F)***	***Routes of Exposure***	***Hazards***	***Medium***[1]	***Maximum Concentration***[2]
Total Dust	--	0.05	--	--	--	--	--	soil/dust	--
PCBs	N/A	PEL – 1.0 TWA	5	N/A	N/A	Skin, Inhalation, Ingestion	C	soil	1,400 mg/kg
Lead	N/A	PEL – 0.05 TWA	100	N/A	N/A	Skin, Inhalation, Ingestion	C	soil	7,360 mg/kg
Cadmium	N/A	PEL - 0.005 TWA	9	N/A	N/A	Skin, Inhalation, Ingestion	C,T	soil	43.9 mg/kg
Arsenic	N/A	PEL - 0.01 TWA	5	N/A	N/A	Skin, Inhalation, Ingestion	C,T	soil	52.90 mg/kg
Diesel	--	REL – 100TWA	--	0.6/6.5	125.6	Skin, Inhalation, Ingestion	F,C,Co	soil	9,300 mg/kg
Gasoline	'--	None cited/300	--	1.4/7.6	-45	Skin, Inhalation, Ingestion	F, C, Co	soil	1,300 mg/kg

-- - none established *IDLH* - immediately dangerous to life and health *R* - reactive *C* - carcinogen *O-Oxidizer*
IP(eV) - ionization potential *PEL* - permissible exposure level *SC* - suspected carcinogen *Co* - corrosive
E- explosive *STEL* - short term exposure level *F* - flammable *NA* - not applicable
P- poison *V* - varies depending on compound mixture ND – Not determined

Footnotes:

[1] Indicate type of medium (i.e. soil, water, sludge, etc.).

[2] Indicate the maximum concentration detected for the contaminant

Table 6

Emergency Response Contacts

Name	*Telephone Numbers*		*Date of Pre-Emergency Notification*
	Office	*Mobile*	
Fire Department	**911**	NA	NA
Hospital – Corona Regional Medical Center	**911** or (951) 737-4343	NA	NA
Police Department	**911**	NA	NA
Site Safety Officer – Lindsey Langer	--	562-322-7934	NA
Project Manager – Jeff Bennett	714-500-5400 ext 5454	714-743-0482	NA
Regional Manager – Larry Lew	281-240-5200 X 2761	713-829-3215	NA
Corp. HR Manager – Glenda Croft	770-973-2100 x2870	NA	NA
Regional Health & Safety Coordinator – Julia Wlson	281-240-5200 X 2705	551-486-4382	NA

NA – Not applicable in general or for the level of hazard at this Site.

WRITTEN DIRECTIONS TO HOSPITAL: (See Figure 3).

1375 Magnolia Avenue

Corona, CA 92879

Head southwest on Magnolia Ave toward Sherborn St

0.1 mi

Turn right onto El Camino Ave

0.4 mi

Turn left onto E 6th St

1.6 mi

Turn left onto S Main St

0.2 mi

Corona Regional Medical Center

800 South Main Street, Corona, CA 92882

Table 7

Emergency Response Procedures

- This plan must be discussed with verbal training for onsite EarthCon employees and subcontractors
- This training should be documented and a copy provided to the CHSM.
- The SSO (or alternate) should be immediately notified via the on-site communication system.
- If applicable, the SSO must notify off-site emergency responders (i.e., fire department, hospital, police department, etc.) and must inform the response team as to the nature and location of the emergency on site.
- If applicable, the SSO evacuates the site. Site workers should move to their respective refuge stations using the evacuation routes provided on the Site Map. SSO must account for all workers associated with the project.
- The SSO notifies the PM, Principal, and the CHSM of the emergency. If an EarthCon employee is injured, the SSO must contact the worker's Regional Manager/Branch Office Manager immediately. If the Regional Manager/Branch Office Manager cannot be contacted, then the Corporate Human Resources Department must be notified.
- For small fires, flames should be extinguished using the fire extinguisher. Large fires should be handled by the local fire department.
- In an unknown situation or if responding to toxic gas emergencies, appropriate PPE, including SCBAs, should be donned.
- If chemicals are accidentally spilled or splashed into eyes or on skin, use eyewash and/or shower.
- Before continuing site operations after an emergency involving toxic gas, the appropriate responder will don a SCBA and utilize appropriate air monitoring equipment to verify that the site is safe.
- An injured worker must be decontaminated appropriately.
- If a worker is injured, first aid will be administered by workers certified in first aid.
- If necessary, the SSO will secure the scene after the response. The scene should not be released until notification from the CHSM.
- After the response, the SSO and /or PM must complete and submit the appropriate incident reports.
- The PM or SSO should secure written /signed witness statements as appropriate, take pictures, etc. immediately and before the end of the shift.
- If an investigation is required, the CHSM and Safety Team will set up a team to start the investigation with input from the DL.
- The CHSM will notify outside agencies as appropriate.

Appendix A

Site Safety Meeting Minutes

Site Name: _____ Contract No. _____

Meeting Location _____

Meeting Date _____ Time _____ Conducted By _____

_____ Pre-Fieldwork Orientation _____ Weekly Site Meeting _____ Other

Subjects Discussed:

Safety Officer Comments:

Name and Signature of Participating Personnel (list company name if subcontractor)

Note: Attach additional pages if necessary. Send this form to the EarthCon Project Manager. Copies will be placed in the appropriate project files.

Appendix B

Safety Data Sheets

Chlorodiphenyl (42% chlorine)

Synonyms & Trade Names

Aroclor® 1242, PCB [Chlorodiphenyl (42% chlorine)], Polychlorinated biphenyl [Chlorodiphenyl (42% chlorine)]

CAS No.

53469-21-9

RTECS No.

TQ1356000

DOT ID & Guide

2315 171

Formula

$C_6H_4ClC_6H_3Cl_2$ (approx)

Conversion

IDLH

Ca [5 mg/m^3]
See: 53469219

Exposure Limits

NIOSH REL

Ca TWA 0.001 mg/m^3 See Appendix A (nengapdxa.html) [*Note: The REL also applies to other PCBs.]

OSHA PEL

TWA 1 mg/m^3 [skin]

Measurement Methods

NIOSH 5503 ;

OSHA PV2089

See: NMAM or OSHA Methods

Physical Description

Colorless to light-colored, viscous liquid with a mild, hydrocarbon odor.

Molecular Weight

258 (approx)

Boiling Point

617-691°F

Freezing Point

-2°F

Solubility

Insoluble

Vapor Pressure

Vapor Pressure
0.001 mmHg

Ionization Potential
?

Specific Gravity
(77°F): 1.39

Flash Point
NA

Upper Exposive Limit
NA

Lower Explosive Limit
NA

Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans & chlorinated dibenzo-p-dioxins.

Incompatibilities & Reactivities
Strong oxidizers

Exposure Routes
inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms
irritation eyes; chloracne; liver damage; reproductive effects; [potential occupational carcinogen]

Target Organs
Skin, eyes, liver, reproductive system

Cancer Site
[in animals: tumors of the pituitary gland & liver, leukemia]

Personal Protection/Sanitation
(See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid
(See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.

Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.

Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also

INTRODUCTION MEDICAL TESTS: 0175

File Formats Help:

How do I view different file formats (PDF, DOC, PPT, MPEG) on this site? (//www.cdc.gov/Other/plugins/)

(//www.cdc.gov/Other/plugins/#pdf)

Page last reviewed: April 11, 2016

Page last updated: April 11, 2016

Content source: National Institute for Occupational Safety and Health (NIOSH) (/niosh/) Education and Information Division

Chlorodiphenyl (54% chlorine)

Synonyms & Trade Names

Aroclor® 1254, PCB [Chlorodiphenyl (54% chlorine)], Polychlorinated biphenyl [Chlorodiphenyl (54% chlorine)]

CAS No.

11097-69-1

RTECS No.

TQ1360000

DOT ID & Guide

2315 171

Formula

$C_6H_3Cl_2C_6H_2Cl_3$ (approx)

Conversion

IDLH

Ca [5 mg/m^3]
See: IDLH INDEX

Exposure Limits

NIOSH REL

Ca TWA 0.001 mg/m^3 See Appendix A (nengapdxa.html) [*Note: The REL also applies to other PCBs.]

OSHA PEL

TWA 0.5 mg/m^3 [skin]

Measurement Methods

NIOSH 5503 ;

OSHA PV2088

See: NMAM or OSHA Methods

Physical Description

Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor.

Molecular Weight

326 (approx)

Boiling Point

689-734°F

Freezing Point

50°F

Solubility

Insoluble

Vapor Pressure

Vapor Pressure
0.00006 mmHg

Ionization Potential
?

Specific Gravity
(77°F): 1.38

Flash Point
NA

Upper Exposive Limit
NA

Lower Explosive Limit
NA

Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated dibenzo-p-dioxins.

Incompatibilities & Reactivities
Strong oxidizers

Exposure Routes
inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms
irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]

Target Organs
Skin, eyes, liver, reproductive system

Cancer Site
[in animals: tumors of the pituitary gland & liver, leukemia]

Personal Protection/Sanitation
(See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid
(See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.

Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.

Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also

INTRODUCTION ICSC CARD: 0939 MEDICAL TESTS: 0176

File Formats Help:

How do I view different file formats (PDF, DOC, PPT, MPEG) on this site? (//www.cdc.gov/Other/plugins/)

(//www.cdc.gov/Other/plugins/#pdf)

Page last reviewed: April 11, 2016

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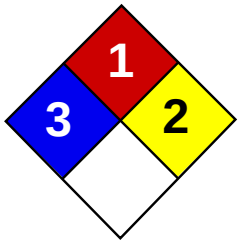

Material Safety Data Sheet
Arsenic MSDS

Section 1: Chemical Product and Company Identification

Product Name: Arsenic

Catalog Codes: SLA1006

CAS#: 7440-38-2

RTECS: CG0525000

TSCA: TSCA 8(b) inventory: Arsenic

CI#: Not applicable.

Synonym:

Chemical Name: Arsenic

Chemical Formula: As

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Arsenic	7440-38-2	100

Toxicological Data on Ingredients: Arsenic: ORAL (LD50): Acute: 763 mg/kg [Rat]. 145 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to kidneys, lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:
Material in powder form, capable of creating a dust explosion. When heated to decomposition it emits highly toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable

protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.01 from ACGIH (TLV) [United States] [1995] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Lustrous solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 74.92 g/mole

Color: Silvery.

pH (1% soln/water): Not applicable.

Boiling Point: Not available.

Melting Point: Sublimation temperature: 615°C (1139°F)

Critical Temperature: Not available.

Specific Gravity: 5.72 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents, acids, moisture.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 145 mg/kg [Mouse].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH. Causes damage to the following organs: kidneys, lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:
Very hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Arsenic UNNA: UN1558 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Arsenic California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Arsenic Pennsylvania RTK: Arsenic Massachusetts RTK: Arsenic TSCA 8(b) inventory: Arsenic

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R22- Harmful if swallowed. R45- May cause cancer.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 1

Reactivity: 2

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 1

Reactivity: 2

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References:
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -Liste des produits purs tératogènes, mutagènes, cancérogènes. Répertoire toxicologique de la Commission de la Santé et de la Sécurité du Travail du Québec. -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.

Other Special Considerations: Not available.

Created: 10/09/2005 04:16 PM

Last Updated: 05/21/2013 12:00 PM

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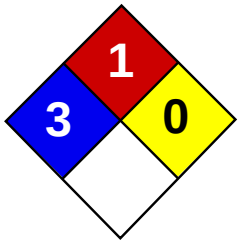

Health	3
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Cadmium MSDS

Section 1: Chemical Product and Company Identification

Product Name: Cadmium

Catalog Codes: SLC3484, SLC5272, SLC2482

CAS#: 7440-43-9

RTECS: EU9800000

TSCA: TSCA 8(b) inventory: Cadmium

CI#: Not applicable.

Synonym:

Chemical Name: Cadmium

Chemical Formula: Cd

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Cadmium	7440-43-9	100

Toxicological Data on Ingredients: Cadmium: ORAL (LD50): Acute: 2330 mg/kg [Rat.]. 890 mg/kg [Mouse]. DUST (LC50): Acute: 50 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant). Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2 (Reasonably anticipated.) by NTP. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to kidneys, lungs, liver. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact: No known effect on eye contact, rinse with water for a few minutes.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 570°C (1058°F)

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances:
Non-flammable in presence of open flames and sparks, of heat, of oxidizing materials, of reducing materials, of combustible materials, of moisture.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:
Material in powder form, capable of creating a dust explosion. When heated to decomposition it emits toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage:
Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.01 (ppm) Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Lustrous solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 112.4 g/mole

Color: Silvery.

pH (1% soln/water): Not applicable.

Boiling Point: 765°C (1409°F)

Melting Point: 320.9°C (609.6°F)

Critical Temperature: Not available.

Specific Gravity: 8.64 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Not considered to be corrosive for metals and glass.

Special Remarks on Reactivity: Reacts violently with potassium.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 890 mg/kg [Mouse]. Acute toxicity of the dust (LC50): 229.9 mg/m3 4 hour(s) [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2 (Reasonably anticipated.) by NTP. The substance is toxic to kidneys, lungs, liver.

Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: An allergen. 0047 Animal: embryotoxic, passes through the placental barrier.

Special Remarks on other Toxic Effects on Humans: May cause allergic reactions, exzema and/or dehydration of the skin.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification:

Identification:

Special Provisions for Transport:

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Cadmium California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Cadmium Pennsylvania RTK: Cadmium Massachusetts RTK: Cadmium TSCA 8(b) inventory: Cadmium SARA 313 toxic chemical notification and release reporting: Cadmium CERCLA: Hazardous substances.: Cadmium

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R26- Very toxic by inhalation. R45- May cause cancer.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References:
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -Liste des produits purs tératogènes, mutagènes, cancérogènes. Répertoire toxicologique de la Commission de la Santé et de la Sécurité du Travail du Québec. -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.

Other Special Considerations: Not available.

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Gasoline

Synonyms & Trade Names

Motor fuel, Motor spirits, Natural gasoline, Petrol [Note: A complex mixture of volatile hydrocarbons (paraffins, cycloparaffins, and aromatics).]

CAS No.

8006-61-9

RTECS No.

LX3300000

DOT ID & Guide

1203 128

Formula

Conversion

1 ppm = 4.5 mg/m^3 (approx)

IDLH

Ca [N.D.]
See: IDLH INDEX

Exposure Limits

NIOSH REL

Ca See Appendix A (nengapdxa.html)

OSHA PEL

none See Appendix G (nengapdxg.html)

Measurement Methods

OSHA PV2028

See: NMAM or OSHA Methods

Physical Description

Clear liquid with a characteristic odor.

Molecular Weight

110 (approx)

Boiling Point

102°F

Freezing Point

?

Solubility

Insoluble

Vapor Pressure

Vapor Pressure
38-300 mmHg

Ionization Potential
?

Specific Gravity
(60°F): 0.72-0.76

Flash Point
-45°F

Upper Exposive Limit
7.6%

Lower Explosive Limit
1.4%

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities
Strong oxidizers such as peroxides, nitric acid & perchlorates

Exposure Routes
inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms
irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]

Target Organs
Eyes, skin, respiratory system, central nervous system, liver, kidneys

Cancer Site
[in animals: liver & kidney cancer]

Personal Protection/Sanitation
(See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet (flammable)
Change: No recommendation
Provide: Eyewash, Quick drench

First Aid
(See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap flush immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister

Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also

INTRODUCTION

Page last reviewed: April 11, 2016

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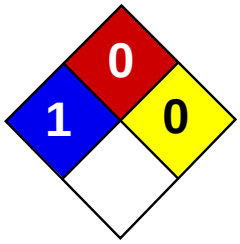
Content source: National Institute for Occupational Safety and Health (NIOSH) (/niosh/) Education and Information Division



Health	1
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Lead MSDS

Section 1: Chemical Product and Company Identification

Product Name: Lead

Catalog Codes: SLL1291, SLL1669, SLL1081, SLL1459, SLL1834

CAS#: 7439-92-1

RTECS: OF7525000

TSCA: TSCA 8(b) inventory: Lead

CI#: Not available.

Synonym: Lead Metal, granular; Lead Metal, foil; Lead Metal, sheet; Lead Metal, shot

Chemical Name: Lead

Chemical Formula: Pb

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Lead	7439-92-1	100

Toxicological Data on Ingredients: Lead LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Non-flammable in presence of open flames and sparks, of shocks, of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes of lead.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable

protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.05 (mg/m3) from ACGIH (TLV) [United States] TWA: 0.05 (mg/m3) from OSHA (PEL) [United States] TWA: 0.03 (mg/m3) from NIOSH [United States] TWA: 0.05 (mg/m3) [Canada]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Metal solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 207.21 g/mole

Color: Bluish-white. Silvery. Gray

pH (1% soln/water): Not applicable.

Boiling Point: 1740°C (3164°F)

Melting Point: 327.43°C (621.4°F)

Critical Temperature: Not available.

Specific Gravity: 11.3 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, excess heat

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Can react vigorously with oxidizing materials. Incompatible with sodium carbide, chlorine trifluoride, trioxane + hydrogen peroxide, ammonium nitrate, sodium azide, disodium acetylide, sodium acetylide, hot concentrated nitric acid, hot concentrated hydrochloric acid, hot concentrated sulfuric acid, zirconium.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. May cause damage to the following organs: blood, kidneys, central nervous system (CNS).

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:
Acute Potential: Skin: Lead metal granules or dust: May cause skin irritation by mechanical action. Lead metal foil, shot or sheets: Not likely to cause skin irritation Eyes: Lead metal granules or dust: Can irritate eyes by mechanical action. Lead metal foil, shot or sheets: No hazard. Will not cause eye irritation. Inhalation: In an industrial setting, exposure to lead mainly occurs from inhalation of dust or fumes. Lead dust or fumes: Can irritate the upper respiratory tract (nose, throat) as well as the bronchi and lungsby mechanical action. Lead dust can be absorbed through the respiratory system. However, inhaled lead does not accumulate in the lungs. All of an inhaled dose is eventually abssorbed or transferred to the gastrointestinal tract. Inhalation effects of exposure to fumes or dust of inorganic lead may not develop quickly. Symptoms may include metallic taste, chest pain, decreased physical fitness, fatigue, sleep disturbance, headache, irritability, reduces memory, mood and personality changes, aching bones and muscles, constipation, abdominal pains, decreasing appetite. Inhalation of large amounts may lead to ataxia, deliriuim, convulsions/seizures, coma, and death. Lead metal foil, shot, or sheets: Not an inhalation hazard unless metal is heated. If metal is heated, fumes will be released. Inhalation of these fumes may cause "fume metal fever", which is characterized by flu-like symptoms. Symptoms may include metallic taste, fever, nausea, vomiting, chills, cough, weakness, chest pain, generalized muscle pain/aches, and increased white blood cell count. Ingestion: Lead metal granules or dust: The symptoms of lead poisoning include abdominal pain or cramps (lead cholic), spasms, nausea, vomiting, headache, muscle weakness, hallucinations, distorted perceptions, "lead line" on the gums, metallic taste, loss of appetite, insomnia, dizziness and other symptoms similar to that of inhalation. Acute poisoning may result in high lead levels in the blood and urine, shock, coma and death in extreme cases. Lead metal foil, shot or sheets: Not an ingestion hazard for usual industrial handling.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: Lead California prop. 65 (no significant risk level): Lead: 0.0005 mg/day (value) California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Lead California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Lead Connecticut hazardous material survey.: Lead Illinois toxic substances disclosure to employee act: Lead Illinois chemical safety act: Lead New York release reporting list: Lead Rhode Island RTK hazardous substances: Lead Pennsylvania RTK: Lead

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R20/22- Harmful by inhalation and if swallowed. R33- Danger of cumulative effects. R61- May cause harm to the unborn child. R62- Possible risk of impaired fertility. S36/37- Wear suitable protective clothing and gloves. S44- If you feel unwell, seek medical advice (show the label when possible). S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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Appendix C

Chemical Information Directory

Included in HASP	*Chemical Name*	*Synonyms*
	Acetone	Dimethyl Ketone; Ketone propane; 2-Propanone
	Aldrin	HHDN; Octalene
	Aniline	Aminobenzene; Aniline Oil; Benzeneamine
X	Arsenic	Arsenic metal; Arsenia
	Barium	Barium metal
	Benzene	Benzol; Phenyl hydride
	Bis(2-ethylhexyl)phthalate	Di(2-ethylhexyl)phthalate
X	Cadmium	Cadmium metal
	Carbon disulfide	Carbon bisulfide
	Chlorobenzene	Benzene chloride; Chlorobenzyl; MCB; Phenyl chloride
	Chloroethane	Ethyl chloride
	Chloroform	Methane trichloride; Trichloromethane
	Chromic Acid	Chromic anhydride; Chromium trioxide
	Chromium	Chromium metal
	Cobalt	Cobalt metal dust, cobalt metal fume
	Copper	Copper metal dusts; Copper metal mists
	Cyanide	Cyanide
	Cyclohexane	Benzene Hexahydride; hexamethylene
	Dieldrin	Dieldrin
	DIPE	Diisopropyl ether
	Dioxin	Dioxin
	1,2-Dichlorobenzene	O-DCB; Orthodichlorobenzene
	1,1-Dichloroethane	Ethylidene chloride
	1,2-Dichloroethane	Ethylene dichloride; Glycol dichloride
	1,1-Dichloroethylene	1,1-Dichloroethene, vinylidene chloride
	1,2-Dichloroethylene	1,2-Dichloroethene; (cis, trans, or sym-) Acetylene dichloride
	1,2-Dichloropropane	Propylene dichloride; Dichloro-1,2-propane
	2,4-Dinitrotoluene	Dinitrotoluene; DNT; Methyldinitrobenzene
	1,4-Dioxane	Dioxane, Diethylene dioxide, Diethylene ether

Appendix C

Chemical Information Directory
(continued)

Included in HASP	*Chemical Name*	*Synonyms*
	Ethylbenzene	Ethylbenzol; Phenylethane
	ETBE	Ethyl tert-butyl ether
	Ethylene Dibromide	EDB; 1,2-Dibromoethane, Ethylene bromide, Glycol dibromide
	Formaldehyde	Methanal; Methyl aldehyde; Methylene oxide
X	Gasoline& Diesel	Motor fuel; Motor spirits; Natural gasoline; Petrol
	Motor oil	Motor oil
	Hexachloroethane	Carbon hexachloride; Ethane hexachloride; Perchloroethane
	Hydrochloric Acid	Anhydrous hydrogen chloride; Aqueous hydrogen chloride; Muriatic acid
	Hydrogen Sulfide	Hydrosulfuric acid; Sewer gas; Sulfuretted hydrogen
	Iron	Iron
	Isophorone	Isoacetophorone; 3,5,5-Trimethyl 2- cyclohexenone
	Isopropanol	Isopropyl alcohol; IPA; 2-Propanol
X	Lead (inorganic)	Lead metal
	Manganese	Manganese
	MTBE	Methyl Tert Butyl Ether
	Mercury	Colloidal mercury; Metallic mercury; Quicksilver
	Methane	Fire damp; March gas; Methyl hydride
	Methanol	Carbinol; Columbian spirits; Pyroligneous spirit; Wood alcohol; Wood naphtha; Wood spirit
	Methoxyclor	p,p-Dimethoxydiphenyl/trichlorethane; DMDY
	Methyl chloroform	1,1,1-Trichloroethane
	Methylcyclohexane	Cyclohexylmethane; Hexahydrotoluene
	Methylene chloride	Dichloromethane; Methylene Dichloride
	Naphthalene	Naphthalin; Tar Camphor; White Tar
	Nickel	Nickel catalyst

Appendix C

Chemical Information Directory
(continued)

Included in HASP	*Chemical Name*	*Synonyms*
	Nitrobenzene	Essence of mirbane; Nitrobenzol; Oil of mirbane
	PAHs	Poly Aromatic Hydrocarbons
	Pentachlorophenol	PCP; Penta; 2,3,4,5,6-Pentachlorophenol
	Phenol	Carbonic acid; Hydroxybenzene; Monohydroxybenzene; Phenol alcohol; Phenyl hydroxide
	Phosgene	Carbonyl chloride; Carbon oxychloride; Chloroformyl chloride
X	Polychlorinated biphenyls (54%)	PCBs; Chlorodiphenyl
	Sodium bisulfate	
	Synergist-D	Proprietary product
	Silver	Silver metal; Argentum
	TAME	Tertiary-amyl methyl ether
	TBA	Tert butyl alchol
	Tetrachloroethylene	Tetrachloroethylene; Perchlorethylene; Perk
	Toluene	Methyl benzene; Methyl benzol
	Toxaphene	Chlorinated camphene
	1,1,2-Trichloroethane	Ethane trichloride; B-Trichloroethane; Vinyl trichloride
	1,2,4-Trichlorobenzene	Trichlorobenzene; 1,2,4-Trichlorobenzel
	Trichloroethene	Trichloroethylene; TCE
	Trichlorofluoromethane	Fluorotrichloromethane; Freon II
	Trichlorotrifluoroethane	Freon 113; 1,1,2-Trichloro-1,2,2-trifluoroethane; CFC-113
	1,2,3-Trichloropropane	Allyl trichloride, Glycerol trichorohydrin, Glyceryl trichlorohydrin; Trichlorohydrin
	1,2,3-Trimethylbenzene	Hemellitol
	1,2,4-Trimethylbenzene	psi-Cumene; Pseudocumene
	1,3,5-Trimethylbenzene	Mesitylene; sym-Trimethylbenzene
	Vinyl chloride	Chloroethene; VC; VCM
	Xylene (Mixed Isomers)	o-xylene; p-xylene; m-xylene

Appendix D

Hazard Mitigators Directory

Included in HASP	*Hazards*
X	Fire
X	Inhalation
	Reactivity
X	Skin Absorption
Physical Hazards	
	Compressed Gas Cylinder
X	Drilling
	Drowning
X	Drum Handling
X	Electrocution
X	Excavation/Trenching
X	Eye Injury
X	Hand/Foot Injury
X	Heat Stress
X	Cold Stress
X	Heavy Equipment
X	Lifting Heavy Loads
X	Noise
X	Portable Power/Hand Tool
	Radiation Exposure
X	Slipping/Tripping/Falling
	Allergic Reaction to Poisonous Plants
	Insect/Vermin/Snake Bites
	Medical Waste

* All members of the drilling crews shall be trained in the safety features and procedures to be utilized during operation, inspection, and maintenance of the equipment.
* Conduct a survey, prior to bringing drilling equipment to the job site, to identify overhead electrical hazards, potential subsurface hazards, and terrain hazard. Once on-site, before drilling equipment is moved, the travel route shall again be visually surveyed for overhead and terrain hazards.
* Use only drilling equipment equipped with two easily accessible emergency shutdown devices, one for the operator and one for the helper.
* Do not transport drilling equipment with the mast in the upward position.
* Set up equipment on stable ground. Cribbing (a system of timbers, arranged in a rectangular pattern, used to support and distribute the weight of the equipment) shall be used when necessary.
* Extend outriggers per the manufacturer's specifications.
* Monitor weather conditions. Operations shall cease during electrical storms or when electrical storms are imminent.
* Wearing of loose clothing or equipment is not permitted.
* Use auger guides on hard surfaces.
* Verbally alert employees and visually ensure employees are clear from dangerous parts of equipment prior to starting or engaging equipment.
* Channel the discharge of drilling fluids away from the work area to prevent the pooling of water.
* Use hoists only for their designed intent. Hoists shall not be loaded beyond their rated capacity. Steps shall be taken to prevent two-blocking of hoists (the condition when the lower load block or hook assembly comes in contact with the upper load block, or when the load block comes in contact with the boom tip).
* Follow the equipment manufacturer's procedures if ropes become caught in, or objects are pulled into a cathead.

* Do not run or rotate drill rods through rod slipping devices. No more than one foot of drill rod column shall be hoisted above the top of the drill mast. Drill rod tool joints shall not be made up, tightened, or loosened while the rod column is supported by a rod slipping device.
* Control dust using dust suppression techniques.
* Clean augers only when the rotating mechanism is in neutral and the auger is stopped. Tools such as long handled shovels shall be used to remove cuttings from the auger.
* Cap and flag open boreholes; open excavations shall be barricaded.
* Keep all hand tool used during drilling operations clean and in good working condition.
* Wear hard hats and steel-toed boots at all times when performing drilling operations.
* Wear hearing protection when required.

During Geoprobe drilling

- Pay close attention to acetate sampling sleeves; can cause minor cuts when they become jiggered
- Probes /rods can have pinch points; take care when removing or adjusting.
- There will be noise so use hearing protections

- Be aware of the potential hazards of the contents of drums or containers before handling.
- Inspect the integrity of the drum or container before moving. Any drum or container lacking integrity shall be over packed.
- Consider any unlabeled drum or container as containing a hazardous substance and leave alone until contents are properly identified and labeled.
- Organize site operations to minimize the amount of drum or container movement.
- Never stand on drums or containers.
- Know that bulging drums or containers are an indication of pressure build-up. Pressure can be relieved slowly by carefully loosening the bung. If the possibility of fire or explosion exists, protective shield and/or remote opening devices should be used.
- Utilize drum/container handling equipment whenever possible. The equipment utilized should have a sufficiently rated load capacity, and should be able to operate smoothly on the available surface.
- Use proper lifting and moving techniques to prevent back injuries, if handling equipment is not available.
- Have a clear view of the available pathway when moving drums. If needed, an additional person should be available to provide guidance.
- Set up drum/container staging areas to safely identify and classify contents for proper shipment. Staging areas shall be provided with adequate ingress and egress routes.
- Label and identify drums and containers as to their contents when moved to the staging areas.
- Cease all site operations immediately if site activities uncover buried drums or containers. The SSO must be notified. The SSO will evacuate the site. All unknown situations must be evaluated before site activities are resumed. The services of a specialized contractor trained in handling unknown contaminants may be needed. If, after evaluating the situation, only a portion of the site is affected, that
- Use only drums and containers that meet the appropriate DOT, OSHA, and EPA regulations.

- When scheduling or work conditions necessitate leaving excavations open overnight, security fencing will be erected to restrict access to the site or work zones. An exclusion zone, contamination reduction zone and support zone will be identified for each soil disturbance site, as described in Section 2.4.5.

- Underground Service Alert must be notified of subsurface work at a minimum of 48 hours prior to the commencement of field activities.

- As part of the on-site health and safety meeting, a Site walk with the operators will be conducted to identify work locations (locations shown on the work plan/site plan will be in areas free of utilities/subsurface structures). Mark outs of all utilities will be verified.

- If pea-gravel is encountered while excavating all work must stop and the SSO will be contacted for further instruction. Pea-gravel is a potential indication of underground storage tank(s) or utility bedding/backfilling material.

- If any utility/subsurface feature is hit or damaged the SSO will be IMMEDIATELY contacted for further instruction. If the SSO cannot be reached contact the Project Manager for further instruction.

* A minimum clearance of 12 feet (radius) will be maintained between heavy equipment (i.e., drill rig) and any overhead power lines, regardless of voltage.
* Before subsurface work, a utilities search for underground lines will occur and will be documented.
* Installation and maintenance of electrical facilities or equipment must only be performed by qualified and properly authorized personnel or electrical subcontractors. Apprentice personnel permitted to work on electrical equipment shall be under the surveillance of a fully qualified electrician.
* Electricians shall be familiar with the National Electrical Code; state and local electric codes; OSHA standards, including 29 CFR 1926, Subpart K; and applicable sections of the National Fire Protection Association Codes.
* When working on energized circuits of 440 volts or higher, at least one qualified electrician and one other employee shall be present.
* Do not wear rings, watches or metallic objects that could act as conductors when working with electrical circuits.
* Do not use metal ladders and un-insulated tools while working with electrical circuits and equipment.
* Follow the company Lock-out/Tag-out procedures when applicable. Electrical equipment and lines shall always be considered “energized” until proven “de-energized”. Before beginning work, each electrical circuit shall be inspected, tested, and where possible, isolated from the power source. Extreme care shall be exercised as wires designed to operate at ground potential may become energized by faulty or inadequate connections.
* Use only approved grounding equipment as a ground for electrical equipment. Metal frames on electricity powered equipment, electrical facilities, and transmission equipment shall be connected to the grounding system. Alternative grounding systems complying with applicable electrical codes may be used for temporary portable equipment.
* Protect electrical wires with suitable protective conduits or devices where they are exposed to possible damage.
* Connect grounding devices to a ground before contacting any conductor of a circuit. When grounding devices are removed, they shall be disconnected from the circuit before being disconnected from ground.
* Equip all portable extension cords with a non-conducting plug and/or another socket shell. All electrical cords shall be equipped with three-blade grounding type plugs.

* Use only heavy duty electrical cords that are not subjected to excessive bending, stretching, or kicking. All cords and wires shall be frequently inspected for signs of defects. Damaged or frayed electrical wires, cords, and plugs shall be immediately replaced by a qualified electrician or other properly trained personnel.
* Install adequate warning signs and barriers (in plain sight) in all areas where hazardous electrical facilities exist.
* Do not permit overloading of electrical circuits at any time. The replacement of fuses or circuit breakers with makeshift materials or over-capacity fuses is strictly prohibited.
* The type of circuit shall determine the type of protective equipment required. Rubber gloves, sleeves, blankets, mats, and insulated platforms shall be used as required. Questions regarding PPE should be directed to the SSO.
* Inspect all insulated protective equipment continuously for defects or damages. Any defective equipment shall be replaced before using.
* Establish and enforce testing schedules for insulation qualities for protective equipment. All users shall verify that equipment has been satisfactorily tested prior to use.

* Wear appropriate eye protection according to the task at hand (e.g., goggles if liquid splash could occur, welding lenses, etc.).

* Minimize the amount of vapor or particulate matter generated, if possible.

* Avoid touching the face and eyes.

* Flush eye with water for at least 15 minutes if chemicals do get into the eye.

* Be aware of “pinch points” when working with tools and heavy equipment.
* Use proper lifting techniques to avoid dropping heavy loads on hands and feet.
* Be aware of moving machinery and heavy equipment in the work area.
* Wear protective gloves as required in the Health and Safety Plan.
* Wear steel-toed boots as required in the Health and Safety Plan.

Fatal exposures to cold among workers have almost always resulted from accidental exposures involving failure to escape from low environmental air temperatures or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is the fall in the deep core temperature of the body. Workers should be protected from exposure to cold so that the deep core temperature does not fall below 96.8°F; lower body temperatures will very likely result in reduced mental alertness, reduction in rational decision making, or loss of consciousness with the threat of fatal consequences. Pain in the extremities may be the first early warning of danger to cold stress. During exposure to cold, maximum severe shivering develops when the body temperature has fallen to 95°F. This must be taken as a sign of danger to the workers and exposure to cold should be immediately terminated for any workers when severe shivering becomes evident. Since prolonged exposure to cold air, or to immersion in cold water, at temperatures well above freezing can lead to dangerous hypothermia, whole body protection must be provided.

Adequate insulating dry clothing to maintain core temperatures above 96.8°F must be provided to workers if work is performed in air temperatures below 40°F. Wind chill cooling rate must also be considered when determining protective clothing. The equivalent chill temperature should be used when estimating the combined cooling effect of wind and low air temperatures on exposed skin or when determining clothing insulation requirements to maintain the deep body core temperature.

Unless there are unusual or extenuating circumstances, cold injury to other than hands, feet, and head is not likely to occur without the development of the initial signs of hypothermia. Older workers or workers with circulatory problems require special precautionary protection against cold injury. The use of extra insulating clothing and/or a reduction in the duration of the exposure period are among the special precautions which should be considered.

Workers handling evaporative liquid (gasoline, alcohol, or cleaning fluids) at air temperatures below 39.2°F should take special precautions to avoid soaking of clothing or gloves with the liquids because of the added danger of cold injury due to evaporative cooling. Special note should be taken of the particularly acute effects of splashes of “cryogenic fluids” or those liquids and gases with a boiling point that is just above ambient temperature.

Heat stress is a medical condition where a worker exerts energy above his body's ability to adapt to the stress. Malfunctioning or overload of the body's temperature and sweat mechanisms results in heat stress. Poor adaptation to heat may lead to heat cramps, heat exhaustion, or heat stroke. There are three primary causes of heat stress: insufficient water intake; insufficient salt intake; and a deficiency in the production of sweat, the evaporation of which helps to cool the body naturally. Heat stress or heat exhaustion can result in a more life-threatening condition called heat stroke, which is an overexposure to extreme heat, where the body can no longer provide natural regulation of heat. The body overheats and core temperatures may reach 107F which can result in a coma and death

Field team members shall be observed for signs and symptoms of heat stress that include: confusion, dizziness, profuse sweating, skin color change, increased heart rate and vision problems. Personnel who exhibit any of these symptoms shall be removed from field work and requested to consume two to four pints of electrolyte fluid or cool water every hour while resting in a shaded area. The individual should not return to work until the symptoms are no longer recognizable. If symptoms appear critical, persist, or get worse, seek immediate medical attention.

To control the potential occurrence of heat stress, preventive measures will be evaluated and implemented on a daily basis. These measures may include:

- Frequent rest periods;
- Inducement of fluids (e.g., water, Gatorade, etc.) at a rate of one-half to one cup of cool (55ºF) water every 20 minutes of the workday; and
- Periodic cooling of personnel (e.g., via shaded areas, hose-downs with water, etc.).
- Sensitive personnel should wear sunscreen containing a minimum Sun Protection Factor of 15 when working outdoors in the sun. Sunscreen lotion should be applied prior to entering the work zones.

ainst heat, sun exposure, and other hazards. Employers and employees should know the potential hazards in their workplaces and how to manage them.

Sun

Sunlight contains ultraviolet (UV) radiation, which causes premature aging of the skin, wrinkles, cataracts, and skin cancer. There are no safe UV rays or safe suntans. Be especially careful in the sun if you burn easily, spend a lot of time outdoors, or have any of the following physical features: numerous, irregular, or large moles; freckles; fair skin; or blond, red, or light brown hair. Here's how to block those harmful rays:

- Cover up. Wear loose-fitting, long-sleeved shirts and long pants.
- Use sunscreen with a sun protection factor (SPF) of at least 30. Be sure to follow application directions on the bottle or tube.
- Wear a hat. A wide brim hat, not a baseball cap, works best because it protects the neck, ears, eyes, forehead, nose, and scalp.
- Wear UV-absorbent sunglasses (eye protection). Sunglasses don't have to be expensive, but they should block 99 to 100 percent of UVA and UVB radiation. Before you buy sunglasses, read the product tag or label.
- Limit exposure. UV rays are most intense between 10 a.m. and 4 p.m.

OSHA Card—Protecting Yourself in the Sun
www.osha.gov/Publications/osha3166.pdf

Heat

The combination of heat and humidity can be a serious health threat during the summer months. If you work outside (for example, at a beach resort, on a farm, at a construction site) or in a kitchen, laundry, or bakery you may be at increased risk for heat-related illness. So, take precautions. Here's how:

- Drink small amounts of water frequently.
- Wear light-colored, loose-fitting, breathable clothing—cotton is good.
- Take frequent short breaks in cool shade.
- Eat smaller meals before work activity.
- Avoid caffeine and alcohol or large amounts of sugar.
- Work in the shade.
- Find out from your health care provider if your medications and heat don't mix.
- Know that equipment such as respirators or work suits can increase heat stress.

There are three kinds of major heat-related disorders—heat cramps, heat exhaustion and heat stroke. You need to know how to recognize each one and what first aid treatment is necessary.

OSHA Heat Stress Fact Sheet:
www.osha.gov/OshDoc/data_Hurricane_Facts/heat_stress.pdf

OSHA Heat Stress Quick Card:
www.osha.gov/Publications/osha3154.pdf

Lyme Disease/Tick-Borne Diseases

These illnesses (i.e., Rocky Mountain spotted fever) are transmitted to people by bacteria from bites of infected deer (blacklegged) ticks. In the case of Lyme disease, most, but not all, victims will develop a "bulls-eye" rash. Other signs and symptoms may be non-specific and similar to flu-like symptoms such as fever, lymph node swelling, neck stiffness, generalized fatigue, headaches, migrating joint aches, or muscle aches. You are at increased risk if your work outdoors involves construction, landscaping, forestry, brush clearing, land surveying, farming, railroads, oil fields, utility lines, or park and wildlife management. Protect yourself with these precautions:

- Wear light-colored clothes to see ticks more easily.

- Wear long sleeves; tuck pant legs into socks or boots.
- Wear high boots or closed shoes that cover your feet completely.
- Wear a hat.
- Use tick repellants, but not on your face.
- Shower after work. Wash and dry your work clothes at high temperature.
- Examine your body for ticks after work. Remove any attached ticks promptly and carefully with fine-tipped tweezers by gripping the tick. Do not use petroleum jelly, a hot match, or nail polish to remove the tick.

OSHA Lyme Disease Fact Sheet: www.osha.gov/OshDoc/data_LymeFacts/lymefac.pdf

West Nile Virus

West Nile virus is transmitted by the bite of an infected mosquito. Mild symptoms include fever, headache, and body aches, occasionally with a skin rash on the trunk of the body and swollen lymph glands. Symptoms of severe infection include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. You can protect yourself from mosquito bites in these ways:

- Apply Picaridin or insect repellent with DEET to exposed skin.
- Spray clothing with repellents containing DEET or permethrin. (Note: Do not spray permethrin directly onto exposed skin.)
- Wear long sleeves, long pants, and socks.
- Be extra vigilant at dusk and dawn when mosquitoes are most active.
- Get rid of sources of standing water (used tires, buckets) to reduce or eliminate mosquito breeding areas.

OSHA West Nile Virus Fact Sheet: www.osha.gov/OshDoc/data_Hurricane_Facts/west_nile_virus.pdf

OSHA Safety and Health Information Bulletin: "Workplace Precautions Against West Nile Virus"

http://www.osha.gov/dts/shib/shib082903b.pdf

Poison Ivy-Related Plants

Poison ivy, poison oak and poison sumac have poisonous sap (urushiol) in their roots, stems, leaves and fruits. The urushiol may be deposited on the skin by direct contact with the plant or by contact with contaminated objects, such as clothing, shoes, tools, and animals.

Approximately 85 percent of the general population will develop an allergy if exposed to poison ivy, oak or sumac. Forestry workers and firefighters who battle forest fires have developed rashes or lung irritations from inhaling the smoke of burning plants.

- Wear long-sleeved shirts and long pants, tucked into boots. Wear cloth or leather gloves.
- Apply barrier creams to exposed skin.
- Educate workers on the identification of poison ivy, oak, and sumac plants.
- Educate workers on signs and symptoms of contact with poisonous ivy, oak, and sumac.
- Keep rubbing alcohol accessible. It removes the oily resin up to 30 minutes after exposure.

OSHA Web Page—Poisonous Plants: www.osha.gov/SLTC/etools/sawmills/poison.html

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

OSHA Occupational Safety and Health Administration

U.S. Department of Labor
www.osha.gov
(800) 321-OSHA

DSTM 9/2005

* Apply Hazard Mitigators for motor vehicles when utilizing heavy equipment (where applicable).

* Remember, heavy equipment has the right-of-way over regular vehicles. Yield to heavy equipment.

* Listen for warning signals on heavy equipment.

* Perform a visual inspection and walk around parked heavy equipment before moving to assure that equipment is in good condition and that there are no personnel on the ground that could be injured or objects that could be damaged by vehicle movement.

* Use hand rails and footholds when mounting and dismounting equipment,

* Follow appropriate equipment startup procedures. Brakes, steering, clutches and controls shall be tested.

* Pay attention to workers on the ground that may be in the path and provide warning prior to moving the equipment.

* Permit no one to ride on, or in, heavy equipment. This includes any portion of a backhoe, bulldozer, forklift or the back of a pickup truck, except in locations specifically designed for passenger use and approved by the SSO.

* Locate and flag underground utilities and buried cables, whenever possible, prior to intrusive activities (such as excavation and drilling).

* Keep haulage vehicles under positive control at all times while operating. Vehicles shall be kept in gear when descending grades.

* Do not use heavy equipment on slopes with steepness exceeding 3H:1V unless operations are consistent with manufacturer's recommendations (if the Owner's Manual is not with the equipment or does not specify slope operating procedures, see the SSO).

* Operate equipment with booms, blades, buckets, beds, etc., lowered or in a stable position while on slopes. Safety cables tethered to appropriate anchors shall be used for equipment working on steep slopes, where appropriate. The use of cables and anchors must be approved by the SSO.

* Use rollover protection and seat belts.

* Lower hydraulic systems (e.g., blades, rippers, etc.) to the ground, set brakes, and shut down equipment if malfunction occurs which impairs the ability to control a piece of equipment.

* Suspend in slings or support by hoists or jacks heavy equipment in need of repair. The equipment must also be blocked or cribbed before workers are permitted to work underneath. Working under heavy equipment can pose a crushing hazard.

* Shut off motors, do not allow smoking, and use proper dispensing equipment when refueling gasoline-operated equipment to prevent fire hazards.

* Wear hearing protection if required.

* Maintain eye contact with the heavy equipment operator when working near equipment.

* Be aware of changes in sound of equipment that may indicate a change in direction or activity.

* Know and practice proper lifting techniques.
* Limit continuous lifting of weights to 50 pounds or less. Lifts of heavier weights are permitted on an interim basis. Help shall be obtained for lifting of loads greater than 50 pounds. Mechanical equipment should be used on heavy materials when possible. If mechanical assistance is not available, adequate manpower to maintain the 50-pound limit per employee will be required.
* Do not lift more weight than can be handled comfortably, regardless of load weight. If necessary, help should be requested to lift a load so that the lifting is comfortable.
* Use drum dollies when moving drums or barrels.
* Inspect objects for grease or slippery substances before they are lifted to ensure that the object will not slip.
* Do not carry long, bulky or heavy objects without first verifying that the way is clear and that vision is unobstructed. This ensures that other persons or objects will not be struck by the load.
* Do not carry loads that cannot be seen over or around.
* Make sure workers are physically suited for the job before assigning jobs requiring heavy and/or frequent lifting. A person's lifting ability is not necessarily indicated by his height or weight.
* Before lifting an object, consideration should be given to how the object will be set down without pinching or crushing hands or fingers. For example, to place an object on a bench or table, the object should be set on the edge and pushed far enough onto the support so it will not fall. The object can then be released gradually as it is set down, and pushed in place with the hands and body from in front of the object.
* When two or more persons are handling the same object, one should "call the signals". All the persons on the lift should know who this person is and should warn him if anyone in the crew is about to relax his grip.
* Proper lifting includes:
  - *Feet* - Feet should be parted, with one foot alongside the object being lifted and one behind. Feet should be comfortably spread to give greater stability. The rear foot should be in position for the upward thrust of the lift.
  - *Back* - Use the sit-down position and keep the back straight, but remember that "straight" does not mean "vertical". A straight back keeps the spine, back muscles, and organs of the body in correct alignment. It minimizes the compression of the abdomen that can cause a hernia.
  - *Arms and Elbows* - The load should be drawn close, and the arms and elbows should be tucked into the side of the body. When the arms are held away from the body, they lose much of their strength and power. Keeping the arms tucked in also helps keep body

weight centered.

- *Palm* - The palm grip is one of the most important elements of lifting. The fingers and the hand are extended around the object to be lifted. Use the full palm; fingers alone have very little power.
- *Chin* - Tuck in the chin so the neck and head continue the straight back line. Keep the spine straight and firm.
- *Body Weight* - Position the body so its weight is centered over the feet. This provides a more powerful line of thrust and assures better balance. Start the lift with a thrust of the rear foot. Shift hand positions so the object can be boosted after knees are bent. Straighten knees as object is lifted or shifted to the shoulders. To change direction, lift the object to a carrying position, and turn the entire body, including the feet. Do not twist your body. In repetitive work, both the person and the material should be positioned so that the worker will not have to twist his body when moving the material. If the object is too heavy to be handled by one person, get help.

* Know the effects of noise, including:
  - Workers being startled, annoyed, or distracted.
  - Physical damage to the ear, pain, and temporary and/or permanent hearing loss.
  - Communication interference that may increase potential hazards due to the inability to warn of danger and proper safety precautions to be taken.
* Utilize feasible administrative or engineering controls if workers are subjected to noise exceeding an 8-hour, time-weighted average (TWA) sound level of 90 dBA (decibels on the A-weighted scale).
* Implement the company Hearing Conservation Program when noise exposures equal or exceed an 8-hour, TWA sound level of 85 dBA.
* Wear hearing protection where applicable.

* Route cords, hoses, and cables supplying power to portable power tools to prevent tripping hazards or contact with equipment or machinery.
* Avoid abusing the power supply lines of portable equipment. Excessive scraping, kicking, stretching, and exposure to grease and oils will damage lines or cause them to fail prematurely, and possibly injure the operator or fellow workers.
* Inspect cords, hoses, and cables for wear or deterioration prior to each use. Defective power supply lines shall not be used.
* Do not use electrically powered tools near flammable materials or explosive atmosphere, unless they are of the explosion-proof type meeting the National Electrical Code for explosive area. Employees operating the equipment should be aware of sparks and or metal fragments when using this equipment.
* Ground-check portable electric power tools with metal cases initially and quarterly. At no time will electrical power equipment be operated without proper grounding. All electrical cords and cables, including extension cords, shall include a third wire ground.
* Prohibit operations of electric tools in wet or damp areas except in unusual emergency circumstances. When operation is required in wet or damp conditions, extreme care will be exercised to ensure effective grounding of equipment and proper use of protective gear.
* Size cords adequately for length and the electrical demand of the tool. Otherwise, they may cause a fire hazard.
* Limit use of tools to the purpose for which the tool is intended (e.g., wrenches will not be used as hammers). Defective tools (e.g., with mushroomed heads or split or defective handles) shall not be used.
* Protect tools from corrosion damage.
* Keep tools free of accumulated dirt and unnecessary oil or grease. Moving and adjustable parts shall be lubricated frequently to prevent wear and misalignment.
* Replace or repair damaged or worn tools promptly. Temporary or makeshift repairs are prohibited. At the discretion of the supervisor, discard all tools that cannot be repaired safely. Supervisors shall decide when to discard a tool.
* Store tools in suitable boxes or containers. Loose tools shall not be stored on ledges or where they might fall. Tools shall be picked up when a job is completed and not be allowed to accumulate in the work area. Store all tools in a safe place.
* Do not use conducting (i.e., metal) tools around electrical facilities. Insulated tools, approved for electrical work, shall be tested frequently for proper insulation.

* Select the correct size and type of wrench for each job. Wrench handles shall not be extended with a pipe or cheater because the jaws will spread.
* Repair mushroomed punch, drift and chisel heads. Mushroomed heads represent crystallized metal that will break and fly off when struck.
* Wear eye protection at all times.

* Wear the proper footwear for the task at hand.
* Pay attention to the environment and use caution when moving about on site.
* Follow the easiest and safest path to the destination.
* Follow good housekeeping procedures.
* Remove objects that pose tripping hazards where practicable.
* Prevent water accumulation where practicable.

The following sections address the major workplace fire hazards and the procedures for controlling the hazards.

A. Electrical Fire Hazards

Electrical system failures and the misuse of electrical equipment are leading causes of workplace fires. Fires can result from loose ground connections, wiring with frayed insulation, or overloaded fuses, circuits, motors, or outlets.

To prevent electrical fires, employees shall:

1. Make sure that worn wires are replaced.
2. Use only appropriately rated fuses.
3. Never use extension cords as substitutes for wiring improvements.
4. Use only approved extension cords [i.e., those with the Underwriters Laboratory (UL) or Factory Mutual (FM) label].
5. Check wiring in hazardous locations where the risk of fire is especially high.
6. Check electrical equipment to ensure that it is either properly grounded or double insulated.
7. Ensure adequate spacing while performing maintenance.

B. Portable Heaters

All portable heaters shall be approved by **SSO**. Portable electric heaters shall have tip-over protection that automatically shuts off the unit when it is tipped over. There shall be adequate clearance between the heater and combustible furnishings or other materials at all times.

C. Office Fire Hazards

Fire risks are not limited to industrial facilities. Fires in offices have become more likely because of the increased use of electrical equipment, such as computers and fax machines. To prevent office fires, employees shall:

1. Avoid overloading circuits with office equipment.
2. Turn off nonessential electrical equipment at the end of each workday.
3. Keep storage areas clear of rubbish.
4. Ensure that extension cords are not placed under carpets.
5. Ensure that trash and paper set aside for recycling is not allowed to accumulate.

D. Cutting, Welding, and Open Flame Work

The **SSO**will ensure the following:

1. All necessary hot work permits have been obtained prior to work beginning.
2. Cutting and welding are done by authorized personnel in designated cutting and welding areas whenever possible.

3. Adequate ventilation is provided.
4. Torches, regulators, pressure-reducing valves, and manifolds are UL listed or FM approved.
5. Oxygen-fuel gas systems are equipped with listed and/or approved backflow valves and pressure-relief devices.
6. Cutters, welders, and helpers are wearing eye protection and protective clothing as appropriate.
7. Cutting or welding is prohibited in sprinklered areas while sprinkler protection is out of service.
8. Cutting or welding is prohibited in areas where explosive atmospheres of gases, vapors, or dusts could develop from residues or accumulations in confined spaces.
9. Cutting or welding is prohibited on metal walls, ceilings, or roofs built of combustible sandwich-type panel construction or having combustible covering.
10. Confined spaces such as tanks are tested to ensure that the atmosphere is not over ten percent of the lower flammable limit before cutting or welding in or on the tank.
11. Small tanks, piping, or containers that cannot be entered are cleaned, purged, and tested before cutting or welding on them begins.
12. Fire watch has been established.

E. Flammable and Combustible Materials

The **SSO** shall regularly evaluate the presence of combustible materials at.

Certain types of substances can ignite at relatively low temperatures or pose a risk of catastrophic explosion if ignited. Such substances obviously require special care and handling.

1. Class A combustibles.

These include common combustible materials (wood, paper, cloth, rubber, and plastics) that can act as fuel and are found in non-specialized areas such as offices.

To handle Class A combustibles safely:

a. Dispose of waste daily.
b. Keep trash in metal-lined receptacles with tight-fitting covers (metal wastebaskets that are emptied every day do not need to be covered).
c. Keep work areas clean and free of fuel paths that could allow a fire to spread.
d. Keep combustibles away from accidental ignition sources, such as hot plates, soldering irons, or other heat- or spark-producing devices.
e. Store paper stock in metal cabinets.
f. Store rags in metal bins with self-closing lids.
g. Do not order excessive amounts of combustibles.
h. Make frequent inspections to anticipate fires before they start.

Water, multi-purpose dry chemical (ABC), and halon 1211 are approved fire extinguishing agents for Class A combustibles.

2. Class B combustibles.

These include flammable and combustible liquids (oils, greases, tars, oil-based paints, and lacquers), flammable gases, and flammable aerosols.

To handle Class B combustibles safely:

a. Use only approved pumps, taking suction from the top, to dispense liquids from tanks, drums, barrels, or similar containers (or use approved self-closing valves or faucets).
b. Do not dispense Class B flammable liquids into containers unless the nozzle and container are electrically interconnected by contact or by a bonding wire. Either the tank or container must be grounded.
c. Store, handle, and use Class B combustibles only in approved locations where vapors are prevented from reaching ignition sources such as heating or electric equipment, open flames, or mechanical or electric sparks.
d. Do not use a flammable liquid as a cleaning agent inside a building (the only exception is in a closed machine approved for cleaning with flammable liquids).
e. Do not use, handle, or store Class B combustibles near exits, stairs, or any other areas normally used as exits.
f. Do not weld, cut, grind, or use unsafe electrical appliances or equipment near Class B combustibles.
g. Do not generate heat, allow an open flame, or smoke near Class B combustibles.
h. Know the location of and how to use the nearest portable fire extinguisher rated for Class B fire.

Water should not be used to extinguish Class B fires caused by flammable liquids. Water can cause the burning liquid to spread, making the fire worse. To extinguish a fire caused by flammable liquids, exclude the air around the burning liquid. The following fire-extinguishing agents are approved for Class B combustibles: carbon dioxide, multi-purpose dry chemical (ABC), halon 1301, and halon 1211. (**NOTE:** Halon has been determined to be an ozone-depleting substance and is no longer being manufactured. Existing systems using halon can be kept in place.)

F. Smoking

Smoking is prohibited at the facility.

–

- Be aware of chemicals of concern that can directly injure the skin or that can be absorbed into the bloodstream and subsequently transported to other organs.
- Know that skin absorption is enhanced by abrasions, cuts, heat, and moisture.
- Do not wear contact lenses in contaminated atmospheres (since they may trap chemicals against the eye surface). The eye is particularly vulnerable because airborne chemicals can dissolve in its moist surface and be carried to the rest of the body through the bloodstream (capillaries are very close to the surface of the eye).
- Keep hands away from face.
- Minimize contact with liquid and solid chemicals.

Wear protective clothing (e.g., suits and gloves) as required by the Health and Safety Plan

– .

* Adhere to the 0.05 mg/m^3 action level for dust

* Be aware that the lungs are extremely vulnerable to chemical agents. Even substances that do not directly affect the lungs may pass through lung tissue into the bloodstream, where they are transported to other vulnerable areas of the body.

* Know the odor and odor threshold of the chemicals of concern. Some toxic chemicals present in the atmosphere may not be detected by human senses (i.e., they may be odorless and colorless, and their toxic effects may not produce any immediate symptoms).

* Use engineering controls to reduce vapor concentrations (e.g., ventilation) or dusty atmospheres (e.g., dust suppression techniques).

* Wear respiratory protection as indicated by air monitoring results and/or as required by the Health and Safety Plan.

* Conduct work zone air monitoring as required by the Health and Safety Plan.

Appendix E

Personal Protective Equipment Per Task

Applies to Task: ☒ **1.Excavation, soil sampling, well installation, GW sampling and capping**

☒ *Modified Level D**		☐ *Level C**		☐ *Level B**	
Equipment	***Material/ Type***	***Equipment***	***Material/Type***	***Equipment***	***Material/Type***
☒ Protective clothing	Long sleeve shirt and long pants, Tyvek coveralls	☐ Full-face air-purifying respirator	Cartridge Type:	☐ SCBA (pressure demand)	
☒ Outer gloves	Nitrile	☐ Half-mask air-purifying respirator	Cartridge Type:	☐ Air-line System (pressure demand)	
☐ Outer boots		☐ Protective clothing		☐ Protective clothing	
☒ Hard hat		☐ Outer gloves		☐ Outer gloves	
☒ Safety glasses May include full-face shield		☐ Inner gloves		☐ Inner gloves	
☒ Hard-toed boots		☐ Outer boots		☐ Outer boots	
☒ Hearing protection		☐ Hard hat**		☐ Hard hat**	
☐ Other:		☐ Safety glasses**		☐ Hard-toed boots**	
		☐ Hard-toed boots**		☐ Hearing protection**	
		☐ Hearing protection**		☐ Escape respirator**	
		☐ Other:		☐ Safety “tag” rope**	
				☐ Other:	

* If checked, indicates initial level of PPE. Other completed columns indicate information to upgrade/downgrade.

** Optional as applicable

Appendix F

Contractor and Outside Company HASP Consent Agreement

I have reviewed the health and safety plan prepared by EarthCon Inc., dated _____, for the _____ site fieldwork. I understand the purpose of the plan, and I consent to adhere to its policies, procedures, and guidelines.

Employee signature / Print	Firm	Date
Employee signature / Print	Firm	Date
Employee signature / Print	Firm	Date
Employee signature / Print	Firm	Date
Employee signature / Print	Firm	Date
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Appendix G

OSHA Onsite Training Documentation Form

After completion of the OSHA 40-hour training class, 29 CFR 1910.120 states that 3 days of onsite experience under the direct supervision of a trained, experienced supervisor are required to complete the OSHA HAZWOPER training requirements. This form is to be used to document this requirement, and shall be completed by a qualified supervisor (i.e., someone who has completed the 8-hour supervisory training class). Upon completion of this form, please submit it to the EarthCon project manager.

EMPLOYEE INFORMATION

Name: _____

Signature: _____

40-Hour Training Completion Date: _____

Dates of Onsite Training: _____

Name of Site: _____

Type of Site: _____

SUPERVISOR CERTIFICATION

Supervisor: _____

Signature: _____

Appendix H –

Health & Safety Inspection Checklist

Project: _____ Date: _____

Inspected by: _____

Category	***Observations/Corrective Actions (N/A, if Not Applicable)***
Pre-field activity briefing records are current	
Tailgate meeting records are current	
Training/medical surveillance/respiratory protection records are current	
Site map is posted	
Buddy system is implemented	
Work zones are identified	
Site access is controlled	
Visitors are escorted	
On-site/off-site communications are in working order	
Safe work practices are implemented	
Any additional hazards incurred?	
Air monitoring equipment is in working condition	
Air monitoring records are being recorded in field logbook	
Air monitoring calibration records are recorded in field logbook	
PPE storage area is neat and organized	
Standard operating procedures are implemented	
Housekeeping at decontamination zone is appropriate	
Decontamination procedures are implemented	
Emergency response equipment is in working condition	
Route to hospital is posted	
Confined space entry program is implemented	
Spill containment equipment is available	
Chemical inventory is up to date	
Safety data sheets are available	
Primary and secondary containers are properly labeled	
Housekeeping at the chemical storage area is appropriate	

APPENDIX B

FEDERAL (RCRA-TCLP) AND STATE (TITLE 22-STLC,TTLC) HAZARDOUS WASTE CRITERIA

Inorganic Parameters/Metals (Methods: EPA 6010B, 7000 Series)

Parameters	TCLP mg/l	STLC mg/l	TTLC[a] mg/kg
Antimony		15	500
Arsenic	5.0	5.0	500
Barium	100	100	10,000[b]
Beryllium		0.75	75
Cadmium	1.0	1.0	100
Chromium	5	5 (560)	2,500
Cobalt		80	8,000
Copper		25	2,500
Lead	5.0	5.0	1,000
Mercury	0.2	0.2	20
Molybdenum		350	3,500
Nickel		20	2,000
Selenium	1.0	1.0	100
Silver	5	5	500
Thallium		7.0	700
Vanadium		24	2,400
Zinc		250	5,000
Chromium (VI)		5	500
Fluoride Salts		180	18,000
Asbestos			1%

Volatiles (Method: EPA 8260B)

Benzene	0.5		
Carbon tetrachloride	0.5		
Chlorobenzene	100.0		
Chloroform	6.0		
1,4-Dichlorobenzene	7.5		
1,2-Dichloroethane	0.5		
1,1-Dichloroethylene	0.7		
Methyl ethyl ketone (MEK)	200.0		
Tetrachloroethylene (PCE)	0.7		
Trichloroethylene (TCE)	0.5	204	2,040
Vinyl chloride	0.2		

[a] *Values expressed as wet weight*

[b] *Excluding barium sulfate.*

Chlorophenoxy Acid Herbicides (Method: EPA 8151A)

Compound	TCLP mg/l	STLC mg/l	TTLC[a] mg/kg
2,4-Dichlorophenoxyacetic acid	10.0	10	100
2,4,5-TP (Silvex)	1.0	1.0	10

Organochlorine Pesticides / PCBs (Method: EPA 8081A)

Aldrin		0.14	1.4
Chlordane	0.03	0.25	2.5
DDT/DDE/DDD		0.1	1.0
Dieldrin		0.8	8.0
Endrin	0.02	0.02	0.2
Heptachlor (& its Epoxide)	0.008	0.47	4.7
Kepone		2.1	21
Lindane	0.4	0.4	4.0
Methoxychlor	10.0	10	100
Mirex		2.1	21
Toxaphene	0.5	0.5	5.0

Semi-Volatiles (Method: EPA 8270C)

o-Cresol	200.0		
m-Cresol	200.0		
p-Cresol	200.0		
Cresols (Total)	200.0		
2,4-Dinitrotoluene	0.13		
Hexachlorobenzene	0.13		
Hexachlorobutadiene	0.5		
Hexachloroethane	3.0		
Nitrobenzene	2.0		
Pentachlorophenol	100.0	1.7	17
Pyridine	5.0		
2,4,5-Trichlorophenol	400.0		
2,4,6-Trichlorophenol	2.0		

Miscellaneous (Methods: EPA 8280*, CADHS-LUFT/7420)**

Dioxin (2,3,7,8-TCDD)*		0.001	0.01
Organic Lead Compounds**			13

See Sec 22-66261.27.(a).(7) for Additional Toxicity Compound/Criteria. Title (26) 22 Toxicity Criteria Section 22-66261.24

HAZARDOUS WASTE CHARACTERISTICS

	Matrix	Method	Criteria
Ignitability (40 CFR 261.21) (T22: 22-66261.21)	Liquid	ASTM D-93	Exhibits the characteristic of ignitability: if it is a liquid, and has a flash point <60°C (140°F). Aqueous solutions containing >24% alcohol by volume are considered ignitable and do not require flash point testing.
	Solid		Exhibits the characteristic of ignitability: if it is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
Corrosivity (40 CFR 261.22) (T22: 22-66261.22)	Liquid	EPA 9040 EPA 1110, NACE	Exhibits the characteristic of corrosivity if it is aqueous and has a pH ≤ 2 or ≥12.5 (Sec 260.20 and 260.21) If it corrodes steel (SAE 1020) at rate >6.35 mm or 0.250 in. per year at a test temperature of 55°C (130°F)
	Solid	EPA 9045	If it is not aqueous and, when mixed with an equivalent weight of water, produces a solution having a pH ≤ 2 or ≥12.5
Reactivity (40 CFR 261.22) (T22:22-66261.23)		SW846, Chapter 7	Exhibits the characteristic of reactivity: if the waste has any of the following properties: 1. It is normally unstable and readily undergoes violent change without detonating. 2. It reacts violently with water. 3. It forms potentially explosive mixtures with water. 4. When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or environment. 5. It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
		Sec.7.3.3.	The current EPA guidance level is: Total releasable cyanide: 250 mg HCN/kg waste. The current EPA guidance level is: Total releasable sulfide: 500 mg H_2S/kg waste. 6. It is readily capable of detonation or explosive reaction if it is a subjected to a strong initiating source or if heated under confinement. 7. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure 8. It is a forbidden explosive, as defined in 49 CFR 173.51 or a class A or B explosive, as defined in 49 CFR 173.53 and 173.88.

TOXICITY Fish {Title 26 sec 66261.24(6)} **SMWW 18th Ed.** A waste, or material is toxic and hazardous if (6) has an acute aquatic 96-Hour LC50 less than 500mb/L.

NOTE: Criteria and limits are abbreviated for quick reference purposes only. Specific sources should always be referenced for a detailed, complete and up-to-date listing of regulatory criteria.

eurofins | Calscience

Laboratory Location:
7440 Lincoln Way
Garden Grove, CA 92841-1432

For information, please contact Sales Department at
t:(714)895-5494, f:(714)894-7501 or
us26_sales@eurofinsus.com

Revision Date: 06/18/2012

APPENDIX C

RECORDING REQUESTED BY:

Clow Valve Company
1375 Magnolia Avenue
Corona, California 91719

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630
Attention: A. Edward Morelan, Branch Chief
Site Mitigation and Restoration Program

And

U.S. Environmental Protection Agency
Region IX
Attention: PCB Coordinator (Land Chemicals and Redevelopment Division)
75 Hawthorne Street
San Francisco, CA 94105-3901

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

LAND USE COVENANT AND AGREEMENT
ENVIRONMENTAL RESTRICTIONS

County of Riverside, Assessor Parcel Number(s): 107-030-022-3
Clow Valve Company
(Department Site Code 600876-48)

This Land Use Covenant and Agreement ("Covenant") is made by and between Clow Valve Company (the "Covenantor"), the current owner of property located at 1375 Magnolia Avenue, Corona in the County of Riverside, State of California (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to Civil Code section 1471, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined

in Health and Safety Code section 25260. The Covenantor and the Department hereby agree that, pursuant to Civil Code section 1471 and Health and Safety Code section 25202.5 the use of the Property be restricted as set forth in this Covenant and that the Covenant shall conform with the requirements of California Code of Regulations, title 22, section 67391.1. With respect to the Polychlorinated Biphenyls (PCBs) at the Property, the provisions of this Covenant shall be for the benefit of, and shall be enforceable by, the United States Environmental Protection Agency ("U.S. EPA"), as a third party beneficiary pursuant to general contract law, including but not limited to Civil Code section 1559.

ARTICLE I
STATEMENT OF FACTS

1.01. Property Location. The Property, located at 1375 Magnolia Avenue, Corona, County of Riverside, California, that is subject to this Covenant, totaling approximately 16 acres, is more particularly described in the attached Exhibit A, "Legal Description of the Property", and depicted in Exhibit B, "Plot Plan". The Property is located in the area generally bounded by Magnolia Avenue on the south, railroad tracks and El Camino Avenue on the west, and a storm water channel towards the north and east. The Property is also identified as County of Riverside, Assessor's Parcel Number 107-030-022-3.

(a) A limited portion of the Property is more particularly described in Exhibit C, "Legal Description of the Capped Property", and illustrated in Exhibit D, "Sketch", referred to as the "Capped Property". The "Capped Property", totaling approximately 9.964 acres of soil impacted by hazardous substances, is located on the northern portion of the Property now generally bounded by railroad and El Camino Avenue on the west, storm channel on the north and east. Its southern border runs parallel to Magnolia Avenue, approximately 195 feet north of Magnolia Avenue.

(b) A limited portion of the Property is more particularly described in Exhibit D as "Area 1" a Former Asphalt Dip Tank and as "Area2" a PCB Transformer area. Former Asphalt Dip Tank was previously located, approximately 620 feet north of Magnolia

Avenue, 510 feet east of El Camino Avenue, and 200 feet west of the storm channel western edge. The PCB Transformer area is located approximately 240 feet west of the storm channel western edge, 510 feet east of El Camino Avenue, and 600 feet north of Magnolia Avenue.

1.02. Hazardous Substances. Hazardous wastes, or constituents of hazardous waste, including Polychlorinated Biphenyl's (PCBs) (Total Aroclors up to a maximum of 2,220 milligrams per kilogram (mg/kg)), Total Petroleum Hydrocarbons (TPH) (up to a maximum of 9,300 mg/kg), arsenic (up to a maximum of 52.9 mg/kg), cadmium (up to a maximum of 43.9 mg/kg), hexavalent chromium (up to a maximum of 6.6 mg/kg), and lead (up to a maximum of 7,360 mg/kg) in soil, and volatile organic compounds, such as tetrachloroethylene (PCE) (up to a maximum of 3 microgram/liter (ug/l)), in the soil gas remain at the Property above levels acceptable for unrestricted land use.

As of February 25, 2021, PCB concentrations in the soil at the Former Asphalt Dip Tank Bottom and PCB Transformer exceed the level for unrestricted use and the USEPA's site-specific industrial risk-based threshold of 15 mg/kg. PCB concentrations present in soils of the PCB Transformer area exceed the California hazardous waste level of Total Threshold Limit Concentration (TTLC) of 50 mg/kg.

As of February 25, 2021, lead concentrations detected in the soil at the Capped Property exceeded 320 milligrams per kilogram, a level deemed safe by DTSC for the continued use of the Site for industrial use and the TTLC of 1,000 mg/kg. A Human Health Risk Assessment (HHRA) was performed to evaluate the potential health risks associated with direct exposure of workers at the Property to soil containing Chemicals of Potential Concern (COPCs). Based on the HHRA, potential health risk to a commercial or industrial worker is $1x10^{-5}$ and to a construction worker is $2x10^{-4}$. The estimated Hazard Index (HI) for a commercial/industrial worker at the Property is 1.9, primarily due to the potential exposure to PCBs and cadmium. The estimated HI for a construction worker at the Property is 458. U.S. EPA recommends an HI of 1 or below and health risk below $1x10^{-6}$. The calculated risks were primarily associated with direct exposure to impacted soil and associated soil ingestion or dermal exposure, both of which will be eliminated by installation and maintenance of the capping materials described herein.

1.03. Remediation of Property. This Property has been investigated and/or remediated under the Department's oversight. The Department approved a Corrective Measures Study, dated February 19, 2018, prepared by EarthCon Consultants CA, Inc, in accordance with Health and Safety Code, Division 20, Chapter 6.5. The remediation activities at the Property include:

a) Construction of an approximately 5,000 square foot, 6-inch thick concrete or 3-inch thick asphalt cap in two areas encompassing approximately one-half acre, identified as Areas of Concern (AOCs), AOC-1 and AOC-5 (see Exhibit B).
b) Repair and maintenance of the existing asphalt and/or concrete surface cover of the Capped Property;
c) Soil Management Plan and Operation and Maintenance Plan preapproval by the Department for all future construction work involving soil excavation at the Capped Property; and,
d) Land use restriction recorded with the Riverside County Assessor's Office to prohibit sensitive uses.

1.04. PCB Remediation overseen by U.S. EPA. In addition to the corrective action measures for the Property under the Department's oversight, U.S. EPA approved with conditions the Risk-Based Approval Application submitted by EarthCon Consultants, CA, Inc. on behalf of Clow Valve Company dated April 9, 2019 to remediate PCBs at the Property. PCBs are regulated by the U.S. EPA pursuant to the Toxic Substances Control Act (TSCA), 15 U.S.C. Section 2601 et seq., and the PCB regulations at 40 Code of Federal Regulations (CFR) Part 761. This document is available in Envirostor, an online document repository at https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/1318022012/2019-04-23_EPA%20to%20Clow%20Valve_761.61%28c%29_SIGNED.pdf

1.05. Basis for Environmental Restrictions. As a result of the presence of Hazardous Wastes, PCBs, TPH, arsenic, cadmium, lead, and PCE, which are also hazardous materials as defined in Health and Safety Code section 25260, at the Property, the Department has concluded that it is reasonably necessary to restrict the

use of the Property in order to protect present or future human health or safety or the environment, and that this Covenant is required as part of the Department-approved remedy for the Property. The Department has also concluded that the Property, as remediated and when used in compliance with the Environmental Restrictions of this Covenant, does not present an unacceptable risk to present and future human health or safety or the environment.

1.06. Land Use Covenant. A land use covenant is necessary to preclude potential users' exposure to hazardous substances that remain at the Property and to complete the remedy selected in the Corrective Measures Study. U.S. EPA, with the concurrence of the Department, has concluded that the Property, remediated to the goals presented in the Corrective Measures Study, subject to the restrictions of this Covenant, and used in compliance with such restrictions, does not present an unacceptable threat to present or future human health or safety or the environment. Additional information about the Site, including the 2019 PCB risk analysis by U.S. EPA, is available at the Envirostor, an online repository listed in paragraph 1.04, above.

ARTICLE II
DEFINITIONS

2.01. Department. "Department" means the California Department of Toxic Substances Control and includes its successor agencies, if any.

2.02. Environmental Restrictions. "Environmental Restrictions" means all protective provisions, covenants, restrictions, requirements, prohibitions, and terms and conditions as set forth in this Covenant.

2.03. Improvements. "Improvements" includes, but is not limited to buildings, structures, roads, driveways, improved parking areas, wells, pipelines, or other utilities.

2.04. Lease. "Lease" means lease, rental agreement, or any other document that creates a right to use or occupy any portion of the Property.

2.05. Occupant. "Occupant" or "Occupants" means Owner and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.06. Owner. "Owner" or “Owners” means the Covenantor, and any successor in interest including any heir and assignee, who at any time holds title to all or any portion of the Property.

2.07. U.S. EPA. “U.S. EPA” means the United States Environmental Protection Agency, and includes its successor agencies, if any.

ARTICLE III
GENERAL PROVISIONS

3.01. Runs with the Land. This Covenant sets forth Environmental Restrictions that apply to and encumber the Property and every portion thereof no matter how it is improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. This Covenant: (a) runs with the land pursuant to Civil Code section 1471 and Health and Safety Code section 25202.5; (b) inures to the benefit of and passes with each and every portion of the Property; (c) is for the benefit of, and is enforceable by the Department; and (d) is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding upon Owners/Occupants. This Covenant: (a) binds all Owners of the Property, their heirs, successors, and assignees; and (b) the agents, employees, and lessees of the Owners and the Owners’ heirs, successors, and assignees. Pursuant to Civil Code section 1471, all successive Owners of the Property are expressly bound hereby for the benefit of the Department; this Covenant, however, is binding on all Owners and Occupants, and their respective successors and assignees, only during their respective periods of ownership or occupancy except that such Owners or Occupants shall continue to be liable for any violations of, or non-compliance with, the Environmental Restrictions of this Covenant or any acts or omissions during their ownership or occupancy.

3.03. Written Notice of the Presence of Hazardous Substances. Prior to the sale, lease, assignment, or other transfer of the Property, or any portion thereof, the Owner, lessor, or sublessor shall give the buyer, lessee, or sublessee written notice of the existence of this Covenant and its Environmental Restrictions.

3.04. Incorporation into Deeds and Leases. This Covenant shall be

incorporated by reference in each and every deed and Lease for any portion of the Property.

3.05. Conveyance of Property. The Owner and new Owner shall provide Notice to the Department and the U.S. EPA not later than 30 calendar days after any conveyance or receipt of any ownership interest in the Property (excluding Leases, and mortgages, liens, and other non-possessory encumbrances). The Notice shall include the name and mailing address of the new Owner of the Property and shall reference the site name and site code as listed on page one of this Covenant. The notice shall also include the Assessor's Parcel Number(s) noted on page one. If the new Owner's property has been assigned a different Assessor Parcel Number, each such Assessor Parcel Number that covers the Property must be provided. The Department shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect proposed conveyance, except as otherwise provided by law or by administrative order.

3.06. Costs of Administering the Covenant to Be Paid by Owner. The Department has already incurred and will in the future incur costs associated with this Covenant. Therefore, the Covenantor hereby covenants for the Covenantor and for all subsequent Owners that, pursuant to California Code of Regulations, title 22, section 67391.1(h), the Owner agrees to pay the Department's costs in administering, implementing and enforcing this Covenant.

ARTICLE IV
RESTRICTIONS AND REQUIREMENTS

4.01. Prohibited Uses. The Property shall not be used for any of the following purposes without prior written approval by the Department pursuant to Health and Safety Code section 25227 and prior written notice to U.S. EPA :

(a) A residence, including single or multifamily housing, mobile homes, or factory-built housing constructed or installed for use as residential human habitation.

(b) A hospital for humans.

(c) A public or private school for persons under 18 years of age.

(d) A day care center or a playground for children.

4.02. Soil Management. Soil management activities at the Capped Property are subject to the following requirements in addition to any other applicable Environmental Restrictions:

(a) No activities that will disturb the soil at or below grade or below concrete (e.g., excavation, grading, removal, trenching, filling, earth movement, mining, or drilling) shall be allowed at the Property without a Soil Management Plan pre-approved by the Department and U.S. EPA in writing.

(b) Any soil brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law.

4.03. Prohibited Activities. The following activities shall not be conducted at the Property:

(a) Drilling for any water, oil, or gas without prior written approval by the Department.

(b) Extraction or removal of groundwater without a Groundwater Management Plan pre-approved by the Department in writing.

(c) Activity that may alter, interfere with, or otherwise affect the integrity or effectiveness of, or the access to, monitoring, operation or maintenance of the concrete cover at the Capped Property without prior written approval of the Department and U.S. EPA.

4.04. Written Notice of Covenant. Prior to any sale, lease, or rental of any portion of the Property, the Owner shall provide a copy of this Covenant to the buyer, lessee, or renter to ensure that the buyer, lessee, or renter is on notice of the restrictions and requirements of this Covenant. Prior to recordation of any easement on any portion of the Property, the Owner shall provide a copy of this Covenant to the easement holder to ensure that the easement holder is on notice of the restrictions and requirements of this Covenant. Covenantor shall also provide a copy of this Covenant to all existing Occupants and easement holders of record within 30 days of recording this Covenant.

4.05. Access for Department. The Department shall have reasonable right of entry and access to the Property for inspection, investigation, remediation, monitoring, and other activities as deemed necessary by the Department in order to protect human health or safety or the environment. Nothing in this instrument shall limit or otherwise affect the Department's right of entry and access, or authority to take response actions, under any applicable State Law.

4.06. Access for U.S EPA. The U.S. EPA shall have reasonable right of entry and access to the Property for inspection, investigation, remediation, monitoring, and other activities as deemed necessary by the U.S. EPA in order to protect human health or safety or the environment. Nothing in this instrument shall limit or otherwise affect U.S. EPA's right of entry and access, or U.S. EPA's authority to take actions, under any applicable law.

4.07. Access for Implementing Operation and Maintenance. The entity or person responsible for implementing the operation and maintenance activities, if any, shall have reasonable right of entry and access to the Property for the purpose of implementing such operation and maintenance activities until the Department determines that no further operation and maintenance activity is required.

4.08. Inspection and Reporting Requirements. The Owner shall conduct an annual inspection of the Property verifying compliance with this Covenant; shall submit an annual inspection report to the Department for its approval by January 15th of each year; and also send a copy to U.S. EPA. Attached as Exhibit F is a sample format for an annual inspection report. The annual inspection report must include the dates, times, and names of those who conducted the inspection and reviewed the annual inspection report. It also shall describe how the observations that were the basis for the statements and conclusions in the annual inspection report were performed (e.g., drive by, fly over, walk in, etc.). If any violation is noted, the annual inspection report must detail the steps taken to correct the violation and return to compliance. If the Owner identifies any violations of this Covenant during the annual inspection or at any other

time, the Owner must within 10 calendar days of identifying the violation: (a) determine the identity of the party in violation; (b) send a letter advising the party of the violation of the Covenant; and (c) demand that the violation cease immediately. Additionally, a copy of any correspondence related to the violation of this Covenant shall be sent to the Department and U.S. EPA within 10 calendar days of its original transmission.

4.09. Five-Year Review. In addition to the annual reviews noted above, after a period of five (5) years from January 15, 2021 and every five (5) years thereafter, Owner shall submit a Five-Year Review report documenting its review of the remedy implemented and its evaluation to determine if human health and the environment are being adequately protected by the remedy as implemented. The Owner shall submit this report to DTSC, and submit a copy to U.S. EPA. The report shall describe the results of all inspections, sampling analyses, tests and other data generated or received by Owner and evaluate the adequacy of the implemented remedy in protecting human health and the environment. As a result of any review work performed, Department may require Owner to perform additional review work or modify the review work previously performed by Owner.

4.10. Changes to Use or Condition of Property. Any changes to land use, movement of PCB contaminated soils, or discovery of new contamination requires notification to, and may require additional approval from, the U.S. EPA by the Owner and/or Occupant.

4.11. Access for Five-Year Reviews. The entity, person or persons responsible for Five-Year Reviews shall have reasonable right of entry and access to the Property for the purpose of implementing these activities. Such right of entry and access shall continue until such time as the U.S. EPA and DTSC both determine that no further Five-Year Review activities are required.

ARTICLE V
ENFORCEMENT

5.01. Enforcement. Failure of the Owner or Occupant to comply with this Covenant shall be grounds for the Department to require modification or removal of any Improvements constructed or placed upon any portion of the Property in violation of this

Covenant. Violation of this Covenant, such as failure to submit (including submission of any false statement) record or report to the Department, shall be grounds for the Department to pursue administrative, civil, or criminal actions, as provided by law.

5.02. Enforcement Rights of U.S. EPA as Third-Party Beneficiary. U.S. EPA, as a third-party beneficiary, has the right to enforce the Environmental Restrictions contained herein.

ARTICLE VI
VARIANCE, REMOVAL AND TERM

6.01. Variance from Environmental Restrictions. Any person may apply to the Department for a written variance from any of the Environmental Restrictions imposed by this Covenant. Such application shall be made in accordance with Health and Safety Code section 25223. A copy of the application shall be submitted to the U.S. EPA simultaneously with the application submitted to the Department. No variance may be granted under this paragraph without prior notice and opportunity to comment by U.S. EPA.

6.02 Termination, Modification, and/or Removal of Environmental Restrictions. Any person may apply to the Department to terminate, modify, and/or remove any or all of the Environmental Restrictions imposed by this Covenant or terminate the Covenant in its entirety. Such application shall be made in accordance with Health and Safety Code section 25224 and a copy of the application shall be submitted to U.S. EPA simultaneously with the application submitted to the Department. No termination may be granted under this paragraph without prior notice to and opportunity to comment by U.S. EPA.

6.03 Term. Unless ended in accordance with paragraph 6.02, by law, or by the Department in the exercise of its discretion, this Covenant, after providing notice to and an opportunity to comment by U.S. EPA, shall continue in effect in perpetuity.

ARTICLE VII
MISCELLANEOUS

7.01. No Dedication Intended. Nothing set forth in this Covenant shall be

construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof, to the general public or anyone else for any purpose whatsoever.

7.02. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of Riverside within 10 calendar days of the Covenantor's receipt of a fully executed original. The Covenantor shall also provide copies showing the County Recorder's tracking information of its recording (i.e., document number or book and page number information) to the Department and U.S. EPA within ten (10) days of receiving it from the County Recorder's Office.

7.03. Notices. Whenever any person gives or serves any Notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (a) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served; or (b) five calendar days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:
Mark Willett, General Manager
Clow Valve Company
1375 Magnolia Avenue
Corona, California 91719
And

To Department:
A. Edward Morelan, Chief
Cypress Cleanup Branch
Site Mitigation and Restoration Program
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

To U.S. EPA:
U.S. Environmental Protection Agency
Region IX
Attention**:** PCB Coordinator (Land Chemicals and Redevelopment Division)
75 Hawthorne Street
San Francisco, CA 94105-3901

Any party may change its address or the individual to whose attention a Notice is to be

sent by giving advance written Notice in compliance with this paragraph.

7.04. Partial Invalidity. If this Covenant or any of its terms are determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

7.05. Statutory References. All statutory or regulatory references include successor provisions.

7.06. Incorporation of Exhibits. All exhibits and attachments to this Covenant are incorporated herein by reference.

IN WITNESS WHEREOF, the Covenantor and the Department hereby execute this Covenant.

Covenantor: Clow Valve Company

By: _____ Date: _____

Name and Title: Mark Willett, General Manager

Department of Toxic Substances Control:

By: _____ Date: _____

Name and Title: A. Edward Morelan, Chief
Cypress Cleanup Branch
Site Mitigation and Restoration Program

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____

On _____ before me,

_____

(space above this line is for name and title of the officer/notary),

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,

_____ (seal)

Signature of Notary Public

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____

On _____ before me,

_____

(space above this line is for name and title of the officer/notary),

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,

_____ (seal)

Signature of Notary Public

Exhibit A – “Legal Description” – APN 107-030-022-3

Exhibit B – “Plot Plan” - APN 107-030-022-3

Exhibit C – “Capped Property” - Legal Description

Exhibit D – ”Capped Property” - Sketch

Exhibit E – “LUC Sample Annual inspection Report”

EXHIBIT “A”

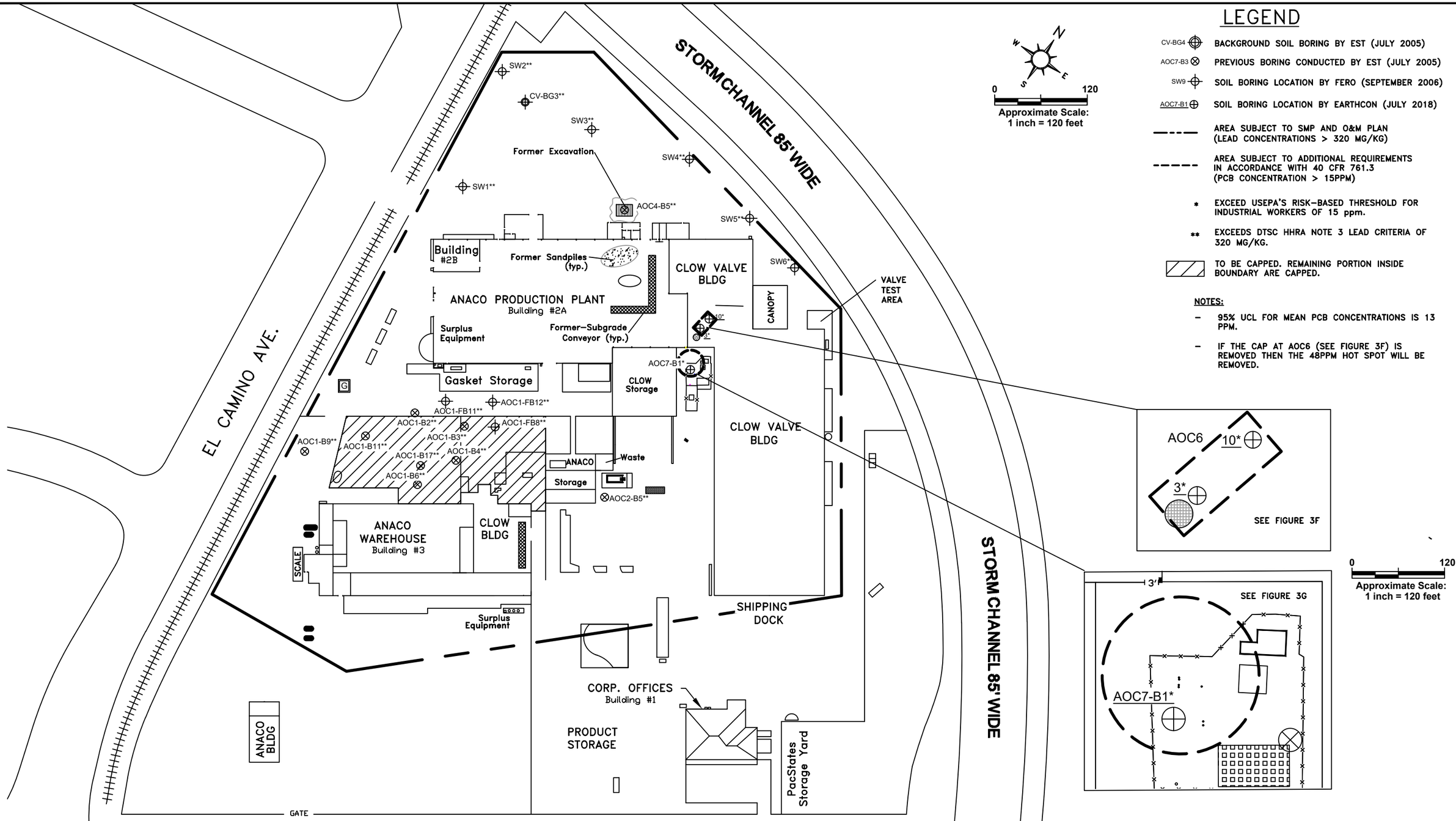
LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF CORONA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 3 SOUTH, RANGE 6 WEST, AS SHOWN BY SECTIONALIZED SURVEY OF THE RANCHO EL SOBRANTE DE SAN JACINTO AND OF LOT 13 IN BLOCK 63 OF THE LANDS OF THE RIVERSIDE LAND AND IRRIGATING COMPANY, AS SHOWN BY MAP ON FILE IN BOOK 1 PAGE 70 OF MAPS, SAN BERNARDINO COUNTY RECORDS, BOUNDED AS FOLLOWS: ON THE SOUTHEAST BY THE SOUTHWESTERLY EXTENSION OF THE NORTHWEST LINE OF MAGNOLIA AVENUE, AS SHOWN ON RECORD OF SURVEY ENTITLED "RECORD OF SURVEY OF A PORTION OF LOTS 11, 12, 13, 14, 15, IN BLOCK 63 OF RIVERSIDE LAND AND IRRIGATING COMPANY AND A PORTION OF SECTIONS 29 AND 32, TOWNSHIP 3 SOUTH, RANGE 6 WEST, SAN BERNARDINO BASE AND MERIDIAN" ON FILE IN BOOK 20, PAGE 3 OF RECORDS OF SURVEY, RIVERSIDE COUNTY RECORDS; ON THE WEST BY THE EASTERLY LINE OF THE PORPHYRY SPUR OF THE ATCHISON, TOPEKA, AND SANTA FE RAILWAY COMPANY; AND ON THE NORTHEAST BY THE SOUTHERLY AND SOUTHWESTERLY LINE OF PARCELS 5 TO 11, INCLUSIVE, OF SAID RECORD OF SURVEY ON FILE IN BOOK 20, PAGE 3 OF RECORDS OF SURVEY, RIVERSIDE COUNTY RECORDS.

EXCEPTING THEREFROM THAT PORTION GRANTED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER DISTRICT CONSERVATION DISTRICT BY DEED RECORDED OCTOBER 22, 1984 AS INSTRUMENT NO. 84-227367 AND RE-RECORDED FEBRUARY 11, 1985 AS INSTRUMENT NO. 85-028214 BOTH OF OFFICIAL RECORDS.

APN: 107-030-022-3



LEGEND

- CV-BG4 ⊕ BACKGROUND SOIL BORING BY EST (JULY 2005)
- AOC7-B3 ⊗ PREVIOUS BORING CONDUCTED BY EST (JULY 2005)
- SW9 ⊕ SOIL BORING LOCATION BY FERO (SEPTEMBER 2006)
- AOC7-B1 ⊕ SOIL BORING LOCATION BY EARTHCON (JULY 2018)
- AREA SUBJECT TO SMP AND O&M PLAN (LEAD CONCENTRATIONS > 320 MG/KG)
- AREA SUBJECT TO ADDITIONAL REQUIREMENTS IN ACCORDANCE WITH 40 CFR 761.3 (PCB CONCENTRATION > 15PPM)
- * EXCEED USEPA'S RISK-BASED THRESHOLD FOR INDUSTRIAL WORKERS OF 15 ppm.
- ** EXCEEDS DTSC HHRA NOTE 3 LEAD CRITERIA OF 320 MG/KG.
- TO BE CAPPED. REMAINING PORTION INSIDE BOUNDARY ARE CAPPED.

NOTES:

- 95% UCL FOR MEAN PCB CONCENTRATIONS IS 13 PPM.
- IF THE CAP AT AOC6 (SEE FIGURE 3F) IS REMOVED THEN THE 48PPM HOT SPOT WILL BE REMOVED.

CLOW VALVE
1375 MAGNOLIA AVENUE
CORONA, CA 92879

PROJECT NO. 04.20150013.00

EARTHCON®
EARTHCON CONSULTANTS CA, INC
1500 SOUTH SUNKIST STREET, SUITE D, ANAHEIM, CA 92806

LUC Exhibit B
SITE PLAN WITH AREAS SUBJECT TO THE LAND USE COVENANT

DRAWN:	CHECKED:	DATE:	FIGURE:
AB	JB	05/12/21	4A

FILENAME: S:\Common\DrangeCADProjects\04.20150013.00-Clow Valve\CAD 2019\SP 05-12-21_F4.dwg (Subject area) 05/20/21 1314 - abasford

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EXHIBIT "C"

LEGAL DESCRIPTION

Portion of APN 107-030-022

BEING IN THE CITY OF CORONA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA. THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 3 SOUTH, RANGE 6 WEST, AS SHOWN BY SECTIONIZED SURVEY OF THE RANCHO EL SOBRANTE DE SAN JACINTO AND OF LOT 13 IN BLOCK 63 OF THE LANDS OF THE RIVERSIDE LAND AND IRRIGATION COMPANY, AS SHOWN ON MAP FILED IN BOOK 1 PAGE 70 OF MAPS, SAN BERNARDINO COUNTY RECORDS, DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE CENTERLINE OF COMPTON AVENUE (ALSO KNOWN AS EL CAMINO AVENUE) AND THE CENTERLINE OF TEMESCAL CREEK CHANNEL AS SHOWN ON RECORD OF SURVEY FILED IN BOOK 71, PAGES 7 THROUGH 11, INCLUSIVE, OF RECORDS OF SURVEY IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, THENCE, SOUTHEASTERLY ALONG THE CENTERLINE OF SAID TEMESCAL CREEK CHANNEL, SOUTH 79°49'49" EAST (SHOWN AS S79°48'46" EAST ON SAID RECORD OF SURVEY), 477.06 FEET; THENCE, LEAVING SAID CENTERLINE, SOUTH 10°22'04" WEST, 84.25 FEET TO THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION; THENCE, NORTH 79°37'56" WEST, 269.59 FEET; THENCE, SOUTH 56°04'15" WEST, 116.07 FEET TO A POINT ON THE EASTERLY LINE OF A.T.&S.F. RAILROAD RIGHT OF WAY AS SHOWN ON SAID RECORD OF SURVEY; THENCE, SOUTHERLY ALONG SAID EASTERLY RIGHT OF WAY LINE, SOUTH 05°28'23" EAST, 800.61 FEET; THENCE, LEAVING SAID EASTERLY RIGHT OF WAY, NORTH 83°44'45" EAST, 203.93 FEET; THENCE, NORTH 47° 08'29" EAST, 630.00 FEET; THENCE, NORTH 34°06'13" WEST, 404.00 FEET; THENCE, NORTH 79°37'56" WEST, 155.41 FEET TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH TWO AREAS WITHIN THE ABOVE DESCRIBED EASEMENT, THE FIRST BEING DESCRIBED AS FOLLOWS: AREA 1, COMMENCING AT THE INTERSECTION OF THE CENTERLINE OF COMPTON AVENUE (ALSO KNOWN AS EL CAMINO AVENUE) AND THE CENTERLINE OF TEMESCAL CREEK CHANNEL AS SHOWN ON RECORD OF SURVEY FILED IN BOOK 71, PAGES 7 THROUGH 11, INCLUSIVE, OF RECORDS OF SURVEY IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, THENCE, SOUTHEASTERLY ALONG THE CENTERLINE OF SAID TEMESCAL CREEK CHANNEL, SOUTH 79°49'49" EAST (SHOWN AS S79°48'46" EAST ON SAID RECORD OF SURVEY), 477.06 FEET; THENCE, LEAVING SAID CENTERLINE, SOUTH 10°22'04" WEST, 214.25 FEET; THENCE, SOUTH 79°49'49" EAST, 75.15 FEET TO THE TRUE POINT OF BEGINNING FOR SAID AREA 1; THENCE, SOUTH 79°49'49" EAST, 30.00 FEET; THENCE, SOUTH 10°10'11" WEST, 30.00 FEET; THENCE, NORTH 79°49'49" WEST, 30.00 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "A"; THENCE, NORTH 10°10'11" EAST, 30.00 FEET TO THE TRUE POINT OF BEGINNING FOR SAID AREA 1.

EXHIBIT "C"
LEGAL DESCRIPTION
(Continued)

AREA 2, COMMENCING AT THE POINT HEREINBEFORE REFERRED TO AS POINT "A", THENCE, SOUTH 10°10'11" WEST, 13.15 FEET TO THE TRUE POINT OF BEGINNING FOR SAID AREA 2; THENCE, SOUTH 10°10'11" WEST, 60.00 FEET; THENCE, SOUTH 79°49'49" EAST, 60.00 FEET; THENCE, NORTH 10°10'11" EAST, 60.00 FEET; THENCE, NORTH 79°49'49" WEST, 60.00 FEET TO THE TRUE POINT OF BEGINNING FOR SAID AREA 2.

THE ABOVE DESCRIBED GROSS AREA EASEMENT CONTAINS 422,249 SQ.FT., 9.694 ACRES MORE OR LESS.

THE ABOVE DESCRIBED AREA 1 CONTAINS 900 SQ.FT., 0.021 ACRES MORE OR LESS.

THE ABOVE DESCRIBED AREA 2 CONTAINS 3,600 SQ.FT., 0.083 ACRES MORE OR LESS.

As shown on Exhibit "B" attached hereto and by this reference made a part hereof.

Prepared by:

Douglas Boynton, PLS4787
(562) 426-6464
March 17, 2020

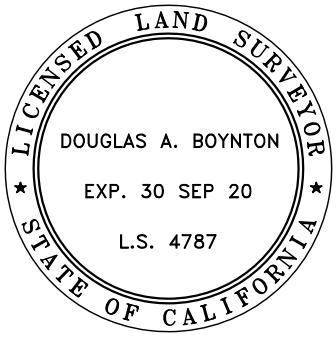
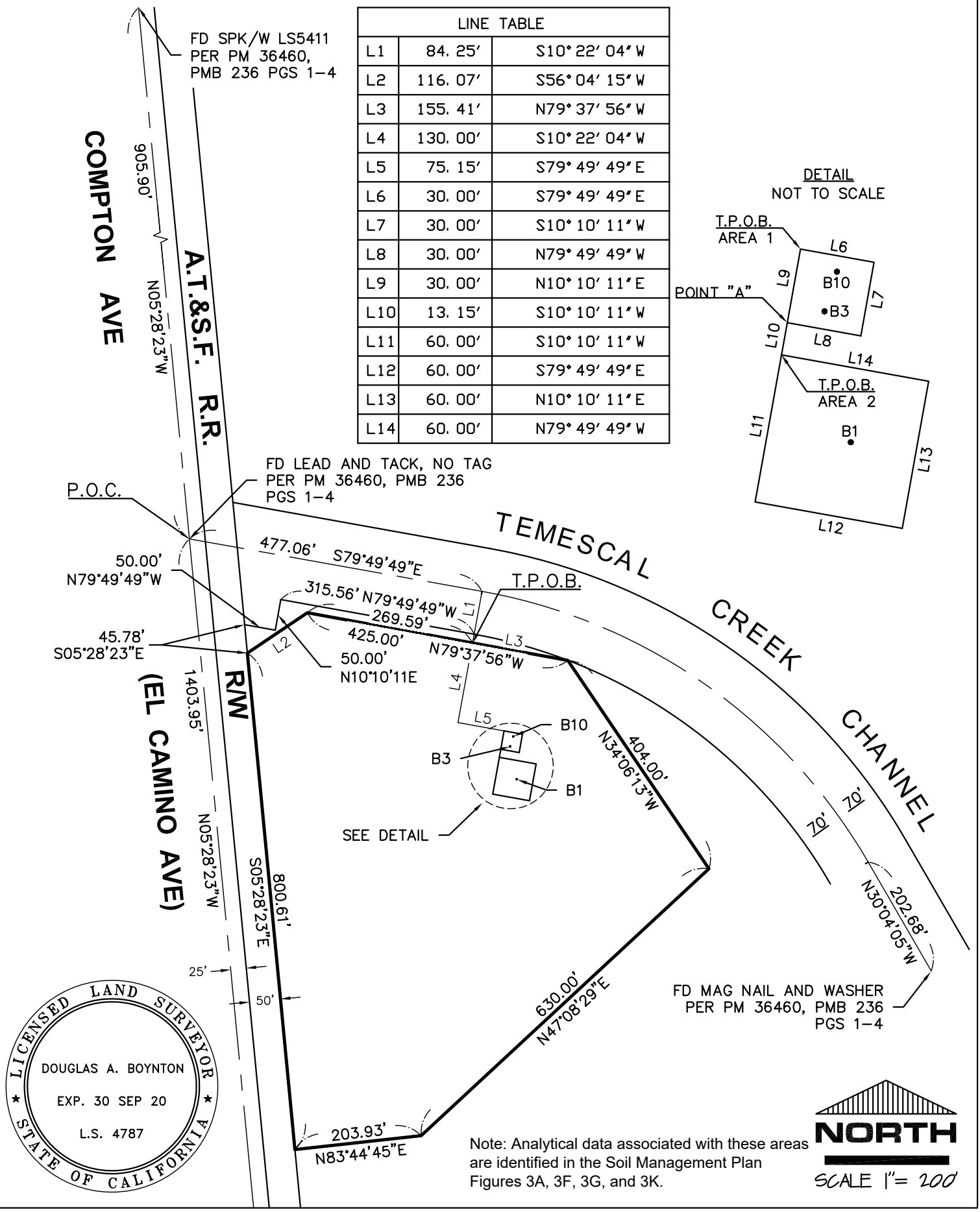


EXHIBIT "D"

Sketch to accompany Legal Description



LINE TABLE		
L1	84. 25'	S10° 22' 04" W
L2	116. 07'	S56° 04' 15" W
L3	155. 41'	N79° 37' 56" W
L4	130. 00'	S10° 22' 04" W
L5	75. 15'	S79° 49' 49" E
L6	30. 00'	S79° 49' 49" E
L7	30. 00'	S10° 10' 11" W
L8	30. 00'	N79° 49' 49" W
L9	30. 00'	N10° 10' 11" E
L10	13. 15'	S10° 10' 11" W
L11	60. 00'	S10° 10' 11" W
L12	60. 00'	S79° 49' 49" E
L13	60. 00'	N10° 10' 11" E
L14	60. 00'	N79° 49' 49" W

LICENSED LAND SURVEYOR
DOUGLAS A. BOYNTON
EXP. 30 SEP 20
L.S. 4787
STATE OF CALIFORNIA

Note: Analytical data associated with these areas are identified in the Soil Management Plan Figures 3A, 3F, 3G, and 3K.

NORTH

SCALE 1"= 200'

EXHIBIT E

LAND USE COVENANT
SAMPLE ANNUAL INSPECTION REPORT (2 Pages)

Site name:

Site address:

Current Site owner:

Date and times of inspection:

Name(s) of individual(s) who performed inspection:

How inspection observations were made (e.g. drive-by, fly-over, walking the Property):

1. Since the last annual inspection, has there been a change in the land use, such that there are now residences, a hospital for humans, a public or private school for persons under 21 years of age, or a day care center for children on the restricted Property?
   ☐ Yes ☐ No ☐ Not an applicable restriction

2. Since the last annual inspection, has the soil been disturbed on the restricted Property? Was evidence of soil disturbance observed on the restricted Property during the inspection?
   ☐ Yes ☐ No ☐ Not an applicable restriction

3. Since the last annual inspection, has there been any drilling on the restricted Property? Was evidence of drilling observed on the restricted Property during the inspection?
   ☐ Yes ☐ No ☐ Not an applicable restriction

Cap Condition

4. Since the last annual inspection, has there been any damage to, disturbance of, or modifications to the existing building foundation and/or surrounding pavement that serves as the cap over contaminated soil?
   ☐ Yes ☐ No

5. Has there been any damage to, disturbance of, or modifications to the asphalt/concrete Cap covering the restricted Property?
   ☐ Yes ☐ No

Land Use Covenant Compliance

6. Has there been a change in the land use of the property from commercial/industrial?
   ☐ Yes ☐ No

If the response to any of the above questions is yes, describe the circumstances.

Photos should be attached to this report that show the use of the Restricted Property at the time of the inspection and the condition of any Caps on the restricted Property. Photos showing any cracks in or damage to the Cap should also be included.

I certify under penalty of law that this document and all attachments were prepared by me or under my direction or supervision. With the exception of any areas of non-compliance noted above, all uses and activities on the restricted Property were found to be in compliance with the restrictions and requirements of the Land Use Covenant. Based on my personal knowledge or inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

_____ _____

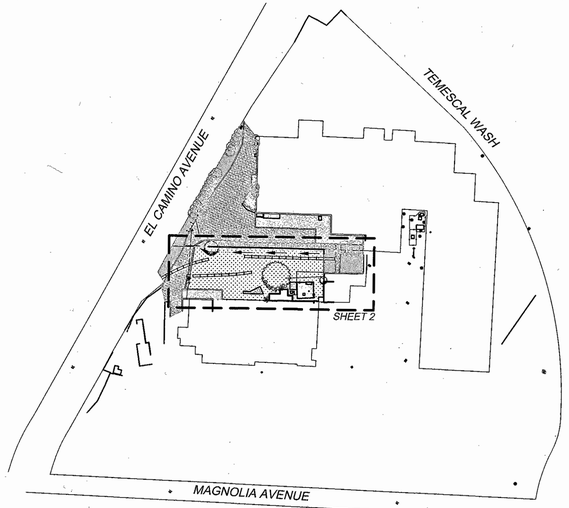
Signature of Property Owner or Representative Date

_____ _____

Print Name Title

APPENDIX D

CITY OF CORONA
PRECISE GRADING PLAN
1375 MAGNOLIA AVENUE



INDEX MAP

150 0 150 300 450

SCALE 1" = 150'

GRADING GENERAL NOTES

1. A GRADING PERMIT FROM THE PUBLIC WORKS DEPARTMENT IS REQUIRED. ALL GRADING SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF CORONA GRADING REGULATIONS– CORONA MUNICIPAL CODE 15.36, THESE PLANS, SPECIAL INSTRUCTIONS ON THE PERMIT, AND THE GEOTECHNICAL INVESTIGATION AND LIQUEFACTION EVALUATION DATED SEPTEMBER 10, 2019 BY GEOTECHNICAL PROFESSIONALS INC., AND ALL SUBSEQUENT ADDENDA.
2. SOURCE OF TOPOGRAPHY IS BASED ON FIELD SURVEY DATED SEPTEMBER 23, 2018.
3. A PRE–GRADING MEETING AT THE SITE IS REQUIRED BETWEEN THE CITY INSPECTOR, THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE GRADING CONTRACTOR. CALL THE PUBLIC WORKS DEPARTMENT INSPECTION DIVISION AT (951) 279–3511 TO SCHEDULE A PRE–GRADING MEETING AT LEAST 48 HOURS PRIOR TO START OF ANY WORK.
4. HOURS OF OPERATION ARE 7:00 A.M. TO 5:00 P.M. – MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.
5. SEPARATE PERMITS SHALL BE REQUIRED FOR ANY IMPROVEMENT WORK IN THE PUBLIC RIGHT–OF–WAY.
6. CONSTRUCTION MATERIAL AND EQUIPMENT SHALL NOT OCCUPY ANY PORTION OF THE PUBLIC RIGHT–OF–WAY, SUCH AS STREET, ALLEY OR PUBLIC SIDEWALK AT ANY TIME, TEMPORARY USE OF PUBLIC RIGHT–OF–WAY, WHENEVER REQUESTED, MUST BE REVIEWED AND APPROVED BY THE PUBLIC WORKS DIRECTOR.
7. REPAIR OR REPLACE ALL EXISTING DAMAGED OR ALTERED PUBLIC IMPROVEMENTS AS REQUIRED BY THE PUBLIC WORKS DIRECTOR.
8. ALL SURVEY MONUMENTS SHALL BE PROTECTED AND PERPETUATED IN PLACE. ANY DISTURBED OR COVERED MONUMENTS SHALL BE RESET BY A QUALIFIED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
9. PRIOR TO TAKING WATER FROM A CITY FIRE HYDRANT, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE PUBLIC WORKS DEPARTMENT TO OBTAIN A FIRE HYDRANT WATER METER. METER LOCATION MAY NOT BE ALTERED WITHOUT DEPARTMENT OF WATER AND POWER APPROVAL.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES OR STRUCTURES ABOVE OR BELOW GROUND, SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE TO ANY UTILITIES OR STRUCTURES CAUSED BY HIS OPERATION.
11. STRICT ADHERENCE TO DUST CONTROL REQUIREMENTS SHALL BE ENFORCED. ADJACENT STREETS ARE TO BE CLEANED DAILY OF ALL DIRT AND DEBRIS RESULTING FROM THIS OPERATION.
12. SEPARATE PERMITS FROM THE BUILDING DIVISION SHALL BE REQUIRED FOR ALL WALLS.
13. AN APPROVED PRECISE GRADING PLAN WILL BE REQUIRED PRIOR TO A BUILDING PERMIT BEING ISSUED.
14. THE DESIGN CIVIL ENGINEER/GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST OF RECORD SHALL EXERCISE SUFFICIENT CONTROL DURING GRADING AND CONSTRUCTION TO ENSURE COMPLIANCE WITH THE PLANS, SPECIFICATIONS, AND CODE REQUIREMENTS WITHIN THEIR PURVIEW. THE ENGINEERS SHALL SUBMIT "ACKNOWLEDGMENT CONCERNING EMPLOYMENT" FORM TO THE CITY PRIOR TO THE ISSUANCE OF A GRADING PERMIT.
15. REVISIONS TO THE PLANS ARE TO BE SUBMITTED TO THE PUBLIC WORKS' DIRECTOR FOR REVIEW AND APPROVAL PRIOR TO CHANGING ORIGINAL MYLARS.
16. THE CIVIL ENGINEER SHALL SUBMIT WRITTEN CERTIFICATION OF COMPLETION OF ROUGH GRADING IN ACCORDANCE WITH THE APPROVED GRADING PLAN AND CERTIFICATION OF BUILDING PAD ELEVATION PRIOR TO ISSUANCE OF THE BUILDING PERMIT. PAD ELEVATION GRADING TOLERANCE SHALL NOT EXCEED ±0.10'.
17. AN "AS–BUILT" GRADING PLAN SHALL BE SUBMITTED AT THE COMPLETION OF WORK SHOWING ALL WATER QUALITY MANAGEMENT PLAN FACILITIES.
18. GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER WHO SHALL CERTIFY THAT ALL FILL HAS BEEN PROPERLY PLACED AND SUBMIT A FINAL COMPACTION REPORT FOR ALL FILLS OVER 1' DEEP.
19. THE GEOTECHNICAL ENGINEER SHALL, AFTER CLEARING AND PRIOR TO THE PLACEMENT OF FILL IN CANYONS, INSPECT EACH CANYON FOR AREAS OF ADVERSE STABILITY AND TO DETERMINE THE PRESENCE OR ABSENCE OF SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, DRAINS WILL BE DESIGNED AND CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN EACH RESPECTIVE CANYON.
20. FILL AREAS SHALL BE CLEANED OF ALL VEGETATION AND DEBRIS, SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACING OF FILL.
21. ALL DELETERIOUS MATERIALS, I.E., LUMBER, LOGS, BRUSH, OR ANY OTHER ORGANIC MATERIALS OR RUBBISH SHALL BE REMOVED FROM ALL AREAS TO RECEIVE COMPACTED FILL.
22. UNSUITABLE MATERIALS, SUCH AS TOPSOIL, WEATHERED BEDROCK, ETC., SHALL BE REMOVED AS REQUIRED BY GEOTECHNICAL ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM ALL AREAS TO RECEIVE COMPACTED FILL OR DRAINAGE STRUCTURES.
23. FILLS SHALL BE BENCHED INTO COMPETENT MATERIAL.
24. WHEN CUT PADS ARE BROUGHT TO NEAR GRADE, THE GEOTECHNICAL ENGINEER SHALL DETERMINE IF THE BEDROCK IS EXTENSIVELY FRACTURED OR FAULTED AND WILL READILY TRANSMIT WATER. IF CONSIDERED NECESSARY BY THE GEOTECHNICAL ENGINEER, A COMPACTED FILL BLANKET WILL BE PLACED.
25. WHERE SUPPORT OR BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE GEOTECHNICAL ENGINEER, THE GEOTECHNICAL ENGINEER SHALL SUBMIT DESIGN, LOCATIONS AND CALCULATIONS TO THE PUBLIC WORKS DIRECTOR PRIOR TO CONSTRUCTION. THE GEOTECHNICAL ENGINEER WILL INSPECT AND CONTROL THE CONSTRUCTION OF THE BUTTRESSING AND CERTIFY TO THE STABILITY OF THE SLOPE AND ADJACENT STRUCTURES UPON COMPLETION.
26. ALL CUT SLOPES SHALL BE INVESTIGATED, BOTH DURING AND AFTER GRADING BY THE GEOTECHNICAL ENGINEER, TO DETERMINE IF ANY SLOPE HAS STABILITY PROBLEMS. SHOULD EXCAVATION DISCLOSE ANY GEOLOGICAL HAZARDS, THE GEOTECHNICAL ENGINEER SHALL RECOMMEND NECESSARY TREATMENT TO THE PUBLIC WORKS DIRECTOR FOR APPROVAL. ALL APPROVALS TO BE GRANTED ON THE BASIS OF DETAILED GEOLOGICAL MAPPING AND WRITTEN RECOMMENDATION FROM THE GEOTECHNICAL ENGINEER.
27. MAXIMUM ALLOWABLE CUT AND FILL SLOPES ARE 2 TO 1 OR 30' IN HEIGHT WITHOUT APPROVAL OF THE PUBLIC WORKS DIRECTOR. IF PROPOSED CUT AND FILL SLOPES ARE STEEPER THAN 2:1 OR OVER 30' IN HEIGHT, STABILITY CALCULATIONS WITH A SAFETY FACTOR OF AT LEAST ONE AND FIVE TENTHS (1.5) SHALL BE SUBMITTED BY A GEOTECHNICAL ENGINEER FOR APPROVAL FROM THE PUBLIC WORKS DIRECTOR.
28. PROVIDE 4' WIDE BY 1' HIGH BERM OR EQUIVALENT ALONG THE TOP OF ALL FILL SLOPES OVER 5' HIGH, EXCEPT WHERE SHOWN OTHERWISE ON THE PLANS.
29. ALL SLOPES ADJACENT TO PUBLIC RIGHT–OF–WAY SHALL CONFORM TO SECTION 15.36.220 OF THE CORONA MUNICIPAL CODE.
30. ALL SLOPES 4' OR HIGHER SHALL BE PLANTED AND COMPLY WITH REQUIREMENTS OF CHAPTER 17 OF THE CORONA MUNICIPAL CODE.
31. TERRACE DRAINS, INTERCEPTOR DRAINS AND DOWN DRAINS SHALL BE CONSTRUCTED OF 4" P.C.C. (OR GUNITE) REINFORCED WITH 6"x6" –2 1.4x1.4 W.W.M. REBAR SHALL BE GRADE 60 BILLET STEEL CONFORMING TO ASTM A615.
32. ALL CONCRETE STRUCTURES THAT COME IN CONTACT WITH THE ON–SITE SOILS SHALL BE CONSTRUCTED WITH TYPE II OR V CEMENT AS DEEMED NECESSARY BY SOLUBLE SULFATE CONTENT TEST CONDUCTED BY THE GEOTECHNICAL ENGINEER. ALL CONCRETE SHALL BE CITY STANDARD 560–C–3250 (600–E 3250 FOR GUNITE) PER CITY STANDARD SPECIFICATIONS.
33. GROUND SHALL BE PRE–WETTED PRIOR TO THE PLACEMENT OF CONCRETE. MOISTURE LOSS RETARDANT SHALL BE USED WHEN REQUIRED BY THE GEOTECHNICAL ENGINEER OR PUBLIC WORKS DIRECTOR.
34. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER FROM RESPONSIBILITY FOR THE CORRECTION OF ERROR AND/OR OMISSION DISCOVERED DURING CONSTRUCTION. UPON REQUEST, THE REQUIRED PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE PUBLIC WORKS DIRECTOR FOR APPROVAL.

POST CONSTRUCTION BMP GENERAL NOTES:

1. THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMPS) FOR POST CONSTRUCTION STORM WATER TREATMENT.
2. CONSTRUCT THE STORM WATER TREATMENT FACILITIES AFTER ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AND TO THE SATISFACTION OF THE ENGINEER OF RECORD.
3. DO NOT USE THE DEVICES AS TEMPORARY SEDIMENT CONTROL FACILITIES DURING CONSTRUCTION.
4. THE FOLLOWING BMPS HAVE BEEN DESIGNED INTO THE PLANS. PLEASE REFER TO THE PROJECT'S APPROVED WATER QUALITY MANAGEMENT PLAN (WQMP) FOR ADDITIONAL BMP's AND OPERATION AND MAINTENANCE DETAILS:

   A. BIORETENTION FACILITY AND OR ON–SITE RETENTION

NOTE:

1. A SEWER BACKFLOW PREVENTOR IS NOT REQUIRED FOR THIS PROJECT
2. WATER PRESSURE REDUCING VALVES ARE REQUIRED FOR THIS PROJECT

NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES, SHOWN OR NOT SHOWN ON THESE PLANS

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION ON THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS OR PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, THE OWNER, AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA) PH. 811, TWO (2) WORKING DAYS PRIOR TO DIGGING. NO CONSTRUCTION PERMIT ISSUED BY THE PUBLIC WORKS DEPARTMENT SHALL BE VALID INVOLVING UNDERGROUND FACILITIES UNLESS THE APPLICANT HAS AN INQUIRY IDENTIFICATION NUMBER ISSUED BY U.S.A.

CARE SHOULD BE TAKEN TO PREVENT GRADED DITCHES AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITES, THE PUBLIC WORKS DIRECTOR MAY REQUIRE TEMPORARY GUNITE SWALES, ENTERING OR LEAVING IMPROVEMENTS.

DECLARATION OF ENGINEER OF RECORD

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS SHOWN ON THESE PLANS COMPLIES WITH ALL PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER OF RECORD FOR THE PLANS, I ASSUME FULL RESPONSIBILITY FOR THE DESIGN OF THE IMPROVEMENTS. WITH RESPECT TO THE PLAN CHECK PERFORMED BY THE CITY OF CORONA, I UNDERSTAND AND ACKNOWLEDGE THE FOLLOWING: (1) THE PLAN CHECK IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THE PLANS COMPLY WITH THE CITY'S STANDARDS, PROCEDURES, POLICIES, AND ORDINANCES, (2) THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS, AND (3) THE PLAN CHECK DOES NOT RELIEVE ME OF MY LEGAL AND PROFESSIONAL RESPONSIBILITY FOR THE DESIGN OF THE IMPROVEMENTS. AS THE ENGINEER OF RECORD, I AGREE TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS ELECTED OFFICIALS, EMPLOYEES, AND AGENTS FROM ANY AND ALL ACTUAL OR ALLEGED CLAIMS, DEMANDS, CAUSES OF ACTION, LIABILITY, LOSS, DAMAGE, OR INJURY TO PROPERTY OR PERSONS, INCLUDING WRONGFUL DEATH, WHETHER IMPOSED BY A COURT OF LAW OR BY ADMINISTRATIVE ACTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENTAL AGENCY, ARISING OUT OF OR INCIDENT TO ANY NEGLIGENT ACTS, OMISSIONS, OR ERRORS BY THE ENGINEER OF RECORD, ITS EMPLOYEES, CONSULTANTS, OR AGENTS.

WILLIAM D. BROOKS, RCE 53114 — EXPIRES 6/30/21 — 3/8/2021 DATE

ENGINEER OF RECORD

GEOTECHNICAL ENGINEER'S STATEMENT

THIS PLAN HAS BEEN REVIEWED BY GEOTECHNICAL PROFESSIONALS INC. AND APPEARS TO BE IN GENERAL CONFORMANCE WITH RECOMMENDATIONS IN OUR REPORT DATED SEPTEMBER 10, 2019–PROJECT NO. 2945.1. THIS PLAN HAS BEEN REVIEWED FOR GEOTECHNICAL ASPECTS ONLY. WE MAKE NO REPRESENTATION REGARDING ACCURACY OF DIMENSIONS, QUANTITIES, MEASUREMENTS, CALCULATIONS, OR ANY PORTION OF THE DESIGN. GEOTECHNICAL CONDITIONS AND RECOMMENDATIONS SHOULD BE CONFIRMED BY THE GEOTECHNICAL CONSULTANT IN THE FIELD AT TIME OF CONSTRUCTION.

PAUL SCHADE, GEOTECHNICAL ENGINEER	RCE#	GE#2371	EXP. 9-30-22
ENGINEERING GEOLOGIST	CEG#		EXP.

REGISTERED PROFESSIONAL ENGINEER PAUL R. SCHADE No. 2371 GEOTECHNICAL STATE OF CALIFORNIA 3-7-21

DEMOLITION NOTES

		QTY	UNIT
1	REMOVE EXIST. RAIL SPUR	355	L.F.
2	REMOVE EXIST. CONCRETE PAD (6"± THICKNESS)	665	S.F.
3	REMOVE EXIST. AC PAVEMENTS (3"±)	1,075	S.F.
4	PROTECT IN PLACE EXIST. APPURTENANCE (AS LISTED)	–	–
5	REMOVE EXIST. TREE (DIA. PER PLAN)	4	EA.

CONSTRUCTION NOTES

		QTY	UNIT
10	CONSTRUCT 3.5" AC PAVEMENT OVER 12" COMPACTED (90% RC) NATIVE MATERIAL	28,410	S.F.
11	PROTECT IN PLACE	–	–
12	INSTALL 6" AC BERM PER C.O.C. STD. DWG 140	375	L.F.

LEGEND

- EXIST. PCC PAVING
- EXIST. AC PAVING
- EXIST. LANDSCAPING
- PROP. PCC PAVING
- EXIST. BUILDING
- (XX.XX) FS — EXIST. SPOT ELEVATION
- XX.XX FS — PROP. SPOT ELEVATION
- x — EXIST. FENCE
- EXIST. TREES
- WALL/RET. WALL
- 1200 — PROP. CONTOUR
- X.XX% — PROP. RATE OF GRADE
- FLOWLINE

ABBREVIATIONS

AC.	ASPHALT CONCRETE
C.O.C.	CITY OF CORONA
CONC	CONCRETE
DIA.	DIAMETER
EXIST.	EXISTING
FG	FINISH GRADE
FL OR ℄	FLOWLINE
FS	FINISH SURFACE
L.F.	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
NO.	NUMBER
PCC	PORTLAND CEMENT CONCRETE
P.I.P	PROTECT–IN–PLACE
PROP.	PROPOSED
STD.	STANDARD
TYP.	TYPICAL
TW	TOP OF WALL

BENCHMARK-CITY OF CORONA

VERTICAL DATUM NAVD88

COUNTY OF RIVERSIDE BM #601–34–69, A 2 1/2" BRASS DISK STAMPED "RIV. CO. B.M. 601–34–69 RESET 1975" SET IN TOP OF CONCRETE POST FLUSH WITH GROUND, LOCATED WMI W ALONG THE A.T.&S.F. RAILROAD LINE FROM MAY, RIV. CO., +/–48'S OF ROALROAD, +/–32' SE OF TELEGRAPH POLE #1 SSGM, +/–14' W OF THE CL PROLONGATION OF TEMESCAL ST +/–3' E OF 6' CHAIN LINK FENCE AND +/–' N OF TELEGRAPH GUY POLE WITH METER BOX

1988 ELEV=649.988 FEET NAVD88

HORIZONTAL DATUM NAD83, ZONE 6

NGS PID STATIONS AJ1887 AND AJ1896 EPOCH DATE 2000.35

ZONING DISTRICT

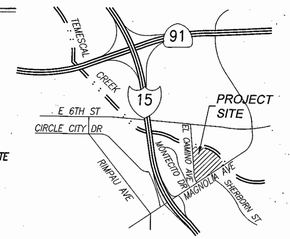
MIXED USE INDUSTRIAL/COMMERCIAL

LAND USE

EXISTING USE: BUSINESS PARK
PROPOSED USE: BUSINESS PARK

SERVICE PROVIDERS:

CORONA DEPT. OF PUBLIC WORKS	(951) 736–2261
CORONA DEPT. OF WATER & POWER	(951) 736–2321
SOUTHERN CALIFORNIA GAS	(909) 335–7733
SOUTHERN CALIFORNIA EDISON	(909) 930–8591
AT&T	(714) 666–5692
NEXTG NETWORKS	(909) 593–9700
TIME WARNER CABLE	(951) 547–3830
R.F. DICKSON STREET SWEEPING	(800) 841–7994
WESTERN WASTE	(951) 737–0343
CORONA DIAL–A–RIDE (SUPERVISOR)	(951) 734–1017
U.S. POSTAL SERVICE	(951) 737–0451
CORONA–NORCO UNIFIED SCHOOL DISTRICT	(951) 736–3340
SCHOOL DISTRICT TRANSPORTATION MANAGER	(951) 736–3305
RIVERSIDE TRANSIT AGENCY	(951) 684–0850
CORONA POLICE DEPARTMENT (FOR NOTIFICATION)	(951) 736–2330
CORONA FIRE DEPARTMENT (FOR NOTIFICATION)	(951) 736–2221
CROWN CASTLE ENG WEST (FIBER OPTIC)	(951) 736–2321



VICINITY MAP
NTS

OWNER

CLOW VALVE COMPANY
1375 MAGNOLIA AVE.
CORONA, CA 92879
888–889–2411

ENGINEER

ARMSTRONG & BROOKS CONSULTING ENGINEERS
MAILING ADDRESS:
P.O. BOX 78088
CORONA, CA 92877–9998
OFFICE LOCATION:
1350 EAST CHASE DRIVE
CORONA, CA 92881
PH. (951) 372–8400 FAX (951) 372–8430
CONTACT: WILLIAM D. BROOKS

GEOTECHNICAL ENGINEER

GEOTECHNICAL PROFESSIONALS, INC.
5736 CORPORATE AVE
CYPRESS, CA 90630
PH. (714) 220–2211
CONTACT: PAUL SCHADE, G.E.

ASSESSOR'S PARCEL NO.

107–030–022

LEGAL DESCRIPTION:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF CORONA, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 3 SOUTH, RANGE 6 WEST, AS SHOWN BY SECTIONALIZED SURVEY OF THE RANCHO EL SOBRANTE DE SAN JACINTO AND OF LOT 13 IN BLOCK 63 OF THE LANDS OF THE RIVERSIDE LAND AND IRRIGATING COMPANY, AS SHOWN BY MAP ON FILE IN BOOK 1 PAGE 70 OF MAPS, SAN BERNARDINO COUNTY RECORDS, BOUNDED AS FOLLOWS: ON THE SOUTHEAST BY THE SOUTHWESTERLY EXTENSION OF THE NORTHWEST LINE OF MAGNOLIA AVENUE, AS SHOWN ON RECORD OF SURVEY ENTITLED "RECORD OF SURVEY OF A PORTION OF LOTS 11, 12, 13, 14, 15, IN BLOCK 63 OF RIVERSIDE LAND AND IRRIGATING COMPANY AND A PORTION OF SECTIONS 29 AND 32, TOWNSHIP 3 SOUTH, RANGE 6 WEST, SAN BERNARDINO BASE AND MERIDAN" ON FILE IN BOOK 20, PAGE 3 OF RECORDS OF SURVEY, RIVERSIDE COUNTY RECORDS; ON THE WEST BY THE EASTERLY LINE OF THE PROPERTY SPUR OF THE ATCHINSON, TOPEKA, AND SANTA FE RAILWAY COMPANY; AND ON THE NORTHEAST BY THE SOUTHERLY AND SOUTHWESTERLY LINE OF PARCELS 5 TO 11, INCLUSIVE, OF SAID RECORD OF SURVEY ON FILE IN BOOK 20, PAGE 3 OF RECORDS OF SURVEY, RIVERSIDE COUNTY RECORDS.

EXCEPTING THEREFROM THAT PORTION GRANTED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER DISTRICT CONSERVATION DISTRICT BY DEED RECORDED OCTOBER 22, 1984 AS INSTRUMENT NO. 84–227367 AND RE–RECORDED FEBRUARY 11, 1985 AS INSTRUMENT NO. 85–028214 BOTH OF OFFICIAL RECORDS.

EARTHWORK QUANTITIES

NOTE: THE CONSTRUCTION QUANTITIES SHOWN ON THESE PLANS ARE FOR CITY FEE PURPOSES ONLY.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM INDIVIDUAL TAKEOFFS FOR BIDDING PURPOSES.

(PRELIMINARY QUANTITIES DO NOT INCLUDE SHRINKAGE FACTOR AND OVEREXCAVATION OVER THE SITE)

RAW CUT	582 CU. YDS.
RAW FILL	0 CU. YDS.
NET EXPORT	–582 CU. YDS.

SITE AREA

TOTAL AREA – 16.9 ACRES
DISTURBED AREA – 0.7 ACRES
TOTAL LOTS: 1
PARKING SPACES: N/A

SHEET INDEX:

REGISTERED PROFESSIONAL ENGINEER WILLIAM D. BROOKS No. 53114 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

Know what's below. Call before you dig.

ARMSTRONG & BROOKS CONSULTING ENGINEERS
PLANNING · INFRASTRUCTURE · SITE DEVELOPMENT · WATER RESOURCES
1350 EAST CHASE DRIVE · CORONA, CA 92881
MAIL: P.O. BOX 78088 CORONA, CA 92877-998
PH 951 - 372 - 8400 FX 951 - 372 - 8430

Designed by	Drawn by	Checked by
W.D.B.	R.R.T.	W.D.B.

PLANS PREPARED UNDER SUPERVISION OF WILLIAM D. BROOKS R.C.E. No. 53114 Date 3.8.2021

7020A, 05–138 D, 05–138P
90–113P, 97–56S, 1971, C–1–118
Reference Plans for these Improvements

Date	By	REVISIONS	App'd

BENCH MARK TBM ELEV.=603.80
SEE SHEET NO. 1 FOR DESCRIPTION
Scale AS SHOWN

Engineering JK MH
Planning LG
Fire

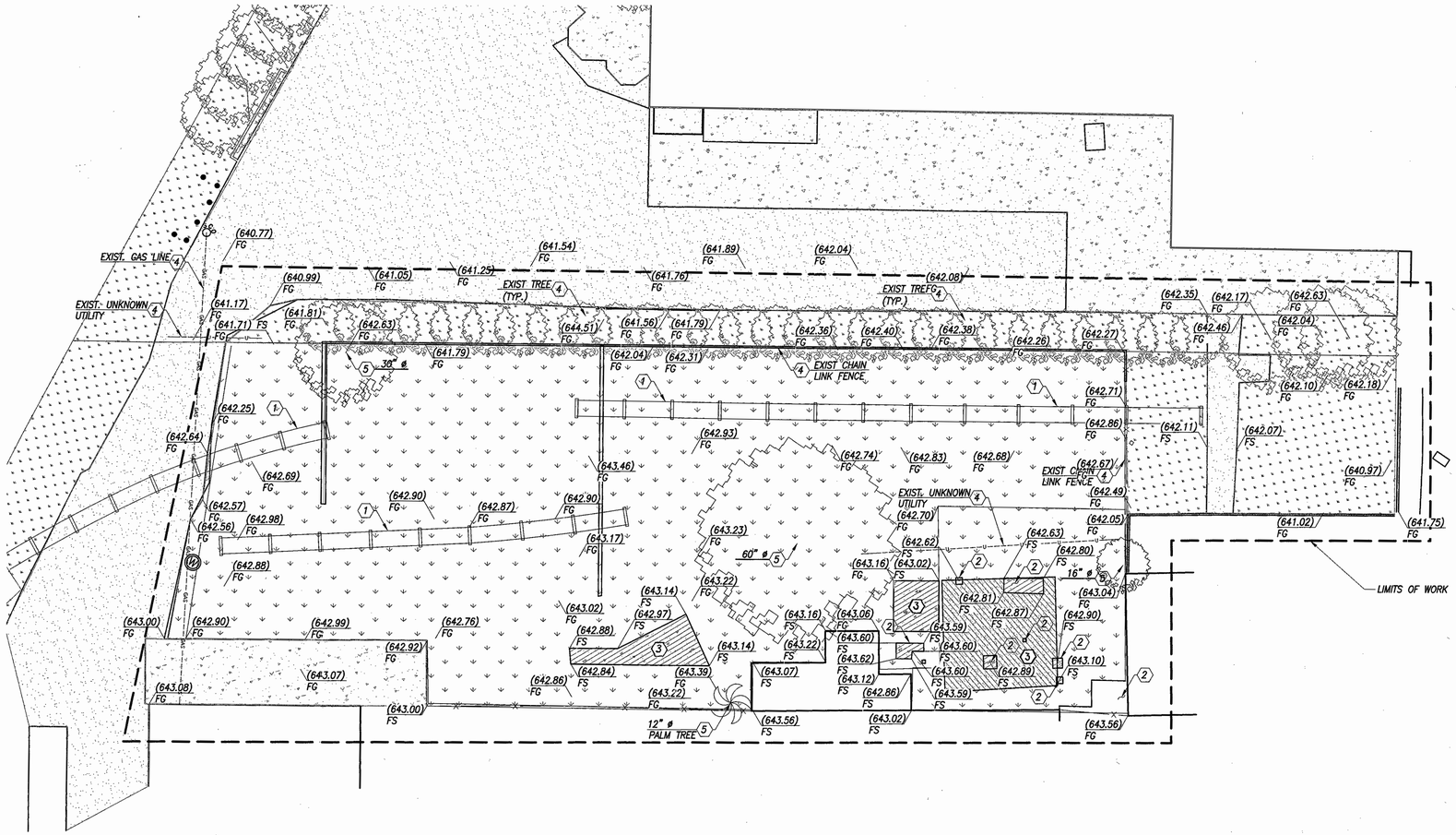
Approved By SAVAT KHAMPHOU City Engineer R.C.E. No. 62019 Date 3/11/21

CITY OF CORONA 1375 MAGNOLIA AVENUE
PRECISE GRADING & DRAINAGE PLANS-CLOW VALVE
TITLE SHEET

Drawing No. 20-026P
Sh 1 of 4

PWGR2020-0025

24" x 36"



DEMOLITION NOTES

1	REMOVE EXIST. RAIL SPUR
2	REMOVE EXIST. CONCRETE PAD (6"± THICKNESS)
3	REMOVE EXIST. AC PAVEMENTS (3"±)
4	PROTECT IN PLACE EXIST. APPURTENANCE (AS LISTED)
5	REMOVE EXIST. TREE (DIA. PER PLAN)

EXIST. PCC	
EXIST. LANDSCAPE	
EXIST. AC	
EXIST. LANDSCAPING TO BE REMOVED	
REMOVE EXIST. AC	
REMOVE EXIST. PCC	

AC	ASPHALTIC CONCRETE
EXIST	EXISTING
FG	FINISH GRADE
FS	FINISH SURFACE
PCC	PORTLAND CEMENT CONCRETE

Know what's **below.** **Call** before you dig.

REGISTERED PROFESSIONAL ENGINEER WILLIAM D. BROOKS No.C53114 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

20 0 20 40 60

SCALE 1" = 20'

PWGR2020-0025

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1350 EAST CHASE DRIVE, CORONA, CA 92881
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T: 951 - 372 - 8400 F: 951 - 372 - 8420

Designed by	Drawn by	Checked by
W.D.B.	R.R.T.	W.D.B.

PLANS PREPARED UNDER SUPERVISION OF
Date 3-8-21 WILLIAM D. BROOKS R.C.E. No. 53114

7020A, 05-138 D, 05-138P
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Scale AS SHOWN

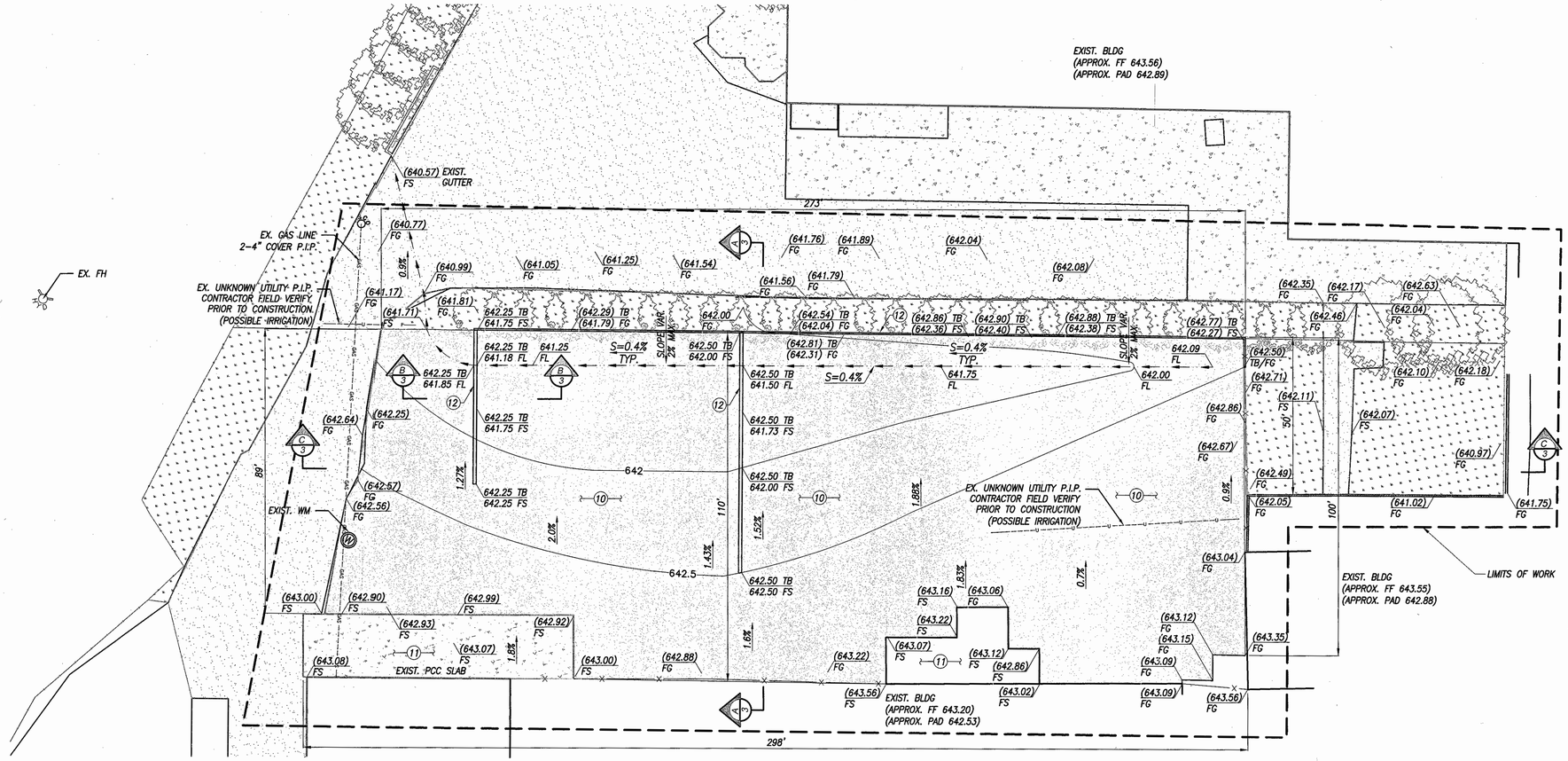
Engineering JK MK
Planning LG
Fire

Approved By
SAVAT KHAMPHOU
City Engineer
R.C.E. No. 62019
Date 3/11/21

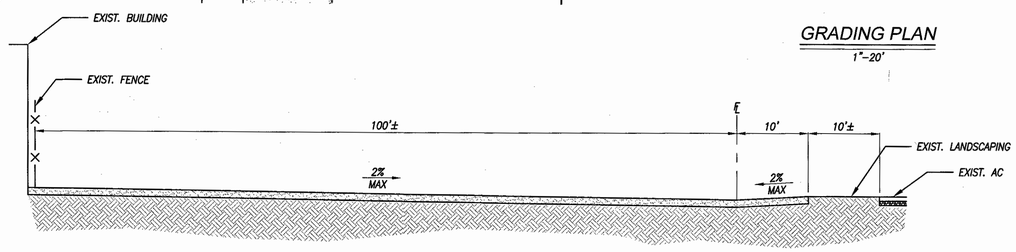
CITY OF CORONA 1375 MAGNOLIA AVENUE
PRECISE GRADING & DRAINAGE PLANS-CLOW VALVE
DEMOLITION PLAN

Drawing No. 20-026P
Sh 2 of 4

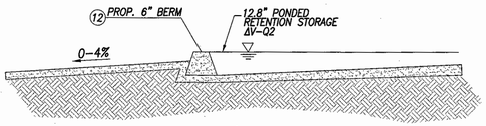
24" x 36"



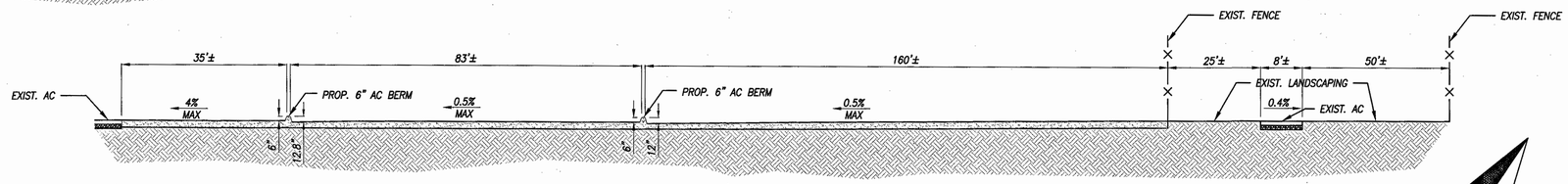
GRADING PLAN
1"=20'



SECTION A-A
NTS



SECTION B-B
NTS



SECTION C-C
NTS

CONSTRUCTION NOTES

(10)	CONSTRUCT 3.5" AC PAVEMENT OVER 12" COMPACTED (90% RC) NATIVE MATERIAL
(11)	PROTECT IN PLACE
(12)	INSTALL 6" AC BERM PER C.O.C. STD. PLAN 140

LEGEND

EXIST. PCC	
EXIST. LANDSCAPE	
EXIST. AC	
PROP. 3.5" AC PAVEMENT	

AC	ASPHALTIC CONCRETE
EXIST	EXISTING
FG	FINISH GRADE
FS	FINISH SURFACE
MAX.	MAXIMUM
PCC	PORTLAND CEMENT CONCRETE
RC	REINFORCED CONCRETE
TW	TOP OF WALL
TYP.	TYPICAL
VAR.	VARIABLE

Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER WILLIAM D. BROOKS No. C53114 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

20 0 20 40 60

SCALE 1" = 20'

PWGR2020-0025

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MAIL: P.O. BOX 78088 CORONA, CA 92877-998
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Designed by	Drawn by	Checked by
W.D.B.	R.R.T.	W.D.B.

PLANS PREPARED UNDER SUPERVISION OF WILLIAM D. BROOKS R.C.E. No. 53114
Date 3-8-2021

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SEE SHEET NO. 1 FOR DESCRIPTION
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Engineering JL MH
Planning LG
Fire

Approved By
SAVAT KHAMPHOU
City Engineer
R.C.E. No. 62019
Date 3/11/21

CITY OF CORONA 1375 MAGNOLIA AVENUE
PRECISE GRADING & DRAINAGE PLANS-CLOW VALVE
GRADING PLANS

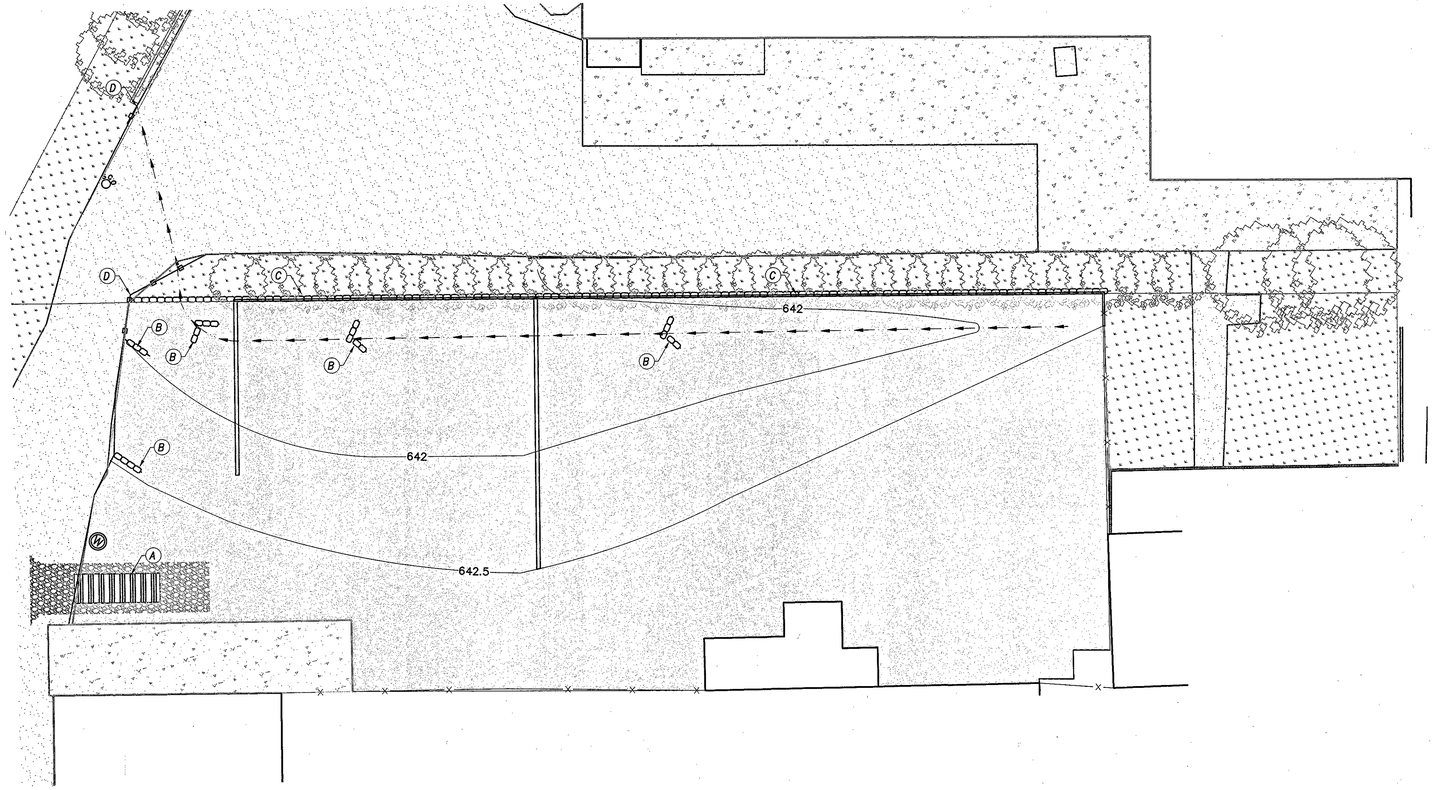
Drawing No. 20-026P
Sh 3 of 4

24" x 36"

EROSION CONTROL GENERAL NOTES:

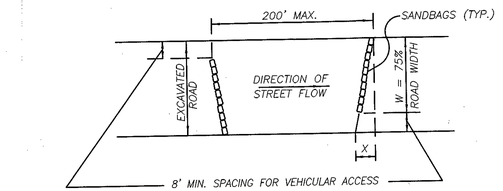
1. EROSION CONTROL IS REQUIRED FOR GRADING OPERATIONS ON A YEAR ROUND BASIS. APPROVED PLANS ARE REQUIRED FOR ALL WORK REQUIRING A GRADING PERMIT.
2. IN CASE OF EMERGENCY CALL TIFFANY SMITH OF CLOW VALVE MANUFACTURING AT 317–364–0998.
3. THE ENGINEER OF RECORD WILL SUPERVISE EROSION CONTROL WORK AND INSURE THAT WORK IS IN ACCORDANCE WITH APPROVED PLANS.
4. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER FROM RESPONSIBILITY FOR THE CORRECTION OF ERROR AND OMISSION DISCOVERED DURING CONSTRUCTION. UPON REQUEST, THE REQUIRED PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE PUBLIC WORKS DIRECTOR FOR APPROVAL
5. THE PUBLIC WORKS DIRECTOR RESERVES THE RIGHT TO MAKE CHANGES OR MODIFICATIONS TO THIS PLAN AS DEEMED NECESSARY.
6. STANDBY CREW FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) OR TO REPAIR ANY DAMAGED BMP's WHEN RAIN IS IMMINENT.
7. AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED TO PREVENT AND/OR MINIMIZE THE TRANSPORT OF SOIL IN RUNOFF FROM DISTURBED SOIL AREAS ON THE CONSTRUCTION SITE AT ALL TIMES. IN ADDITION, BMPS SHALL BE INSPECTED PRIOR TO PREDICTED STORM EVENTS AND FOLLOWING STORM EVENTS. BMPS SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE CITY INSPECTOR.
8. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FIVE–DAY RAIN PROBABILITY FORECAST EXCEEDS 40 PERCENT, AS FORECASTED BY THE NATIONAL WEATHER SERVICE.
9. AFTER A RAIN EVENT EXCEEDING ONE–QUARTER INCH IN ANY 12 HOUR PERIOD, OR UPON DIRECTION OF THE PUBLIC WORKS DIRECTOR, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK DAMS, SILT FENCES, AND DESILTING BASINS; AND THE BASINS SHALL BE PUMPED DRY AND RESTORED TO ORIGINAL DESIGN CONDITION. ANY EROSION CONTROL MEASURES DAMAGED DURING A RAIN EVENT SHALL ALSO BE IMMEDIATELY REPAIRED.
10. DESILTING BASINS ARE TO BE CONSTRUCTED AS GRADING OF INDIVIDUAL GRADING AREAS ARE COMPLETE PER ROUGH GRADING PLANS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS: TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
12. AREAS SHALL BE MAINTAINED IN SUCH A STATE THAT FIRE ACCESS SHALL BE MAINTAINED AT ALL TIMES (INCLUDING ACCESS TO NEIGHBORING PROPERTIES).
13. GRADED AREAS AROUND THE SITE PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
14. TEMPORARY EROSION PROTECTION IS REQUIRED FOR MANUFACTURED SLOPES PRIOR TO PERMANENT PLANTING.
15. ALL DISTURBED SLOPES SHALL BE PLANTED AND PROTECTED WITHIN 45 DAYS OF THE COMPLETION OF EACH STAGE OF GRADING. SUITABLE MEASURES TO PREVENT SLOPE EROSION INCLUDING, BUT NOT LIMITED TO, RAPID GROWTH VEGETATION SUFFICIENT TO STABILIZE THE SOIL, SHALL BE INSTALLED ON ALL DISTURBED AREAS UNTIL SUCH TIME AS THE PERMANENT VEGETATIVE COVER SUFFICIENTLY MATURES TO PROVIDE PERMANENT STABILITY.
16. NO OBSTRUCTION OR DISTURBANCE OF NATURAL DRAINAGE COURSES OR EXISTING STORM DRAIN INLETS SHALL OCCUR DURING GRADING OPERATIONS, UNLESS ADEQUATE TEMPORARY/PERMANENT DRAINAGE FACILITIES HAVE BEEN APPROVED AND INSTALLED TO CARRY SURFACE WATER TO THE NEAREST PRACTICAL STREET, STORM DRAIN OR NATURAL WATER COURSE. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST BE MAINTAINED IN A STATE TO ALLOW FOR CONTINUOUS FUNCTION.
17. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER THAT STORM RUNOFF WILL BE CONTAINED WITHIN THE PROJECT OR CHANNELED INTO THE STORM DRAIN SYSTEM WHICH SERVES THE RUNOFF AREA. STORM RUNOFF FROM ONE AREA SHALL NOT BE ALLOWED TO DIVERT TO ANOTHER RUNOFF AREA.
18. CONFORMANCE WITH THE REQUIREMENTS OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TO THIS SITE AND ADJACENT PROPERTIES. DURING GRADING OPERATIONS, TEMPORARY DRAINAGE CONTROL SHALL BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES. TEMPORARY DRAINAGE CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT.
19. FILL AREAS WHILE BEING BROUGHT UP TO GRADE AND DURING PERIODS OF COMPLETION PRIOR TO FINAL GRADE, SHALL BE PROTECTED BY VARIOUS MEASURES TO ELIMINATE EROSION AND THE SILTATION OF DOWNSTREAM FACILITIES AND ADJACENT AREAS. THESE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO: TEMPORARY DOWN DRAINS, EITHER IN THE FORM OF PIPES OR PAVED DITCHES TO DESILT RUNOFF; PROTECTION SUCH AS SAND BAGS AROUND INLETS WHICH HAVE NOT BEEN BROUGHT UP TO GRADE; AND EARTH BERMS AND APPROPRIATE GRADING TO DIRECT DRAINAGE AWAY FROM THE EDGE OF THE TOP OF SLOPES SHALL BE CONSTRUCTED AND MAINTAINED ON THOSE FILL AREAS WHERE EARTHWORK OPERATIONS ARE NOT IN PROGRESS.
20. CLEARING AND GRUBBING SHOULD BE LIMITED TO AREAS THAT WILL RECEIVE IMMEDIATE GRADING. EROSION CONTROL MEASURES WILL BE REQUIRED TO PROTECT AREAS WHICH HAVE BEEN CLEARED AND GRUBBED PRIOR TO GRADING OPERATION, AND WHICH ARE SUBJECT TO RUNOFF DURING A RAIN EVENT. THESE MEASURES MAY INCLUDE BUT SHALL NOT BE LIMITED TO: GRADED DITCHES; BRUSH BARRIERS AND SILT FENCES. CARE SHALL BE EXERCISED TO PRESERVE VEGETATION BEYOND LIMITS OF GRADING.
21. CONSTRUCTION SITES SHALL BE MANAGED TO MINIMIZE THE EXPOSURE TIME OF DISTURBED SOIL AREAS THROUGH PHASING AND SCHEDULING OF GRADING TO THE EXTENT FEASIBLE AND THE USE OF TEMPORARY AND PERMANENT SOIL STABILIZATION.
22. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
23. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT WIND OR RUNOFF DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJOINING PROPERTIES.
24. DISCHARGES OTHER THAN STORM WATER (NON–STORM WATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT, THE STATEWIDE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY, OR OTHER APPLICABLE GENERAL NPDES PERMIT. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM STREET CLEANING; SUPER–CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING, AND RUNOFF FROM EQUIPMENT AND VEHICLE WASHING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ONSITE PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
25. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS
26. PAVED STREETS, SIDEWALKS AND OTHER IMPROVEMENTS SHALL BE MAINTAINED IN A NEAT CLEAN CONDITION, FREE OF LOSE SOIL, CONSTRUCTION DEBRIS AND TRASH. STREET SWEEPING OR OTHER EQUALLY EFFECTIVE MEANS SHALL BE USED ON A REGULAR BASIS TO CONTROL SILT THAT HAS BEEN DEPOSITED ON STREETS OR SIDEWALKS. WATERING SHALL NOT USED TO CLEAN STREETS.
27. DISCHARGING CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO THE CONSTRUCTION SITE IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING NON–CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES MAY REQUIRE A NPDES PERMIT FROM THE SANTA ANA REGIONAL BOARD.
28. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.

811 Know what's **below.** **Call** before you dig.



EROSION CONTROL PLAN
1"=20'

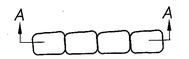
LEGEND
EXIST. PCC
EXIST. LANDSCAPE
EXIST. AC
PROP. AC
SANBAGS
SILT FENCE



W	X
20'–30'	5
31'–40'	7
41'–50'	9
51'–60'	10.5
61'–70'	12

STREET	GRADE	LENGTH
200'	< 4%	
100'	4–9%	
50'	> 9%	

SANDBAG VELOCITY REDUCER (A)
NTS

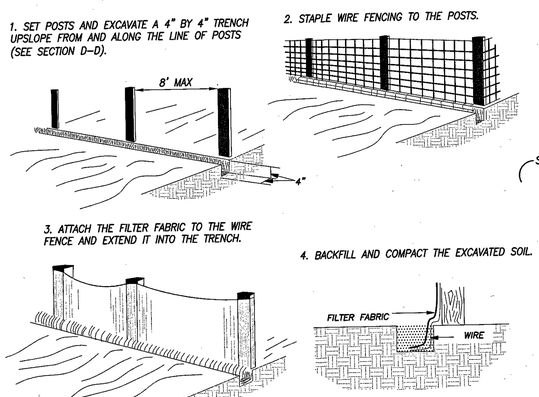


PLAN
NTS

SECTION A-A
NTS

ECS 52 SANDBAGS (B)
NTS

1. SET POSTS AND EXCAVATE A 4" BY 4" TRENCH UPSLOPE FROM AND ALONG THE LINE OF POSTS (SEE SECTION D–D).
2. STAPLE WIRE FENCING TO THE POSTS.
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



SECTION D-D
NTS

SILT FENCE DETAIL (C)
NTS

EROSION CONTROL NOTES *ALL EROSION CONTROL MEASURES PER CA. STORMWATER BMP'S	QTY.	UNIT
(A) INSTALL STABILIZED CONSTRUCTION ENTRANCE PER C.O.C. STD 225	1	EA.
(B) INSTALL SANDBAG VELOCITY REDUCER PER DETAIL A	53	L.F.
(C) INSTALL SINGLE ROW GRAVEL BAGS – 2 BAG HIGH PER DETAIL B	275	L.F.
(D) INSTALL SILT FENCE PER DETAIL C	47	L.F.

NOTE: FINAL LOCATION OF EROSION CONTROL MEASURES WILL BE DETERMINED AT THE CONSTRUCTION MANAGER'S DISCRETION

REGISTERED PROFESSIONAL ENGINEER WILLIAM D. BROOKS No.53114 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

20 0 20 40 60
SCALE 1" = 20'

PWGR2020-0025

ARMSTRONG & BROOKS CONSULTING ENGINEERS
PLANNING · INFRASTRUCTURE · SITE DEVELOPMENT · WATER RESOURCES
1859 EAST CHASE DRIVE · CORONA, CA 92881
MAIL: P.O. BOX 78088 CORONA, CA 92877-998
P: 951 - 272 - 5400 F: 951 - 272 - 5420

Designed by W.D.B. | Drawn by R.R.T. | Checked by W.D.B.

PLANS PREPARED UNDER SUPERVISION OF WILLIAM D. BROOKS R.C.E. No. 53114
Date 3/20/21

7020A, 05–138 D, 05–138P
90–113P, 97–56S, 1971, C–1–118

Reference Plans for these Improvements

Date	By	REVISIONS	App'd

BENCH MARK TBM ELEV.=603.80
SEE SHEET NO. 1 FOR DESCRIPTION
Scale AS SHOWN

Engineering JK - MH
Planning LG
Fire

Approved By: 3/11/21 Date
SAVAT KHAMPHOU
City Engineer
R.C.E. No. 62019

CITY OF CORONA 1375 MAGNOLIA AVENUE
PRECISE GRADING & DRAINAGE PLANS-CLOW VALVE
EROSION CONTROL PLAN

Drawing No. 20-026P
Sh 4 of 4

24" x 36"

GRADING PERMIT

City of Corona

PUBLIC WORKS DEPARTMENT
400 S Vicentia Ave
Corona, CA 92882

Permit No:
PWGP21-00005
Permit Status:
ISSUED

(951) 736-2259

Permit Type: GRADING **Permit Subtype:** PRECISE **Job Valuation:** $0.00	**Applied Date:** 03/04/2021 **Issued Date:** 04/15/2021 **Expration Date:** 10/12/2021
Project Address: 1375 MAGNOLIA AVE **Tract No:** **Lot No:**	**Project Description:** 1375 MAGNOLIA AVE - GRADING PERMIT
Contractor: B & D CONSTRUCTION CO., INC **Corona Business License No:** AEC1647 **Contractor State License No:**	**Owner:** CLOW VALVE COMPANY **Applicant:** B & D CONSTRUCTION CO., INC

Lots: 1
Disturbed Acerage: 0.7
Total Acerage: 16.9
Land Use: I-M Industrial/Manufacturing
WDID Number:
Erosion Control Plan Included? Yes

Cut: 582
Fill: 0
Plan #: 20-026P
Dig Alert #: A210980279
Cal-OSHA #:
Additional Notes: CONSTRUCT ON SITE GRADING IMPROVEMENTS PER APPROVED PLAN. ANY OFF SITE WORK WILL REQUIRE A SEPARATE ENCROACHMENT PERMIT.

Applicant/Owner hereby requests permission to perform work as described below. It is expressly agreed that such work and all Traffic Control shall be performed in accordance with applicable ordinances, Standard Plans and Special Provisions of the City of Corona, approved plans and the latest edition of the Work Area Traffic Control Handbook (WATCH Manual). Only that person listed below is duly authorized by Applicant/Owner to obtain this permit.

INDEMNIFICATION

Applicant/Owner shall defend and hold the City, it's officers, employees, and agents (Indemnities) free and harmless from any and all claims, demands, causes of injury arising out of or incident to any alleged acts, omissions or willful misconduct or Applicant/Owner, its officials, officers, employees, agents, consultants or contractors in connection with the performance of any work under this Permit, including, without limitation, the payment of all consequential damages, attorneys fees and other related costs and expenses. Applicant/Owner shall pay any judgement award or decree that may be rendered against the Indemnities for any and all legal expenses and costs incurred by any of them in connection therewith or in enforcing the indemnity herein provided. Applicant/Owner's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the Indemnities.

THIS PERMIT EXPIRES ONE YEAR FROM THE DATE OF ISSUANCE.
***CALL (951) 279-3511 48 HOURS PRIOR TO COMMENCING AND WORKDESCRIBED ON THIS PERMIT**

Permitee Signature: _____ **Date: 04/15/21**

Cash Register Receipt

City of Corona

Receipt Number
R25984

DESCRIPTION	ACCOUNT	QTY	PAID
PermitTRAK			**$913.00**
PWGP21-00005 Address: 1375 MAGNOLIA AVE APN: 107030022			**$913.00**
GRADING INSPECTION			$853.00
GRADING INSPECTION	11039000 31607	0	$853.00
PW			$60.00
ENCROACHMENT PERMIT FEE	11039000 31219	0	$60.00
TOTAL FEES PAID BY RECEIPT:R25984			**$913.00**

Date Paid: Thursday, April 15, 2021

Paid By: B & D CONSTRUCTION CO., INC

Cashier: KAV2

Pay Method: CHECK 007320

PUBLIC WORKS DEPARTMENT