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Appendix O

Soil Management Plan



Soil Management Plan IP Darden I, LLC and Affiliates Cantua Creek Area, Fresno County, California

September 25, 2023

Prepared for:

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Table of Contents

INTRODUCTION	1.1
PURPOSE OF SMP	1.1
PROPERTY DESCRIPTION	1.1
SITE GEOLOGY AND HYDROGEOLOGY	1.2
PREVIOUS ENVIRONMENTAL INVESTIGATIONS	2.1
PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SOIL	
SAMPLING, PHOTOVOLTAIC SITE, SEPTEMBER 2022	2.1
PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SOIL	
SAMPLING, BESS AND UTILITY CORRIDORS, APRIL 2023	2.2
PHASE II ENVIRONMENTAL SITE ASSESSMENT, PHOTOVOLTAIC SITE,	
JUNE 2023	2.3
IZNOVANI OD GUODECTED ENVIDONMENTAL CONDITIONS	2.4
METHODS OF EXPOSURE	3. 1
SOIL MANAGEMENT	4.1
POTENTIAL SOIL DISTURBANCE ACTIVITIES	4.1
CONTINGENCY PROCEDURES	4.2
1 3	
·	
DISPOSAL FACILITIES	4.5
ABANDONED OIL WELLS	5.1
HEALTH AND SAFETY	6.1
EMERGENCY PLANNING	6.1
CLOSURE	7 1
	SAMPLING, PHOTOVOLTAIC SITE, SEPTEMBER 2022 PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SOIL SAMPLING, BESS AND UTILITY CORRIDORS, APRIL 2023 PHASE II ENVIRONMENTAL SITE ASSESSMENT, PHOTOVOLTAIC SITE, JUNE 2023 KNOWN OR SUSPECTED ENVIRONMENTAL CONDITIONS METHODS OF EXPOSURE SOIL MANAGEMENT POTENTIAL SOIL DISTURBANCE ACTIVITIES CONTINGENCY PROCEDURES

LIST OF FIGURES

Figure 1 – Property Location Map

Figure 2 – Property Map

LIST OF APPENDICES

Appendix A-2 – Potential Airborne Concern and Air Monitoring Action Level Tables

Appendix B-2 – Example Photographs of Potential Contaminant Sources and Abandoned Oil Well Sites

Introduction

1.0 INTRODUCTION

In its role as the environmental professional, Stantec Consulting Services Inc. (Stantec) has prepared this Soil Management Plan (SMP) for the property for the IP Darden I, LLC project near Cantua Creek in Fresno County, California (the "Site "or "Property", **Figure 1**).

1.1 PURPOSE OF SMP

The purpose of this SMP is to provide protocols for the proper management of unknown impacts to soil or undocumented subsurface features potentially encountered at the Property during grading and construction activities. The SMP has been developed to facilitate the redevelopment of the Site by outlining those specific procedures that will be used for identifying, testing, handling, and disposing of soil containing regulated constituents that may be encountered during the redevelopment activities. Implementing the procedures in this SMP will help to ensure that soil from any encountered Soil Management Area (SMA) – which this document defines as any previously-unidentified area of potentially contaminated soil or subsurface structure containing potential chemical contaminants – is managed in a manner that is protective of human health and the potential environmental liability of the owner, and in general compliance with applicable federal, state, and local regulations.

1.2 PROPERTY DESCRIPTION

The Subject Property consists of forty-two parcels comprising approximately 9,116-acres of land located along the west side of State Route-177 (SR-177) and 9.5 miles northeast of the junction at State Route-145 (SR-145) and Interstate-5 (I-5), near Cantua Creek in Fresno County, California. The SMP is also for the supporting infrastructure including a battery energy storage system (BESS) site, a switchyard substation, high voltage generation tie ("gen-tie") line easement, and medium voltage ("MV") collector line easement.

The Subject Property parcels are primarily undeveloped land that were formerly used for agricultural purposes (row crops). The surrounding parcels in all directions are current or former agricultural land (row crops). Residences, agricultural storage yards, miscellaneous agricultural and irrigation equipment was also observed on these surrounding agricultural properties. A Property Location Map is illustrated on **Figure 1**. A Property Vicinity Map illustrating the main features of the Property is provided as **Figure 2**. The Property parcels, or portions thereof (*i.e.*, easements) will be leased or purchased by IP Darden I, LLC in anticipation of development and construction of a solar photovoltaic facility. Therefore, commercial use screening criteria should be used for a basis of risk determination should environmental impacts/contamination be encountered during the redevelopment of the Property.

Introduction

1.3 SITE GEOLOGY AND HYDROGEOLOGY

The area is located within the Great Valley Geomorphic Province, which is a large alluvial plain between the highlands of the Sierra Nevada Mountain range and Coast Ranges into which sediments have been deposited since the Jurassic (California Geological Survey [CGS], 2002). The stratigraphy underlying the Subject Property and the vicinity consists of recent-age alluvium consisting of fan and basin deposits (California Department of Mining and Geology [CDMG], 1958). Phase II investigations performed by Stantec at the Property in September of 2022, and in April and June of 2023, found that the upper 4 feet of soil consists of a silty sand and that sandy silt with minor amounts of clay are present from 4 to the maximum explored depth of 8 feet bgs.

The Subject Property, as is most of California, is located in a seismically active area. The nearest active fault is the Nunez Fault, located approximately 23 miles south of the Site (CDMG, 1994). The Nunez Fault is part of an Alquist Priolo Special Studies Zone (CDMG, 2002b). The San Andreas Fault is located approximately 34 miles southwest of the Site (CGS, 2011). The Site is not located within an Alquist Priolo Special Studies Zone (CDMG, 2002b).

The Subject Property is located within the Westside subbasin (5-22.09) of the San Joaquin Valley Groundwater Basin (California Department of Water Resources [CDWR], 2013). The Westside subbasin comprises approximately 1,000 square miles underlying portions of Fresno and Kings Counties. Groundwater monitoring data for the Subject Property was not reasonably ascertainable. Depth to groundwater information for the "Helm Facility" 12688 South Colorado Avenue in Helm, California approximately 4.5 miles to the northeast was provided in a groundwater monitoring report prepared by Simplot. Based on information provided in Simplot's 2021 Biennial Groundwater Monitoring Report, groundwater historically ranged between 110 and 130 feet below ground surface (bgs) but wells installed within this zone have recently been found to be dry. Groundwater depths in deeper screening wells indicate that groundwater water levels, as of March 2021, were measured between 170 and 189 feet bgs.

Based on the CDWR Lines of Equal Elevation of Water in Wells, San Joaquin Valley, (Spring 2010) the groundwater flow direction is to the north-northeast but may vary based on local groundwater pumping.

Previous Environmental Investigations

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Stantec has completed Phase I and Phase II Environmental Site Assessments (ESAs) at the Property. Those investigations are discussed below.

2.1 PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SOIL SAMPLING, PHOTOVOLTAIC SITE, SEPTEMBER 2022

Stantec performed a Phase I ESA and limited soil sampling for the portion of the Property proposed for development as a photovoltaic (PV) site. Stantec's review of historical aerial photographs during the Phase I ESA found that the Subject Property was used for agricultural purposes (row crops and grain) since at least 1940. Oil exploration (well drilling) occurred on the Subject Property sporadically between 1939 and 1982. All seven wells drilled on the Subject Property were found to be dry holes, and were subsequently "plugged" according to records obtained from the California Geologic Energy Management (CalGEM).

Given the historical agricultural use on the Subject Property, Stantec performed shallow soil sampling from 0.5 to 1.0-foot bgs at forty (40) locations across the Subject Property and from a soil stockpile in the northeast corner of APN 050-030-26ST on September 21, 2022. Soil samples were analyzed for organochlorine pesticides (OCPs), and the metals arsenic and lead, which are commonly associated with historical herbicide and pesticide application.

Analytical results indicated no OCP or lead concentrations above commercial use screening levels or California hazardous waste levels. Arsenic was detected above human health screening levels and slightly above background levels at concentrations that ranged from 6.3 to 13 milligrams per kilogram (mg/kg). Arsenic occurs naturally at concentrations well above regulatory health risk-based screening levels.

The data from surface soils (B-1 through B-40) collected at the Subject Property were evaluated statistically for normality and evidence of contamination using the United States Environmental Protection Agency (USEPA) ProUCL statistical program. Using this program, the 95 percent upper confidence level of the mean was calculated to be 10 mg/kg. Additionally, a Q-Q plot of the data suggests that the data are representative of a single population, meaning that the data are likely representative of a single source such as background native concentrations. Based on this evaluation, Stantec opines that the reported arsenic values appear to be the result of background native concentrations and not related to anthropogenic contamination. Therefore, no further investigation is recommended regarding the agricultural use of the Subject Property.

However, the Phase I ESA identified the following potential recognized environmental condition (REC):

Previous Environmental Investigations

- Past Oil Drilling Operations Although the seven (7) onsite abandoned oil wells never produced and were found to be "dry holes", there remained the potential that earthen drilling mud pits/sumps were generated at the time the wells were drilled. The 1940 aerial photograph (Section 4.4.2) shows what appears to be faint evidence of three rectangular depressions that are located approximately 100-200 feet west/northwest of the Loescher "1" well in the northeast quadrant of APN 050-030-24ST. The soil in this area does not appear to be discolored but there was concern that these features could have been mud pits related to the oil well. Historic aerial photographs do not provide any further insight regarding sumps or mud pits related to the six other onsite wells, most likely because of the short duration (1-3 months) between drilling and abandonment when no aerial photographs were taken.
- The potential presence of impacted soils associated with drilling mud pits/sumps was considered a REC. To evaluate the potential REC, Stantec recommended that further investigation be performed in the area west/northwest of the Loescher "1" well where the rectangular depressions were noted in the 1940 photograph in order to evaluate potential chemical impact to soil at this location. Since there is no visible indication of mud pits/sumps in any of the other aerial photographs, Stantec recommended that this SMP be prepared that provides the procedures, methodologies and reporting requirements in the event that unknown impacts to soil are encountered during demolition, grading and construction activities at the Subject Property.

2.2 PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SOIL SAMPLING, BESS AND UTILITY CORRIDORS, APRIL 2023

Stantec performed a Phase I ESA and limited soil sampling for the portion of the Subject Property that is proposed for development with supporting solar infrastructure including an alternate battery energy storage system (BESS) site, a switchyard substation, high voltage generation tie ("gen-tie") line easement, and medium voltage ("MV") collector line easement.

Structures onsite are limited to small slabs where water well pumps, fertilizer mixing tanks, sediment tanks, and other irrigation equipment is located. Oil staining was observed on two irrigation well pads. The first location was located along the MV collector line easement, located approximately ½ mile west of the intersection of Harlan Avenue and Colusa Avenue (36.444095, -120.202699). The second location was located along the gen-tie line easement, located at the northeast corner of the intersection of Harlan Avenue and Calaveras Avenue (36.443355, -120.283759). Stantec recommended that if any of the proposed gen-tie structures/towers, or belowground collector lines are specifically planned to be constructed within these areas (*i.e.*, where stained soil was located around well pumps) and the lines cannot be rerouted to avoid these areas, that soil samples be collected and evaluated for potential contaminates of concern above commercial use screening levels. As a contingency, this SMP includes procedures and methodologies for sampling or cleanup of these areas should avoidance measures be impractical and the proposed developed affects soils at the irrigation well pump locations.

Previous Environmental Investigations

In addition, Stantec's review of historical aerial photographs found that the Subject Property has been used for agricultural purposes (row crop and grain) since at least 1940. Petroleum exploration (oil well drilling) occurred on the Subject Property, and in the vicinity of the Subject Property, from the late 1930s through the 1980s. In total, seven (7) wells were drilled on the Subject Property, were found to be dry holes (*i.e.*, no petroleum production), and were subsequently "plugged" according to records obtained from the California Geologic Energy Management (CalGEM).

Given the historical agricultural use on the Subject Property, Stantec performed shallow soil sampling from 0.5 to 1.0-foot bgs at thirty (30) locations across the Subject Property on April 10, 2023. In addition, select samples were also analyzed for selenium. Analytical results indicated no OCPs, lead, or selenium concentrations above commercial use screening levels or California hazardous waste levels. Arsenic was detected above human health screening levels and slightly above background levels at concentrations that ranged from below the laboratory reporting limit of 5.0 mg/kg to a maximum of 9.0 mg/kg. Arsenic occurs naturally at concentrations well above regulatory health risk-based screening levels, as discussed in **Section 2.1**.

2.3 PHASE II ENVIRONMENTAL SITE ASSESSMENT, PHOTOVOLTAIC SITE, JUNE 2023

Stantec performed a Phase II investigation in June of 2023 that included geophysical surveys and potholing to 1) investigate potential soil contamination or non-native soils within the suspected mud pit/sump near the abandoned "Loescher" oil well, 2) locate abandoned oil well casings, and to 3) collect shallow soil samples for selenium analysis. The results of the investigation are as follows:

- **Potential mud pit/sump.** Five (5) test pits were excavated to 8 feet bgs in the area where there was indication of surface impoundments in the 1940 aerial photograph. No stained, odorous or non-native soils were observed in any of the test pits. As a result, no soil samples were collected from the test pits. No further investigation is recommended with regard to the surface impoundments noted in the 1940 aerial photograph to the northwest of the "Loescher" 1 well.
 - Stantec recommends, given the absence of visual soil impacts from past oil drilling operations, that any potential impacts associated with these wells be addressed by the use of this SMP, should impacts to soil be encountered during site grading and development.
- Abandoned Oil Well Search. The oil well search included vegetation clearance, geophysical surveys, and the excavation of test pits to visually confirm the top of the steel well casings. The abandoned well search activities successfully located all seven (7) of the wells recorded by CalGEM records as being located within the boundaries of the Subject Property. Six (6) of the abandoned wells were located via geophysical survey and subsequent test pit excavations to expose the casings. One of the wells ("Loescher" 1) is surrounded by a concrete platform and a 4-inch diameter steel marker extends up from the well cellar.

Previous Environmental Investigations

The table below summarizes the results of the abandoned oil well survey, including their surveyed locations.

Well Name/API	Northing	Easting	Top of Casing
"S.P." 1 / 019-06154	2068524.341	6201997.142	~3.5 feet below ground surface
"McDonald Estate" 1 / 019-20148	2063153.366	6203875.012	~3.5 feet below ground surface
Cross "1" / 019- 06152	2065681.784	6215320.35	~4.5 feet below ground surface
"Mahoney" 72-81 / 019-06227	2051089.058	6220454.686	~2.5 feet below ground surface
"Loescher" 1 / 019- 06224	2056463.747	6212904.272	4-inch diameter marker extends ~2.5 feet above concrete platform
"McDonald" 1 / 019- 21448	2070662 162 6207332 688		~4.5 feet below ground surface
"Buttes-Bravo" 1	2		~5 feet below ground surface

• Selenium Results. Selenium was not detected above the laboratory reporting limits of 5.0 mg/kg in any of the samples (i.e. the results were "non-detect") and below the US Environmental Protection Agency (EPA) residential and commercial use screening levels of 390 mg/kg and 5,800 mg/kg, respectively. As a result, no further assessment is recommended with regard to selenium at the Subject Property.

In accordance with Stantec's Phase I and II recommendations related to unforeseen impacts that may be encountered during grading/redevelopment, Stantec has prepared this SMP which should be retained onsite, conveyed to onsite construction workers, and implemented (if needed) during redevelopment of the Property.

Known or Suspected Environmental Conditions

3.0 KNOWN OR SUSPECTED ENVIRONMENTAL CONDITIONS

The CalGEM's Well Finder database indicates that seven (7) oil wells were drilled within the boundary of the Property between 1939 and 1982. A review of government records, aerial photographs, and the Property visit revealed no evidence of oil well related feature (well casings, piping, storage tanks, etc) or contaminated soils with the exception of the "Loescher" well. The "Loescher" well site contains a concrete platform with cellar and a 4-inch diameter steel riser that extends up from the center of platform cella. The location and the 4-inch steel riser matches the information contained in the "Loescher" well records obtained from CalGEM. As mentioned previously, faint evidence of a surface impoundment (mud pit/sump) was observed to the west/northwest of the "Loescher" well in the aerial photograph from 1940. This area was assessed in June 2023 and no evidence of impacted soils or non-native materials were encountered at the five test pits excavated.

Given the absence of visual soil impacts from the former well operations it was recommended that any potentially impacted soils remaining from past oil and gas production activities be addressed during construction by implementation of the directives listed in this SMP. Potential environmental conditions include TPH impacted soils from earthen sumps or mud pits, pipelines, or past spills/leaks. If TPH impacts are discovered, other chemicals of concern may include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and heavy metals. TPH and VOC-contaminated soil, particularly those associated with crude oil, may be identified by the visual presence of dark gray or black staining and/or odor.

3.1 METHODS OF EXPOSURE

The primary mode of transport of potentially impacted soil is through earth-moving operations during grading. The main human health concern at the Property in such instances would be through the direct exposure to TPH- and VOC-impacted soil by ingestion, inhalation, and/or dermal contact. Activities that involve the handling of impacted soil, such as any improvements that involve excavation/grading work, may result in exposure to hydrocarbon or VOC-impacted soil. Inhalation of airborne dust is another route for exposure to TPH and VOCs. Therefore, procedures should be put in place to minimize dust generation and migration during excavation/grading activities (see Section 4.5). Additionally, vapor monitoring should be performed using a handheld photoionization detector (PID) if evidence of impacted soil is encountered – in order to evaluate whether additional safety measures are required such as use of a respirator or pressurized equipment cabs to limit inhalation of chemicals of concern (see Section 4.2.1.2).

Soil Management

4.0 SOIL MANAGEMENT

This SMP was prepared to describe the management protocols recommended for handling, moving, stockpiling, and disposing of soil from areas of the Property where earth movement is anticipated. This SMP is designed to account for the possibility that impacted soil could be encountered during land clearing and grading, as well as requirements for any soil to be imported to the Property. If previously unidentified soils are encountered at the Property during redevelopment that exhibit evidence of chemical impacts, proposed soil mitigation measures would consist of the removal of the impacted soils if chemical concentrations are evaluated and confirmed to exceed commercial screening criteria. "Impacted" soil would be defined as soil containing concentrations of hazardous substances or petroleum products above *commercial* screening levels set forth by the applicable regulatory agency, *i.e.* the Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board, or county local oversight program.

Construction, utility, and landscape workers may disturb the subsurface through digging, grading, trenching and/or excavation in the soil at the Property and, therefore, may encounter previously unknown structures or areas of impacted soil. During construction activities, workers who may directly contact impacted soil will conduct the work in accordance with Occupational Safety and Health Administration (OSHA) training and worker protection rules and regulations and their company's Health & Safety procedures; at a minimum the company Health & Safety procedures must meet all the minimum requirements of all applicable OSHA requirements.

The information provided in this SMP will be used to address proper handling, assessment, and disposal of any impacted soil or subsurface features that are encountered during grading. All soil that will be transported offsite must be adequately characterized and disposed at a facility that is permitted and approved by the disposal contractor to receive such material. Likewise, any soil imported to the Property must be either from a virgin quarry, or certified or determined by analysis to be "clean" in accordance with applicable state standards prior to arriving at the Property.

Any soil imported to the Property from an offsite source should be sampled for potential chemical impacts based on the former and/or current usage of the source site. Such sampling activities should be conducted at the import site (*i.e.* before importing it to the Property).

4.1 POTENTIAL SOIL DISTURBANCE ACTIVITIES

Activities that may cause soil disturbance and uncover potential SMA(s) include site grading; grubbing; removal of soil; removing/installing underground utilities and utility pipeline repair activities; planting trees/landscaping; installing foundations/piles; excavation of stormwater retention ponds; and performing any other construction activities that extend below the existing grade of the Property. When these or any other subsurface activities are performed, this SMP will be followed. All personnel on the project that would be used to assess potential soil contamination and/or remediate confirmed soil contamination

Soil Management

should have the proper Cal-OSHA 40-hour Hazardous Waste Operator (HAZWOPER) training current to the date of the operations when handling materials in designated SMAs.

4.2 CONTINGENCY PROCEDURES

The following contingency procedures will be followed upon discovery of features that are potentially a source of contamination (such as unknown USTs, stained soil, buried drums, oil pipelines, clarifiers, burial pits, etc.) or contaminated soil. Example photographs of such potential contaminant sources that could be encountered on former oil field sites are included in **Appendix B**.

Below are the procedures that will be followed for suspending excavation/grading work, transferring any materials, and notifying applicable local, State and/or Federal agencies. Additionally, these contingency procedures would apply if stained surface soils surrounding the previously identified well pumps (Section 2.2) cannot be avoided during construction and earthmoving work is required at those locations.

The contingency procedures include the following:

- If an underground tank, previously unidentified structural source (e.g., clarifier, sump, drum, oil pipelines, burial pit, etc.), or potentially contaminated soil is found during construction, grading, or excavation, activities will be suspended within 50 feet of the area of concern until an evaluation, appropriate permitting, and/or sampling can be performed. Any subsurface structure or potentially contaminated soil encountered should not be removed or graded through.
- Sampling will be performed on the material, soil, and surrounding soils, etc., as necessary to evaluate the nature of the material and proper disposal method. The appropriate chemical analysis will be performed by the environmental professional consistent with the concern identified.
- Identification of unknown or unexpected conditions will be promptly communicated by telephone to
 the Client. If soil contamination is confirmed through sampling activities the area will be deemed a
 SMA. Reportable quantities of petroleum product or hazardous substances in soil, may require
 notification to the applicable regulatory agency (i.e. DTSC, regional water quality control board, or
 local oversight program). Similarly, underground storage tanks (registered or unregistered) would
 require notification to the Fresno County Environmental Health (FCEH).
- Once any required permitting is secured and the SMA is characterized, the structures and/or impacted soil will be excavated and stored/stockpiled onsite on plastic for further waste profiling characterization as discussed in Section 4.3.
- Confirmation sampling within the resulting excavation should be performed as discussed in Section 4.2.2.
- Excavated soils will be separately stockpiled and profiled for waste characterization purposes as described in Section 4.3. Confirmation sampling within the SMA, following excavation will be performed according to the steps outline in Section 4.2.2.

The following subsections describe the procedures that will be implemented during assessment and removal activities.

Soil Management

4.2.1 Soil Screening Methods

Visual, olfactory, and instrument-based soil screening will be performed by the on-Site environmental professional if any potential SMAs are encountered. Based on sampling data and in-field screening results, soil will be segregated into piles that require off-site disposal and material that can be used as unrestricted fill.

4.2.1.1 Air Monitoring

Benzene, ethylbenzene, tetrachloroethylene (PCE), trichloroethylene (TCE) and 1,2,4-trichloroethene are examples of VOCs that will register on a handheld PID in real time. If SMAs are encountered during grading, Stantec recommends periodic air monitoring to evaluate whether any detected levels of VOCs show a significant increase over background levels. Air monitoring should follow the screening levels and responses summarized in Appendix A, Potential Airborne Concern and Air Monitoring Action Level Table.

4.2.1.2 Respiratory Protection

In the event SMAs are encountered and air monitoring indicates that concentrations are above the action levels listed in Appendix A, respiratory protection (via a respirator or pressurized equipment cabins) should be used for the duration of elevated PID readings. All staff present on the project should have available properly-fitted respirators for use, if needed. The respirators should contain the appropriate filter cartridges and be recently tested to ensure effectiveness.

If pressurized cabins are to be used by earthwork machinery, it is necessary to maintain the necessary training listed above for work in the impacted zones. Operators should have appropriate respirators with them at all times should it be necessary to exit the equipment cabs during a time period when vapor concentrations exceed levels of concern listed above.

4.2.2 Soil Sampling

At a minimum, soil samples collected during the assessment of potentially impacted soils should be analyzed as follows:

- TPH by EPA Method 8015;
- VOCs by EPA Method 8260b;
- Title 22 metals by EPA Method 6010b/7471A

Based on the results, particularly in the case of elevated TPH concentrations related to oil well drilling, additional analysis may be necessary to further evaluate for the presence of SVOCs or polycyclic aromatic hydrocarbons (PAHs). Soil samples will be collected and delivered to an offsite laboratory for 24-hour analysis.

If the results of soil sampling indicate that remediation through excavation and disposal is necessary, the Client will be informed of the planned soil removal. Following excavation and disposal of any impacted



Soil Management

soil, confirmation samples will be collected within the excavation on 25-foot centers from both the bottom and sidewalls of an excavation per typical regulatory requirements. The analytical results will be compared to applicable commercial cleanup thresholds, i.e. DTSC Screening Levels (DTSC-SLs), USEPA Regional Screening Levels (RSLs), RWQCB Environmental Screening Levels – Direct Exposure that were used for comparison purposes during the assessment work performed at the Property for commercial land use. These thresholds include the following:

- Total Petroleum Hydrocarbons (TPH) consistent with the 2019 San Francisco Bay Regional Water Quality Control Board Residential Use Environmental Screening Levels (ESLs) – Direct Exposure, which are as follows:
 - o Gasoline Range Organics (GRO): less than 2,000 mg/kg.
 - o Diesel Range Organics (DRO): less than 1,200 mg/lg
 - o Oil Range Organics (ORO): less than 180,000 mg/kg
- VOCs, metals, or other potential contaminants of concern: The more conservative commercial
 threshold between the DTSC Note 3 and US EPA Regional Screening Levels documents. With
 regard to arsenic, the upper-bound background concentration of 12 mg/kg will be used as a cleanup
 goal (*Determination of a Southern California Regional Background Arsenic Concentration in Soil*,
 DTSC 2008).

4.3 STOCKPILE MANAGEMENT

If soil stockpiles are created during Property construction activities, they must be managed in accordance with the Project's Stormwater Pollution Prevention Plan (SWPPP) and appropriate erosion and sediment control measures. All soil stockpiled at the Property will be lightly sprayed with water as needed to minimize the potential for fugitive dust and will be covered with high grade plastic sheeting (*i.e.*, 6 milli-inch) when not in active use.

All stockpiled soil planned for disposal will be stockpiled separately in a designated area, on high grade plastic sheeting, and adequately characterized/profiled to ensure proper management and disposal using standard US EPA testing methods. Stockpiled soil that is to be disposed of will be sampled according to the requirements of the licensed waste disposal facility potentially receiving the material. Samples will be submitted to a laboratory certified to perform hazardous waste testing.

An approved manifest system be used to track waste streams from generation to disposal. Manifests will comply with all provisions of appropriate transportation and disposal regulations. Appropriate measures and practices will be employed to prevent spills or leaks of materials from occurring at the Property or enroute to the designated facility.

4.3.1 Stockpile Soil Sampling

Soil samples from waste soil stockpiles should be submitted for laboratory analysis to profile the soil for off-site disposal. Soils classified as potentially impacted should be sampled in accordance with the receiving waste facility's requirements which will likely include 4-point composite samples for analysis of



Soil Management

TPH, VOCs, metals, and pesticides. Soil sample collection depths within the soil stockpile should be collected at depths greater than 12 inches from the exposed stockpile surface.

4.4 TRANSPORTATION

Potential transport of soil will be performed by properly licensed and permitted haulers in accordance with appropriate local, state and federal regulations. Loaded transport vehicles leaving the Property will be appropriately lined, securely covered, cleaned, manifested and placarded in accordance with appropriate local, state and federal requirements.

4.5 DUST CONTROL

During soil grading and excavation activities, the contractor will use control measures for fugitive dust and odor in accordance with San Joaquin Valley Air Pollution Control District Rule 8021. Dust and odor control measures will be used such that no visible dust migration or offensive odors are observed. Typically, misting with water can be used to control dust emissions and odors, or temporary suspension of work, to allow odors to dissipate. OSHA worker safety requirements shall be followed.

In the event that impacted soil is encountered, it will be separately stockpiled. Additionally, impacted soil must not be disturbed if winds exceed 15 miles per hour (mph) continuously. Any impacted stockpiled soils must be covered with heavy grade plastic sheets while water suppression is not employed, particularly during non-working hours. Additional control measures, if necessary, include the following:

- All active construction areas shall be watered at least twice daily or as necessary to prevent visible dust plumes from migrating outside Property limits;
- Water should be misted or sprayed while loading transportation vehicles;
- Drop heights should be minimized while loading transportation vehicles;
- Covers such as tarpaulins should be used for trucks carrying soils, if traveling on public roadways;
- Access roads, parking areas, and staging areas should be paved, watered or covered with non-toxic soil stabilizers and swept daily, as needed; and
- Streets should be swept daily if visible soil material is carried onto public roadways from the Property.

In the event that chemically impacted soil is encountered at the Property, monitoring and control of off-site fugitive dust emissions containing toxic air contaminants will be conducted.

4.6 DISPOSAL FACILITIES

Soil transported off-site must be disposed at facilities that are pre-authorized by Stantec, or the selected environmental consultant, and permitted by the applicable regulatory authorities to receive such material. If removed materials are significantly more contaminated, an alternative facility would be determined based on stockpile profiling results.

Abandoned Oil Wells

5.0 ABANDONED OIL WELLS

There are seven (7) abandoned oil wells located at the Property that have been physically located, surveyed, and included on site development plans. The coordinates, casing diameters, and depth below existing ground surface are included in the table presented in Section 2.3. In the event that these oil well casings are encountered during construction activities, the well casing should not be altered/modified or cut to adjust its elevation. Any modifications or alterations performed on the well casing could prompt requirements from CalGEM to become the operator of the well and incurred costs to make such alterations or adjustments. Depending on the well condition and the past abandonment methods, such alterations or modifications could lead to requirements for re-abandoning the wells. Therefore, avoidance measures for these well casings is crucial. An example of what an abandoned well casing is provided in the **Appendix B**, Example Photographs.

Health and Safety

6.0 HEALTH AND SAFETY

All work shall be performed in accordance with all applicable OSHA standards as a minimum. Based on the known contaminant concentrations, site workers will wear the appropriate level of Personal Protective Equipment (PPE), as described in the Project Health & Safety Plan and in accordance the prime GC policies and procedures. Levels of PPE should be reconsidered and modified depending on the conditions encountered as the project progresses. The GC is responsible for workers adhering to all applicable OSHA requirements at a minimum and all the Health & Safety policies and procedures.

The designated project superintendent chosen by the selected contractor will serve as the Project Safety Officer (SSO) or designate the SSO. Stantec will assist the SSO in areas where they are unfamiliar with Property safety. The job of the SSO will be to monitor dust control and ensure that the Property is only accessed by authorized personnel. In the event of an emergency, the SSO will have the authority to shut down Property activities and the knowledge to notify the appropriate emergency responders.

6.1 EMERGENCY PLANNING

Petroleum hydrocarbons and some VOCs are flammable at high concentrations. In the event of an emergency where Site activities are halted, necessary measures must be taken to ensure that contaminated soil does not leave the Site and that all stockpiles are covered when not in use.

In the event of an emergency, the SSO must notify the following agencies or individuals:

- Fresno County Fire Protection District: 911, or 559-493-4300;
- Fresno County Environmental Health Division: (559) 600-3357; and,
- San Joaquin Valley Air Pollution Control District: (559) 230-6000.

Closure

7.0 CLOSURE

The conclusions presented in this report are professional opinions based on data described in this report. The opinions of this report have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following inherent limitations. Stantec makes no other warranty, either expressed or implied, concerning the conclusions and professional advice that is contained within the body of this report.

Inherent in most projects performed in a heterogeneous subsurface environment, continuing excavation and assessments may reveal findings that are different than those presented herein. This facet of the environmental profession should be considered when formulating professional opinions on the limited data collected on these projects.

This report has been issued with the clear understanding that it is the responsibility of the owner, or their representative, to make appropriate notifications to regulatory agencies. It is specifically not the responsibility of Stantec to conduct appropriate notifications as specified by current County and State regulations.

The information presented in this report is valid as of the date it was prepared. Site conditions may degrade with time; consequently, the findings presented herein are subject to change.

FIGURES

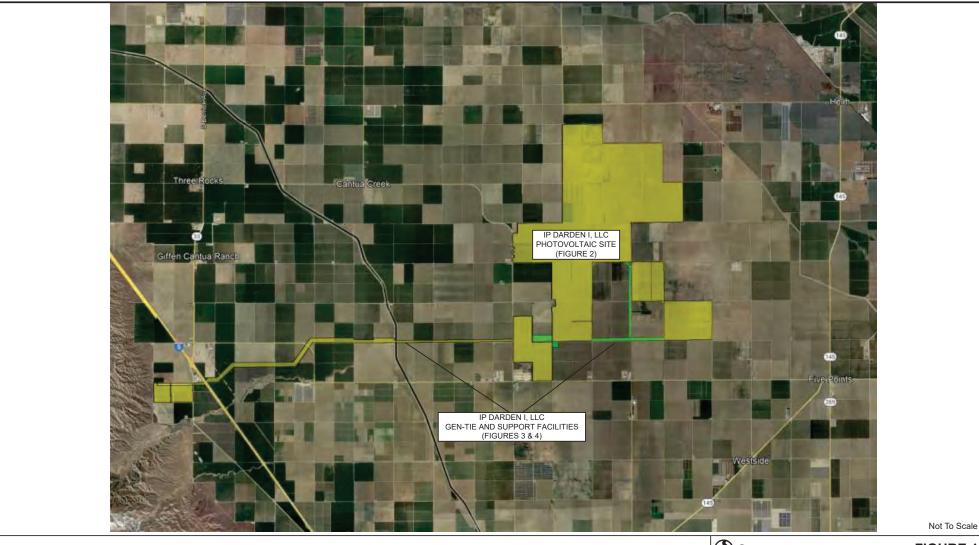
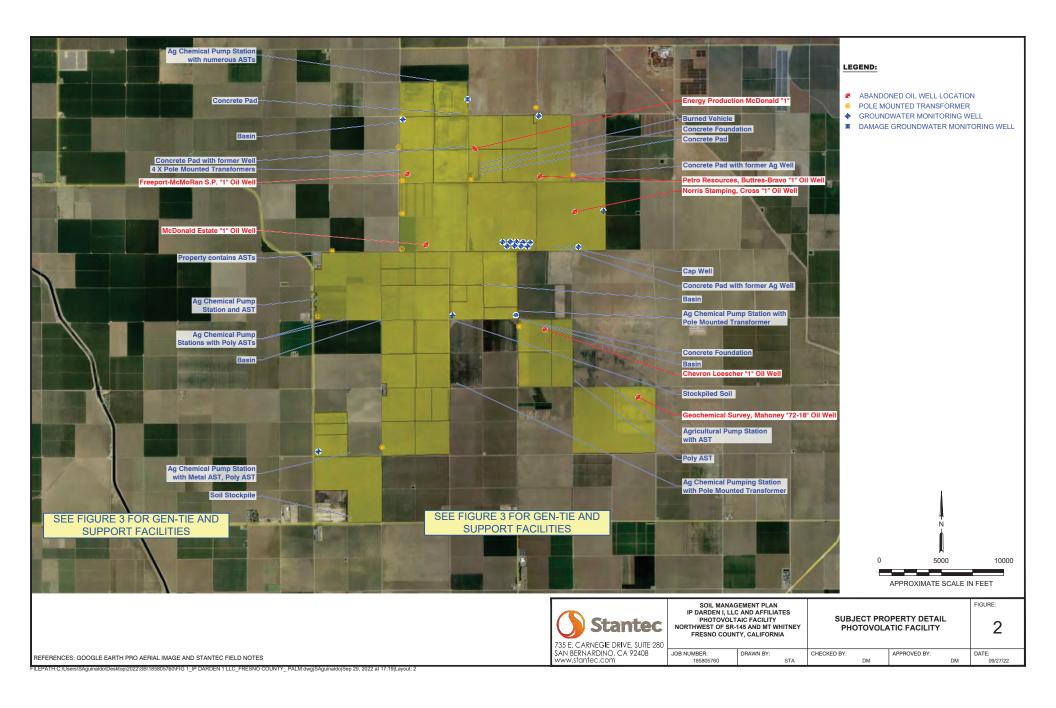
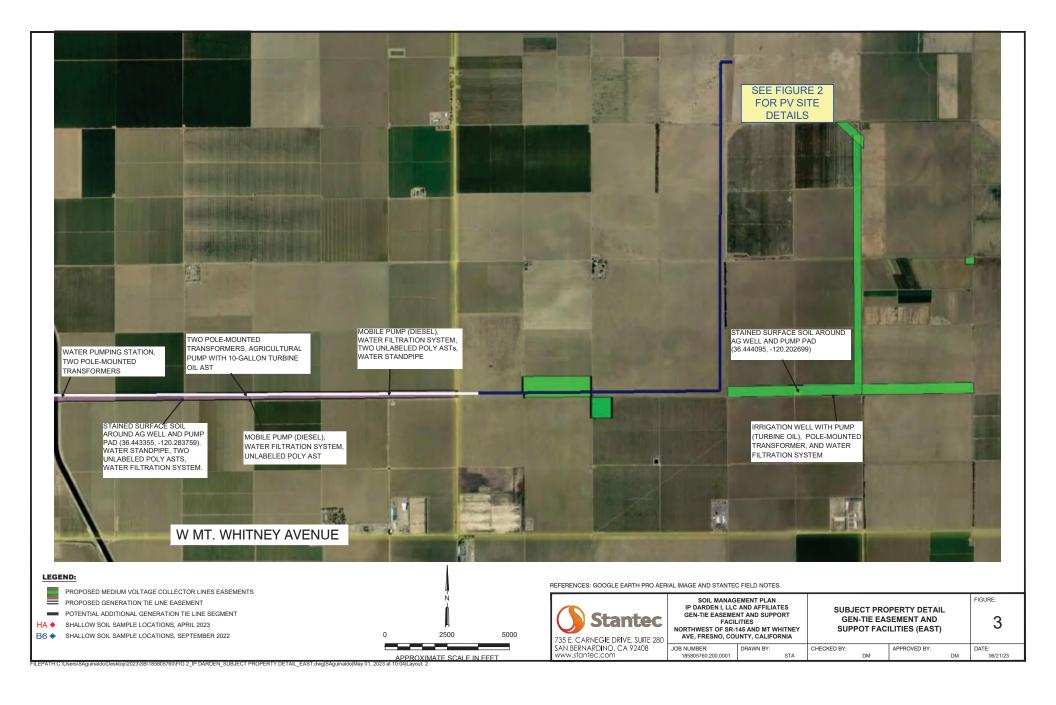


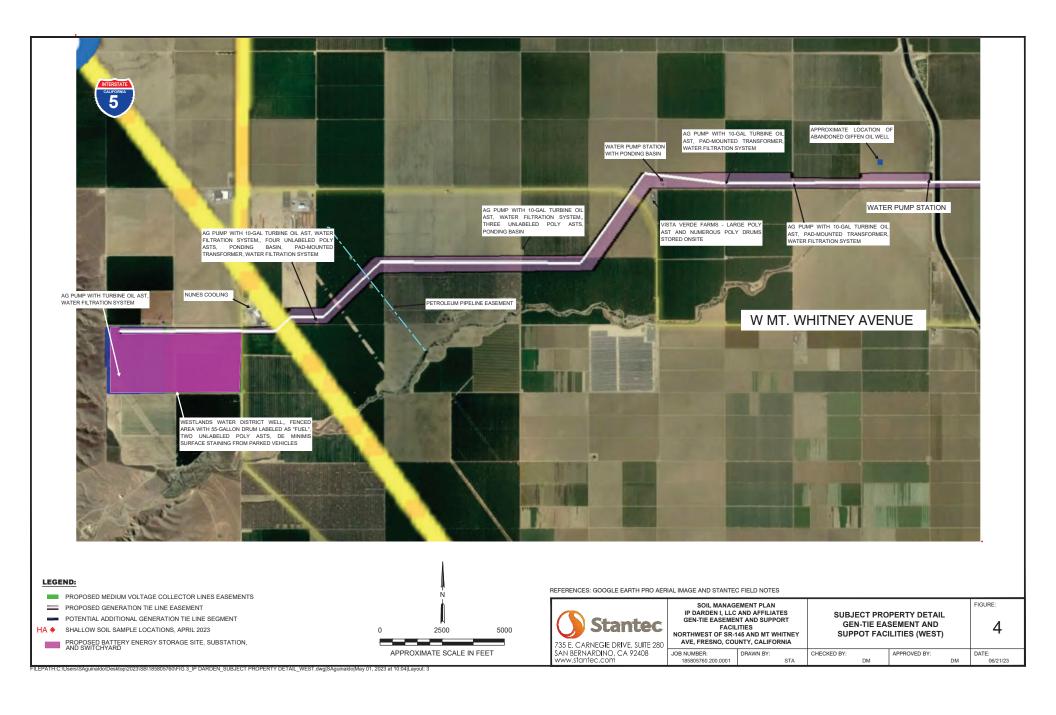


FIGURE 1

Site Location Map IP Darden I, LLC and Affiliates Fresno County, California







APPENDIX A-2

Potential Airborne Concern and Air Monitoring Action Level Tables

	Potential Airborne Concerns						
Chemical (Or Class)	OSHA PEL ACGIH TLV	Other Pertinent Limits	Warning Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/Target Organs	
TPHd	 FedOSHA PEL 15 mg/m³ (total elemental carbon) FedOSHA PEL 0.2 mg/m³ (total coal tar volatiles) 	• None	Yellowish to light brown liquid	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Nausea, eye irritation, increased blood pressure, headache, light-headedness, loss of appetite, poor coordination, and difficulty concentrating. [Potential occupational carcinogen	Kidneys, circulatory system	
TPHg	 FedOSHA PEL None Established No REL Established TLV 300 ppmV 	OSHA STEL 500 ppmV ACGIH STEL 500 ppmV	Clear liquid with a characteristi c odor	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, fatigue, blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonia (aspiration liquid); possible liver, kidney damage; [Potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys	
TPHo	 FedOSHA PEL 5mg/m3 TLV 5mg/m³ 	• None	Brown-to- black, oily liquid (used) Amber colored liquid with petroleum odor (new)	Inhalation, skin absorption, ingestion, skin and/or eye contact	Slightly irritated noses, throats, and eyes, diarrhea, anemia and tremors, nausea. Irritated skin.	Respiratory system, skin (epidermis).	



	Potential Airborne Concerns							
Chemical (Or Class)	OSHA PEL ACGIH TLV	Other Pertinent Limits	Warning Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/Target Organs		
Benzene (1910.1028)	OSHA PEL 1.0 ppmV TLV 0.5 ppmV (skin)	OSHA STEL 5.0 ppmV NIOSH REL 0.1 ppmV IDLH 500 ppmV	Characterist ic benzene odor	Inhalation, dermal, ingestion, eyes	Skin (dermatitis), eye, respiratory tract irritant, headache, dizziness, nausea.	Carcinogen, CNS, eye damage, bone marrow, blood, skin.		
Toluene	FedOSHA PEL 200 ppmVTLV 50 ppmV	NIOSH REL 100 ppmV NIOSH STEL 150 ppmV IDLH 500 ppmV OSHA C 300 ppmV	Sweet, pungent, aromatic odor	Inhalation, dermal, ingestion, eyes	Skin (dermatitis) eye, respiratory tract irritant, headache, dizziness, weakness, and fatigue.	CNS, liver, kidneys, skin.		
Ethylbenzene	FedOSHA PEL 100 ppmVTLV 100 ppmV	 FedOSHA STEL 125 ppmV TLV STEL 125 ppmV NIOSH REL 100 ppmV NIOSH STEL 125 ppmV IDLH 800 ppmV 	Sweet, pungent aromatic odor	Inhalation, dermal, ingestion, eyes	Skin/eye/mucous membrane irritant, headache, dizziness, drowsiness	Eyes, respiratory tract, skin, CNS, blood, kidneys, liver.		
Total Xylenes	FedOSHA PEL 100 ppmTLV 100 ppm	 TLV STEL 150 ppm NIOSH REL 100 ppm NIOSH STEL 100 ppm IDLH 900 ppm 	Pungent, aromatic odor	Inhalation, dermal, ingestion, eyes	Throat and skin irritant (dermatitis), headache, nausea, drowsiness, fatigue	CNS, liver, kidneys, skin, gastrointestinal damage, eye damage		
Methyl Tertiary Butyl Ether (MTBE)	 FedOSHA PEL None Established TLV 540 ppm 	AIHA WEEL 100 ppm.	Extremely flammable liquid with offensive odor	Inhalation, dermal, ingestion	Irritated nose, throat, headache, dizziness, nausea, sleepiness	CNS, liver, kidney, gastrointestinal damage, potential carcinogen		



	Potential Airborne Concerns						
Chemical (Or Class)	OSHA PEL ACGIH TLV	Other Pertinent Limits	Warning Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/Target Organs	
Tert Butyl Alcohol TBA	FedOSHA PEL 100 ppmVTLV 100 ppmV	OSHA STEL 150 ppmV TLV STEL 150 ppmV	Colorless solid or liquid with a camphor like odor	Inhalation, ingestion, absorption through the skin or eye	Irritation to eyes, skin, respiratory tract, mucous membranes.	Eyes, skin, respiratory tract and mucous membranes	
Diisopropyl Ether (DIPE) (Isopropyl Ether)	FedOSHA PEL 500 ppmVTLV 250 ppmV	 NIOSH REL 500 ppmV TLV STEL 310 ppmV IDLH 1400 ppmV 	Colorless liquid with a sharp, sweet, ether-like odor.	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose; respiratory discomfort; dermatitis; in animals: drowsiness, dizziness, unconsciousness, narcosis	Eyes, skin, respiratory system, central nervous system	
Ethyl Tertiary Butyl Ether ETBE	 FedOSHA PEL None established TLV 25 ppmV 	NIOSH REL None established	Extremely flammable, clear, colorless liquid, week ether-like odor (13 ppm odor threshold)	Inhalation, ingestion, skin absorption (slight) eyes	Irritation to the skin or eyes, respiratory tract, coughing, shortness of breath, headaches, dizziness, drowsiness, narcosis, physical and mental impairment, unconsciousness, central nervous system effects vomiting, mild to severe pulmonary injury.	Skin, eyes, respiratory tract, central nervous system, potential carcinogen, potential mutagen.	
Tertiary Amyl Methyl Ether TAME	 FedOSHA PEL None established TLV 20 ppmV 	NIOSH REL None established	Extremely flammable, clear, colorless liquid with a weak ether like odor	Inhalation, ingestion, skin absorption, eyes	Irritation to the eyes, skin, respiratory tract, gastrointestinal tract, nausea, vomiting and diarrhea.	Nervous system reproduction system, potential carcinogen, potential mutagen.	



	Potential Airborne Concerns							
Chemical (Or Class)		OSHA PEL ACGIH TLV		Other Pertinent Limits	Warning Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/Target Organs
Hydrogen Sulfide	•	FedOSHA PEL 20 ppmV TLV 10.0 ppm (5.0 ppm is proposed)	•	NIOSH REL 10 ppm Ceiling IDLH 100 ppmV	Colorless gas with a strong odor of rotten eggs. NOTE WELL: Sense of smell becomes rapidly fatigued & can NOT be relied upon to warn of the continuous presence of H ₂ S.	Inhalation, dermal, eyes	Irritation to eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), dizziness, headache, fatigue.	Photophobia (abnormal visual intolerance to light), corneal vesiculation; irritability, insomnia; gastrointestinal disturbance. Target organs: eyes, respiratory system, central nervous system

Abbreviation	Explanation					
AIHA WEEL	Workplace Environmental Exposure Level set by the AIHA (American Industrial Hygiene Association)					
С	Ceiling Limit (not to be exceeded for any period of time)					
CNS	Central Nervous System					
CVS	Cardiovascular System					
IDLH	Immediately Dangerous to Life or Health					



Abbreviation	Explanation						
NIOSH	National Institute for Occupational Safety and Health						
PEL	Permissible Exposure Limit set by OSHA (8-hour time-weighted average [TWA])						
REL	Recommended Exposure Limit set by NIOSH (8-hour TWA)						
SKIN	Skin Absorption is a significant potential contributor to total exposure						
STEL	Short Term Exposure Limit (15-minute average)						
TLV	Threshold Limit Value set by the ACGIH (American Conference of Governmental Industrial Hygienists; 8-hour TWA)						

	Air Monitoring Action Levels							
Chemical (or Class)	Monitoring Equipment	Task	Monitoring Frequency/ Location	Level For Respirator Use	Level For Work Stoppage			
Volatile Organic Vapors	PID as appropriate for chemicals of concern. Read manual to	While onsite during disruption of soil or where VOCs are likely	Air monitoring instrument should be "bump checked" with standard calibration gas prior to use.	Respirator to be used will be full-face piece respirator with organic	At 25 ppm in breathing zone, Stop Work immediately.			
	determine.	to be present.	Sampling will be continuous during the project while disturbing potentially contaminated soil or uncovering/removing tanks and piping, or during drilling. At least every 15 minutes in the breathing zone. Sample at the exclusion zone boundaries every 30 minutes. Continuously sample during each soil and groundwater sampling interval.	vapor/P 100 combination cartridges. The level for respirator use will be 5 ppm on the PID, sustained for two minutes. At donning respirator level, determine cause of exposure and implement engineering controls to reduce concentrations.	Continuously attempt to determine cause of exposure and usage of engineering controls to attempt to never reach the stop work level.			



	Air Monitoring Action Levels							
Chemical (or Class)	Monitoring Equipment	Task	Monitoring Frequency/ Location	Level For Respirator Use	Level For Work Stoppage			
Oxygen/LEL (Flammables)	Combustible Gas/Oxygen Meter	Disruption of soil. Disconnecting and removal of piping. Removal of the tank. Removal of contaminated soil. Confined space entry.	The meter should be "bump checked" with standard calibration gas prior to use. From start of disruption of potentially contaminated soil through removal of any contaminated soil. Confined space: prior to entry of space, thoroughly check, and continuously while in space.	None. If <19.5% and emergency conditions exist, dial 911 and request emergency responders.	<19.5 % oxygen >23.5% oxygen > 0% LEL (if performing hot work) >10% LEL (if not performing hot work)			
Hydrogen Sulfide	Hydrogen sulfide meter	Disruption of soil. Disconnecting and removal of piping. Removal of the tank. Removal of contaminated soil. Confined space entry.	The meter should be "bump checked" with standard calibration gas prior to use. Hydrogen sulfide monitor should be with personnel at all times. Sampling should be continuous during the project	Stop work and evacuate the area at 10 ppm Note that atmospheres with appreciable amounts (1 ppm or greater) of H2S are potentially indicative of a larger problem. Be proactive at identify sources and contacting project managers before larger problems surface!	10 ppm SCBA with a full-face mask or a positive-pressure supplied air-line respirator with an escape bottle may be used with H2S concentrations of 10 ppm and greater.			
Total particulate	MIE Data Ram Manuf: Model: Serial #:	Soil disruption during excavation.	Continuous. Move the device around the boundaries of the exclusion zone.	10 mg/m ³	15 mg/m ³			

• The Level for Respirator Use is the concentration at which a respirator will be put on; it does not require the job to stop. The respirator is a tool to be used while determining why the exposure has reached that concentration. Take action to reduce the concentration using engineering controls such as water mist, spray foam, plastic cover, etc.



- The Level for Work Stoppage is the concentration at which work on the job will stop. Determine why exposures have reached that concentration and how they can be reduced. Site evacuation is not necessary at this level. Implement engineering controls to reduce the concentration, and then resume work.
- PIDs Photoionization Detectors are used for general hydrocarbon monitoring; an example would be benzene, toluene, ethylbenzene, and xylene, common on gasoline station sites. The PID typically uses either a 10.6 eV lamp (responds to pentane and higher hydrocarbons), or 11.7 eV lamp (responds to ethane [weakly], propane and higher hydrocarbons) to ionize and detect the gas. The PID will measure hydrocarbons that are ionized, and therefore is a screening device, not a chemical-specific measurement instrument. Benzene Meter RAE Systems UltraRAE 3000 PID/Benzene Monitor.
- Combustible Gas Meters Measure 10% of the LEL or Lower Explosive Limit for the particular gas of concern check the MSDS for the LEL. Combustible gas meters are usually equipped with an oxygen monitor measuring in % Oxygen. These meters are used in potentially explosive environments or where the PID measurement is at or above 100ppm. Example: Gasoline has an LEL of 1.7%. 1% = 10,000 PPM. LEL of 1.7% = 17,000 PPM and 10% of that is 1700 PPM.
- The Levels for Work Stoppage are based on measurements taken using PIDs calibrated with isobutylene; PIDs calibrated with gases other than isobutylene may have a different response factor.
- Action levels can be modified with particular knowledge of contaminants and site conditions.



Appendix B-2

Example Photographs of Potential Contaminant Sources and Abandoned Oil Well Sites





IP Darden I, LLC Project: **Sopil Management Plan** Client: Site Name: IP Darden I, LLC Site Location: Photograph ID: 1 Comments: Example of abandoned oil well casing Photograph ID: 2 Comments: Example of abandoned oil well casing