INFORMATION HANDOUT

For Contract No. 07-281504
At 07-LA,Ven-101-29.3/38.2,0.0/1.2

Identified by
Project ID 0700000552

MATERIALS INFORMATION

Site Investigation Report Aerially Deposited Lead Site Investigation, For Roadside Improvements, LA-101 and VEN-101

Fiber optic system as-built drawings.

SITE INVESTIGATION REPORT

AERIALLY DEPOSITED LEAD SITE INVESTIGATION FOR ROADSIDE IMPROVEMENTS
LA-101 AND VEN-101, LOS ANGELES AND VENTURA COUNTIES, CALIFORNIA
LOCATION: LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)

E-FIS NUMBER: 0700000552
EA NUMBER: 281501
TASK ORDER NO. 27

STANTEC PROJECT NO.: 185832027

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District 7 – 07A3322
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EXECUTIVE SUMMARY

At the request of the California Department of Transportation (Caltrans) District 7, an aerially deposited lead (ADL) site investigation (SI) was conducted to evaluate the potential presence of lead and Title 22 metals in subsurface soils along sections of Interstate 101 (I-101) within Los Angeles and Ventura Counties, California. The Project Area extends from the northbound and southbound sides of I-101 in Los Angeles County (LA-101), post mile (PM) 29.1 to 38.2 and I-101 in Ventura County (VEN-101) PM 0.0 to 1.4, from its intersection of Mureau Road in Los Angeles County to Fairview Road in Ventura County. The objective of the SI is to evaluate potential constituents of concern, specifically ADL, in the subsurface soil profile within the proposed construction areas and to make recommendations for re-use or disposal of excess soil at each location.

The Task Order No. 27 (TO-27) request stated that soil samples will be collected from the unpaved areas of 30 of the 42 best management practice (BMP) sites within the Caltrans right of way (ROW). The remaining 12 sites, which are located between Kanan Road in Los Angeles County and Lakeview Road in Ventura County (LA-101, PM 34.2/38.2 and VEN-101, PM 0.0/0.26), were to be evaluated using nearby historical data from a 2006 investigation conducted by Ninyo & Moore (Lead Site Investigation Report, Task Order No. 07A1752-12, April 11, 2006).

The analytical results from this SI along with the results previously reported by Ninyo & Moore in 2006, were used to determine the re-use or disposal options of the ADL-impacted soil that will be generated from the proposed 42 BMP sites.

Soil samples were collected from a total of 39 borings. Soil samples were collected from the surface to 0.5 feet (surface), one to 1.5 feet and two to 2.5 feet below ground surface (bgs) at 32 boring locations (1282-101, -105 through -117, -119 through -122, -124 through -135, and 137 through 139). Soil samples were collected from the surface to 0.5 feet, one to 1.5 feet, two to 2.5 feet, and 4.5 to five feet bgs at seven of the 39 boring locations (1293-102 through -104, -118, -123, and -136). All borings were advanced using a hand auger. Soil samples were collected from their target intervals, unless refusal was encountered prior to reaching the target depth. Field personnel made three attempts at each boring location to reach the desired sampling depth. Step-out attempts were made within a two-foot area from the original boring location. The target depth of 2.5-feet bgs was not achieved in four borings (1293-106, -109, -110, and -116) and the target depth of 4.5-feet bgs was not achieved in three borings (1293-102, -103, and -123) due the presence of gravel, cobbles, and boulders.

Soil samples collected from each boring were analyzed for total lead and soluble lead by the California Waste Extraction Test (Cal WET) using citric acid as the extractant. Select soil samples were analyzed for soluble lead by the Cal WET using deionized

water (DI) as the extractant and soluble lead by the Toxicity Characteristic Leaching Procedure (TCLP), Title 22 metals, and pH.

The following summarizes investigative findings for the BMPs from both the Stantec investigation and those historical data from the 2006 Ninyo & Moore investigation:

- Total Lead: A total of 114 soil samples were analyzed for total lead and an additional 44 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.16 milligrams per kilogram [mg/kg]) to 600 mg/kg.
- Cal WET-Citric Soluble Lead: A total of 114 soil samples were analyzed for soluble lead by Cal WET-Citric and an additional 18 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.038 milligrams per liter [mg/L]) to 89 mg/L.
- Cal WET-DI Soluble Lead: A total of 21 soil samples were analyzed for soluble lead by Cal WET-DI and an additional 12 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.038 mg/L) to 1.1 mg/L.
- TCLP Soluble Lead: A total of 38 soil samples were analyzed for soluble lead by the Federal TCLP and an additional nine soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.0019 mg/L) to 10 mg/L.
- A total of 13 soil samples were analyzed for Title 22 metals and an additional four soil samples were included in the study from Ninyo & Moore's 2006 investigation. None of the analytes were reported at concentrations above agency thresholds or guidelines, other than lead and arsenic.
- pH: A total of 13 soil samples were analyzed for pH and an additional soil sample was included in the study from Ninyo & Moore's 2006 investigation. The pH results ranged from 6.1 to 8.1.

Based on the findings and results of the investigation, the following are concluded:

1. Subsurface soils within the investigation profile are impacted with ADL.
2. Detections of total lead were reported at concentrations below the California hazardous waste total threshold limit concentration (TTLC) 1,000 mg/kg.
3. Cal WET-Citric concentrations exceeded the STLC of 5 mg/L in 33 of the 132 samples evaluated.
4. TCLP soluble lead concentrations were below the Federal toxicity characteristic threshold of 5 mg/L with exception to one sample from Ninyo & Moore's 2006 investigation (sample 878-123-0.0 with a TCLP concentration of 10 mg/L).
5. pH was reported at concentrations ranging between 6.1 and 8.1.

6. Title 22 metals, other than lead, did not exceed USEPA commercial/industrial RSLs with the exception of arsenic. Detections of arsenic were reported at concentrations below the the DTSC upper limit for background of 12 mg/kg. Title 22 metals, other than lead, were reported at concentrations below their respective California hazardous waste TTLCs and consistent with non-hazardous waste.

Based on the findings, results, and conclusions of the investigation, soil in the investigation area is impacted by ADL. Recommendations for disposal of excess soil at each location are summarized below:

1. Due to the presence of ADL at hazardous concentrations, construction activities should be conducted under the guidance of a Lead Compliance Plan (LCP) and any additional measures to protect workers and public from exposure to lead and other hazardous substances.

2. All construction activities should be conducted under a site specific HASP and in accordance with California and the U.S. Occupational Safety and Health Administration (OSHA) HAZWOPER standards and guidelines for worker protection.

3. Excavated soil at the BMP locations may be disposed in accordance with the recommendations in Table 1. The following table summarizes off-site disposal and on-site reuse recommendations for each of the Bio-Strip, Austin Sand Filter and Bio-Swale BMPs.

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
Bio-Strips					
1	146	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			2-Feet	X	X
8	176	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
9	162	Bio-Strip	Surface	Z-2	Y-1
11	164	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
12	172	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
13	168	Bio-Strip	Surface	X	X
			1-Foot		
14	167B	Bio-Strip	Surface	X	X
			1-Foot		
21	247	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
25	261	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
26	262	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
27	259A	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
28	263	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
29	273	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			1.5-Feet		
33	280	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
34	283B	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
36	287	Bio-Strip	Surface	X	X
			1-Foot		
			1.5-Feet		
Austin Sand Filters					
2	147	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		
3	150	Austin Sand Filter	Surface	X	X
			1-Foot		
			2-Feet		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
4	178	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
			5-Feet		
17	240	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
			5-Feet		
22	251	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
30	274	Austin Sand Filter	Surface	X	X
			1-Foot		
31	277	Austin Sand Filter	Surface	Z-3	Z-3
			1-Foot	Z-2	Y-1
			1.5-Feet		
38	292A	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
41	4	Austin Sand Filter	Surface	X	X
			1-Foot		
			2-Feet		
			5-Feet		
Bio-Swales					
5	177	Bio-Swale	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		
6	159	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
7	160	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
10	166	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
15	167A	Bio Swale	Surface	X	X
			1-Foot		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
16	174	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
18	244	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
19	245B	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
20	245A	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
23	257	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
24	259B	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
32	279	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
35	284A	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
37	288B	Bio-Swale	Surface	X	X
			1-Foot		
			1.5-Feet		
39	291	Bio-Swale	Surface	X	X
			1-Foot	X	X
			1.5-Feet	Z-2	Y-1
40	1	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
42	7	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		

4. All soil should be managed, handled, transported and disposed in accordance with regulatory guidelines, requirements, permits and laws.

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

At the request of the California Department of Transportation (Caltrans) District 7, an aerially deposited lead (ADL) site investigation (SI) was conducted to evaluate the potential presence of ADL in subsurface soils along sections of Interstate 101 (I-101), within Los Angeles and Ventura Counties, California. The Project Area extends from the northbound and southbound sides of I-101 in Los Angeles County (LA-101), post mile (PM) 29.1 to 38.2 and I-101 in Ventura County (VEN-101) PM 0.0 to 1.4, from its intersection of Mureau Road in Los Angeles County to Fairview Road in Ventura County. The work was conducted pursuant to the provisions in Agreement 07A3322, the Task Order No. 27 (TO-27) request, and Stantec's proposal dated July 23, 2015.

1.2 PURPOSE AND OBJECTIVES

The objective of the SI is to evaluate potential constituents of concern, specifically ADL, in the subsurface soil profile within the proposed construction areas and to make recommendations for disposal of excess soil, as necessary. The results of this site investigation will also assist the contractor in developing an appropriate health and safety plan/Lead Compliance Plan and training program for the field staff as required per Title 8 of the California Code of Regulations (8CCR) and Cal-OSHA Construction Safety Order.

1.3 BACKGROUND

According to the TO-27 Request, dated July 27, 2015, Caltrans is currently preparing Plans, Specifications, and Estimates (PS&E) to improve the roadside along I-101. Roadside improvements consist of the construction of best management practices (BMP) structures. These structures consist of Austin Sand Filters, Bio-Swales, Bio-Strips and their associated maintenance pullouts, drainage systems, dikes and metal bean guard rails (MBGR).

The TO-27 request stated that soil samples will be collected from the unpaved areas of 32 of the 46 BMP sites within the Caltrans right of way (ROW). The remaining 14 sites, which are located between Kanan Road in Los Angeles County and Lakeview Road in Ventura County (LA-101, PM 34.2/38.2 and VEN-101, PM 0.0/0.26), were to be evaluated using nearby historical data from a 2006 investigation conducted by Ninyo & Moore (Lead Site Investigation Report, Task Order No. 07A1752-12, April 11, 2006). After completion of the field activities, the scope of work was adjusted by the Caltrans Project Manager. A total of 42 total BMPs were evaluated (30 locations where Stantec advanced borings and 12 locations where the 2006 Ninyo & Moore data was used). Sample data from borings 1293-124, -137 and -138 are no longer associated with any BMP location.

The analytical results from this SI along with the results previously reported by Ninyo & Moore in 2006, were used to determine the re-use or disposal options of the ADL-impacted soil that will be generated from the proposed 42 BMP sites.

The remainder of this report describes the scope of work, methodology, findings, results, conclusions and recommendations.

2.0 PROJECT SETTING

This section describes the project setting including a description of the Project Area, the physiographic setting of the Project Area, the geology and hydrogeology, and a description of the area around the Project Area.

2.1 PROJECT AREA DESCRIPTION

The Project Area consists of 42 BMP locations along certain segments of the northbound and southbound shoulders of I-101 which are identified below.

- Los Angeles County (LA-101) between Post Mile (PM) PM 29.1 and PM 38.2, and
- Ventura County (VEN-101) between PM 0.0 and PM 1.4.

2.2 PHYSIOGRAPHIC SETTING

The topography along the northbound and southbound shoulders of I-101 slopes westerly as the alignment descends south from an approximate elevation of 922 feet above mean sea level (amsl) when heading east along I-101 from Fairview Avenue to an approximate elevation of 946 feet amsl near Mureau Road. (USGS, Thousand Oaks [1950 and photorevised in 1981]).

2.3 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Project Area is located within the Transverse Ranges Geomorphic Province of California. The Transverse Ranges extend from the Santa Ynez River and San Andreas Fault in the north to the Los Angeles Basin in the south. From the east, the Transverse Ranges extend from the Colorado and Mojave Deserts to Point Arguello and San Miguel Island to the west. The Transverse Ranges are characterized by east-west trending mountain ranges, valleys, and associated faults and folds. The Site is underlain by alluvium and unconsolidated deposits of silt, sand, and gravel (CDCDMG, 1986).

According to DWR's Bulletin 118, the Project Area lies in the Conejo Valley Groundwater Basin within the South Coast Hydrologic Region. The Conejo Valley Basin primary water-bearing units are Quaternary alluvium and the Modelo, Topanga, and Conejo Formations. The Quaternary alluvium in the basin is generally only a few feet thick, except near Newbury Park and Thousand Oaks where it can reach up to 60 feet thick. The Miocene Modelo Formation consists of marine sandstones and shales. The unit reaches a thickness of 6,500 feet regionally and unconformably overlies the Topanga and Conejo Formations. The Miocene age Topanga Formation and Conejo Formation are coeval intercalated deposits. The Topanga Formation contains sandstone, conglomerate, and shale in the Conejo area. The Conejo Formation contains volcanic tuff, debris flow, and basaltic flow and breccia deposits that reach 13,000 feet thick. The Conejo Valley Basin is bounded by surface drainage divides (DWR, 2004).

2.4 SITE VICINITY

The Project Area surroundings are comprised largely of commercial with minor residential and industrial properties interspersed along the Caltrans ROW.

3.0 SCOPE OF WORK

The following subsections present the original scope of work as outlined in the task order and deviations from the original scope of work.

3.1 ORIGINAL TASK ORDER SCOPE OF WORK

The original scope of work as described in the task order consisted of the following general elements:

BMP Location numbers 1-28, 41 and 42

- Pre-field activities
  - Development of a site specific health and safety plan;
  - Notification to Underground Service Alert (USA) for inquiry identification numbers; and
  - Coordination of equipment and subcontractors.

- Field Investigations
  - Set-up of traffic control at each location;
  - Advancement of seven hand auger borings (1293-102 through -104, -118, -123, and -136) with samples collected at four depths (surface to 0.5 feet, one to 1.5 feet, two to 2.5 feet, and 4.5 to five feet);
  - Advancement of 32 hand auger boring (1282-101, -105 through -117, -119 through -122, -124 through -135, and 137 through 139) with samples collected at three depths (surface to 0.5 feet, one to 1.5 feet and two to 2.5 feet bgs);
  - Collection and preservation of 124 soil samples from 39 borings;
  - Collection of field quality control samples;
  - Boring location survey using global positioning system (GPS);
  - Boring abandonment; and
  - Disposal of investigation-derived wastes (IDW).

- Laboratory analysis of soil samples
  - Analysis of all soil samples for total lead by United States Environmental Protection Agency (USEPA) Test Method 6010B;
  - Analysis of all soil samples for soluble lead by the California Waste Extraction Test (Cal WET) using citric acid as the extractant;
  - Analysis of all soil samples with California hazardous waste Soluble Threshold Limit Concentration (STLC) results greater than 5.0 milligrams per liter (mg/L) for soluble lead by the California Waste Extraction Test (Cal WET) using deionized water (DI) as the extractant;
  - Analysis of 37 soil samples with the highest total lead by the Toxicity Characteristic Leaching Procedure (TCLP) by USEPA Test Method 1311;

- Analysis of 12 soil samples with the highest total lead concentration for Title 22 metals by USEPA Test Method 6010B/7000 and for pH by USEPA Test Method 9045C; and
- Analysis of 12 soil samples with the highest total lead concentration for Title 22 metals by USEPA Test Method 6010B/7000 and for pH by USEPA Test Method 9045C.

BMP Location numbers 29-40

- Review of historical data prepared by Ninyo & Moore (Lead Site Investigation Report, Task Order No. 07A1752-12, April 11, 2006) and identification of nearby data for locations 29 to 40 to be used to characterize excess soil excavated from these locations.

All Locations

- Data evaluation and report preparation.

3.2 DEVIATIONS FROM TASK ORDER SCOPE OF WORK

The following describes deviations from the original task order scope of work:

1. The TO-27 request stated that soil samples will be collected from the unpaved areas of 32 of the 46 BMP sites within the Caltrans ROW. The scope was adjusted by the Caltrans Project Manager. A total of 42 total BMPs were evaluated (30 locations where Stantec advanced borings and 12 locations where the 2006 Ninyo & Moore data was used). Soil borings 1293-124, -137, and -138 are no longer associated with a BMP location. The analytical results are included in Table 1, but soil at these borings is not classified for disposal or on-site reuse.
2. The nearest borings associated with location numbers 30 (BMP number 274), 38 (BMP number 292A), and 39 (BMP number 291) were located greater than 700 feet from the proposed BMP locations; however, these data were used to characterize BMPs 274, 292A, and 291; respectively.
3. The target depth of 2.5-feet bgs was not achieved in four borings (1293-106, -109, -110, and -116) due the presence of gravel, cobbles, and boulders.
4. The target depth of 4.5-feet bgs was not achieved in three borings (1293-102, -103, and -123) due the presence of gravel, cobbles, and boulders.

4.0 SOIL INVESTIGATION METHODOLOGY

The ADL SI was conducted for 30 BMP locations (location numbers 1-28, 41 and 42) in general accordance with the methods and requirements of Contract 07A3322, the TO-27 request, and Stantec's proposal dated July 23, 2015. The following subsections summarize the methodology implemented in completing the required scope of work. In addition, any deviations from the scope of work are identified in section 3.2 of this report.

4.1 PRE-FIELD ACTIVITIES

Prior to beginning field work, the scope of work was reviewed and approved by Caltrans. Proposed sample locations designated on figures provided by Caltrans were checked for accessibility in the field through site reconnaissance.

As required by TO-27, a site-specific Health and Safety Plan (HASP) was used in accordance with California Occupational Safety and Health Administration (Cal OSHA) requirements to guide field sampling activities. The HASP describes health and safety procedures and was submitted to Caltrans for approval prior to initiating field activities. A pre-field tail gate health and safety meeting was conducted at the Project Area with field personnel prior to beginning work each day. During the tail gate meeting, daily work activities and health and safety issues were discussed, including the following:

- Field tasks to be conducted throughout the day;
- Project schedule;
- Hazard awareness;
- General health and safety practices, procedures and issues;
- Health and Safety procedures, controls, etc.;
- Engineering controls; personal protective equipment and monitoring;
- Traffic control and safety; and
- Emergency procedures and contacts.

Field documentation of health and safety meetings and monitoring were maintained throughout the duration of field activities. A copy of the completed field forms are provided in Appendix A.

Stantec contacted USA to obtain inquiry identification numbers for the boring locations prior to the start of work. Locations were pre-marked in the field as required by USA. USA inquiry identification numbers are shown below.

- A52110175
- A52110180
- A52110507
- A52110516
- A52110530
- A52110551
- A52110562
- A52110568
- A52110596

- A52110599
- A52110621
- A52110628
- A52110648

4.2 FIELD INVESTIGATIONS

Field investigations were conducted on July 29 and August 3 and 4, 2015. The weather was sunny throughout each day. There were no weather-related restrictions during the field investigation. The following subsections describe the methodology and procedures followed in conducting the field investigations.

4.2.1 *Traffic Control*

Soil borings were located no closer than six feet from the edge of pavement within existing Caltrans ROW within the proposed construction areas. To improve worker safety, traffic warning signage, cones and truck flashers were used to alert drivers of workers along the shoulders. Traffic control consisted of the following elements:

- W21-5 "Shoulder Work" signs were placed not less than 500 feet and not more than one mile from each borehole. The signs were moved as work progressed to assure that the signage follows the work. Signs were placed at the top of hills or ahead of roadway curves to improve visibility to drivers.
- High visibility reflective cones were placed along the pavement edge at least 100 feet from the work area.
- Work trucks were equipped with flashing amber strobe lights and were positioned as safety barriers between workers and oncoming traffic.

4.2.2 *Soil Borings and Sampling*

The borings were located along the northbound and southbound shoulders of I-101 at 39 locations within the Project Area. The target boring depth for 25 Bio-Swales and Bio-Strips was 2.5 feet bgs and the target boring depth for six Austin Sand Filters was 5 feet bgs. Boring locations are described on Table 1 and shown on Figures 2 through 29. Boring coordinates are provided in Appendix B and a photographic log is provided in Appendix C. The following paragraphs summarize field sample protocols.

4.2.3 *Sample Collection and Preservation*

As indicated in Section 3.2, target depths were not achieved in seven borings (1293-102, -103, -106, -109, -110, -116, and -123) due the presence of gravel, cobbles, and boulders. Field personnel made three attempts at each boring location to reach the desired sampling depth. Step-out attempts were made within a two-foot area from the original boring location. A total of 32 borings were advanced to their respective target depth (ranging from 2.5 feet to five feet bgs; see Section 3.1 for sample interval description) using a hand auger (4-inch diameter bucket).

All samples were collected from the hand auger bucket, discharged to a clean zipper lock one (1) gallon bag, manually homogenized, and then discharged to eight-once laboratory certified clean glass jars.

Upon sampling at each depth interval, the soils contained in the hand auger bucket were visually examined and logged in accordance with the August 1996 edition of the Soil & Rock Logging Classification Manual (Field Guide), State of California, Department of Transportation, Engineering Service Center, Office of Structural Foundations. A summary of the soil classifications are presented in the boring logs in Appendix D (DOT, 1996).

Each sample jar was labeled with a specific sample I.D., boring I.D., project I.D., EA number, sample date, and sample time, and then placed in an ice-filled cooler. Each sample was also recorded on a chain-of-custody (CoC) form and delivered to an environmental laboratory for analysis.

4.2.4 *Boring Locations*

All boring locations were identified and plotted on a field map with a unique boring identification (I.D.) number to represent each borehole. In addition, the spatial coordinates for each borehole were obtained at the completion of each boring using a handheld field GPS Trimble unit and recorded on field data sheets. The latitude and longitude for each boring are provided in Appendix B.

4.2.5 *Decontamination*

All sampling equipment (hand auger buckets) was decontaminated using a brush prior to advancing to the next sample depth within each borehole using a non-phosphate detergent solution and double-rinsed with distilled water.

4.2.6 *Borehole Abandonment*

Borings were abandoned by replacing and tamping soil cuttings in the borehole.

4.2.7 *Investigation Derived Wastes (IDW)*

All IDW were disposed in accordance with U.S. USEPA publication OSWER Directive 9345.3-02 entitled "Management of Investigation-Derived Waste During Site Inspections" as specified in Contract 07A3322, Method 17. Used and soiled personal protective equipment (PPE) and decontamination solid waste (i.e., used gloves, paper towels, etc.) were bagged and disposed to the municipal trash (EPA, 1991).

4.2.8 *Field Quality Assurance/Quality Control*

One equipment blank was collected for every 10 samples to evaluate the adequacy of field decontamination efforts. The equipment blanks were collected by pouring deionized water over the sampling equipment and collecting the water in appropriate sample containers. The equipment blanks were analyzed for Title 22 metals.

5.0 LABORATORY ANALYSIS

A total of 114 soil samples were submitted under CoC to Advanced Technology Laboratories (ATL). ATL is certified through the California Environmental Laboratory Accreditation Program (ELAP) to conduct the analyses required in this task order. The lab was directed to perform the following analyses:

- Total lead by USEPA test method 6010B—used to evaluate total lead concentrations against California hazardous waste total threshold limit concentration (TTLC). The contractor will also use these data in the development of a health and safety program and to assure proper disposition of non-hazardous soil.

- *Cal WET-Citric*—used to evaluate waste characteristics and the requirements for disposal against California hazardous waste Soluble Threshold Limit Concentration (STLC).

- *Cal WET-DI*—used to evaluate waste characteristics and the requirements for disposal against the Caltrans lead variance.

- *TCLP (EPA test method 1311)*—used to evaluate waste characteristics and the requirements for disposal against Federal hazardous waste toxicity characteristic thresholds.

- *Title 22 metals (EPA test method 6010B/7470)*—select samples were analyzed for the full suite of Title 22 metals (except for lead) to screen soil samples for other potentially elevated heavy metal analytes and to further characterize excess soil for off-site disposal.

- *pH (EPA test method 9045C)*—select samples were analyzed for pH to evaluate the requirements for managing and disposing of excess soil in accordance with State and Federal regulations.

Copies of the laboratory CoCs and analytical reports are attached in Appendix E.

6.0 INVESTIGATIVE RESULTS

This section describes observations, findings and results of field investigations and laboratory analysis.

6.1 FIELD FINDINGS

The soils encountered during sampling were generally yellowish brown, dark yellowish brown, brownish yellow, dark brown, dark grayish brown or very dark brown in color and consisted primarily of silty sand with gravel, well graded sand with silt and gravel, silt with sand, sandy silt, clayey silt, poorly graded to well graded sand, and fine to medium angular to sub-rounded gravel. Groundwater was not encountered in any of the boreholes and not expected to be present in shallow soils.

6.2 ANALYTICAL RESULTS

A summary of the analytical results is presented in Tables 1 and 2. Copies of the laboratory reports and CoC forms are included in Appendix E. Included with the data from Stantec's investigation are data from the 2006 Ninyo & Moore Investigation that are near BMPs included in the SOW. The following subsections summarize results from both investigations.

6.2.1 *Total Lead*

A total of 114 soil samples were analyzed for total lead by USEPA test method 6010B. An additional 44 soil samples were included in the study from Ninyo & Moore's 2006 investigation (Lead Site Investigation Report, Task Order No. 07A1752-12, April 11, 2006). Total lead concentrations ranged from non-detect (<0.16 milligrams per kilogram [mg/kg]) to 600 mg/kg (see Table 1).

6.2.2 *Soluble Lead (Cal WET- Citric)*

A total of 114 soil samples were analyzed for soluble lead by Cal WET-Citric. An additional 18 soil samples were included in the study from Ninyo & Moore's 2006 investigation. A total of 33 samples (21 from this SI and 12 from Ninyo & Moore's 2006 investigation) reported concentrations greater than or equal to 5.0 mg/L. Soluble lead concentrations ranged from non-detect (<0.038 mg/L) to 89 mg/L (see Table 1).

6.2.3 *Soluble Lead (Cal WET- DI)*

A total of 21 soil samples were analyzed for soluble lead by Cal WET-DI. An additional 12 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Soluble lead concentrations ranged from non-detect (<0.038 mg/L) to 1.1 mg/L (see Table 1).

6.2.4 *Soluble Lead (TCLP)*

A total of 38 soil samples were analyzed for soluble lead by TCLP. An additional nine soil samples were included in the study from Ninyo & Moore's 2006 investigation. TCLP

soluble lead concentrations ranged from non-detect (<0.0019 mg/L) to 10 mg/L (see Table 1). Only one sample exceeded the TCLP of 5 mg/L.

6.2.5 *Title 22 Metals*

A total of 13 soil samples were analyzed for Title 22 metals to evaluate whether concentrations of heavy metals, other than lead, would require special handling and disposal. As per the task order, select samples with the highest total lead concentrations were analyzed for Title 22 metals from the Stantec investigation. An additional four soil samples were included in the study from Ninyo & Moore's 2006 investigation. The results are tabulated in Table 2.

6.2.6 *pH*

A total of 13 soil samples were analyzed for pH. As per the task order, select samples with the highest total lead concentrations were analyzed for pH from the Stantec investigation. An additional soil sample was included in the study from Ninyo & Moore's 2006 investigation. The pH results ranged from 6.1 to 8.3 (Table 1).

6.3 DATA VALIDATION

6.3.1 *Field QA/QC*

Quality assurance and quality control (QA/QC) procedures were performed in general accordance with Stantec's proposal dated July 23, 2015 and the Task Order No. 27 request. Field QA/QC procedures included analyses of equipment blanks. Low concentrations of barium, beryllium, chromium, copper, molybdenum, nickel, and zinc were detected in the field equipment blanks analyzed for Title 22 metals (Table 2). The concentrations were reported below the Practical Quantitation Limit (PQL) but above the Method Detection Limit (MDL). The low levels may also be attributed to ambient impacts (dust) and/or artifact from the metal sampling equipment from which the sample was derived. The very low concentrations represent an insignificant impact on the quality of the data and conclusions presented in this report.

6.3.2 *Laboratory QA/QC*

Laboratory QA/QC validation was performed on data collected by Stantec. Data previously reported by Ninyo & Moore was not valiated by Stantec is reported as-is at the request of Caltrans. Prior to submitting soil samples to the laboratory, the CoC documentation was reviewed for accuracy and completeness. The laboratory reports were cross-checked with the chain-of-custody forms to confirm accurate transposing of sample information. In addition, an initial comparison of total lead and Cal WET-Citric data was conducted. Total lead and soluble lead are bivariate variables. Typically, Cal WET-Citric soluble lead concentrations are less than 10 percent of the total lead concentrations. Based on initial evaluation of the data, none of the samples collected by Stantec were flagged as suspect for re-extraction and analysis. Several of the Ninyo & Moore samples reported Cal WET-citric soluble lead at concentrations

greater than 10 percent of the total lead. These data appear to be biased high with respect to soluble lead.

Laboratory QA/QC data (field duplicates, method blanks, laboratory control samples and duplicates, matrix spike samples and duplicates) from the Stantec data set were also reviewed for compliance with QA/QC objectives. Stantec reviewed the laboratory QA/QC (duplicates, laboratory control, matrix spike and matrix spike duplicates). Other than minor issues related to natural heterogeneity of metals in soil duplicate sample analyses, and very low detections of certain metals in blank samples (common contaminants in field blanks are poured over metal sampling equipment), QA/QC data are within expected control limits and considered valid for the intended use. The following summarizes identified data QA/QC issues and associated remedy for the Stantec data.

1. Method Blanks: Several metals analytes (chromium, lead, molybdenum, nickel, silver and zinc) were reported in the method blank at very low concentrations. Associated sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit is changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action.

2. Equipment Blanks: Several metals were reported in equipment blanks at very low levels, and may be reflective of laboratory method blank detections, field artifact associated with dust, incomplete decontamination or artifact from contact with metal sampling equipment. Based on the very low detections, the contribution from these potential sources does not affect the overall quality of the results.

3. Laboratory Control Samples (LCS): No LCS samples reported percent recoveries outside of method and/or laboratory limits.

4. Laboratory Duplicate Samples: Laboratory duplicate samples were reported within the relative percent difference (RPD) control limit of 20 percent except for the following:

    a. Laboratory report 1502675; 6010B batch B5H0242 – Laboratory duplicate RPD above ±20% for Copper at 39% and Selenium at 56%. Associated results flagged "J" for 1293-123-0 only.

    b. Laboratory report 1502675; batch B5H0134 – Laboratory duplicate RPD above ±20% for STLC Lead at 25%. Associated result flagged "J" for 1293-126-0 only.

c. Laboratory report 1502675; 7471A batch B5H0245 – Laboratory duplicate RPD above ±20% for Mercury at 91%. Associated result flagged "J" for 1293-123-0 only.

d. Laboratory report 1502676; 6010B batch B5H0136 – Laboratory duplicate RPD above ±20% for STLC Lead at 55%. Associated result flagged "J" for 1293-107-1 only.

e. Laboratory report 1502676; batch B5H0137 – Laboratory duplicate RPD above ±20% for STLC Lead at 70%. Associated result flagged "J" for 1293-119-2 only.

f. Laboratory report 1502686; 7471A batch B5H0246 – Laboratory duplicate RPD above ±20% for Mercury at 24%. Associated result flagged "J" for 1293-105-2 only.

g. Laboratory report 1502687; 6010B batch B5H0146 – Laboratory duplicate RPD above ±20% for Lead at 30%. Associated result flagged "J" for 1293-125-1 only.

h. Laboratory report 1502687; batch B5H0147 - Laboratory duplicate RPD above ±20% for Lead at 21%. Associated result flagged "J" for 1293-138-0 only.

i. Laboratory report 1502687; batch B5H0173 - Laboratory duplicate RPD above ±20% for STLC Lead at 49%. Associated result flagged "J" for 1293-125-2 only.

The discrepancy appears to be related to natural sample heterogeneity and the data were qualified as indicated above.

5. Matrix Spike and Spike Duplicates: Matrix spike and duplicate samples were analyzed to assess accuracy and to evaluate matrix effects on data analysis. The percent recoveries and RPDs were found to be within laboratory-determined control limits except for the following:

   a. Laboratory report 1502676; 6010B batch B5H0083 - %R above ±40% limit for Lead at 143%. Associated result flagged "J" for 1293-118-0 only.

   b. Laboratory report 1502686; 6010B batch B5H0172 - %R below ±40% limit for Lead at 56%. Associated result flagged "J" for 1293-112-2 only.

   The discrepancy appears to be related to natural sample heterogeneity and the data were qualified as indicated above.

Based on the validation process, the data contained herein are adequate for the purposes of this study. The validated data are summarized in attached tables with appropriate qualifiers. A copy of the data validation report is included as Appendix F.

7.0 CONCLUSIONS

At the request of the Caltrans District 7, an ADL SI was conducted to evaluate the potential presence of lead and Title 22 metals in subsurface soils along sections of I-101 within Los Angeles and Ventura Counties, California. The Project Area extends from the northbound and southbound sides of I-101 in Los Angeles County (LA-101), PM 29.1 to 38.2 and I-101 in Ventura County (VEN-101) PM 0.0 to 1.4, from its intersection of Mureau Road in Los Angeles County to Fairview Road in Ventura County. The objective of the SI is to evaluate potential constituents of concern, specifically ADL, in the subsurface soil profile within the proposed construction areas and to make recommendations for re-use or disposal of excess soil at each location.

The TO-27 request stated that soil samples will be collected from the unpaved areas of 30 of the 42 BMP sites within the Caltrans ROW. The remaining 12 sites, which are located between Kanan Road in Los Angeles County and Lakeview Road in Ventura County (LA-101, PM 34.2/38.2 and VEN-101, PM 0.0/0.26), were to be evaluated using nearby historical data from a 2006 investigation conducted by Ninyo & Moore (Lead Site Investigation Report, Task Order No. 07A1752-12, April 11, 2006).

The analytical results from this SI along with the results previously reported by Ninyo & Moore in 2006, were used to determine the re-use or disposal options of the ADL-impacted soil that will be generated from the proposed 42 BMP sites.

Soil samples were collected from a total of 39 borings. Soil samples were collected from the surface to 0.5 feet (surface), one to 1.5 feet and two to 2.5 feet bgs at 32 boring locations (1282-101, -105 through -117, -119 through -122, -124 through -135, and 137 through 139). Soil samples were collected from the surface to 0.5 feet, one to 1.5 feet, two to 2.5 feet, and 4.5 to five feet bgs at seven of the 39 boring locations (1293-102 through -104, -118, -123, and -136). All borings were advanced using a hand auger. Soil samples were collected from their target intervals, unless refusal was encountered prior to reaching the target depth. Field personnel made three attempts at each boring location to reach the desired sampling depth. Step-out attempts were made within a two-foot area from the original boring location. The target depth of 2.5-feet bgs was not achieved in four borings (1293-106, -109, -110, and -116) and the target depth of 4.5-feet bgs was not achieved in three borings (1293-102, -103, and -123) due the presence of gravel, cobbles, and boulders.

Soil samples collected from each boring were analyzed for total lead and soluble lead by the California Waste Extraction Test (Cal WET) using citric acid as the extractant. Select soil samples were analyzed for soluble lead by the Cal WET using DI as the extractant and soluble lead by the TCLP, Title 22 metals, and pH.

The following summarizes investigative findings for the BMPs from both the Stantec investigation and those historical data from the 2006 Ninyo & Moore investigation:

- Total Lead: A total of 114 soil samples were analyzed for total lead and an additional 44 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.16 mg/kg) to 600 mg/kg.
- Cal WET-Citric Soluble Lead: A total of 114 soil samples were analyzed for soluble lead by Cal WET-Citric and an additional 18 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.038 mg/L) to 89 mg/L.
- Cal WET-DI Soluble Lead: A total of 21 soil samples were analyzed for soluble lead by Cal WET-DI and an additional 12 soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.038 mg/L) to 1.1 mg/L.
- TCLP Soluble Lead: A total of 38 soil samples were analyzed for soluble lead by the Federal TCLP and an additional nine soil samples were included in the study from Ninyo & Moore's 2006 investigation. Concentrations ranged from non-detect (<0.0019 mg/L) to 10 mg/L.
- A total of 13 soil samples were analyzed for Title 22 metals and an additional four soil samples were included in the study from Ninyo & Moore's 2006 investigation. None of the analytes were reported at concentrations above agency thresholds or guidelines, other than lead and arsenic.
- pH: A total of 13 soil samples were analyzed for pH and an additional soil sample was included in the study from Ninyo & Moore's 2006 investigation. The pH results ranged from 6.1 to 8.1.

Based on the findings and results of the investigation, the following are concluded:

1. Subsurface soils within the investigation profile are impacted with ADL.
2. Detections of total lead were reported at concentrations below the California hazardous waste TTLC 1,000 mg/kg.
3. Cal WET-Citric concentrations exceeded the STLC of 5 mg/L in 33 of the 132 samples evaluated.
4. TCLP soluble lead concentrations were below the Federal toxicity characteristic threshold of 5 mg/L with exception to one sample from Ninyo & Moore's 2006 investigation (sample 878-123-0.0 with a TCLP concentration of 10 mg/L).
5. pH was reported at concentrations ranging between 6.1 and 8.1.
6. Title 22 metals, other than lead, did not exceed USEPA commercial/industrial RSLs with the exception of arsenic. Detections of arsenic were reported at concentrations below the the DTSC upper limit for background of 12 mg/kg. Title 22 metals, other than lead, were reported at concentrations below their respective California hazardous waste TTLCs and consistent with non-hazardous waste.

8.0 RECOMMENDATIONS

Based on the findings, results, and conclusions of the investigation, soil in the investigation area is impacted by ADL. Recommendations for disposal of excess soil at each location are summarized below:

1. Due to the presence of ADL at hazardous concentrations, construction activities should be conducted under the guidance of a Lead Compliance Plan (LCP) and any additional measures to protect workers and public from exposure to lead and other hazardous substances.

2. All construction activities should be conducted under a site specific HASP and in accordance with California and the U.S. Occupational Safety and Health Administration (OSHA) HAZWOPER standards and guidelines for worker protection.

3. Excavated soil at the BMP locations may be disposed in accordance with the recommendations in Table 1. The following table summarizes off-site disposal and on-site reuse recommendations for each of the Bio-Strip, Austin Sand Filter and Bio-Swale BMPs.

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
Bio-Strips					
1	146	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			2-Feet	X	X
8	176	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
9	162	Bio-Strip	Surface	Z-2	Y-1
11	164	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		
12	172	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
13	168	Bio-Strip	Surface	X	X
			1-Foot		
14	167B	Bio-Strip	Surface	X	X
			1-Foot		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
21	247	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
25	261	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
26	262	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
27	259A	Bio-Strip	Surface	X	X
			1-Foot		
			2-Feet		
28	263	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
29	273	Bio-Strip	Surface	Z-2	Y-1
			1-Foot		
			1.5-Feet		
33	280	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
34	283B	Bio-Strip	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
36	287	Bio-Strip	Surface	X	X
			1-Foot		
			1.5-Feet		
Austin Sand Filters					
2	147	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		
3	150	Austin Sand Filter	Surface	X	X
			1-Foot		
			2-Feet		
4	178	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
			5-Feet		
17	240	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
			5-Feet		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
22	251	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
30	274	Austin Sand Filter	Surface	X	X
			1-Foot		
31	277	Austin Sand Filter	Surface	Z-3	Z-3
			1-Foot	Z-2	Y-1
			1.5-Feet		
38	292A	Austin Sand Filter	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
41	4	Austin Sand Filter	Surface	X	X
			1-Foot		
			2-Feet		
			5-Feet		
Bio-Swales					
5	177	Bio-Swale	Surface	Z-2	Y-1
			1-Foot		
			2-Feet		
6	159	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
7	160	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
10	166	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
15	167A	Bio Swale	Surface	X	X
			1-Foot		
16	174	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
18	244	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
19	245B	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
20	245A	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		

Location Number	BMP Number	BMP Device Type	Sample Depth (feet bgs)	Soil Classification for Disposal	Soil Classification for On-Site Reuse
23	257	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			2-Feet		
24	259B	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		
32	279	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
35	284A	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
			1.5-Feet		
37	288B	Bio-Swale	Surface	X	X
			1-Foot		
			1.5-Feet		
39	291	Bio-Swale	Surface	X	X
			1-Foot	X	X
			1.5-Feet	Z-2	Y-1
40	1	Bio-Swale	Surface	Z-2	Y-1
			1-Foot	X	X
42	7	Bio-Swale	Surface	X	X
			1-Foot		
			2-Feet		

4. All soil should be managed, handled, transported and disposed in accordance with regulatory guidelines, requirements, permits and laws.

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TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD and pH
ADL SITE INVESTIGATION
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
EFIS:0700000552 (EA#281501)
TASK ORDER #27 CONTRACT 07A3322

Location Number	BMP Number	BMP Device Type	Boring	Sample ID	Sample Depth (feet bgs)	Total Lead [1] (mg/kg)	Soluble Lead [1] Cal WET-Citric (mg/L)	Soluble Lead [1] Cal WET-DI (mg/L)	Soluble Lead [1] TCLP (mg/L)	pH [2]	Soil Classification for Disposal [5]	Soil Classification for On-Site Reuse [5]
1	146	Bio-Strip	1293-101	1293-101-0	Surface	360	**14**	<0.038	0.12	7.9	Z-2	Y-1
				1293-101-1	1-Foot	210	**11**	<0.038	0.098 NJ	8.3		
				1293-101-2	2-Feet	28	0.75 NJ	--	--	--	X	X
2	147	Austin Sand Filter	1293-102	1293-102-0	Surface	570	**20**	1.1	0.45	8.0	Z-2	Y-1
				1293-102-1	1-Foot	66	4.8	--	0.019 NJ	8.1		
				1293-102-2	2-Feet	270	**14**	<0.038	0.31	--		
3	150	Austin Sand Filter	1293-103	1293-103-0	Surface	27	0.95 NJ	--	--	--	X	X
				1293-103-1	1-Foot	7.2	0.042 NJ	--	--	--		
				1293-103-2	2-Feet	4.6	<0.038	--	--	--		
4	178	Austin Sand Filter	1293-104	1293-104-0	Surface	71	**5.9**	<0.038	0.014 NJ	--	Z-2	Y-1
				1293-104-1	1-Foot	25	0.55 NJ	--	--	--	X	X
				1293-104-2	2-Feet	31	0.77 NJ	--	--	--		
				1293-104-5	5-Feet	58	0.92 NJ	--	<0.0019	--		
5	177	Bio-Swale	1293-105	1293-105-0	Surface	210	**11**	<0.038	0.050	8.0	Z-2	Y-1
				1293-105-1	1-Foot	180	**13**	<0.038	<0.0019	8.1		
				1293-105-2	2-Feet	190	**13**	<0.038	0.0053 NJ	8.1		
6	159	Bio-Swale	1293-106	1293-106-0	Surface	370	**18**	<0.038	0.031 NJ	7.7	Z-2	Y-1
				1293-106-1	1-Foot	53	1.8	--	<0.0019	--	X	X
7	160	Bio-Swale	1293-107	1293-107-0	Surface	16	0.34 NJ	--	--	--	X	X
				1293-107-1	1-Foot	12	0.49 NJ	--	--	--		
				1293-107-2	2-Feet	37	1.6	--	--	--		
8	176	Bio-Strip	1293-108	1293-108-0	Surface	130	**6.4**	<0.038	0.017 NJ	--	Z-2	Y-1
				1293-108-1	1-Foot	79	4.3	--	0.0031 NJ	--	X	X
				1293-108-2	2-Feet	51	1.7	--	--	--		
			1293-109	1293-109-0	Surface	69	**5.6**	<0.038	0.017 NJ	--	Z-2	Y-1
				1293-109-1	1-Foot	22	0.49 NJ	--	--	--	X	X
9	162	Bio-Strip	1293-110	1293-110-0	Surface	71	**5.7**	<0.038	0.017 NJ	--	Z-2	Y-1
10	166	Bio-Swale	1293-111	1293-111-0	Surface	230	**9.4**	<0.038	0.035 NJ	7.0	Z-2	Y-1
				1293-111-1	1-Foot	17	1.5	--	--	--	X	X
				1293-111-2	2-Feet	11	0.17 NJ	--	--	--		
11	164	Bio-Strip	1293-112	1293-112-0	Surface	200	**11**	<0.038	0.093	7.5	Z-2	Y-1
				1293-112-1	1-Foot	140	**6**	<0.038	0.038 NJ	7.8		
				1293-112-2	2-Feet	310	**21** J	<0.038	0.20	--		
			1293-113	1293-113-0	Surface	86	**5.7**	<0.038	0.057	--		
				1293-113-1	1-Foot	26	2.4	--	--	--		
				1293-113-2	2-Feet	8.3	0.23 NJ	--	--	--		
12	172	Bio-Strip	1293-114	1293-114-0	Surface	41	1.1	--	--	--	X	X
				1293-114-1	1-Foot	31	1.1	--	--	--		
				1293-114-2	2-Feet	29	0.87 NJ	--	--	--		
13	168	Bio-Strip	1293-115	1293-115-0	Surface	41	1.4	--	--	--	X	X
				1293-115-1	1-Foot	13	0.32 NJ	--	--	--		
14	167B	Bio-Strip	1293-116	1293-116-0	Surface	100	4.4	--	0.026 NJ	--	X	X
15	167A	Bio Swale		1293-116-1	1-Foot	8.1	0.087 NJ	--	--	--		
16	174	Bio-Swale	1293-117	1293-117-0	Surface	150	**6.8**	<0.038	0.021 NJ	--	Z-2	Y-1
				1293-117-1	1-Foot	51	1.2	--	--	--	X	X
				1293-117-2	2-Feet	74	2.2	--	<0.0038	--		
17	240	Austin Sand Filter	1293-118	1293-118-0	Surface	160 J	**9.2**	<0.038	0.51	7.4	Z-2	Y-1
				1293-118-1	1-Foot	37	1.5	--	--	--	X	X
				1293-118-2	2-Feet	17	0.24 NJ	--	--	--		
				1293-118-5	5-Feet	12	0.18 NJ	--	--	--		
18	244	Bio-Swale	1293-119	1293-119-0	Surface	64	3.9	--	0.022 NJ	--	X	X
				1293-119-1	1-Foot	40	1.6	--	--	--		
				1293-119-2	2-Feet	25	1.4 J	--	--	--		
19	245B	Bio-Swale	1293-120	1293-120-0	Surface	7.5	0.43 NJ	--	--	--	X	X
20	245A	Bio-Swale		1293-120-1	1-Foot	5.8	<0.038	--	--	--		
				1293-120-2	2-Feet	6.1	<0.038	--	--	--		
21	247	Bio-Strip	1293-121	1293-121-0	Surface	10	0.067 NJ	--	--	--	X	X
				1293-121-1	1-Foot	7.1	0.041 NJ	--	--	--		
				1293-121-2	2-Feet	14	0.17 NJ	--	--	--		
			1293-122	1293-122-0	Surface	19	0.38 NJ	--	--	--		
				1293-122-1	1-Foot	8	0.051 NJ	--	--	--		
				1293-122-2	2-Feet	6.4	0.057 NJ	--	--	--		
22	251	Austin Sand Filter	1293-123	1293-123-0	Surface	240	**12**	<0.038	0.17	6.1	Z-2	Y-1
23	257	Bio-Swale		1293-123-1	1-Foot	27	0.97 NJ	--	--	--	X	X
				1293-123-2	2-Feet	20	0.63 NJ	--	--	--		
BMP removed from TO following site investigation			1293-124	1293-124-0	Surface	34	1.9	--	--	--	--	--
				1293-124-1	1-Foot	12	0.068 NJ	--	--	--		
				1293-124-2	2-Feet	8.9	0.046 NJ	--	--	--		
24	259B	Bio-Swale	1293-125	1293-125-0	Surface	42	1.4	--	--	--	X	X
				1293-125-1	1-Foot	16 J	0.41 NJ	--	--	--		
				1293-125-2	2-Feet	7.9	0.089 NJ	--	--	--		

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD and pH
ADL SITE INVESTIGATION
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
EFIS:0700000552 (EA#281501)
TASK ORDER #27 CONTRACT 07A3322

Location Number	BMP Number	BMP Device Type	Boring	Sample ID	Sample Depth (feet bgs)	Total Lead [1] (mg/kg)	Soluble Lead [1] Cal WET-Citric (mg/L)	Soluble Lead [1] Cal WET-DI (mg/L)	Soluble Lead [1] TCLP (mg/L)	pH [2]	Soil Classification for Disposal [5]	Soil Classification for On-Site Reuse [5]
25	261	Bio-Strip	1293-126	1293-126-0	Surface	59	1.7 J	--	0.0040 NJ	--	X	X
				1293-126-1	1-Foot	28	0.69 NJ	--	--	--		
				1293-126-2	2-Feet	20	0.38 NJ	--	--	--		
			1293-127	1293-127-0	Surface	35	1.7	--	--	--		
				1293-127-1	1-Foot	65	1.6	--	<0.0019	--		
				1293-127-2	2-Feet	25	0.59 NJ	--	--	--		
			1293-128	1293-128-0	Surface	79	4.6	--	0.019 NJ	--		
				1293-128-1	1-Foot	59	2.9	--	0.0088 NJ	--		
				1293-128-2	2-Feet	42	2.5	--	--	--		
26	262	Bio-Strip	1293-129	1293-129-0	Surface	36	1.7	--	--	--	X	X
				1293-129-1	1-Foot	22	0.87 NJ	--	--	--		
				1293-129-2	2-Feet	23	0.99 NJ	--	--	--		
			1293-130	1293-130-0	Surface	58	1.9	--	0.0071 NJ	--	X	X
				1293-130-1	1-Foot	49	2.7	--	0.017 NJ	--		
				1293-130-2	2-Feet	59	2.6	--	--	--		
27	259A	Bio-Strip	1293-131	1293-131-0	Surface	120	4.1	--	0.0089 NJ	--	X	X
				1293-131-1	1-Foot	17	0.56 NJ	--	--	--		
				1293-131-2	2-Feet	15	0.59 NJ	--	--	--		
			1293-132	1293-132-0	Surface	38	1.2	--	--	--		
				1293-132-1	1-Foot	15	0.42 NJ	--	--	--		
				1293-132-2	2-Feet	8.5	0.15 NJ	--	--	--		
28	263	Bio-Strip	1293-133	1293-133-0	Surface	100	3.4	--	0.0066 NJ	--	Z-2	Y-1
				1293-133-1	1-Foot	52	2.6	--	0.0078 NJ	--	X	X
				1293-133-2	2-Feet	44	1.2	--	--	--		
			1293-134	1293-134-0	Surface	100	**5.9**	<0.038	0.045 NJ	--	Z-2	Y-1
				1293-134-1	1-Foot	36	1.6	--	--	--	X	X
				1293-134-2	2-Feet	14	0.37 NJ	--	--	--		
			1293-135	1293-135-0	Surface	51	2.4	--	--	--	Z-2	Y-1
				1293-135-1	1-Foot	49	1.6	--	--	--	X	X
				1293-135-2	2-Feet	12	0.15 NJ	--	--	--		
29	273	Bio-Strip	878-117	878-117-0.0	Surface	260	**9.5**	<0.25	<1.2	--	Z-2	Y-1
				878-117-0.3	1-Foot	15	--	--	--	--		
				878-117-0.45	1.5-Feet	120	**6.4**	<0.25	<1.2	--		
30	274	Austin Sand Filter	878-121**	878-121-0.0	Surface	56	3.3	--	--	--	X	X
				878-121-0.3	1-Foot	30	--	--	--	--		
31	277	Austin Sand Filter	878-123	878-123-0.0	Surface	400	**89**	<0.25	**10**	--	Z-3	Z-3
				878-123-0.3	1-Foot	18	--	--	--	--	Z-2	Y-1
				878-123-0.45	1.5-Feet	<10	--	--	--	--		
			878-124	878-124-0.0	Surface	170	**28**	<0.25	--	--	Z-3	Z-3
				878-124-0.0*	Surface	300	--	--	--	--		
				878-124-0.3	1-Foot	190	**15**	<0.25	<1.2	--	Z-2	Y-1
				878-124-0.3*	1-Foot	210	--	--	--	--		
				878-124-0.45	1.5-Feet	170	**13**	<0.25	<1.2	--		
				878-124-0.45*	1.5-Feet	200	--	--	--	--		
32	279	Bio-Swale	878-127	878-127-0.0	Surface	600	**44**	<0.25	<1.2	--	Z-2	Y-1
				878-127-0.3	1-Foot	<10	--	--	--	--	X	X
			878-128	878-128-0.0	Surface	40	--	--	--	--	Z-2	Y-1
				878-128-0.3	1-Foot	11	--	--	--	--	X	X
33	280	Bio-Strip	878-131	878-131-0.0	Surface	140	**9.2**	0.43	--	--	Z-2	Y-1
				878-131-0.3	1-Foot	34	--	--	--	8.1	X	X
			878-132	878-132-0.0	Surface	36	--	--	--	--	Z-2	Y-1
				878-132-0.3	1-Foot	20	--	--	--	--	X	X
			878-133	878-133-0.0	Surface	65	4.7	--	--	--	Z-2	Y-1
				878-133-0.3	1-Foot	11	--	--	--	--	X	X
				878-133-0.45	1.5-Feet	<10	--	--	--	--		
			878-134	878-134-0.0	Surface	27	--	--	--	--	Z-2	Y-1
				878-134-0.3	1-Foot	23	--	--	--	--	X	X
				878-134-0.45	1.5-Feet	15	--	--	--	--		
34	283B	Bio-Swale	878-139	878-139-0.0	Surface	76	3.5	--	--	--	Z-2	Y-1
35	284A	Bio-Strip	878-140	878-140-0.0	Surface	370	**38**	0.37	<1.2	--		
				878-140-0.3	1-Foot	23	--	--	--	--	X	X
				878-140-0.45	1.5-Feet	67	3.3	--	--	--		
36	287	Bio-Strip	878-142	878-142-0.0	Surface	15	--	--	--	--	X	X
37	288B	Bio-Swale		878-142-0.3	1-Foot	28	--	--	--	--		
				878-142-0.45	1.5-Feet	49	--	--	--	--		
			878-143	878-143-0.0	Surface	52	4.1	--	--	--		
38	292A	Austin Sand Filter	878-146	878-146-0.0	Surface	180	**14**	<0.25	<1.2	--	Z-2	Y-1
				878-146-0.3	1-Foot	25	--	--	--	--	X	X
				878-146-0.45	1.5-Feet	13	--	--	--	--		
39	291	Bio-Swale	878-152	878-152-0.0	Surface	22	--	--	--	--	X	X
				878-152-0.3	1-Foot	19	--	--	--	--		
				878-152-0.45	1.5-Feet	120	**5.3**	<0.25	<1.2	--	Z-2	Y-1
40	1	Bio-Swale	878-153	878-153-0.0	Surface	60	**7.3**	<0.25	--	--	Z-2	Y-1
				878-153-0.3	1-Foot	56	4.0	--	--	--	X	X

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD and pH
ADL SITE INVESTIGATION
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
EFIS:0700000552 (EA#281501)
TASK ORDER #27 CONTRACT 07A3322

Location Number	BMP Number	BMP Device Type	Boring	Sample ID	Sample Depth (feet bgs)	Total Lead [1] (mg/kg)	Soluble Lead [1] Cal WET-Citric (mg/L)	Soluble Lead [1] Cal WET-DI (mg/L)	Soluble Lead [1] TCLP (mg/L)	pH [2]	Soil Classification for Disposal [5]	Soil Classification for On-Site Reuse [5]
41	4	Austin Sand Filter	1293-136	1293-136-0	Surface	49	2.8	--	--	--	X	X
				1293-136-1	1-Foot	4.3	<0.038	--	--	--		
				1293-136-2	2-Feet	4.9	<0.038	--	--	--		
				1293-136-5	5-Feet	<0.16	<0.038	--	--	--		
BMP removed from TO following site investigation			1293-137	1293-137-0	Surface	43	1.7	--	--	--	--	--
				1293-137-1	1-Foot	29	0.82 NJ	--	--	--		
				1293-137-2	2-Feet	9.8	0.42 NJ	--	--	--		
BMP removed from TO following site investigation			1293-138	1293-138-0	Surface	35 J	1.4	--	--	--	--	--
				1293-138-1	1-Foot	14	0.54 NJ	--	--	--		
				1293-138-2	2-Feet	3.8	<0.038	--	--	--		
42	7	Bio-Swale	1293-139	1293-139-0	Surface	76	4.0	--	0.042 NJ	--	X	X
				1293-139-1	1-Foot	26	1.4	--	--	--		
				1293-139-2	2-Feet	15	0.46 NJ	--	--	--		
QA/AC				EB1A-080315		<0.0019	--	--	--	--	--	--
QA/AC				EB1B-080315		<0.0019	--	--	--	--	--	--
QA/AC				EB2A080315		<0.0019	--	--	--	--	--	--
QA/AC				EB2B080315		<0.0019	--	--	--	--	--	--
QA/AC				EB2C080315		<0.0019	--	--	--	--	--	--
QA/AC				EB1A-080415		<0.0019	--	--	--	--	--	--
QA/AC				EB1B-080415		<0.0019	--	--	--	--	--	--
QA/AC				EB2A080415		<0.0019	--	--	--	--	--	--
QA/AC				EB2B080415		<0.0019	--	--	--	--	--	--
QA/AC				EB2C080415		<0.0019	--	--	--	--	--	--
Minimum						3.8	0.041	0.37	0.0031	6.1	--	--
Maximum						600	89	1.1	10	8.3	--	--
Mean						75.4	5.1	--	--	--	--	--
Standard Deviation						101.3	10.2	--	--	--	--	--
Type X Material Non Hazardous						<1000	<5	--	<5	>2 and <12.5	--	--
Type Y-1 Material California Non-RCRA Hazardous Waste						≤1411	--	≤1.5	<5	>5.5 and <12.5	--	--
Type Y-2 Material California Non-RCRA Hazardous Waste						≤3397	--	≤150	<5	>5 and <12.5	--	--
Type Z-2 Material California Non-RCRA Hazardous Waste						≥1000	≥5	--	<5	>2 and <12.5	--	--
Type Z-3 Material RCRA Hazardous Waste						--	--	--	≥5	≤2 or ≥12.5	--	--
DTSC HERO Screening Levels - Industrial Soils [3]						320	--	--	--	--	--	--
USEPA Regional Screening Level -Industrial Soils [4]						800	--	--	--	--	--	--

Notes:

(1) Total Lead, California Waste Extraction Test (Cal WET - Citric), and Toxicity Characteristic Leaching Procedure (TCLP) analysis done using EPA Method 6010B. Extraction methods vary.

(2) pH determined with EPA Method 9045B.

(3) - California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO), Human Health Risk Assessment (HHRA) Note 3, DTSC-modified Screening Levels (DTSC-SLs) for Lead (in mg/kg) for industrial soil.

(4) - United States Environmental Protection Agency (Region 9) Regional Screening Levels (RSLs; in mg/Kg) for VOCs for industrial and residential soil

(5) Where mutiple borings exist for a BMP locations, depth intervals are classified for disposal or on-site reuse based on the sample with the highest concentration within the designated depth interval (last updated January 2015) - Traditional Table with a Target Cancer Risk Level of 1.0x10-6 and a Target Hazard Quotient of 1.0.

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

-- = Not analyzed or not applicable

<0.0014 - Analyte not reported at or above stated detection limit

Bold = Exceeds threshold limit

QA/QC samples consisted of liquid equipment blanks (mg/L)

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

B - The analyte was detected in the method, field and/or trip blank.

D - Labortory composited duplicate.

Sample data series '878' is from Ninyo & Moore, Lead Site Investigation Report, LA-101 from 0.81 Kilometer North of Palo Comando Canyon Road to 0.16 Kilometer North of Ventura County Line, Agoura Hills, Westlake Village, and Thousand Oaks, California, Task Order No. 07A1752-12, Expenditure Authorization No. 186101, Contract No. 07A1752, Table 1, dated April 11, 2006.

Ninyo & Moore borings are estimated to be within 500 feet of the cooresponding BMP location. These locations are estimates only and should be verified by Caltrans prior to construction.

* - Ninyo & Moore 2006 Report indicates that this sample was reanalyzed.

** - Ninyo & Moore boring is located within 700 feet of the cooresponding BMP location.

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS - TITLE 22 METALS
ADL SITE INVESTIGATION
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
EFIS:0700000552 (EA#281501)
TASK ORDER #27 CONTRACT 07A3322

CALTRANS UNIQUE SAMPLE ID[1]	SAMPLE DEPTH[2]	SAMPLE DATE	TITLE 22 METALS															
			ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM	VANADIUM	ZINC	MERCURY
Regional Screening Levels [3]			*470*	*3.0*	*220,000*	*2,300*	*980*	*--*	*350*	*47,000*	*5,800*	*22,000*	*5,800*	*5,800*	*12*	*5,800*	*350,000*	*40*
Southern California Background Levels [4]			*380*	*0.6-12.0*	*133-1400*	*0.25-2.70*	*0.05-1.70*	*23-1579*	*2.7-46.9*	*9.1-96.4*	*0.1-9.6*	*9-509*	*0.015-0.430*	*13.2-39.4*	*9.8-36.2*	*75-288*	*133-236*	*0.05-0.90*
California TTLC (mg/kg)			*500*	*500*	*10,000*	*75*	*100*	*2,500*	*8,000*	*2,500*	*3,500*	*2,000*	*100*	*500*	*700*	*2,400*	*5,000*	*20*
10 x California STLC (mg/kg)			*150*	*50*	*1,000*	*7.5*	*10*	*50*	*800*	*250*	*3,500*	*200*	*10*	*50*	*70*	*240*	*2,500*	*2*
20 x RCRA Toxicity Charateristic (mg/kg)			*--*	*100*	*2,000*	*--*	*20*	*100*	*--*	*--*	*--*	*--*	*20*	*100*	*--*	*--*	*--*	*4*
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)																		
1293-101-0	Surface	8/3/2015	<0.21	6.1	230	0.42 NJ	2.1	18	5.3	210	4.1	35	0.67 NJ	<0.12	<0.36	30	150	0.06 NJ
1293-101-1	1-Foot	8/3/2015	<0.21	7.8	200	0.51 NJ	3.4	17	7.6	36	8.9	49	1.5	<0.12	<0.36	31	110	0.10
1293-102-0	Surface	8/4/2015	0.58 NJ	3.0	90	0.46 NJ	0.56 NJ	9.8	4.0	15	<0.04	12	<0.32	<0.12	<0.36	19	100	0.02 NJ
1293-102-2	2-Feet	8/4/2015	<0.21	2.3	98	0.39 NJ	1.7	9.2	3.8	16	0.81 NJ	15	<0.32	<0.12	<0.36	18	87	0.03 NJ
1293-105-0	Surface	8/4/2015	<0.21	6.7	180	0.48 NJ	2.5	17	5.0	31	5.1	34	<0.32	<0.12	<0.36	43	110	0.07 NJ
1293-105-1	1-Foot	8/4/2015	<0.21	6.6	170	0.48 NJ	2.6	17	5.1	29	5.9	39	0.51 NJ	<0.12	<0.36	43	94	0.07 NJ
1293-105-2	2-Feet	8/4/2015	<0.21	6.3	200	0.52 NJ	2.7	21	5.1	31	4.9	42	0.86 NJ	<0.12	<0.36	44	110	0.07 NJ
1293-106-0	Surface	8/4/2015	<0.21	7.4	170	0.51 NJ	3.8	21	5.7	38	8.4	50	0.40 NJ	<0.12	<0.36	51	91	0.12
1293-111-0	Surface	8/4/2015	<0.21	4.4	150	0.40 NJ	1.8	19	5.7	49	3.9	22	0.69 NJ	<0.12	<0.36	26	390	0.05 NJ
1293-112-0	Surface	8/4/2015	<0.21	4.7	140	0.42 NJ	1.8	19	4.8	39	4.1	29	0.97 NJ	<0.12	<0.36	37	180	0.06 NJ
1293-112-2	2-Feet	8/4/2015	<0.21	5.9	96	0.34 NJ	1.2	11	3.9	16	2.2	16	0.61 NJ	<0.12	<0.36	23	93	0.04 NJ
1293-118-0	Surface	8/3/2015	<0.21	3.1	67	0.25 NJ	0.56 NJ	8.0	3.6	14	0.83 NJ	8.6	<0.32	<0.12	<0.36	19	63	0.03 NJ
1293-123-0	Surface	8/3/2015	<0.21	3.8	76	0.37 NJ	2.3	15	6.5	32 J	2.9	20	0.95 NJ	<0.12	<0.36	32	150	0.11 J
878-117-0.45	1.5-Feet	1/5/2006	<2.0	<1.0	88	<1.0	1.0	15	5	17	<1.0	15	<1.0	<1.0	<1.0	25	71	<0.1
878-123-0.0	Surface	1/6/2006	<2.0	<1.0	89	<1.0	1.2	21	6	26	1.8	17	<1.0	<1.0	<1.0	26	140	<0.1
878-127-0.0	Surface	1/6/2006	<2.0	<1.0	76	<1.0	1.0	18	5.3	22	1.2	15	<1.0	<1.0	<1.0	25	140	<0.1
878-140-0.0	Surface	1/5/2006	<2.0	<1.0	82	<1.0	<1.0	34	8.8	21	<1.0	30	<1.0	<1.0	<1.0	31	110	<0.1
EB1A-080315	QA/QC*	8/3/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	<0.0006 UJB	<0.0004	<0.0014	0.0007 NJ	<0.0011	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB1B-080315	QA/QC*	8/3/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	0.0008 NJB	<0.0004	<0.0014	0.0007 NJ	0.0012 NJB	<0.0065	<0.0012	<0.0037	<0.0017	0.018 NJ	<0.15
EB2A080315	QA/QC*	8/3/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	0.0009 NJB	<0.0004	0.0017 NJ	0.0010 NJ	0.0015 NJB	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB2B080315	QA/QC*	8/3/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	<0.0007 UJB	<0.0004	<0.0014	0.0007 NJ	0.0014 NJB	<0.0065	<0.0012	<0.0037	<0.0017	0.013 NJ	<0.15
EB2C080315	QA/QC*	8/3/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	<0.0007 UJB	<0.0004	<0.0014	<0.0006	0.0015 NJB	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB1A-080415	QA/QC*	8/4/2015	<0.0073	<0.0084	<0.0003	<0.0002	<0.0004	<0.0006 UJB	<0.0004	<0.0014	<0.0006	0.0014 NJ	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB1B-080415	QA/QC*	8/4/2015	<0.0073	<0.0084	0.0007 NJ	<0.0002	<0.0004	<0.0006 UJB	<0.0004	<0.0014	<0.0006	0.0015 NJ	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB2A080415	QA/QC*	8/4/2015	<0.0073	<0.0084	0.0003 NJ	0.0003 NJ	<0.0004	0.0008 NJB	<0.0004	0.0019 NJ	0.0007 NJ	0.0019 NJ	<0.0065	<0.0013 UJB	<0.0037	<0.0017	0.015 NJ	<0.15
EB2B080415	QA/QC*	8/4/2015	<0.0073	<0.0084	<0.0003	0.0004 NJ	<0.0004	0.0007 NJB	<0.0004	0.0021 NJ	<0.0006	0.0022 NJ	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15
EB2C080415	QA/QC*	8/4/2015	<0.0073	<0.0084	<0.0003	0.0004 NJ	<0.0004	<0.0006 UJB	<0.0004	0.0020 NJ	0.0007 NJ	0.0020 NJ	<0.0065	<0.0012	<0.0037	<0.0017	<0.0087	<0.15

NOTES:

All soil results in mg/Kg

<0.5 - Analyte not reported at or above stated reporting limit

* QA/QC samples consisted of liquid equipment blanks (mg/L)

(1) - Boring identification number

(2) - Sample depth reported in feet below the ground surface

(3) - United States Environmental Protection Agency (Region 9) Regional Screening Levels (RSLs; in mg/Kg) for industrial soil (last updated January 2015)

(4) - California DTSC, Determination of a Southern California Regional Background Arsenic Concentration in Soil, March 2008. Marrett, D.J., A.L. Page, G.R. Bradford, D. Bakhtar, R.C. Graham, A.C. Chang, Background Levels of Soil Trace Elements in Southern California Soils, April, 1991

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

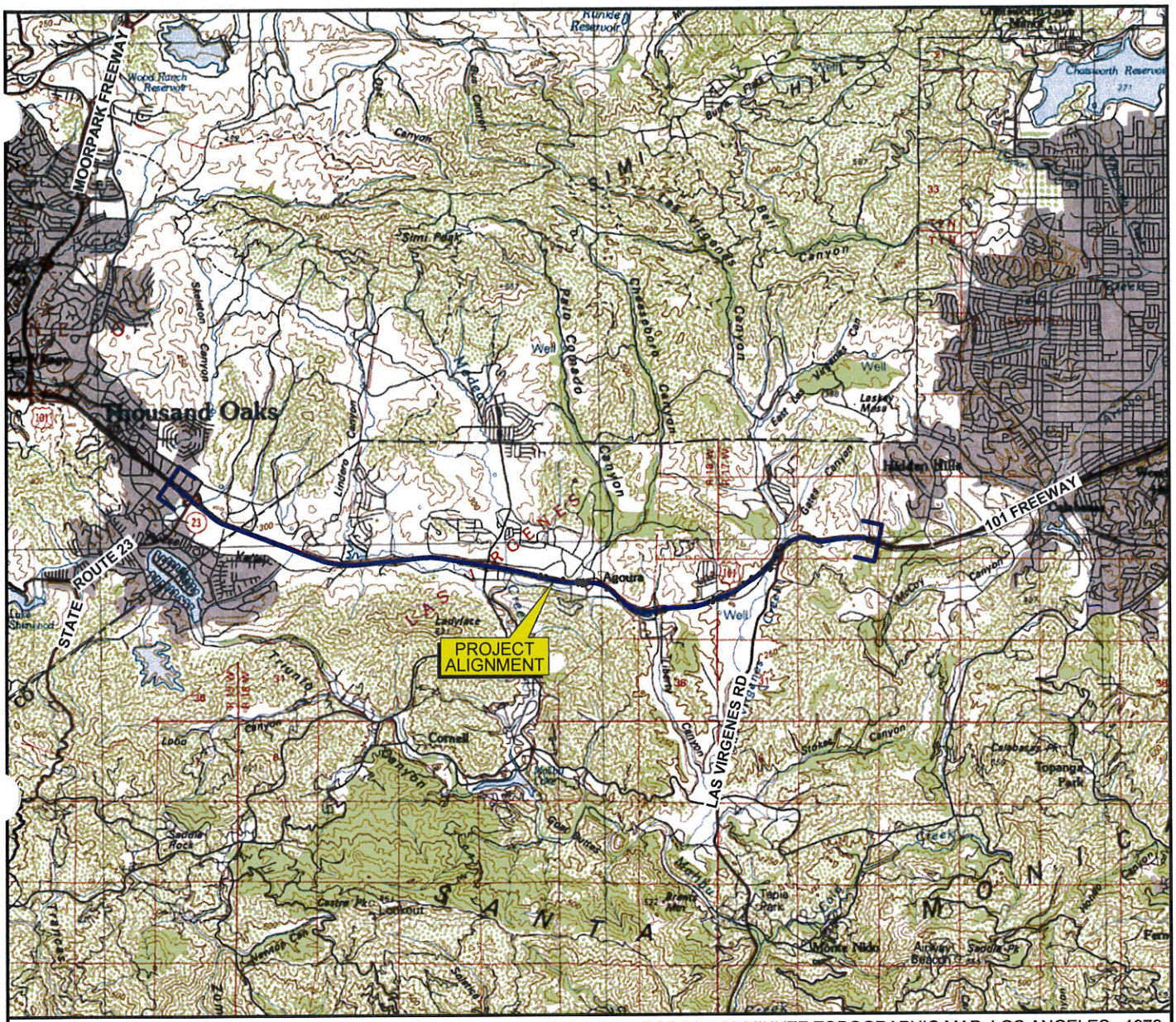
UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

B - The analyte was detected in the method, field and/or trip blank.

D - Labortory composited duplicate.

Sample data series '878' is from Ninyo & Moore, Lead Site Investigation Report, LA-101 from 0.81 Kilometer North of Palo Comando Canyon Road to 0.16 Kilometer North of Ventura County Line, Agoura Hills, Westlake Village, and Thousand Oaks, California, Task Order No. 07A1752-12, Expenditure Authorization No. 186101, Contract No. 07A1752, Table 2, dated April 11, 2006.



SOURCE: USGS 30 x 60 MINUTE TOPOGRAPHIC MAP, LOS ANGELES , 1979

N

0 10000 20000

APPROXIMATE SCALE (FEET)

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FOR:
ADL SITE INVESTIGATION
Agreement No. 07A3322
Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

SITE LOCATION MAP

FIGURE: 1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	08/18/15

FILEPATH:C:\CADD-37\Client\Caltrans\07A3322_TO27\07A3322_TO27_SLM.dwg|TRoman|Aug 20, 2015 at 17:52|Layout: F1_SLM

BEGIN CONSTRUCTION
STA 1541+76 PM 29.26

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

AGOURA HILLS

CALABASAS

LA COUNTY

WESTLAKE VILLAGE

AGOURA HILLS

LA COUNTY

VENTURA COUNTY

THOUSAND OAKS

To Hollywood

MUREAU RD

CALABASAS RD

MUREAU RD

LAS VIRGENES RD

LOST HILLS RD

LIBERTY CANYON RD

CHESEBRO RD.

PALO COMADO CANYON RD.

LEWIS RD.

LAS VIRGENES RD

LINDERO CANYON RD

LOS ANGELES COUNTY

VENTURA COUNTY

LAKEVIEW CANYON RD

S WESTLAKE BLVD

LA TIENDA RD.

AUTO MALL DR

SUNSET DR

HAMPSHIRE RD

FAIRVIEW RD

ROUTE 101

ROADSIDE DR.

CANWOOD ST.

KANAN RD.

STRAWBERRY HILL DR.

COVE LN.

CHRISTIAN CT.

ALFONSO DR.

ADOBE RD.

REYES

1550 1600 1650 1700 1750 1800 1850 1900 1950 2000

BMP-146 (1)
BMP-147 (2)
BMP-150 (3)
BMP-178 (4)
BMP-177 (5)
BMP-159 (6)
BMP-160 (7)
BMP-176 (8)
BMP-162 (9)
BMP-166 (10)
BMP-164 (11)
BMP-172 (12)
BMP-168 (13)
BMP-167B (14)
BMP-167A (15)
BMP-174 (16)
BMP-240 (17)
BMP-244 (18)
BMP-245B (19)
BMP-245A (20)
BMP-247 (21)
BMP-251 (22)
BMP-257 (23)
BMP-259B (24)
BMP-261 (25)
BMP-262 (26)
BMP-259A (27)
BMP-263 (28)
BMP-273 (29)
BMP-274 (30)
BMP-277 (31)
BMP-279 (32)
BMP-280 (33)
BMP-284A (35)
BMP-283B (34)
BMP-287 (36)
BMP-288B (37)
BMP-292A (38)
BMP-291 (39)
BMP-1 (40)
BMP-4 (41)
BMP-7 (42)

Begin Work
STA 1541+76

End Work
STA 90+00

END CONSTRUCTION
STA 73+92 PM 1.21

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Agreement No. 07A3322
Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

LOCATION INDEX

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

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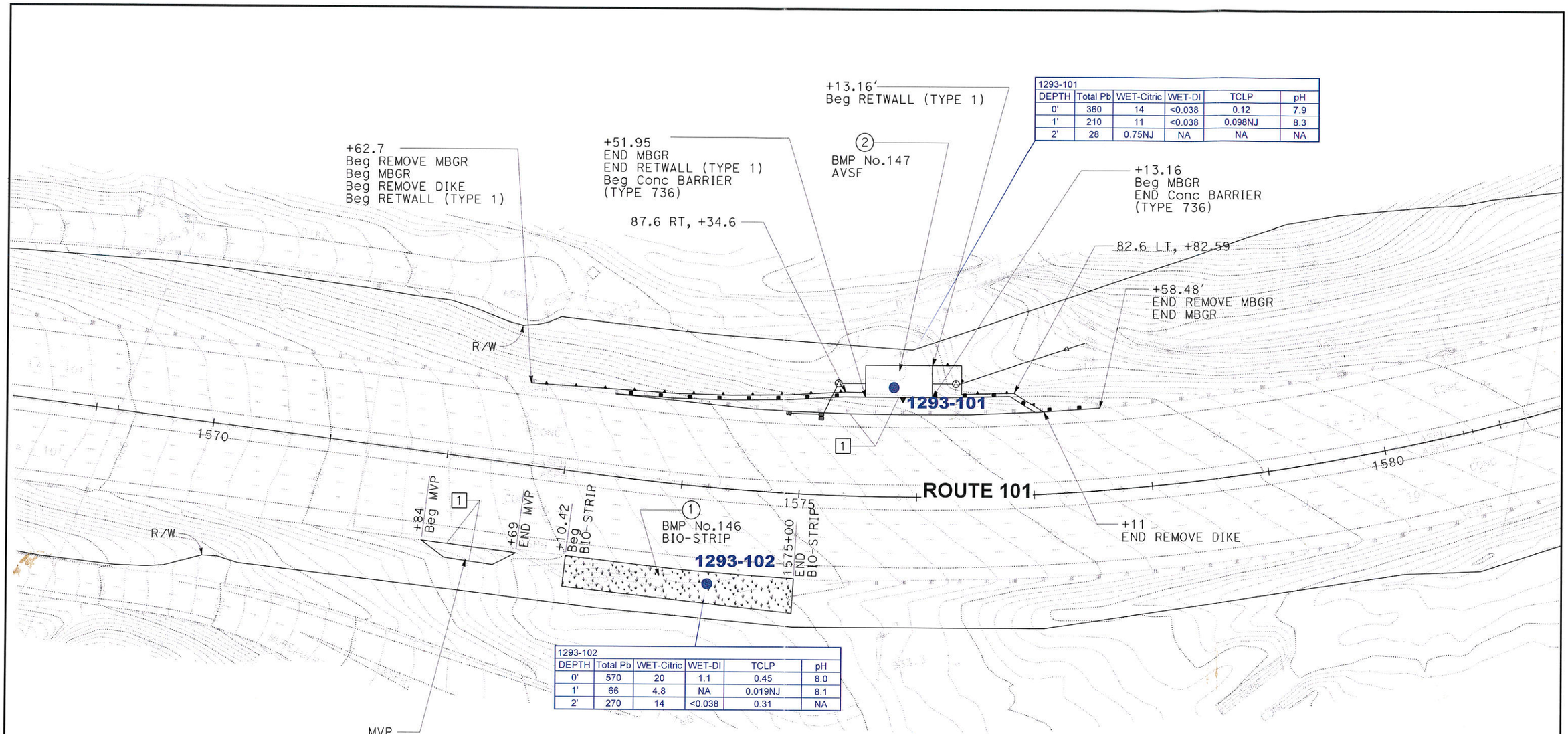

1293-101					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	360	14	<0.038	0.12	7.9
1'	210	11	<0.038	0.098NJ	8.3
2'	28	0.75NJ	NA	NA	NA

1293-102					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	570	20	1.1	0.45	8.0
1'	66	4.8	NA	0.019NJ	8.1
2'	270	14	<0.038	0.31	NA

LEGEND

SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##.#	##.#	##.#	##.#	##.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

N
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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-1
(LOCATIONS 1 AND 2)

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:53|Layout: F3_L-1

1293-103					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	27	0.95NJ	NA	NA	NA
1'	7.2	0.42NJ	NA	NA	NA
2'	4.6	<0.038	NA	NA	NA

+29.4
END MBGR
END HMA DIKE
(TYPE F)
Beg Conc BARRIER
(TYPE 736)

3
BMP No. 150
VASF L-10000-3

+54.28
Beg MBGR
Beg HMA DIKE (TYPE F)
END Conc BARRIER
(TYPE 736)

86.6 Rt, +60

86.2 Lt, +23.3

+33.42
END REMOVE MBGR
END REMOVE HMA DIKE
END MBGR
END HMA DIKE (TYPE F)

+30.62
Beg REMOVE MBGR
Beg REMOVE DIKE
Beg MBGR

1293-103

+72.5
Beg HMA PAVEMENT
Beg REMOVE DIKE
Beg HMA DIKE (TYPE F)

1

+94
END HMA
PAVEMENT

ROUTE 101

1585

1590

1595

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

N

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Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-2
(LOCATION 3)

FIGURE: 4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

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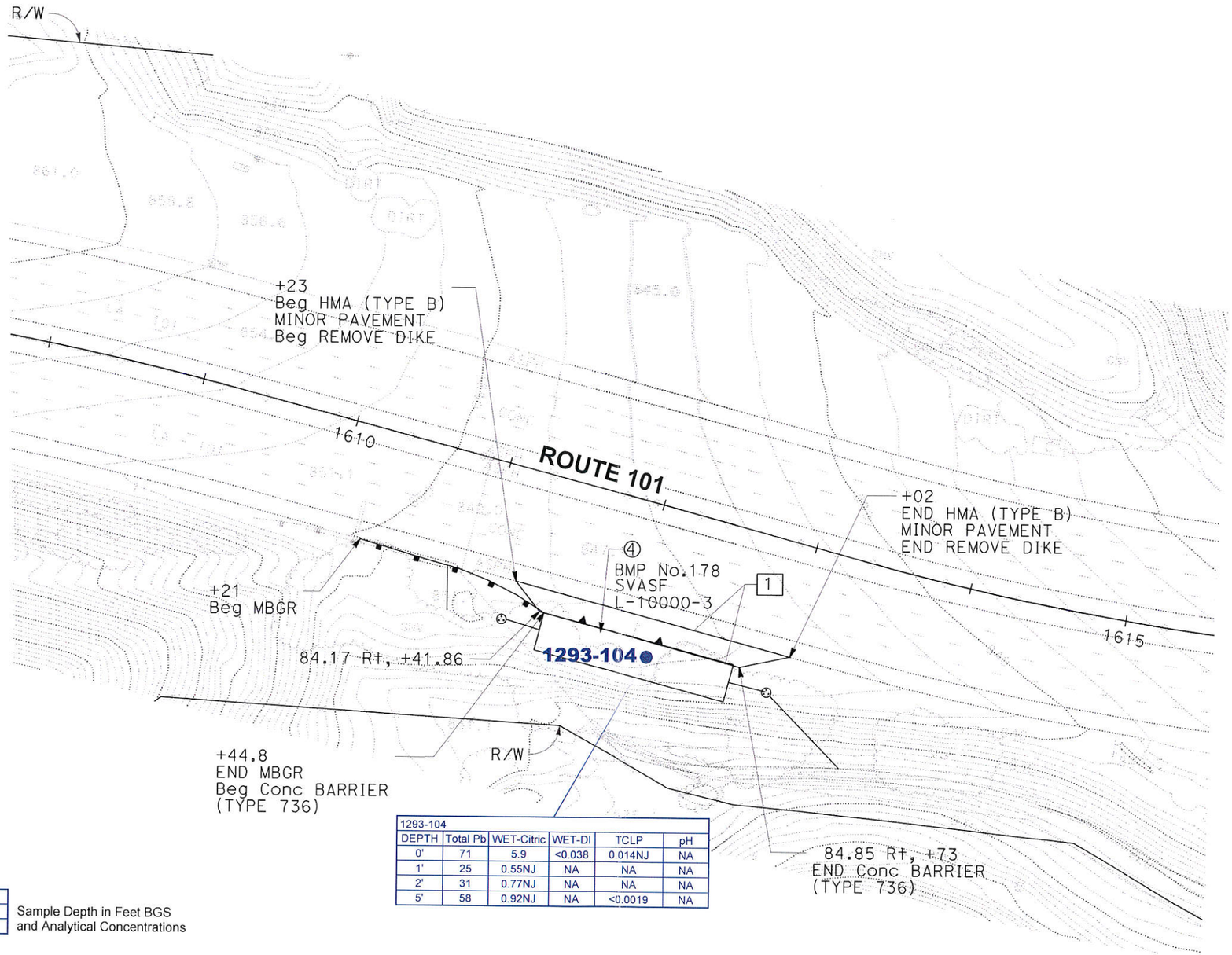

1293-104					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	71	5.9	<0.038	0.014NJ	NA
1'	25	0.55NJ	NA	NA	NA
2'	31	0.77NJ	NA	NA	NA
5'	58	0.92NJ	NA	<0.0019	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
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N

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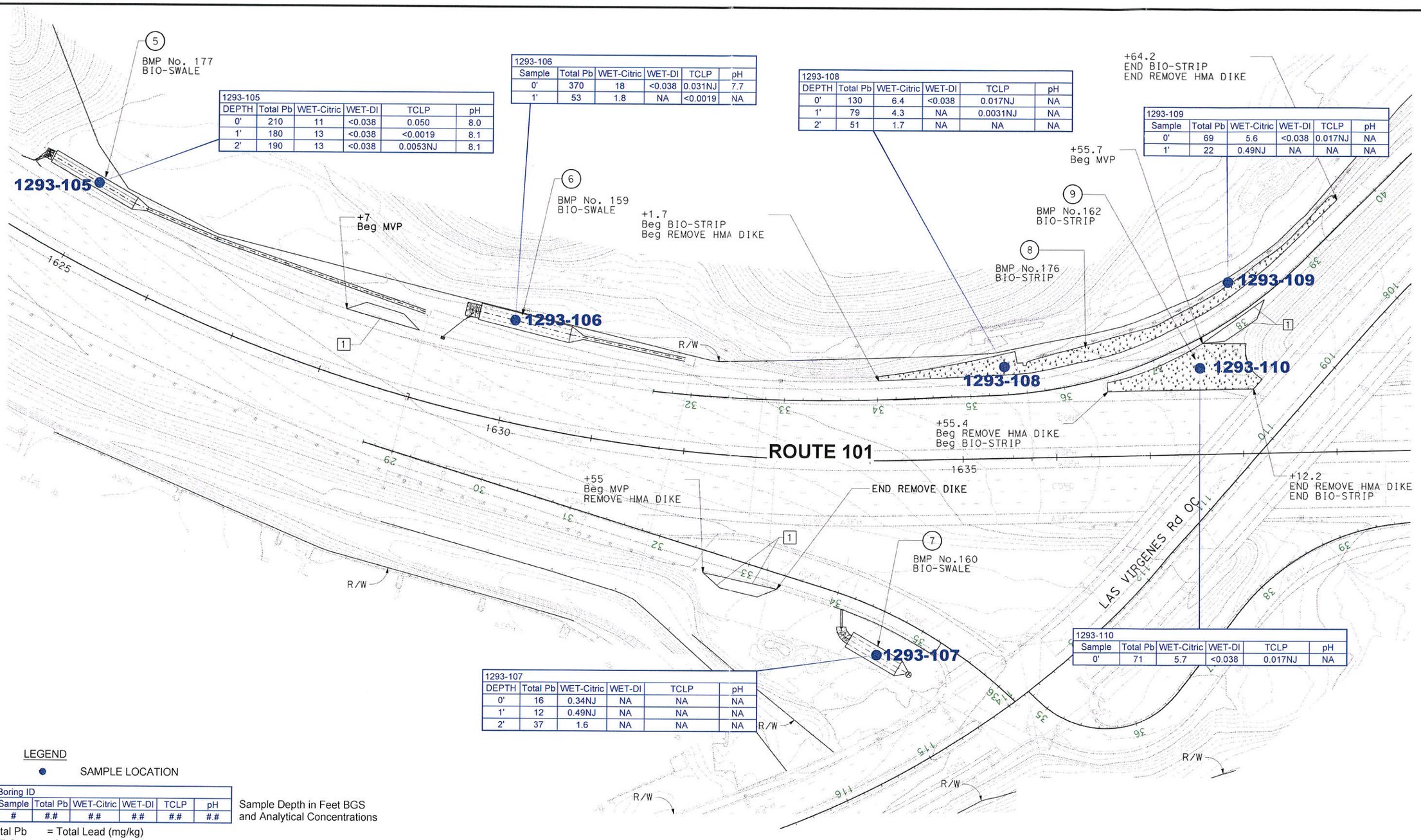
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-3
(LOCATION 4)

FIGURE: 5

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:53|Layout: F5_L-3



1293-105					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	210	11	<0.038	0.050	8.0
1'	180	13	<0.038	<0.0019	8.1
2'	190	13	<0.038	0.0053NJ	8.1

1293-106					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	370	18	<0.038	0.031NJ	7.7
1'	53	1.8	NA	<0.0019	NA

1293-108					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	130	6.4	<0.038	0.017NJ	NA
1'	79	4.3	NA	0.0031NJ	NA
2'	51	1.7	NA	NA	NA

1293-109					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	69	5.6	<0.038	0.017NJ	NA
1'	22	0.49NJ	NA	NA	NA

1293-110					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	71	5.7	<0.038	0.017NJ	NA

1293-107					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	16	0.34NJ	NA	NA	NA
1'	12	0.49NJ	NA	NA	NA
2'	37	1.6	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##.#	##.#	##.#	##.#	##.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

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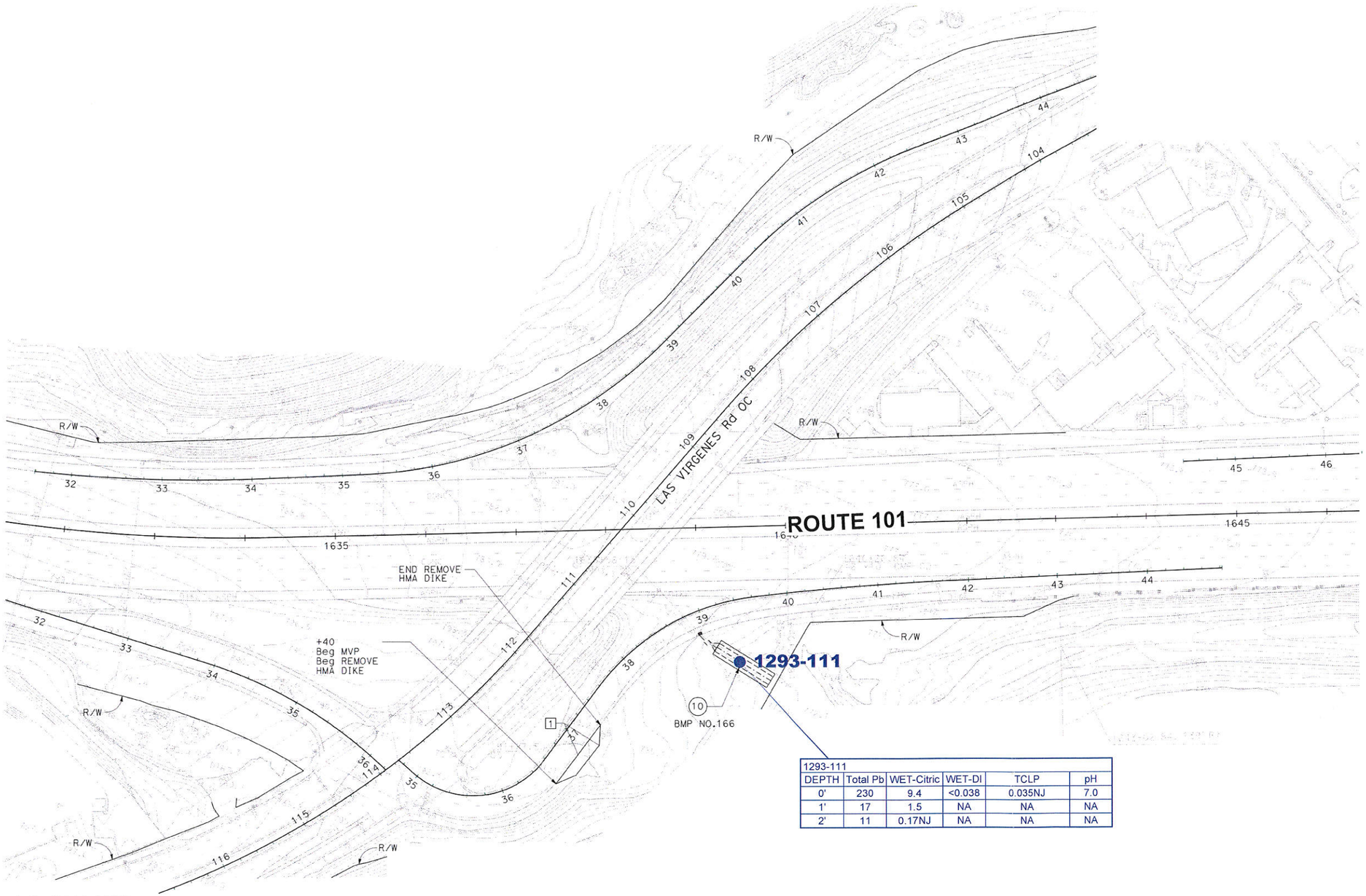
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-4
(LOCATIONS 5-9)

FIGURE: 6

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:53|Layout: F6_L-4



1293-111					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	230	9.4	<0.038	0.035NJ	7.0
1'	17	1.5	NA	NA	NA
2'	11	0.17NJ	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##	##	##	##	##

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
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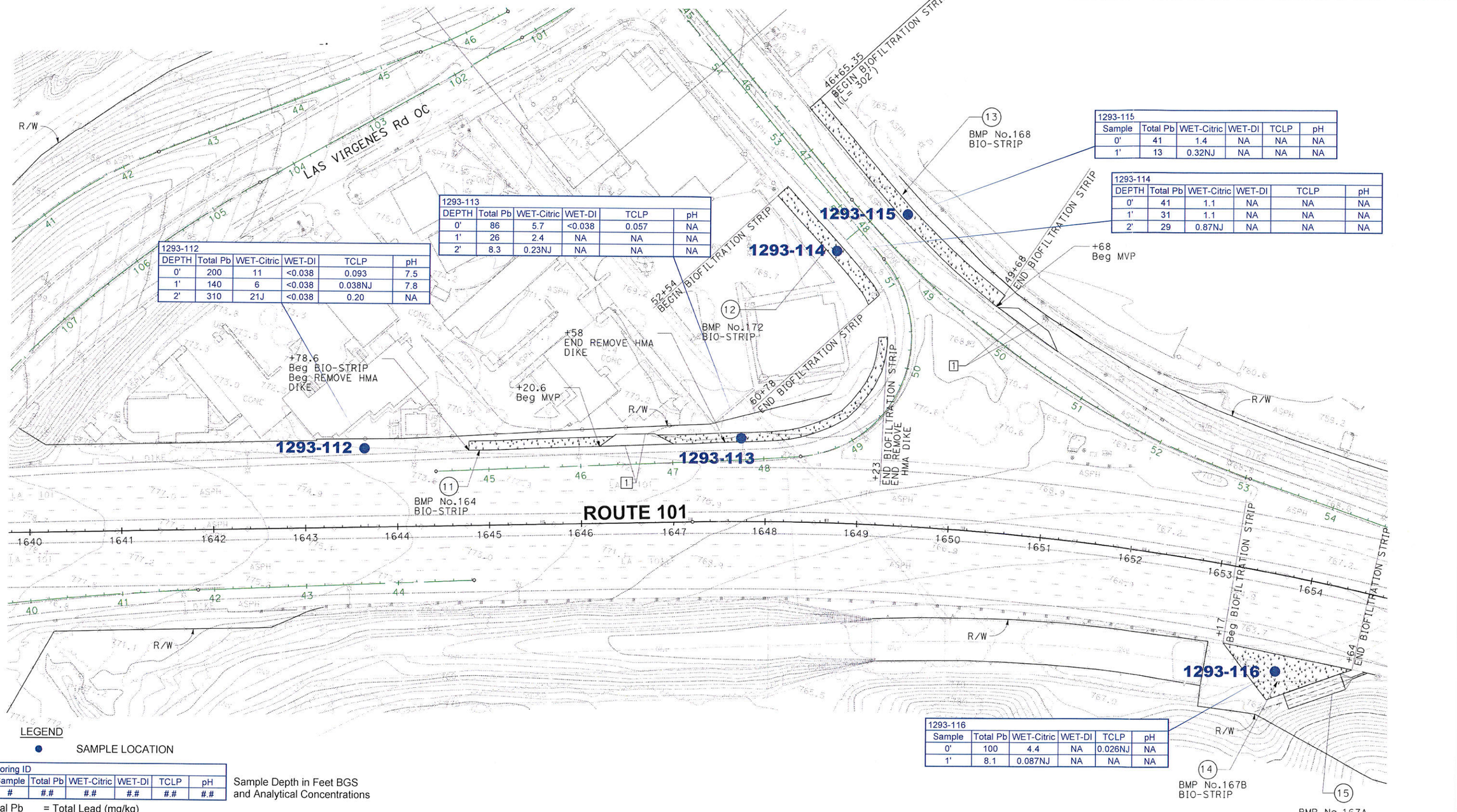
FOR:
ADL SITE INVESTIGATION
Agreement No. 07A3322
Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-5
(LOCATION 10)

FIGURE: 7

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:54|Layout: F7_L-5



1293-112					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	200	11	<0.038	0.093	7.5
1'	140	6	<0.038	0.038NJ	7.8
2'	310	21J	<0.038	0.20	NA

1293-113					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	86	5.7	<0.038	0.057	NA
1'	26	2.4	NA	NA	NA
2'	8.3	0.23NJ	NA	NA	NA

1293-114					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	41	1.1	NA	NA	NA
1'	31	1.1	NA	NA	NA
2'	29	0.87NJ	NA	NA	NA

1293-115					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	41	1.4	NA	NA	NA
1'	13	0.32NJ	NA	NA	NA

1293-116					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	100	4.4	NA	0.026NJ	NA
1'	8.1	0.087NJ	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

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SITE PLAN
L-6
(LOCATIONS 11-15)

FIGURE: 8

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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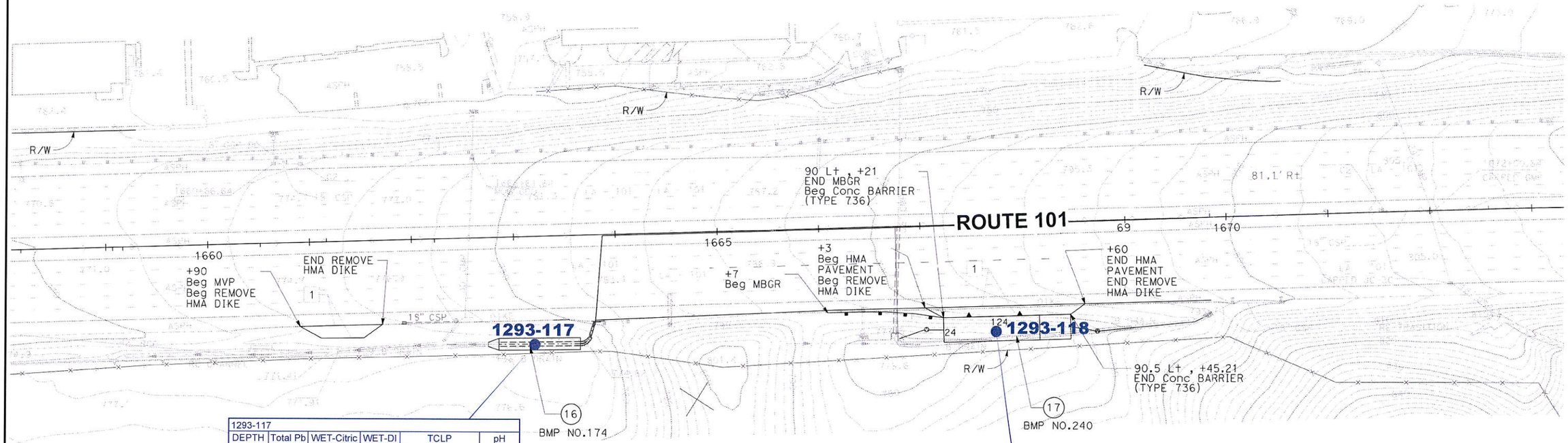

1293-117					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	150	6.8	<0.038	0.021NJ	NA
1'	51	1.2	NA	NA	NA
2'	74	2.2	NA	<0.0038	NA

1293-118					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	160J	9.2	<0.038	0.51	7.4
1'	37	1.5	NA	NA	NA
2'	17	0.24NJ	NA	NA	NA
5'	12	0.18NJ	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-7
(LOCATIONS 16 AND 17)

FIGURE: 9

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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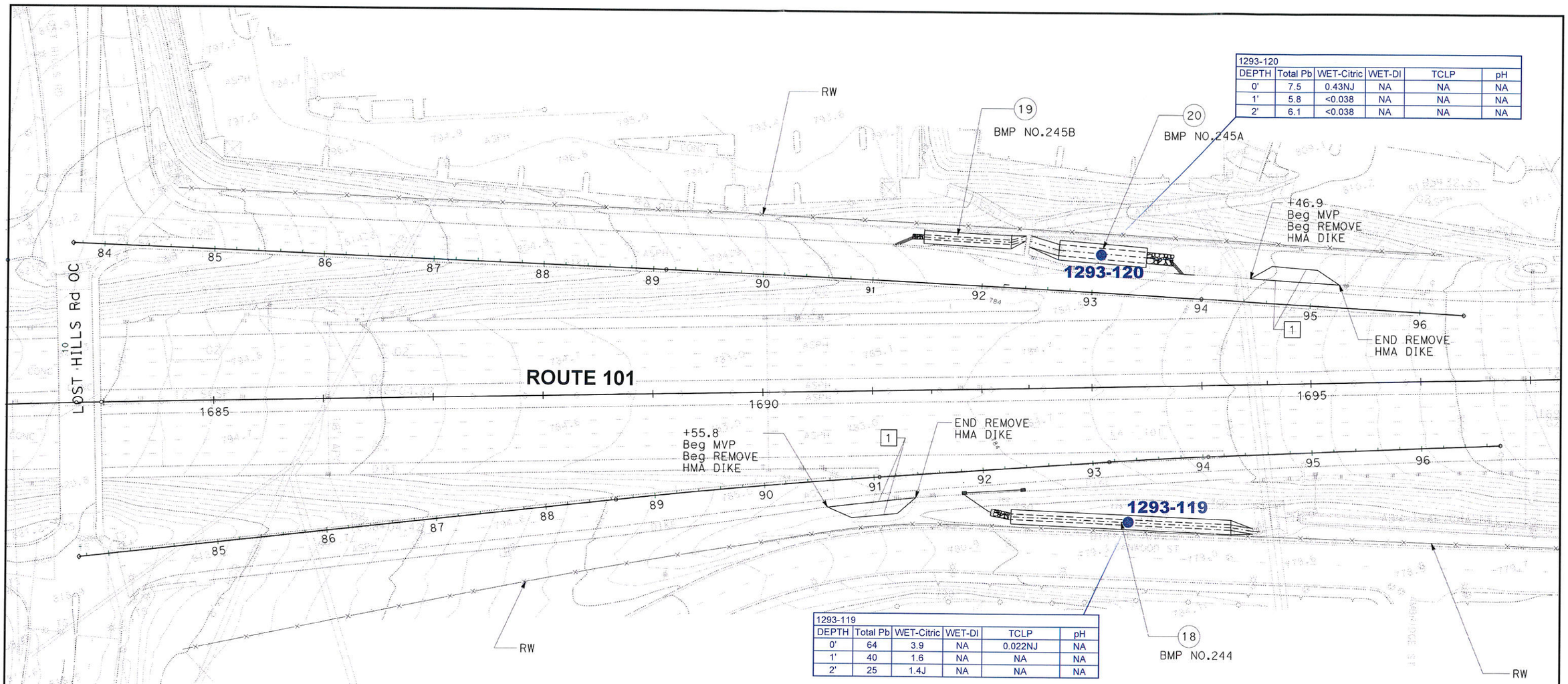

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
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SITE PLAN
L-8
(LOCATIONS 18-20)

FIGURE: 10

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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1293-122					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	19	0.38NJ	NA	NA	NA
1'	8	0.051NJ	NA	NA	NA
2'	6.4	0.057NJ	NA	NA	NA

1293-121					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	10	0.067NJ	NA	NA	NA
1'	7.1	0.041NJ	NA	NA	NA
2'	14	0.17NJ	NA	NA	NA

21
BMP 247
BIOSWALE

1293-121

1293-122

1729+95
END BIO-STRIP

+78.8
END REMOVE
HMA DIKE

1730

LIBERTY CANYON Rd UC

ROUTE 101

1725

1721+86
Beg MVP
Beg REMOVE
HMA DIKE

1722+78
Beg BIO-STRIP

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##	##	##	##	##

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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SITE PLAN
L-9
(LOCATION 21)

FIGURE: 11

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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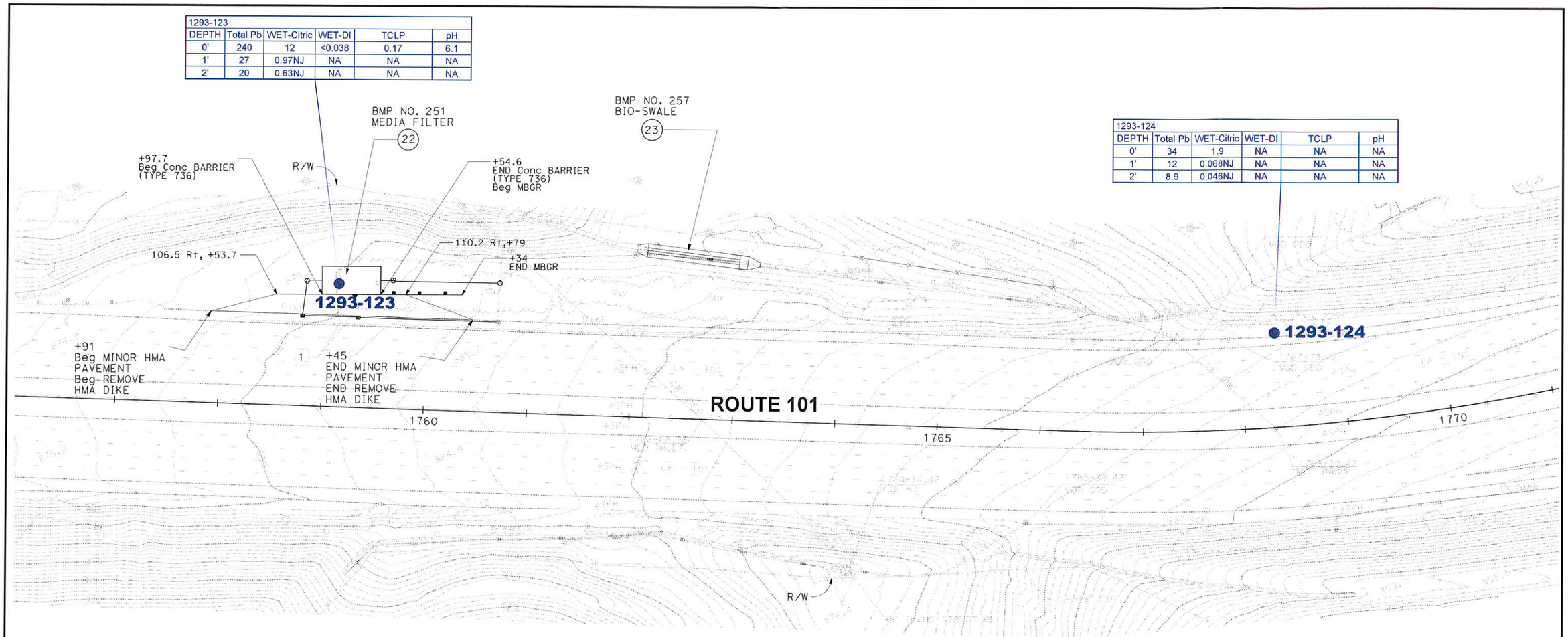
1293-123					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	240	12	<0.038	0.17	6.1
1'	27	0.97NJ	NA	NA	NA
2'	20	0.63NJ	NA	NA	NA

1293-124					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	34	1.9	NA	NA	NA
1'	12	0.068NJ	NA	NA	NA
2'	8.9	0.046NJ	NA	NA	NA



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb	= Total Lead (mg/kg)
WET-Citric	=Soluble Lead Cal Wet-Citric (mg/L)
WET-DI	=Soluble Lead Cal Wet-DI (mg/L)
TCLP	=Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH	=pH
NA	=Not Analyzed
J	= The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
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SITE PLAN
L-10
(LOCATIONS 22 AND 23)

FIGURE: 12

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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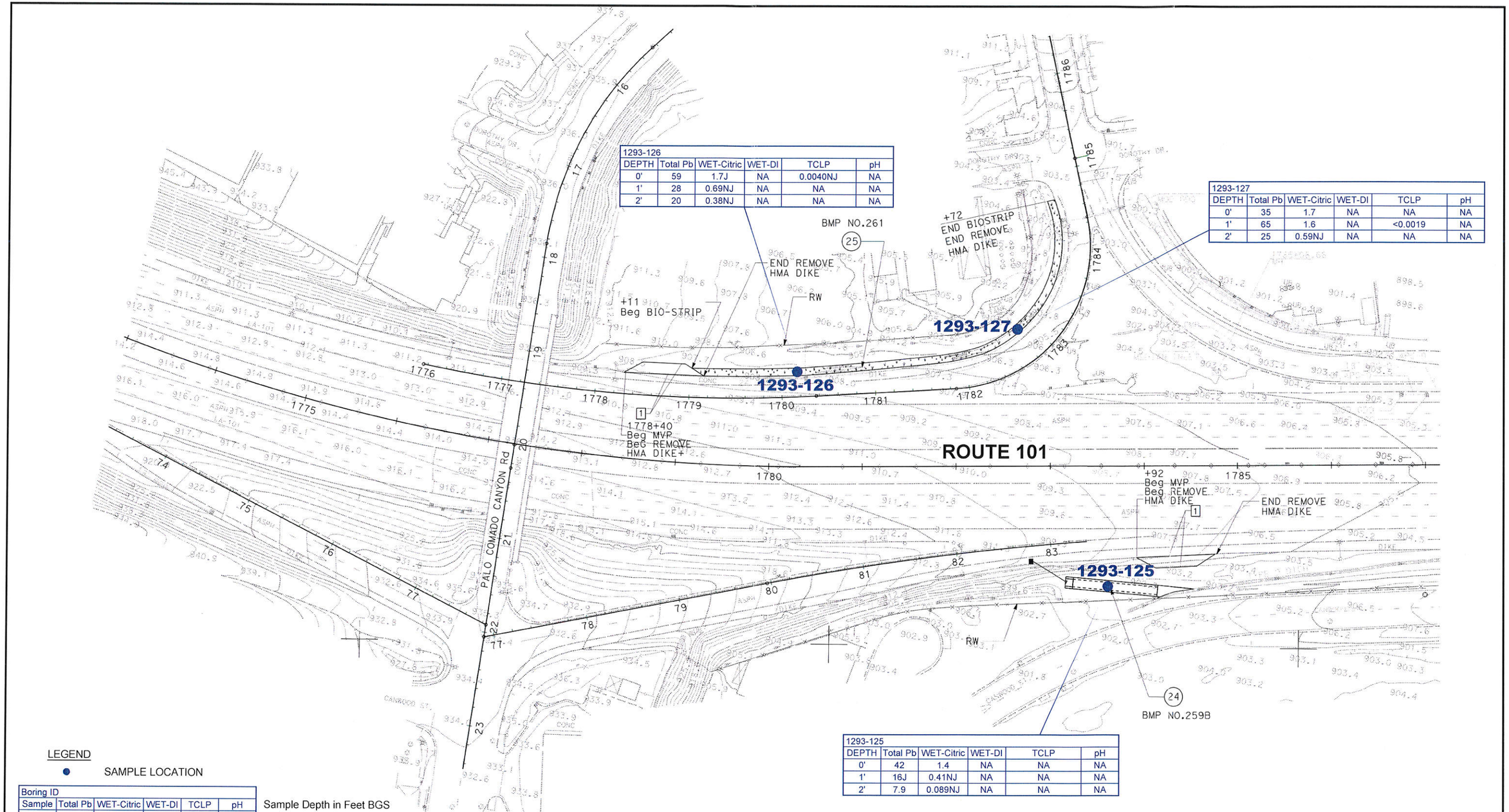

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
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SITE PLAN
L-11
(LOCATIONS 24 AND 25)

FIGURE: 13

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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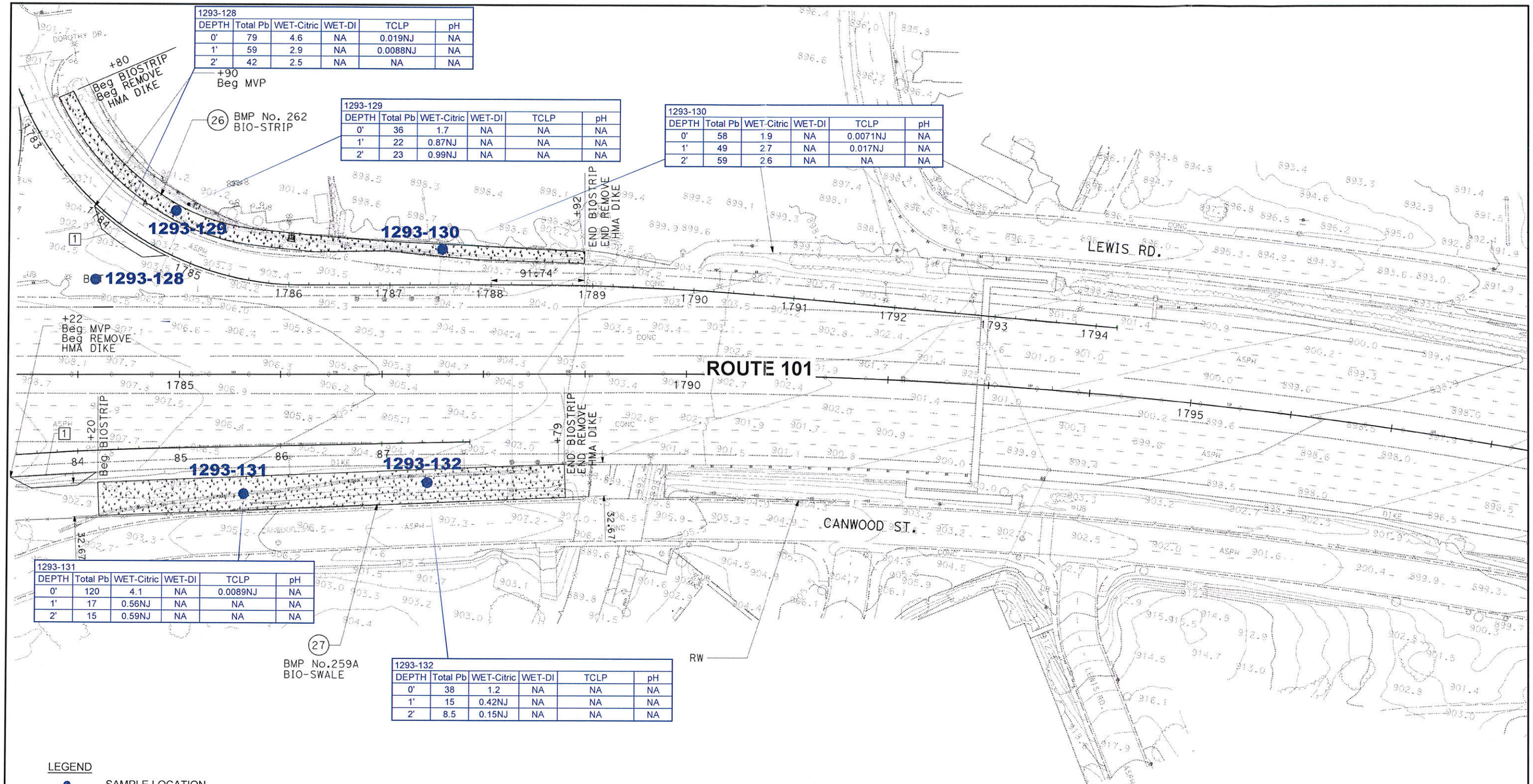

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
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SITE PLAN
L-12
(LOCATIONS 25-27)

FIGURE: 14

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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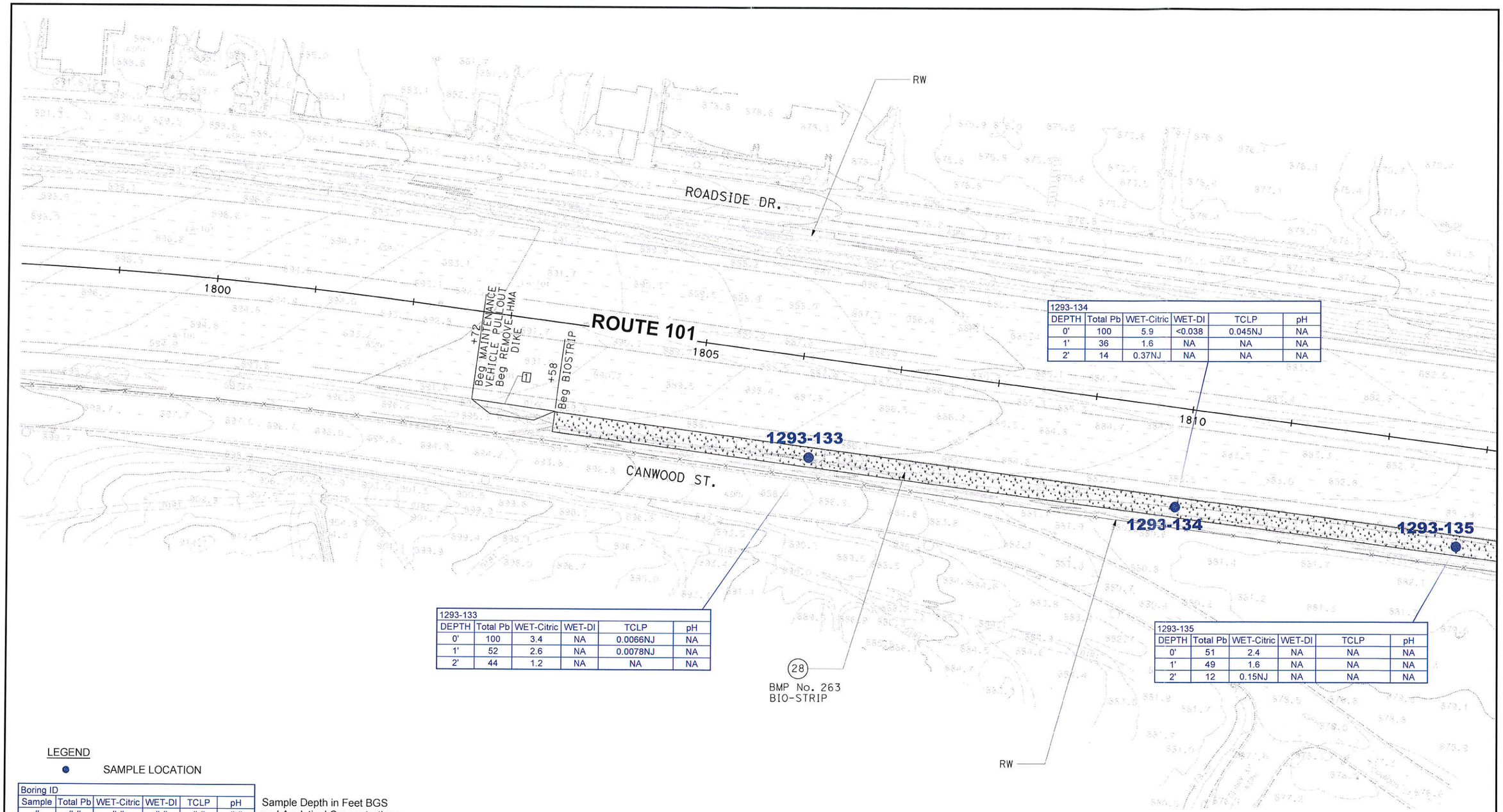

1293-134					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	100	5.9	<0.038	0.045NJ	NA
1'	36	1.6	NA	NA	NA
2'	14	0.37NJ	NA	NA	NA

1293-133					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	100	3.4	NA	0.0066NJ	NA
1'	52	2.6	NA	0.0078NJ	NA
2'	44	1.2	NA	NA	NA

1293-135					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	51	2.4	NA	NA	NA
1'	49	1.6	NA	NA	NA
2'	12	0.15NJ	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##.#	##.#	##.#	##.#	##.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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SITE PLAN
L-13
(LOCATION 28)

FIGURE: 15

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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ROADSIDE DR.

ROUTE 101

1815

1820

1825

+24 END BIOSTRIP
END REMOVE HMA DIKE

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
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SITE PLAN
L-14
(LOCATION 28)

FIGURE: 16

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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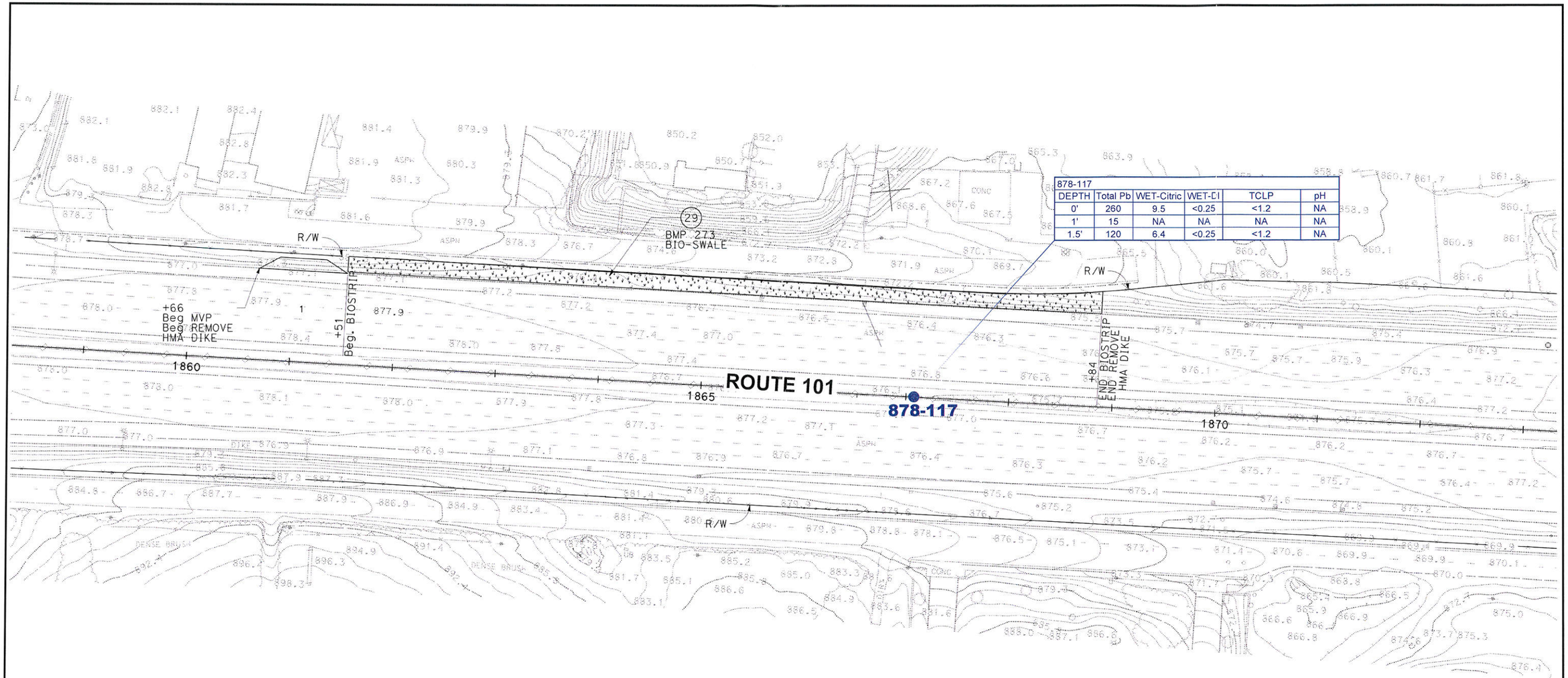

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

N
NOT TO SCALE

NOTE/DISCLAIMER:

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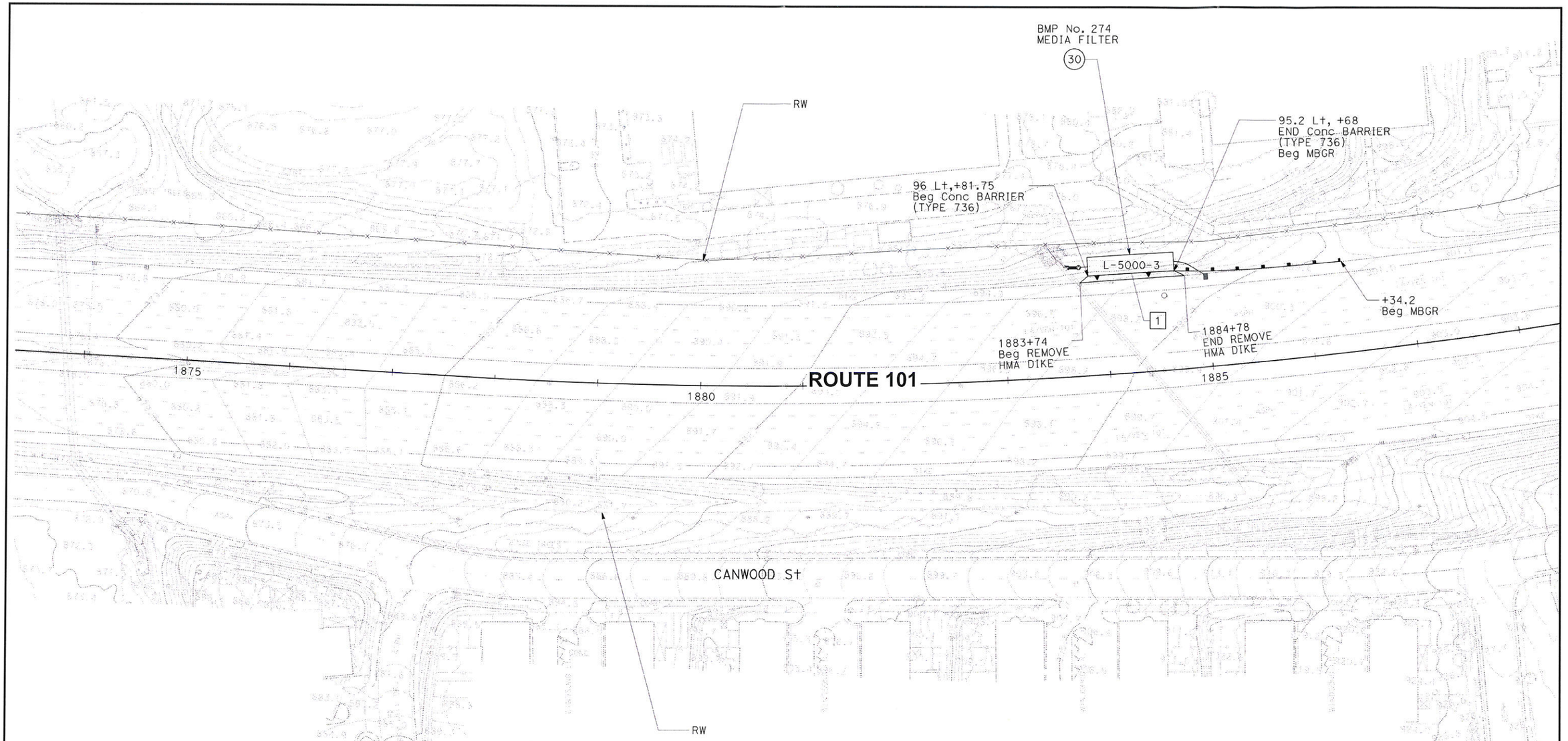
ADL SITE INVESTIGATION
Agreement No. 07A3322
Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-15
(LOCATION 29)

FIGURE: 17

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:57|Layout: F17_L-15



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
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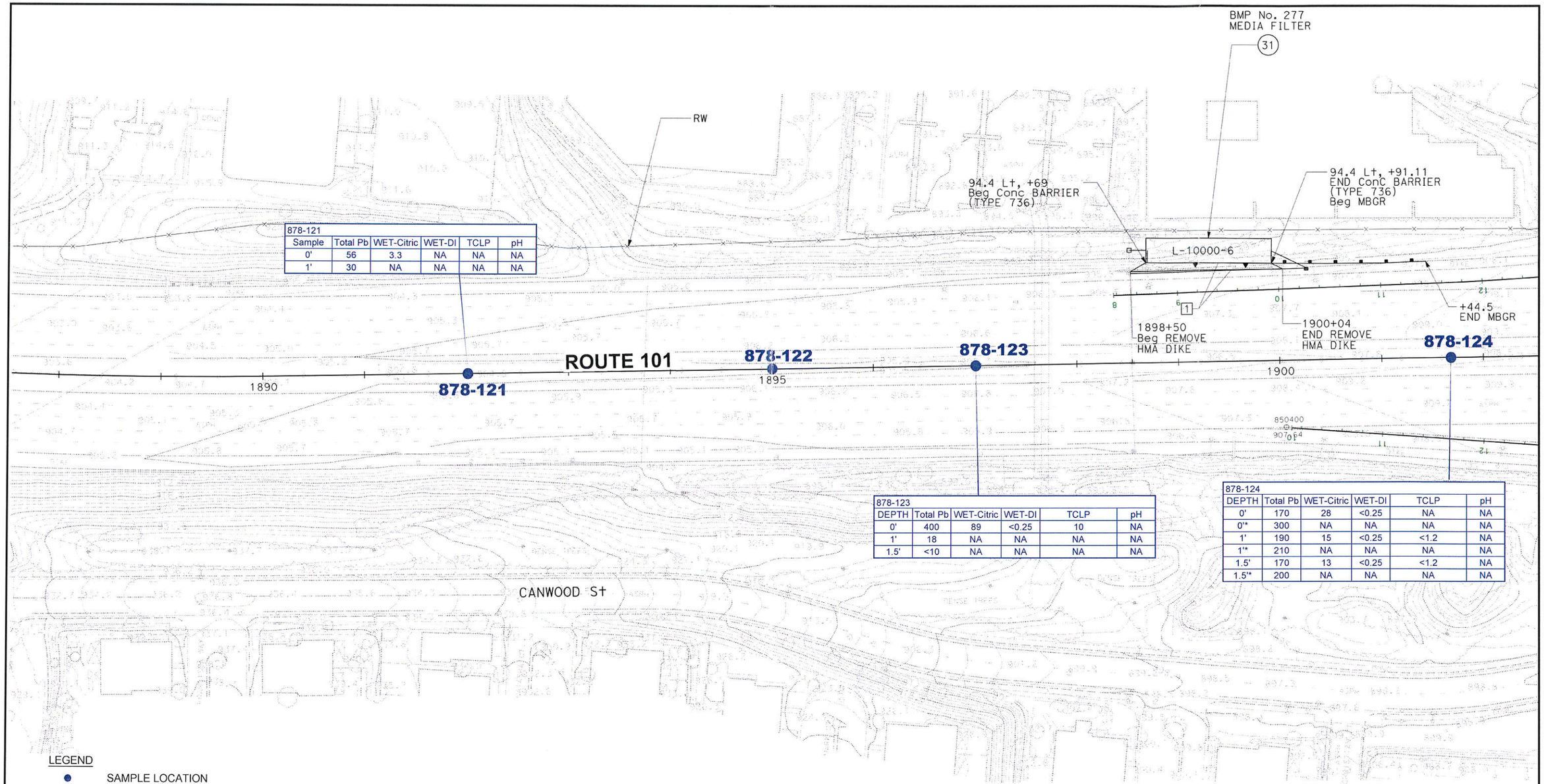
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-16
(LOCATION 30)

FIGURE: 18

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:58|Layout: F18_L-16



878-121					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	56	3.3	NA	NA	NA
1'	30	NA	NA	NA	NA

878-123					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	400	89	<0.25	10	NA
1'	18	NA	NA	NA	NA
1.5'	<10	NA	NA	NA	NA

878-124					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	170	28	<0.25	NA	NA
0'*	300	NA	NA	NA	NA
1'	190	15	<0.25	<1.2	NA
1'*	210	NA	NA	NA	NA
1.5'	170	13	<0.25	<1.2	NA
1.5'*	200	NA	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank
* = Ninyo & Moore 2006 Report indicates that this sample was reanalyzed

N
NOT TO SCALE

NOTE/DISCLAIMER:

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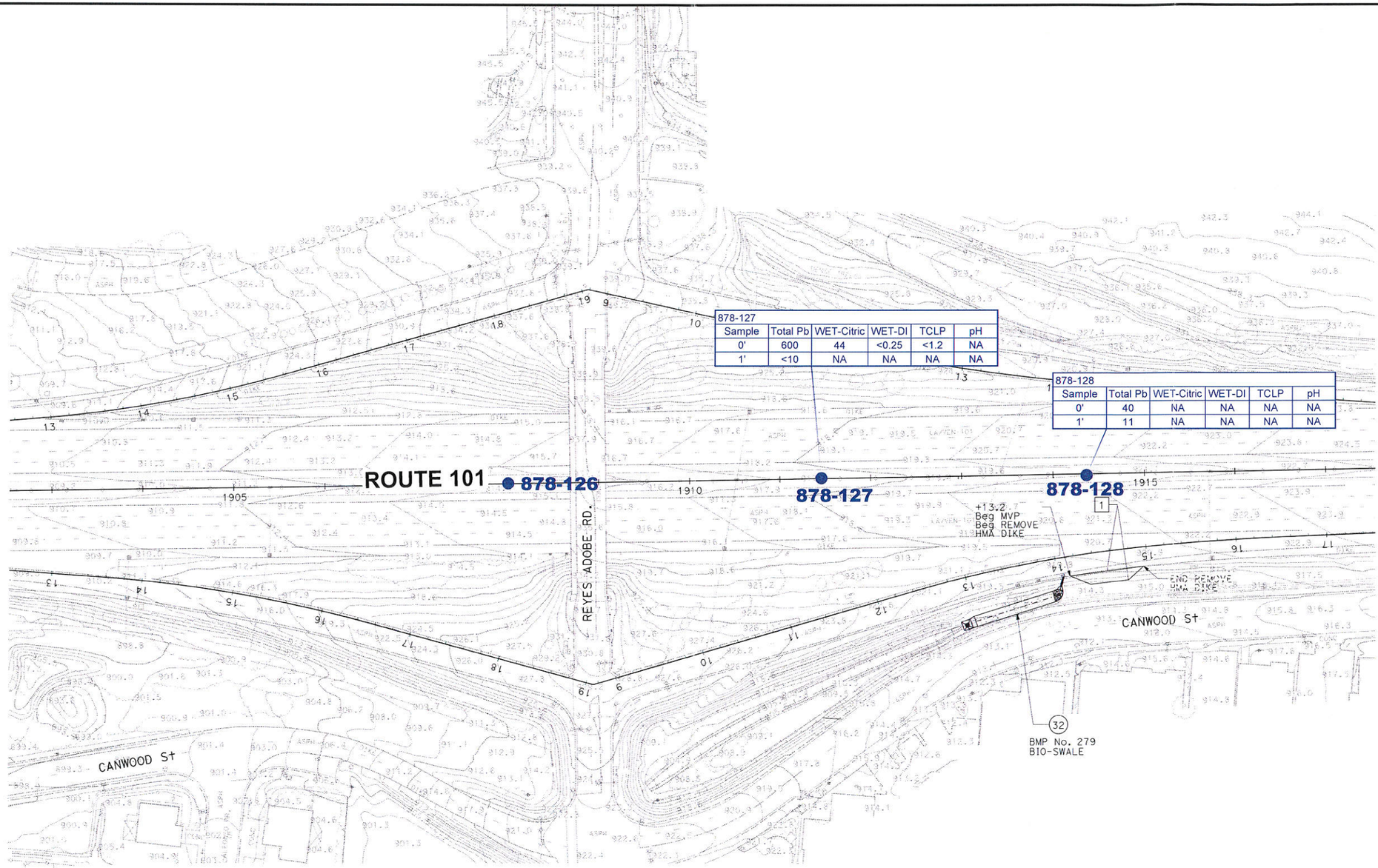
SITE PLAN
L-17
(LOCATION 31)

FIGURE: 19

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:58|Layout: F19_L-17



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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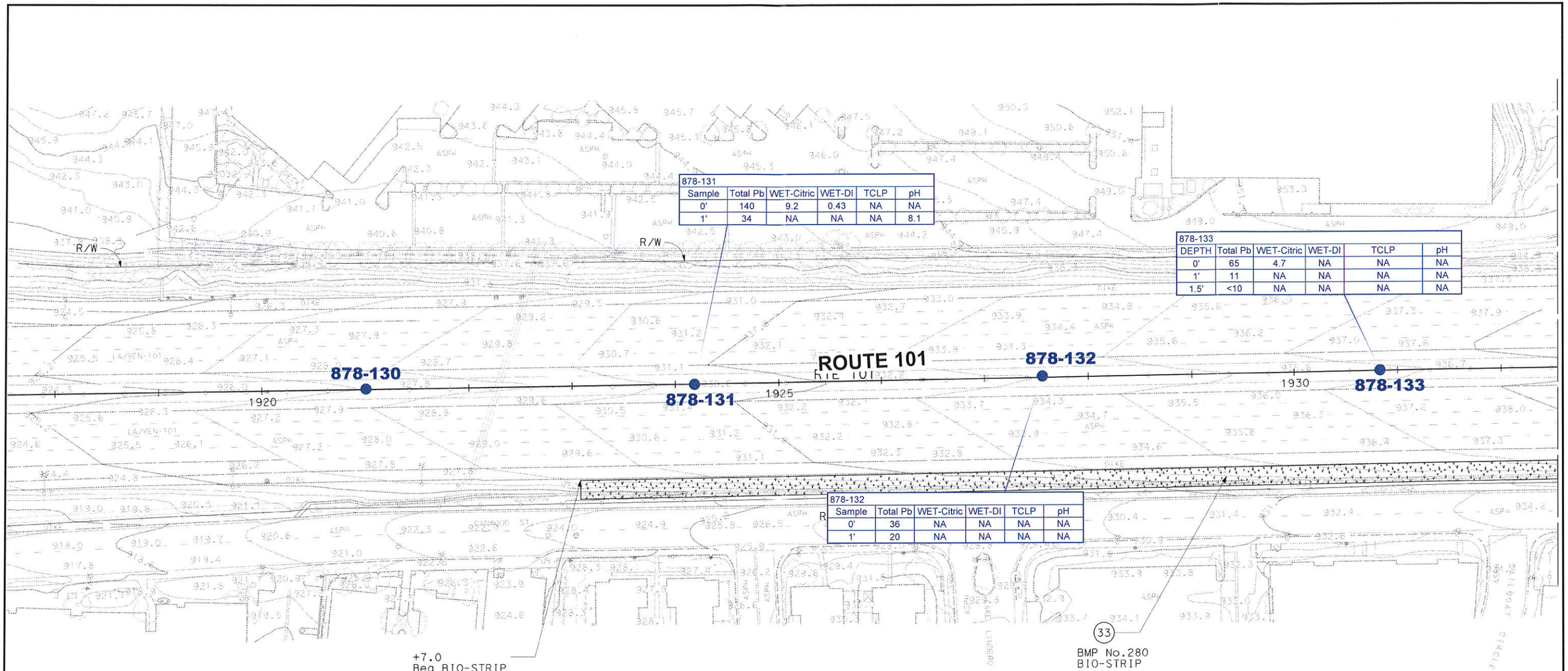
SITE PLAN
L-18
(LOCATION 32)

FIGURE: 20

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:59|Layout: F20_L-18



878-131

Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	140	9.2	0.43	NA	NA
1'	34	NA	NA	NA	8.1

878-133

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	65	4.7	NA	NA	NA
1'	11	NA	NA	NA	NA
1.5'	<10	NA	NA	NA	NA

878-132

Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	36	NA	NA	NA	NA
1'	20	NA	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

N
NOT TO SCALE

NOTE/DISCLAIMER:

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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-19
(LOCATION 33)

FIGURE: 21

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:59|Layout: F21_L-19

878-134					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	27	NA	NA	NA	NA
1'	23	NA	NA	NA	NA
1.5'	15	NA	NA	NA	NA

RW

878-134

1935

ROUTE 101

1945

1942+76
END BIO-STRIP

1943+16
Beg MVP

RW

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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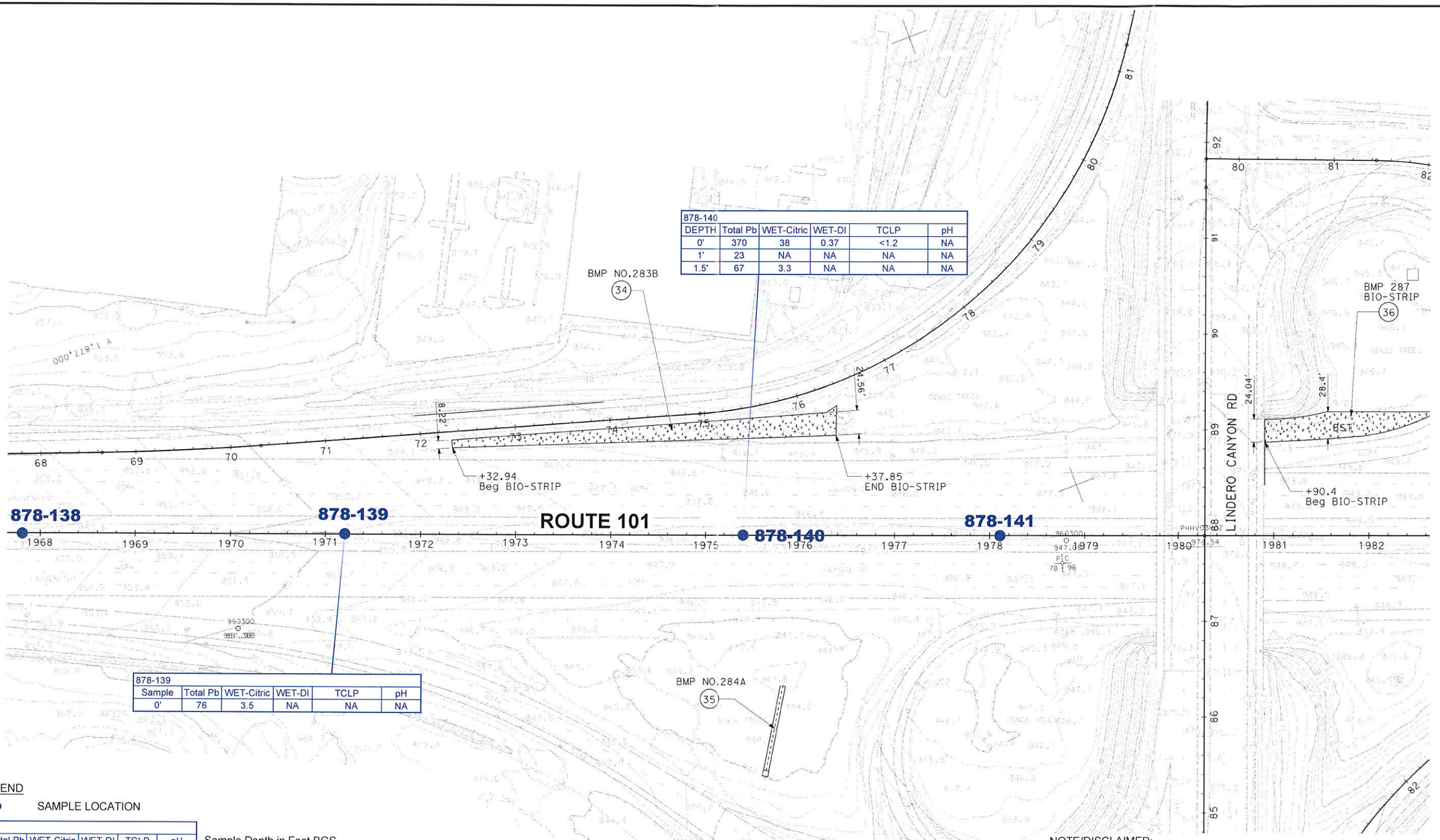
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-20
(LOCATION 33)

FIGURE: 22

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 12:59|Layout: F22_L-20



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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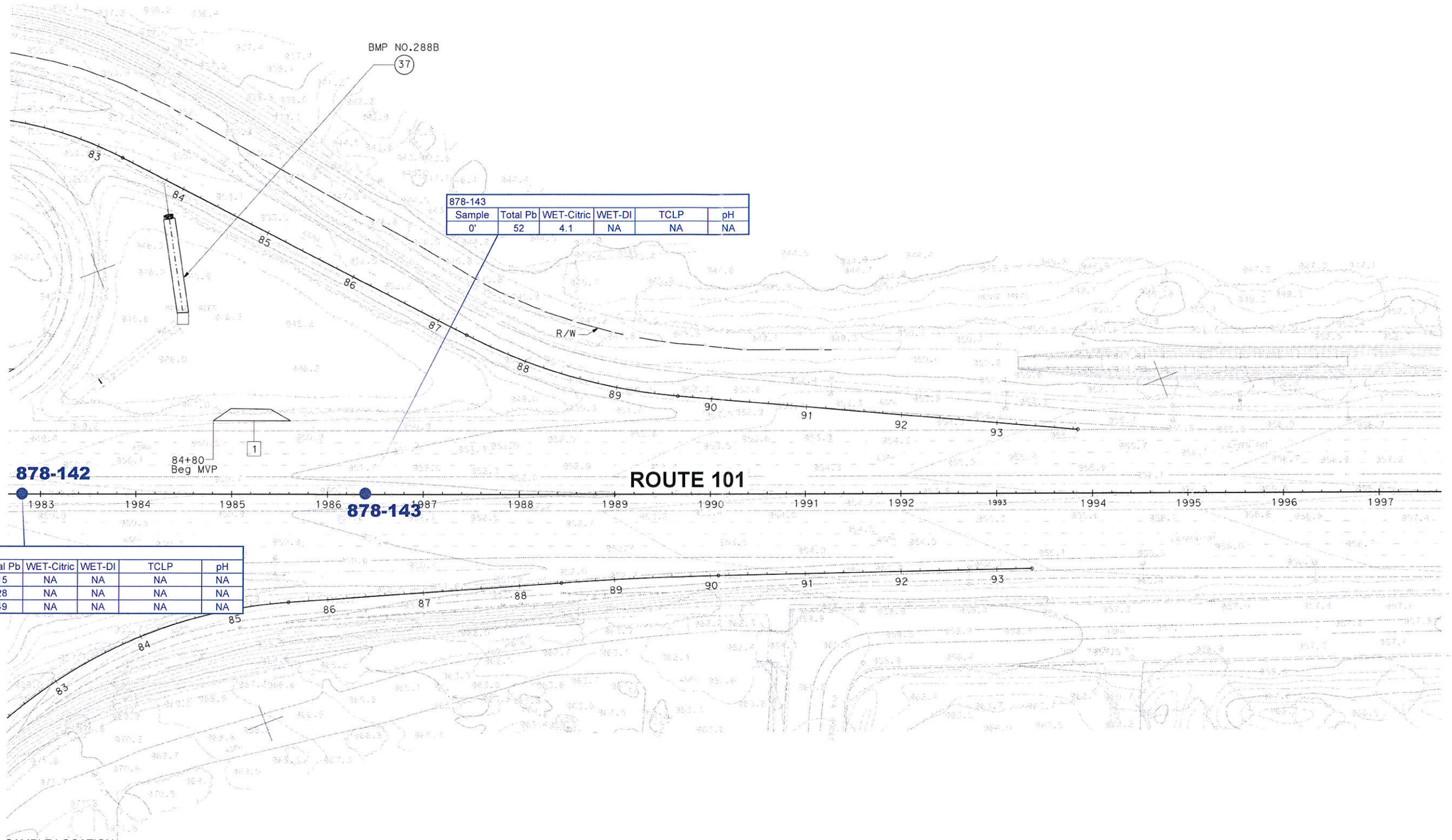
SITE PLAN
L-21
(LOCATIONS 34 AND 35)

FIGURE: 23

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:00|Layout: F23_L-21



878-142

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	15	NA	NA	NA	NA
1'	28	NA	NA	NA	NA
1.5'	49	NA	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
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B = The analyte was detected in the method, field and/or trip blank

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NOT TO SCALE

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PN/E-FIS: 0700000552 EA Number: 281501

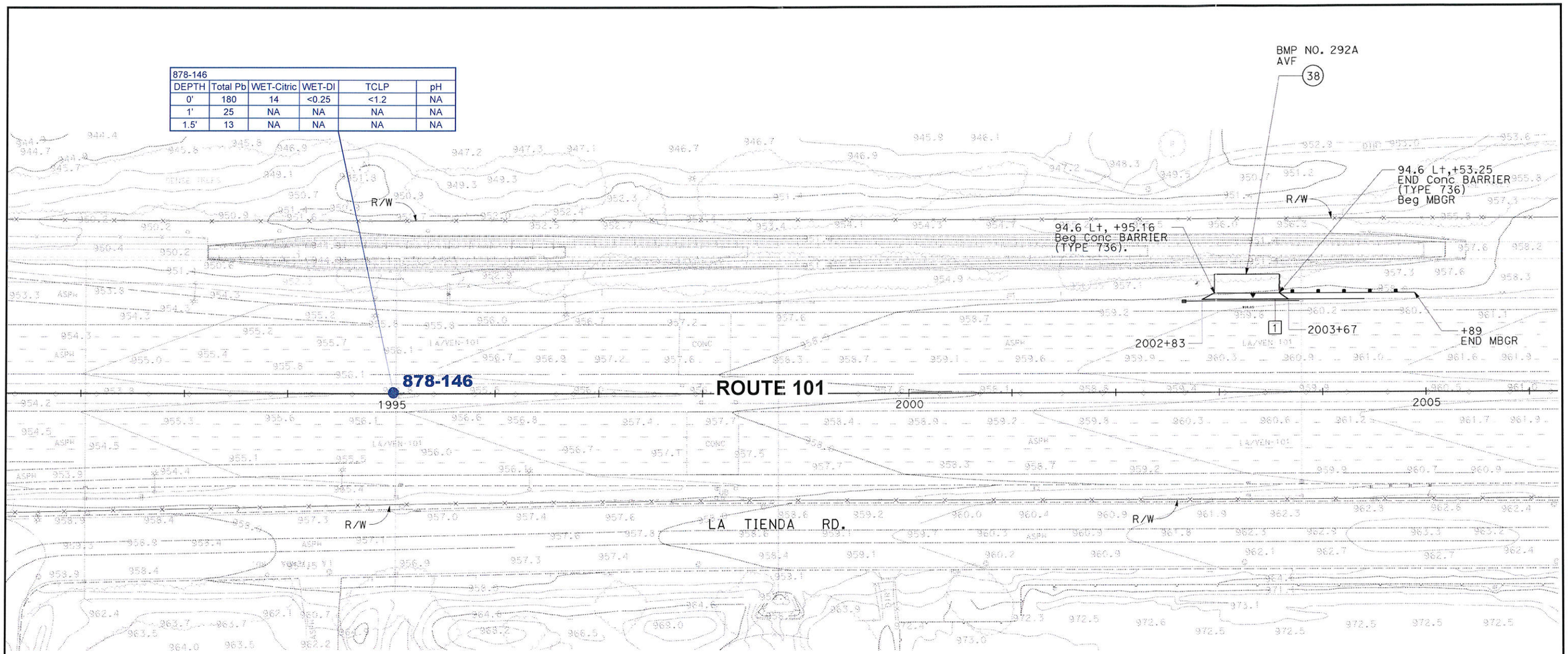
SITE PLAN
L-22
(LOCATIONS 36 AND 37)

FIGURE: 24

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:00|Layout: F24_L-22

878-146					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	180	14	<0.25	<1.2	NA
1'	25	NA	NA	NA	NA
1.5'	13	NA	NA	NA	NA



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	##.#	##.#	##.#	##.#	##.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-23
(LOCATION 38)

FIGURE: 25

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:01|Layout: F25_L-23

BMP NO.291
BIO-SWALE
39

R/W

R/W

R/W

R/W

R/W

+40

1

"CL-101 Alt" 20+81.56 PI

0+00.00 Ahd 20+81.56 Bk =

ROUTE 101

2010

878-152

878-153

5

LA TIENDA RD.

878-153					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	60	7.3	<0.25	NA	NA
1'	56	4.0	NA	NA	NA

878-152					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	22	NA	NA	NA	NA
1'	19	NA	NA	NA	NA
1.5'	120	5.3	<0.25	<1.2	NA

LEGEND

SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
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N
NOT TO SCALE

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Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
PHONE: (805) 230-1266 FAX:(805) 230-1277

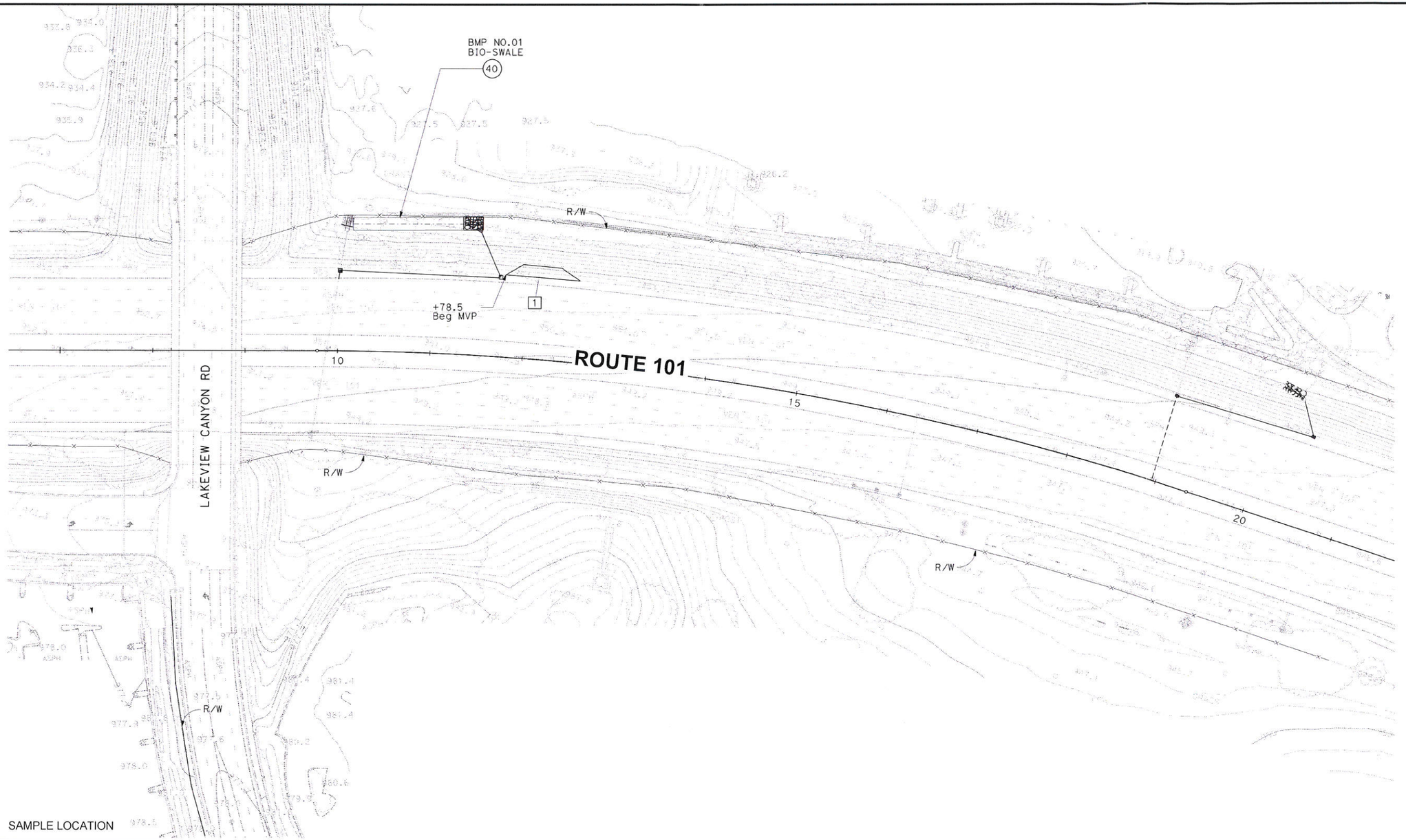
FOR:
ADL SITE INVESTIGATION
Agreement No. 07A3322
Task Order No. 27
LA-101 (PM 29.1/38.2) and VEN-101 (PM 0.0/1.4)
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-24
(LOCATION 39)

FIGURE: 26

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:02|Layout: F26_L-24



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb	= Total Lead (mg/kg)
WET-Citric	=Soluble Lead Cal Wet-Citric (mg/L)
WET-DI	=Soluble Lead Cal Wet-DI (mg/L)
TCLP	=Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH	=pH
NA	=Not Analyzed
J	= The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ	= The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B	= The analyte was detected in the method, field and/or trip blank

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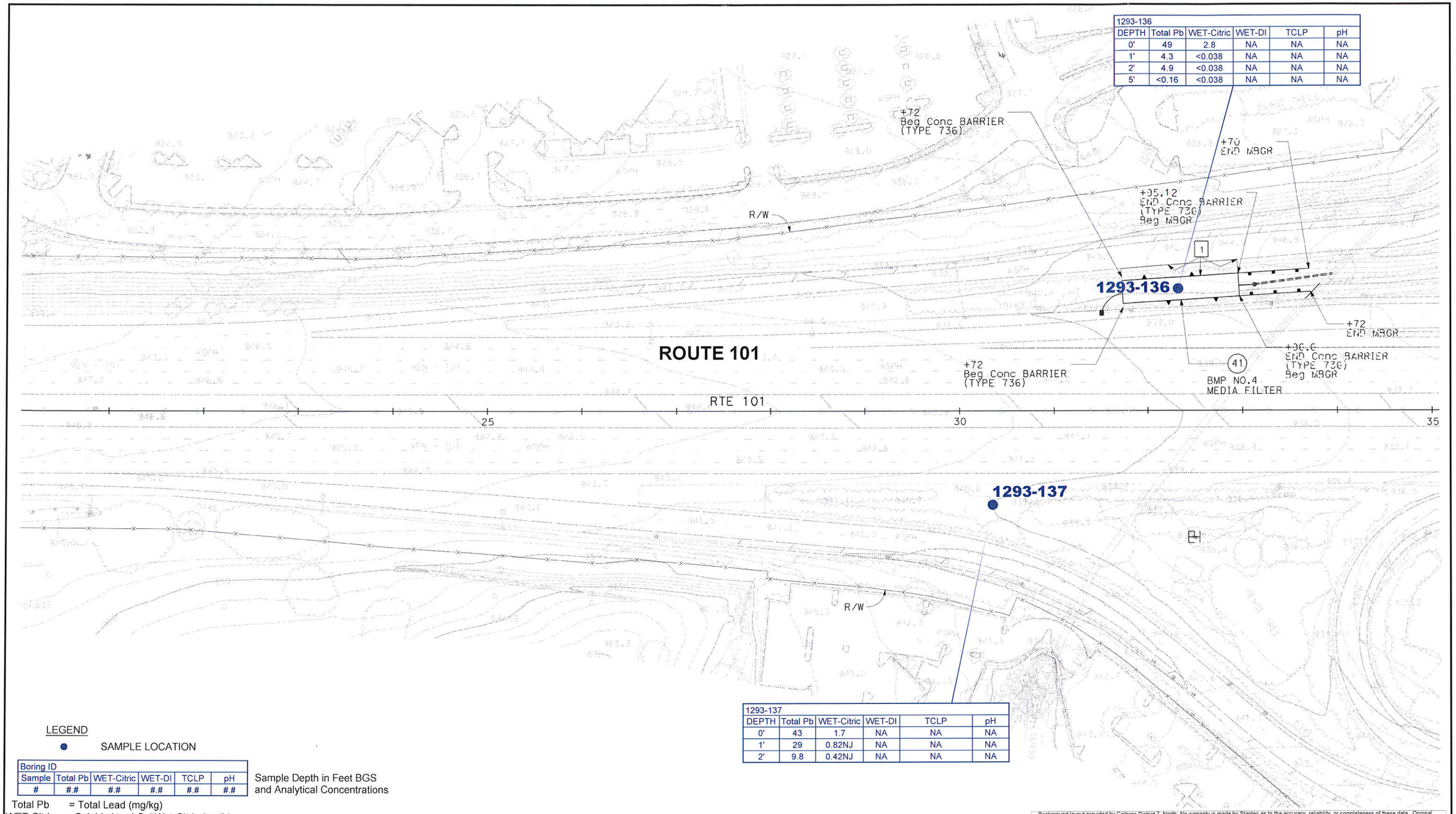
PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-25
(LOCATION 40)

FIGURE: 27

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:02|Layout: F27_L-25



LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-26
(LOCATION 41)

FIGURE: 28

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

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BMP No.7
BIO-SWALE
(42)

1293-139					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	76	4.0	NA	0.042NJ	NA
1'	26	1.4	NA	NA	NA
2'	15	0.46NJ	NA	NA	NA

R/W

R/W

R/W

1293-139

+21
Beg MVP
Beg REMOVE
HMA DIKE

1

END REMOVE
HMA DIKE

ROUTE 101

50 55 60 65

+77
END BIO-STRIP

1293-138

R/W

AUTO MALL DR.

1293-138					
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	35J	1.4	NA	NA	NA
1'	14	0.54NJ	NA	NA	NA
2'	3.8	<0.038	NA	NA	NA

LEGEND

● SAMPLE LOCATION

Boring ID					
Sample	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#.#	#.#	#.#	#.#	#.#

Sample Depth in Feet BGS and Analytical Concentrations

Total Pb = Total Lead (mg/kg)
WET-Citric =Soluble Lead Cal Wet-Citric (mg/L)
WET-DI =Soluble Lead Cal Wet-DI (mg/L)
TCLP =Soluble Lead Toxicity Characteristic Leaching Procedure (mg/L)
pH =pH
NA =Not Analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration
B = The analyte was detected in the method, field and/or trip blank

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PN/E-FIS: 0700000552 EA Number: 281501

SITE PLAN
L-27
(LOCATION 42)

FIGURE: 29

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185832027	RAR	SE	KE	09/23/15

FILEPATH:E:\1858\active\185832027\05_report_deliv\dwgs_design\figures\20150901_revised_scope\20150923_wkp_07a3322_to27.dwg|troman|Sep 24, 2015 at 13:03|Layout: F28_L-27

Stantec

Purpose and Approval

Our work can be hazardous, and it is imperative that we never forget that! It is the purpose of this Health and Safety Plan (HASP) to proactively aid Stantec employees in:

- Identifying and understanding the potential risks/hazards they may encounter at the site.
- Mitigating those potential risks/hazards.

Stantec's policy is to complete our work on this site without any type of incident (injury, illness, impact to the environment, impact to property and equipment). In order to achieve this goal, the project team will work together to perform an effective hazard assessment. The team will then establish appropriate precautions and communicate these daily among project staff. Staff will be responsible for communicating changing field conditions to the project management so these conditions and appropriate precautions may be re-evaluated as needed. Staff will implement **STOP WORK AUTHORITY** at any time they believe that conditions may be inherently unsafe or might cause damage to property or harm to the environment. Staff may refuse to participate in work they believe will be unsafe. If it is believed that such conditions exist, staff will communicate immediately with the Project Manager to resolve the situation. We expect all subcontractors and project personnel to share this goal.

Client: The State of California, Department of Transportation – 07A3322

Site Name: Pacific Place Maintenance Station 3725 Pacific Place, Long Beach

Project Name: TASK ORDER NO. 27 – ADL SI

Project Number: 185831023

Start Date: July 23, 2015

End Date: September 30, 2015

Plan Review Date*: January 22, 2016

(*The Plan Review Date is the date the HASP would need to be re-reviewed to maintain current information is included should the Task Order be extended. The Plan Review date is *no longer than 6 months from the start of the Period of Performance, however, no reviews will be performed on the HASP outside of the Task Order Period of Performance.).*

Kevin Miskin Project Manager	Signature:	Date: 7-28-15
Dan Feldt, MPH, CIH Health and Safety Manager, Certified Industrial Hygienist (CIH) HASP review	Signature:	Date: 7/27/15
StephAnnie Roberts Office Safety Environmental Coordinator (OSEC)	Signature:	Date: 7.28.15
Jason Stagno Site Health and Safety Officer (SHSO)	Signature:	Date: 7/28/15
Anuya Sawant Peer Reviewer	Signature:	Date: 7/28/15
Kristy Edblad HASP Originator	Signature:	Date: 7.28.15

The American Board of Industrial Hygiene — Incorporated — Certification Number 7327 — Expires 6-1-2020 — Daniel G. Feldt, CIH

The health and safety guidelines in this HASP were prepared exclusively for this site. This HASP will be amended (***with changes recorded on the Health and Safety Plan Modification Log located in Attachment A***) if site conditions, scope of work, training dates, personnel, or other critical items change during the field work or before the scheduled HASP review date above. This HASP is intended to be available on site. Elements of the HASP shall be reviewed during daily tailgate meetings conducted by the Site Health & Safety Officer.

Stantec

Acknowledgement and Agreement Form

"Zero Tolerance for Incidents of ANY Kind.
Work Together to Ensure a SAFE and High Quality Project"

All parties conducting site activities are required to coordinate their activities and practices with the Stantec Site Health and Safety Officer (SHSO). Stantec has provided a copy of this HASP to site contractors in the interest of disclosure of potential risks/hazards of which Stantec may be aware. Similarly, contractors shall inform Stantec of any potential site risks/hazards of which they are aware including the contractor's work, equipment, procedures and chemicals.

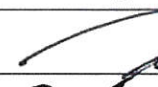
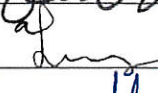
This HASP has been developed for the purpose of proactively aiding Stantec employees in identifying, understanding, and mitigating the potential risks/hazards they are may encounter at the site. This HASP may also be used as a reference document by properly trained and experienced Stantec subcontractors and clients. However, subcontractors and other contractors at the site must develop their own HASP to address the potential risks/hazards faced by their own employees.

This HASP should NOT be understood by contractors or anyone other than Stantec employees to provide information on all of the potential risks/hazards to which they may be exposed as a result of their work. Stantec claims no responsibility for use of this HASP by others.

Your signature below confirms the following: that you have read and understand the potential risks/hazards identified by Stantec and the associated mitigation measures discussed in this HASP; that there may be additional risks or hazards that are not identified in this HASP; that you have received training and medical surveillance according to this HASP and the OSHA Standard on Hazardous Waste Operations and Emergency Response (29 CFR 1910.120); and that you understand that you could be prohibited by the Stantec Site Health and Safety Officer or other authorized Stantec personnel from working on this project for not complying with any aspect of this or any other applicable HASP.

**Note: From this point forward in this document, the terms OSHA (i.e. federal Occupational Safety and Health Administration or FedOSHA) will be used interchangeably and shall be considered equivalent to the State of California Division of Occupational Safety and Health or CalOSHA.

(All Stantec and subcontractor personnel must sign.)

Name	Signature	Company	Date
Jason Stagno		Stantec	7/29/15
SCOTT EDBLAD		STANTEC	07/29/15
Tommy Fardig		STANTEC	08/03/15
Anuja Sawant		Stantec	8/3/15

HEALTH, SAFETY, AND ENVIRONMENT

RMS2 – FIELD LEVEL Risk ASSESSMENT (FIT FOR DUTY), 5 day

Stantec

Project: TASK ORDER 27 - ADL SI Project No: 185832027

Client: CAL TRANS

Location: LA-101, PM 29.1 / 38.2 AND VEN-101, PM 0.0 / 1.4

Start Date: 07/29/15

Documentation and Procedure Review

11.	Risk Management Strategy (RMS1) form and/or Site Specific Health and Safety Plan signed and reviewed?	☒ Yes ☐ No*
12.	Emergency Response Plan reviewed?	☐ Yes ☐ No* ☒ N/A
13.	Tested two-way communications (cell phone, satellite phone) and security measures?	☒ Yes ☐ No*
14.	Attended Client Site Health and Safety meeting?	☐ Yes ☐ No* ☒ N/A
15.	Conducted Stantec site safety meeting with all workforces?	☐ Yes ☐ No* ☒ N/A
16.	Are there any new or unexpected hazards not identified in the RMS1/HASP? *If yes, include in the Job Safety Analysis (JSA).*	☐ Yes ☒ No
17.	Working alone or remote work? *If yes, complete call in/out process – Safe Work form must be completed.*	☐ Yes ☒ No

Notifications and Permits

18.	Are work permits required for this site? *If yes, have they been completed and submitted as required?*	☒ Yes ☐ No ☒ Yes ☐ No*
19.	Are utility locates required for this site? *If yes, have they been completed and reviewed?*	☒ Yes ☐ No ☒ Yes ☐ No*
20.	Does the Client require any notification prior to starting the work? *If yes, has the notification been provided?*	☒ Yes ☐ No ☒ Yes ☐ No*

***Contact your Project Manager immediately.**

Work Description **Provide a general description of the work to be conducted.**

FLAG AND PHOTOGRAPH BORING LOCATIONS, AND MARK FOR USA (07/29/15).
SAMPLE COLLECTION (HAND AUGER) AND GPS LOCATIONS.
(08/03/15) (08/04/15)

Personal Protective Equipment

List specific PPE as needed. Verify type and inspect condition.

☒ Head Protection Type:	HARD HAT	☐ Hearing Protection:		☒ Gloves Type:	LEATHER / NITRILE
☒ Foot Protection Type:	SAFETY TOE	☐ Respiratory Protection:		☐ Water Safety Gear:	
☒ Eye Protection Type:	SAFETY GLASSES	☐ Fire Retardant Coveralls:		☐	
☒ High Visibility Vest:	REFLECTIVE	☐ Fall Protection:		☐	

Tools and Equipment

List specific equipment to be used. Verify type and inspect condition.

☒ HAMMER / STAKES ☒ iPHONE / CAMERA ☒ DECON BUCKETS / WATER
☒ TRAFFIC CONTROL ☒ HAND AUGER ☒ GPS
☒ ICE CHEST

RMS2 – FIELD LEVEL Risk ASSESSMENT (FIT FOR DUTY), 5 day

05.1 DAILY TAILGATE DISCUSSIONS/SUBCONTRACTOR INPUT

Date: 07/29/15	**Time:** 0900	**Weather:** SUNNY
Start	LOADED EQUIPMENT AND DISCUSSED WORK PLAN AND HASP (HEAT STRESS PREVENTION)	
Mid-Day	LUNCH BREAK	
Post-Day	UNLOADED EQUIPMENT	
Date: 08/03/15	**Time:** 0700	**Weather:** SUNNY
Start	LOADED EQUIPMENT AND DISCUSSED WORK PLAN AND HASP (HEAT STRESS PREVENTION)	
Mid-Day	CHECKED-IN WITH GROUP AND OSEG	
Post-Day	UNLOADED EQUIPMENT / SAMPLES	
Date: 08/04/15	**Time:** 0645	**Weather:** SUNNY
Start	LOADED EQUIPMENT; SAMPLE BORING PLAN; HEAT STRESS; NOTIFIED OSEG	
Mid-Day	GROUP CHECK-IN @ 1230 / SAFETY AUDIT BY K. EDBLAD @ 1320	
Post-Day	UNLOD EQUIPMENT / SAMPLES	
Date:	**Time:**	**Weather:**
Start		
Mid-Day		
Post-Day		
Date:	**Time:**	**Weather:**
Start		
Mid-Day		
Post-Day		

HEALTH, SAFETY, AND ENVIRONMENT

RMS2 – FIELD LEVEL Risk ASSESSMENT (FIT FOR DUTY), 5 day

Stantec

I know the hazards:

By signing here, you are stating the following:

9. I have been involved in the Job Safety Analysis (JSA) and understand the hazards and risk control actions associated with each task I am about to perform.
10. I understand the permit to work requirements applicable to the work I am about to perform (if it includes permitted activities).
11. I am aware that work that has not been risk–assessed must not be performed.
12. I am aware of my ability and obligation to **Stop Work** (*See below).*

I arrived and departed fit for duty (see Fit for Duty card for further information):

13. I am physically and mentally fit for duty.
14. I am not under the influence of any type of medication, drugs or alcohol that could affect my ability to work safely.
15. I am aware of my responsibility to bring any illness, injury (regardless of where or when it occurred), symptoms of soreness or discomfort, or fatigue issue I may have to the attention of the Crew Lead or Supervisor.
16. I sign out uninjured unless I have otherwise informed the Crew Lead or Supervisor.

Insert fitness level under corresponding time column: Fit for Duty = F Alternate Plan = AP
Team Lead to contact Project Manager for any personnel identified as AP

Individual Name/Company Name/Signature	Date: 7/29/15			Date: 08/03/15			Date: 08/04/15			Date:			Date:		
	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:
Scott Eddlad / Stantec /	0900 F	1400 F	1500 F	0700 F	1200 F	1515 F	0645 F	1230 F	1500 F						
Jason Stagg / Stantec /	0900 F	1400 F	1500 F	0700 F	1200 F	↓	0645 F	↓	1500 F						
Tommy Fardig / Stantec /	/	/	/	0700 F	↓	↓	0645 F	↓	1500 F						
Anuya Sawant / Stantec /	/	/	/	0700 F	↓	↓	0645 F	↓	1500 F						

I will STOP WORK any time anyone is concerned or uncertain about safety. **I will STOP WORK** if anyone identifies a hazard or additional mitigation not recorded. **I will** be alert to any changes in personnel or their fitness level (AP), conditions at the work site or hazards. If it is necessary to **STOP WORK**, I will reassess the task, hazards and mitigations; and then proceed only when safe to do so.

Conclusion of day: I certify that the planned work activities are completed for the day and all injuries and first aids have been reported via RMS3.

Signature of Crew Lead:	Scott Eddlad	**Date:**	07/29/15
Signature of Crew Lead:	Scott Eddlad	**Date:**	08/03/15
Signature of Crew Lead:	Scott Eddlad	**Date:**	08/04/15
Signature of Crew Lead:		**Date:**	
Signature of Crew Lead:		**Date:**	

Remember to
1. Stop and think
2. Look around
3. Assess risk
4. Control risks
5. Begin/resume work

HEALTH, SAFETY, AND ENVIRONMENT

RMS2 – FIELD LEVEL Risk ASSESSMENT (FIT FOR DUTY), 5 day

Job Safety Analysis (JSA) Must be completed for all field activities.

Basic Job Steps	Potential Hazards	Controls to Reduce or Eliminate Hazard	Person Responsible
TRAVEL TO AND FROM SITE	TRAFFIC; ACCIDENTS; PEDESTRIANS	DEFENSIVE DRIVING; TRAFFIC CONTROL	S. EDBLAD J. STAGND A. SAWANT
LOADING AND UNLOADING EQUIPMENT	~~PPE; SECURE~~ INJURIES – PINCH POINTS / STRAINS;	(HAZARD LIGHTS / FLASHING LIGHTBAR) PROPER LIFTING PPE; SECURE	T. FARDIG
FLAGGING / MARKING LOCATIONS	LOOSE / FLYING OBJECTS WHILE DRIVING	CARGO; USE THE RIGHT TOOL FOR THE JOB	
HAND AUGER AND SAMPLE COLLECTION	HEAT STRESS	HYDRATION	

Review the hazard categories below and check the mitigation measures applicable to the identified scope of work.

Environmental Hazards

23.	Work area clean	X
24.	Material storage identified	X
25.	Dust/Mist/Fume	
26.	Noise in area	
27.	Extreme temperatures	X
28.	Spill potential	
29.	Waste containers needed	X
30.	Waste properly disposed	X
31.	Waste plan identified	
32.	Excavation permit required	
33.	Other workers in area	
34.	Weather conditions	
35.	MSDS reviewed	

Ergonomic Hazards

36.	Awkward body position	X
37.	Over extension	X
38.	Prolonged twisting/bending motion	X
39.	Working in a tight area	X
40.	Lift too heavy/awkward to lift	X
41.	Parts of body in line of fire	X
42.	Repetitive motion	X
43.	Hands not in line of sight	X
44.	Working above your head	X

Access/Egress Hazards

38.	Aerial life/Man basket (inspected & tagged)
39.	Scaffold (inspected & tagged)
40.	Ladders (tied off)
41.	Slips & trips
42.	Hoisting (tools, equipment)
43.	Evacuation (alarms, routes, ph. #)
44.	Confined space entry permit required

Are you ready to work safely?

Remember to
1. Stop and think
2. Look around
3. Assess risk
4. Control risks
5. Begin/resume work

Overhead Hazards

45.	Barricades & signs in place
46.	Hole coverings identified
47.	Harness/lanyard inspected
48.	100% Tie-off with harness
49.	Tie off points identified
50.	Falling items
51.	Foreign bodies in eyes
52.	Hoisting or moving loads overhead

Rigging & Hoisting Hazards

58.	Lift study required	
59.	Proper tools used	
60.	Tools inspected	X
61.	Equipment inspected	
62.	Slings inspected	
63.	Others working overhead/below	
64.	Critical lift permit	

Electrical Hazards

65.	GFI test
66.	Lighting levels too low
67.	Working on/near energized equipment
68.	Electrical cords condition
69.	Electrical tools condition
70.	Fire extinguisher
71.	Hot work or electrical permit required

Personal Limitations/Hazards

72.	Procedure not available for task
73.	Confusing instructions
74.	No training for task or tools to be used
75.	First time performing the task
76.	Micro break (stretching/flexing)
77.	Report **all injuries** to your supervisor

It is important that all relevant hazards have plans in place to reduce risk.
Be sure that all associated permits are closed off at the end of the job.

Remember: Stop and Think

Reviewed by Name and Signature: _____

Required Pre-Entry Discussion Topics /
Requirements for All Workers and Visitors

Stantec

HEAT STRESS PREVENTION (California addendum) SWp 113c

CALIFORNIA OUTDOOR PROJECT HEAT ILLNESS PREVENTION PLAN

Scope

This plan is to ensure all employees working outdoors are properly protected from heat related illness risks and that projects are compliant with Cal/OSHA Heat Illness Prevention standards. This applies to all employees regardless of their duration at the project sites in California when temperatures are expected to be above 80 °F.

This plan is to be reviewed and agreed upon with all onsite staff prior to the start of work, including any subcontractors not operating under their own plan.

Complete this 6 Step plan for all outdoor projects within California.

Project Info:

Jobsite Address: LA-101, PM 29.1 / 38.2 AND VEN-101, PM 0.0 / 1.4

Today's Task(s): FLAG / MARK BORING LOCATIONS Expected Job Duration: 4-6 HOURS
HAND AUGER - SOIL SAMPLE COLLECTION 8 HOURS

1. PROJECT MANAGEMENT RESPONSIBILITIES & STAFF MEMBERS

The following supervisors have authority and responsibility for implementing the provisions of this plan at this worksite.(List all staff and responsible supervisors).

Project Manager: KRISTY EDBLAD Phone: (661) 754-0865

Site Supervisor: ~~JASON~~ SCOTT EDBLAD Phone: (661) 754-0862

Site Health & Safety Officer: JASON STAGNO Phone: (805) 630-8648

All crew members and subcontractors operating off of this plan (print and sign)	
Name (Print):	Signature:
SCOTT EDBLAD	
Tommy Fardig	
Jason Stagno	
Anuya Sawant	

Use more sheets if necessary.

Review Staff Expectations:

- All Onsite employees to be aware of this plan and its provisions.
- Any employees not in agreement with or not following this plan shall not be allowed to work at this jobsite.
- Discuss "Fit for Duty" aspects; are employees well-rested, hydrated, and acclimatized?

Required Pre-Entry Discussion Topics / Requirements for All Workers and Visitors

Stantec

2. WATER PROVISION PLAN

Each employee must have available at least 1 quart of clean, cool water per hour before the start of each shift, maintained throughout the day.

Describe how adequate water supplies will be maintained throughout the day for all employees:
BOTTLED WATER PROVIDED IN ICE CHEST

Person(s) responsible for water: SCOTT EDBLAD How often checked? DAILY
JASON STAGNO

Review Water Provisions Expectations:

- Reusable containers/bottles are to be uniquely marked or identified to avoid potential health exposure between coworkers.
    - Non-water (chemical/industrial) containers are to be clearly labeled to prevent inadvertent consumption.
- Water to be replenished before supplies drop below 1 quart/employee/hour.
- Water to be readily accessible (as close as practical) with multiple stations, if necessary.
- Electrolyte replacement fluids are also suitable. Water must also be maintained.
- Caffeinated/sugary drinks are discouraged. Water consumption is expected regardless.

3. ACCESS TO SHADE

Describe how shade will be provided and maintained throughout the day for all employees:
VEHICLE (CAB WITH AC)

Person(s) responsible for shade: SCOTT EDBLAD, JASON STAGNO,

Review Shade Access Expectations:

- Shade is required at 80 °F.
- Shade is to be available at any time (or temperature) if requested by any employee or subcontractor.
- For crews of 4 or more, shade should be provided by pop up canopy, tent, or other appropriate shade structure.
    - Crews of 4 or fewer can utilize vehicle cabs with working A/C as effective means of shade and rest.
    - Multiple vehicles can accommodate up to 4 employees each, rotating if necessary).
- Work must be stopped and rescheduled if access to water or shade is insufficient.
- Employees who are not from the local area and acclimatized are to be closely monitored and given additional breaks. Every employee can take breaks as needed.

Required Pre-Entry Discussion Topics / Requirements for All Workers and Visitors

Stantec

4. WEATHER MONITORING

63° 66° 67°

Start of project temperature: 67° Today's Forecasted High Temperate: 83°

88° 82° 83°

Describe how temperatures will be monitored throughout the day:

CELL PHONE

Person(s) responsible for weather monitoring: SCOTT BOBLAD, JASON STAGNO TOMMY FARDIG, ANUYA SAWANT

Review Weather Monitoring Expectations:

- **Check forecasts prior to the start of work.**
  - On or Offsite PM/Supervisor Monitoring and Communication expected.
- Shade is required at 80 °F.
- High Heat Procedures go into effect at 95 °F or during a Heat Wave (defined below).

5. HIGH HEAT AND HEAT WAVE PROCEDURES

These High Heat Procedures go into effect at 95 °F and above, or during a "Heat Wave".

- Heat Waves are defined as: Temperatures above 80 °F, and when temperatures are at least 10°F higher than average high daily temperature of the preceding 5 days.

Record time of High Heat or Heat Wave Plan Implementation.

_____: Stopped Work once temperatures reach 95 °F for a mandatory 10 minute cool-down, rest period and High Heat/Heat Wave procedure discussion.

1. Breaks to be:
   - At least 10 minutes, repeated at least every 2 hours,
   - encouraged to be taken individually by request,
   - Taken as often as employees need based on signs and symptoms.
2. Establish employee buddy system or monitoring plan with frequent communication to be on the lookout for signs and symptoms of heat illness.
   - Direct or electric means of communication will be maintained, so that employees can contact a supervisor when needed.
   - If the supervisor is unable to be near all workers to effectively communicate in person, electronic devices such as cell phone, text messaging, or satellite phone may be used if reception in the area is reliable.
3. Record Break times: ~~1100~~ / ~~1300~~ / ~~1400~~ / _____ / _____ / _____ / _____ / _____ / _____

Note - Any employees who are not acclimatized to the local environment must be closely monitored and directed to take additional rest breaks.

6. EMERGENCY RESPONSE PLANNING

For any heat related illness, dial 911 immediately.

1. Call AllOne Health (800) 350-4511 for any work related injuries/questions/concerns.
2. Notify the project Supervisor/PM once the situation is stabilized and care has begun.
3. Follow Stantec's Injury Reporting protocol, report the incident to the RSEC within 1 hour, with a RMS3 (Incident Report) to be submitted to HSE@stantec.com within 24 hours.

Required Pre-Entry Discussion Topics / Requirements for All Workers and Visitors

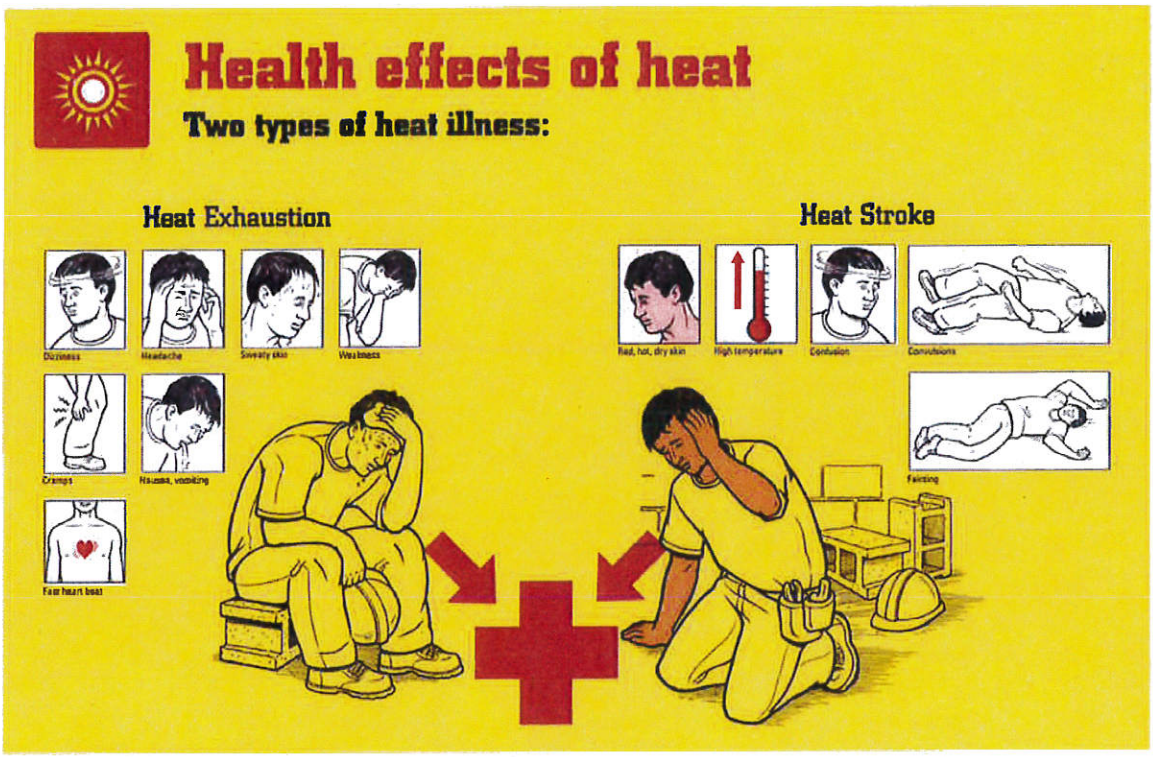
Record time of Emergency Planning step.

0900 Daily Tailgate/RMS2 Emergency planning discussion held.

0700 0645

Review Heat Illness Signs and Symptoms, and Emergency Response Plan expectations:

- Review site layout and emergency protocols as described in the HASP, or RMS1.
- Review each step of this plan with all site workers regardless of arrival time or duration onsite when temperatures are expected to be above 80 °F.
- **Review Heat Illnesses Signs and Symptoms.**



6.0 REVISION HISTORY

Date	Change	Acknowledgments
20150617	Created	Clint Reuter/Brandon Barnes
	Reviewed	Pending
	Posted to StanNet	Pending

APPENDIX B
BORING GPS COORDINATES
ADL SITE INVESTIGATION
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
LOS ANGELES AND VENTURA COUNTY, CALIFORNIA
EFIS:0700000552 (EA#281501)
TASK ORDER #27
CONTRACT 07A3322

Boring ID	Latitude [1] (degrees north)	Longitude [1] (degrees west)	Latitude [1] (decimal degrees north)	Longitude [1] (decimal degrees west)
1293-101	34 ° 09 ' 04.294	118 ° 41 ' 25.520	34.15119278	118.69042222
1293-102	34 ° 09 ' 02.303	118 ° 40 ' 43.050	34.15063972	118.67862500
1293-103	34 ° 09 ' 03.160	118 ° 40 ' 57.570	34.15087778	118.68265833
1293-104	34 ° 09 ' 03.043	118 ° 40 ' 39.376	34.15084528	118.67760444
1293-105	34 ° 09 ' 02.360	118 ° 40 ' 40.210	34.15065556	118.67783611
1293-106	34 ° 09 ' 00.280	118 ° 41 ' 44.730	34.15007778	118.69575833
1293-107	34 ° 08 ' 59.106	118 ° 41 ' 50.667	34.14975167	118.69740750
1293-108	34 ° 08 ' 55.720	118 ° 41 ' 49.750	34.14881111	118.69715278
1293-109	34 ° 08 ' 53.630	118 ° 41 ' 50.490	34.14823056	118.69735833
1293-110	34 ° 08 ' 54.740	118 ° 41 ' 50.850	34.14853889	118.69745833
1293-111	34 ° 08 ' 54.595	118 ° 41 ' 54.400	34.14849861	118.69844444
1293-112	34 ° 08 ' 49.590	118 ° 41 ' 55.840	34.14710833	118.69884444
1293-113	34 ° 08 ' 46.820	118 ° 41 ' 58.430	34.14633889	118.69956389
1293-114	34 ° 08 ' 44.470	118 ° 41 ' 58.190	34.14568611	118.69949722
1293-115	34 ° 08 ' 43.570	118 ° 41 ' 59.030	34.14543611	118.69973056
1293-116	34 ° 08 ' 43.894	118 ° 42 ' 04.969	34.14552611	118.70138028
1293-117	34 ° 08 ' 38.790	118 ° 42 ' 13.685	34.14410833	118.70380139
1293-118	34 ° 08 ' 35.208	118 ° 42 ' 19.851	34.14311333	118.70551417
1293-119	34 ° 08 ' 25.378	118 ° 42 ' 43.251	34.14038278	118.71201417
1293-120	34 ° 08 ' 22.740	118 ° 42 ' 44.010	34.13965000	118.71222500
1293-121	34 ° 08 ' 16.860	118 ° 43 ' 21.450	34.13801667	118.72262500
1293-122	34 ° 08 ' 16.340	118 ° 43 ' 24.810	34.13787222	118.72355833
1293-123	34 ° 08 ' 24.040	118 ° 43 ' 57.760	34.14001111	118.73271111
1293-124	34 ° 08 ' 30.710	118 ° 44 ' 07.050	34.14186389	118.73529167
1293-125	34 ° 08 ' 36.392	118 ° 44 ' 25.288	34.14344222	118.74035778
1293-126	34 ° 08 ' 34.420	118 ° 44 ' 22.010	34.14289444	118.73944722
1293-127	34 ° 08 ' 33.530	118 ° 44 ' 23.790	34.14264722	118.73994167
1293-128	34 ° 08 ' 34.440	118 ° 44 ' 25.030	34.14290000	118.74028611
1293-129	34 ° 08 ' 33.510	118 ° 44 ' 26.100	34.14264167	118.74058333
1293-130	34 ° 08 ' 34.000	118 ° 44 ' 29.120	34.14277778	118.74142222
1293-131	34 ° 08 ' 36.438	118 ° 44 ' 29.798	34.14345500	118.74161056
1293-132	34 ° 08 ' 36.380	118 ° 44 ' 27.642	34.14343889	118.74101167
1293-133	34 ° 08 ' 37.530	118 ° 44 ' 40.946	34.14375833	118.74470722
1293-134	34 ° 08 ' 39.199	118 ° 44 ' 54.456	34.14422194	118.74846000
1293-135	34 ° 08 ' 39.980	118 ° 44 ' 58.479	34.14443889	118.74957750
1293-136	34 ° 09 ' 23.630	118 ° 49 ' 23.630	34.15656389	118.82323056
1293-137	34 ° 09 ' 24.180	118 ° 49 ' 23.594	34.15671667	118.82322056
1293-138	34 ° 09 ' 36.759	118 ° 49 ' 42.319	34.16021083	118.82842194
1293-139	34 ° 09 ' 37.450	118 ° 49 ' 47.670	34.16040278	118.82990833

Notes: [1] North American Datum 83 (WGS 84)

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 1 & 2

Boring 1293-101 located on the northbound side of the Ventura Freeway (LA-101/VEN-101), and Boring 1293-102 located on the southbound side of LA-101.

Photograph No. 3 & 4

Boring 1293-103 located on the southbound side of LA-101, and Boring 1293-104 located on the northbound side of LA-101.

STANTEC CONSULTING SERVICES PHOTOGRAPHIC RECORD	
Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 5 & 6

Boring 1293-105 and 1293-106 located on the southbound side of LA-101.

Photograph No. 7 & 8

Boring 1293-107 located on the northbound side of LA-101, and Boring 1293-108 located on the southbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 9 & 10

Boring 1293-109 and 1293-110 located on the southbound side of LA-101.

Photograph No. 11 & 12

Boring 1293-111 located on the northbound side of LA-101, and Boring 1293-112 located on the southbound side of LA-101.

STANTEC CONSULTING SERVICES PHOTOGRAPHIC RECORD	
Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 13 & 14

Boring 1293-113 and 1293-114 located on the southbound side of LA-101.

Photograph No. 15 & 16

Boring 1293-115 located on the southbound side of LA-101, and Boring 1293-116 located on the northbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 17 & 18

Boring 1293-117 and 1293-118 located on the northbound side of LA-101.

Photograph No. 19 & 20

Boring 1293-119 located on the northbound side of LA-101, and Boring 1293-120 located on the southbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 21 & 22

Boring 1293-121 and 1293-122 located on the southbound side of LA-101.

Photograph No. 23 & 24

Boring 1293-123 and 1293-124 located on the southbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 25 & 26

Boring 1293-125 located on the northbound side of LA-101, and Boring 1293-126 located on the southbound side of LA-101.

Photograph No. 27 & 28

Boring 1293-127 and 1293-128 located on the southbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 29 & 30

Boring 1293-129 and 1293-130 located on the southbound side of LA-101.

Photograph No. 31 & 32

Boring 1293-131 and 1293-132 located on the northbound side of LA-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 33 & 34

Boring 1293-133 and 1293-134 located on the northbound side of LA-101.

Photograph No. 35 & 36

Boring 1293-135 located on the northbound side of LA-101, and Boring 1293-136 located on the southbound side of VEN-101.

STANTEC CONSULTING SERVICES
PHOTOGRAPHIC RECORD

Client: Caltrans (07A3322-27)	**Job Number:** 185832027
Site Name: Task Order No. 27	**Location:** LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Photographer: S. Edblad	**Date:** July 29, 2015

Photograph No. 37 & 38

Boring 1293-137 and Boring 1293-138 located on the northbound side of VEN-101.

Photograph No. 39

Boring 1293-139 located on the southbound side of VEN-101.

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-101 & 1293-104
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1
Project #: 1858032027.200 1004	**Northing:** 1293-104 34°09'04.294"N **Easting:** 118°41'25.520"W
Drilling Start: 0845 08/03/15 **Completed:** 0955 0800	**Latitude:** 1293-101 34°09'03.043"N **Longitude:** 118°40'39.376"W
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** 254.68M **TOC Elev (ft):** 104 2.22.25 M
Drilling Company: Stantec	**Initial DTW (ft):** NA **Borehole Depth (ft):** 2.5 &
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA **Well Depth (ft):** NA
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA **Borehole Dia (in):** ~3-4"
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. GOBLAD **Checked By:**

Stantec

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0		SM	DRY GLASS @ SURFACE SILTY SAND (SM); YELLOWISH BROWN (10YR 5/4); ~30% SILT; FINE TO COARSE GRAINED SAND; ~10% FINE GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED GRAVEL WITH DEPTH; PAPER AND ROOT DEBRIS.	X	1293-101-0 0845					0
1				X	1293-101-1 0847					1
2				X	1293-101 0850					2
3										3
4			BOREHOLE TERMINATED @ 2.5' BGS							4
5										5
0			DRY GLASS @ SURFACE (PAPER DEBRIS)	X	1293-104-0 0948					0
		SM	SILTY SAND WITH GRAVEL (SM); YELLOWISH BROWN (10YR 5/6); ~30% SILT; ~20% FINE ANGULAR GRAVEL; MOIST; FINE TO COARSE GRAINED SAND; NO STAINS OR ODORS; PAPER / ROOT DEBRIS NEAR SURFACE; INCREASED GRAVEL WITH DEPTH; VERY DENSE SHALE @ 4' BGS TO TOTAL DEPTH	X	1293-104-1 0951					
				X	1293-104-2 0955					
5				X	1293-104-5 1004					5
			BORE HOLE TERMINATED @ 5' BGS							

1293-101

1293-104 1293-104

SOIL CUTTINGS

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293 - 102 & 1293 - 125
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1
Project #: 1858032027.200	**Northing:** ~~34°09'03.043"~~ (S) **Easting:** ~~118°40'37.376"W~~ (S)
Drilling Start: 0742 08/04/15 **Completed:** 0857	**Latitude:** ~~34°08'36.550"N~~ (S) **Longitude:** ~~118°44'25.142"W~~ (S)
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** ~~254 MAP.68 MA~~ **TOC Elev (ft):** ~~240.31 MA~~ (S)
Drilling Company: Stantec	**Initial DTW (ft):** NA **Borehole Depth (ft):** 2.5 & 2.5
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA **Well Depth (ft):** NA
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA **Borehole Dia (in):** ~3-4"
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. EDBLAD **Checked By:**

Stantec

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-102			TREE LITTER (EUCALYPTUS); PLASTIC/PAPER DEBRIS							
0		SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM); YELLOWISH BROWN (10YR 5/4); ~10% SILT; ~30% FINE SUBANGULAR GRAVEL; FINE TO COARSE GRAINED SAND; MOIST; NO STAINS OR ODORS; ROOTS NEAR SURFACE; INCREASED DENSE GRAVEL WITH DEPTH	X	0742 1293-102-0					SOIL CUTTINGS
1				X	0747 1293-102-1					
2				X	0757 1293-102-2					
3										
4										
5			REFUSAL @ 2' BGS; STEPPED OUT 4' W AND 4' NW - REFUSAL @ 2.5' BGS (V. DENSE GRAVEL)							
			BOREHOLE TERMINATED @ 2.5' BGS		34°09'02.303" 118°40'43.050" 308.66M					
1293-125			ORT GRASS/SHRUBS; PLASTIC, PAPER, CANS							
0		ML	SILT WITH SAND (ML); YELLOWISH BROWN (10YR 5/6); ~40% SILT; ~20% CLAY; FINE TO COARSE GRAINED SAND; TRACE FINE GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED FINES WITH DEPTH	X	0853 1293-125-0					SOIL CUTTINGS
				X	0855 1293-125-1					
				X	0857 1293-125-2					
5			BOREHOLE TERMINATED @ 2.5' BGS							
			~~34°08'35.208"N~~ (S)		34°08'36.392"N					
0			~~118°42'19.851"W 203.55M~~ (S)		118°44'25.288"W 301.33M					

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-105 & 1293-103	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/4/15 1319 **Completed:** 8/4/15 1413	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 3	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** DS/ATS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-105			Vegetation at surface; silty sand (10YR3/4) dark yellowish brown, ~50% gravel; ~30% silt, ~40% fine grained sand; ~15% med-grained sand; ~5% coarse-grained sand; no odors or staining.	X	1293-105-0 1320					SOIL CUTTINGS
				X	1293-105-1 1332					
				X	1293-105-2 1338					
			Borehole terminated @ 2.5' bgs							
			GPS: 722680.42m N 1774665.79m E 229.34m							
1293-103			Vegetation at surface; silty sand (10YR 4/2) dark grayish brown; ~10% gravel; ~20% silt; ~80% fine-med-grained sand; ~10% coarse-grained sand; no odors or staining. Refusal @ 1'. Stepout 2' N Refusal @ 3'. Stepout 2' E Refusal @ 1.5'.	X	1293-103-0 1403					SOIL CUTTINGS
				X	1293-103-1 1413					
				X	1293-103-2 1417					
			Hole terminated @ 3' bgs.							
			GPS: 722680.41 m N 1775773.23m E 255.48m.							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-107 & 1293-111		Stantec
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	~~Northing:~~ 34°08'59.106"N	~~Easting:~~ 118°41'50.667"	
Drilling Start: 08/03/15 1036 **Completed:** 1133	~~Latitude:~~ 206.97 M	~~Longitude:~~ 118°41'54.406"	
Installation Start: NA **Completed:** NA	~~Ground Elev (ft):~~ 34°08'54.595"	~~TOC Elev (ft):~~ 198.33 M	
Drilling Company: Stantec	**Initial DTW (ft):** NA	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. EDBLAD	**Checked By:**	

1293-107

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0		SM	WOOD MULCH @ SURFACE	X	1293-107-0 1036				0	SOIL CUTTINGS
1			SILTY SAND WITH GRAVEL (SM); YELLOWISH BROWN (10YR 5/4); ~30% SILT; FINE TO COARSE GRAINED SAND; ~20% FINE GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED MOISTURE WITH DEPTH / DECREASED SILT; COLOR CHANGES TO (10YR 5/8)	X	1293-107-1 1042				1	
2				X	1293-107-2 1049				2	
3			REFUSAL @ 0.5' ~~DHA STEP-OUT TO TH(S)~~ STEPPED OUT 2' WEST						3	
4			BOREHOLE TERMINATED @ 2.5' BGS						4	
5									5	

1293-111

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0		ML	WOOD MULCH @ SURFACE (LAYER OF BRS)	X	1293-111-0 1127				0	SOIL CUTTINGS
1			SANDY SILT (ML); DARK YELLOWISH BROWN (10YR 3/6); ~50% SILT; ~20% LEAN CLAY; FINE TO MEDIUM GRAINED SAND; LOW PLASTICITY; MOIST; NO STAINS OR ODORS; INCREASED MOISTURE WITH DEPTH	X	1293-111-1 1129				1	
2				X	1293-111-2 1133				2	
3			BOREHOLE TERMINATED @ 2.5' BGS						3	
4									4	
5									5	

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-108 & 1293-106	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/4/15 1138 **Completed:** 8/4/15 1310	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.0	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AS/SS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-108			Well graded sand (10YR 5/4) dark yellowish brown; ~10% silt; 60% fine-med. grained sand; ~10% clay; coarse gravel observed; no stain no odor	X	1293-108-0 1139					SOIL CUTTING
			Hole terminated @ 2.5' bgs.	X	1293-108-1 1145					
				X	1293-108-2 1149					
			GPS: 722476.54m N 1774403.61 m E 223.35 m.							
1293-106			Silty sand (10YR 3/4) dark yellowish brown; ~5% gravel; ~30% silt; ~40% fine sand; ~15% med-grained sand; ~5% coarse sand; no odors or staining	X	1293-106-0 1247					SOIL CUTTING
			Refusal @ 1.5 bgs.	X	1293-106-1 1257					
			Hole terminated at 1.5 bgs.							
			GPS: 722598.01 m N 1774512.11 m E 224.58m.							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293 - 109 & 1293 -	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/19/15 1103 **Completed:** 8/19/15 1136	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 1.5 & 0.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** BJS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-109			Mulch on Surface Well graded sand (10YR 5/4) yellowish brown; ~10% silt; 70% fine - med. grained sand. ~10% coarse sand, coarse gravel observed / no stain; no odor. Refusal @ 0.5' bgs. Stepout 2'N & 2'E. Refusal @ 1.5' bgs. Hole Terminated @ 1.5' bgs. GPS: 722411.28m N 1774380.84m E 221.58m.	X X	1293-109-0 1105 1293-109-1 1119				0 1 2 3 4 5	SOIL CUTTINGS
1293-110			Mulch on surface. Well graded sand (10YR 5/4) yellowish brown. ~10% silt; 70% fine-med grained sand. 15% clay. coarse gravel observed. no stain, no odor. Refusal @ 0.5' bgs. stepout 2'N & 2'E. Refusal @ 0.5' bgs. Hole terminated @ 0.5' bgs. GPS: 722449.31m N 1774372.09 m E 222.43 m.	X	1293-110-0 1122				0 5	SOIL CUTTINGS

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-113 & 1293-112	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/4/15 0927 **Completed:** 8/4/15 1055	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 &	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** JS/AS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-113			Mulch at surface; some debris (trash)	X	1293-113-0 0928				0	SOIL CUTTINGS
			Silty sand (10YR 4/4) dark yellowish brown; ~10% gravel; ~40% silt;	X	1293-113-1 0932				1	
			fine-med grained sand; 10% coarse sand; no stains or odors. Stopped out	X	1293-113-2 0950				2	
			x2 due to cobble						3	
			Hole terminated at 2.5' bgs						4	
			GPS: 722196.84m N						5	
			1774165.26m E							
			216.42m							
1293-112			Grass @ surface	X	1293-112-0 1016				0	SOIL CUTTINGS
			Silty Sand (10YR3/2 very dark gray, sh brown); ~20% gravel; ~35% silt; ~40% fine sand; ~20% fine sand; ~5%	X	1293-112-1 1022				1	
			gravel; no stains or odors						2	
			Refusal x 2 @ 1' bgs	X	1293-112-2 1040					
			Hole terminated at 2.5 bgs						5	
			GPS: 722296.79m N							
			1774246.16m E							
			219.57m							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27		**Boring ID:** 1293 - 115 & 1293 - 114	Stantec
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4		**Page:** 1 of 1	
Project #: 1858032027.200		**Northing:**	**Easting:**
Drilling Start: 8/4/15 0820	**Completed:** 8/4/15 0920	**Latitude:**	**Longitude:**
Installation Start: NA	**Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**
Drilling Company: Stantec		**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.5
Drilling Equipment: Hand Auger Bucket		**Static DTW (ft):**	**Well Depth (ft):** NA
Drilling Method: Hand Auger		**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"
Sampling Equipment: Hand Auger / 8 oz. Glass Jars		**Logged By:** JS/AS	**Checked By:**

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-115			Silty Sand (10YR 2/2) very dark brown; ~10% gravel; fine-med grained sand; ~10% coarse grained sand; med plasticity; no staining or odor (10YR 3/4) dark yellowish brown; cobbles - angular Refusal @ 1.5' bgs stopped out twice (1 north, 1 east) GPS: 722109.05m N 1774165.75m E 217.82m	X X X	1293-115-0 0825 1293-115-1 0834				0 1 2 3 4 5	SOIL CUTTINGS
1293-114			Silty sand (10YR 2/2) v. dark brown; ~10% gravel. ~40% silt. fine-med. grained sand; ~15% coarse grained sand; ~15% clay. few roots observed @ 0.5' bgs. no stain no odor. Hole terminated @ 2-ft bgs GPS: 722137.13m N 1774173.25m E 214.80m.	X X X	1293-114-0 0908 1293-114-1 0915 1293-114-2 0918				0 1 2 5	SOIL CUTTINGS

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293 - 116 & 1293 - 117
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1
Project #: 1858032027.200 08/03/15	**Northing:** 34°08'43.894"N 1293-116
Drilling Start: 1214 **Completed:** 1307	**Latitude:** 34°08'38.790"N 1293-117
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** 195.61 m 116
Drilling Company: Stantec	**Initial DTW (ft):**
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. EDBLAD

Stantec

Easting: 118°42'04.969"W	**Longitude:** 118°42'13.685"W 117
TOC Elev (ft): 201.74 m	**Borehole Depth (ft):** 1.5 & 2.5
Well Depth (ft): NA	**Borehole Dia (in):** ~3-4"
Checked By:	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			PAPER, RUBBER/PLASTIC, GLASS DEBRIS @ SURFACE							
		SM	SILTY SAND (SM); YELLOWISH BROWN (10YR 5/8); ~30% SILT; FINE TO COARSE GRAINED SAND; ~10% FINE ANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED GRAVEL WITH DEPTH; DEBRIS @ SURFACE	X	1293-116-0 1214					SOIL CUTTINGS
1				X	1293-116-1 1216					
2										
3										
4										
5			NO SAMPLE COLLECTED @ 2' BGS DUE TO CONCRETE (SLAB) REFUSAL @ 1.5' BGS; STEPPED OUT 2' AND 4' NORTH							
			BOREHOLE TERMINATED @ 1.5' BGS							
0			DRY GRASS @ SURFACE (PLASTIC/PAPER DEBRIS)							
		SM	SILTY SAND (SM); DARK YELLOWISH BROWN (10YR 4/6); ~30% SILT; FINE TO COARSE GRAINED SAND; ~10% FINE ANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED GRAVEL AND ROOTS WITH DEPTH	X	1293-117-0 1257					SOIL CUTTINGS
				X	1293-117-1 1304					
				X	1293-117-2 1307					
5			PVC (1") ENCOUNTED @ 0.5' SOUTH OF THE BORING.							
			REFUSAL @ 1' BGS (LARGE COBBLE (DENSE GRAVEL); STEPPED OUT 2' NW.							
			BOREHOLE TERMINATED @ 2.5' BGS							
0										

1293-116

1293-117

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-118 & 1293-119	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200 08/03/15	**Northing:** 34°08'35.208"N	**Easting:** 118°42'19.851"W	
Drilling Start: 1349 **Completed:** 1436	**Latitude:** 34°08'25.378"N	**Longitude:** 118°42'43.25"W	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** 203.55M	**TOC Elev (ft):** 203.06	
Drilling Company: Stantec	**Initial DTW (ft):** NA	**Borehole Depth (ft):** 5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. BOBLAD	**Checked By:**	

1293-118

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			BUSH/SHRUB DEBRIS (OLEANDER); PLASTIC PAPER DEBRIS @ SURFACE						0	
1		SM	SILTY SAND WITH GRAVEL (SM) YELLOWISH BROWN (10YR 5/6); ~30% SILT; FINE TO COARSE GRAINED SAND; ~30% FINE SUBANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; DECREASED GRAVEL AND INCREASED SILT WITH DEPTH (SLIGHT); ROOTS AND ANGULAR GRAVEL NEAR SURFACE	X	1349 1293-118-0				1	SOIL CUTTINGS
2				X	1351 1293-118-1				2	
3				X	1353 1293-118-2				3	
4									4	
5				X	1356 1293-118-5				5	
			BOREHOLE TERMINATED @ 5' BGS							

1293-119

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			BUSH/SHRUB DEBRIS (OLEANDER); ALUMINUM; PLASTIC/PAPER DEBRIS @ SURFACE						0	
1		SM	SILTY SAND WITH GRAVEL (SM); YELLOWISH BROWN (10YR 5/4); ~30% SILT; FINE TO COARSE GRAINED SAND; ~30% FINE GRAVEL; MOIST; NO STAINS OR ODORS; ASPHALT AND ALUMINUM DEBRIS @ ~1' BGS.	X	1430 1293-119-0				1	SOIL CUTTINGS
2				X	1434 1293-119-1				2	
3				X	1436 1293-119-2.5				3	
4									4	
5									5	
			BOREHOLE TERMINATED @ 2.5' BGS							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-121 & 1293-120	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/4/15 0724 **Completed:** 8/4/15 0809	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AJ/JS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
1293-121			Well graded sand (10YR 4/4); dark yellowish brown; ~10% silt; 70% fine & med. grained sand; & ~~fine~~ coarse grained sand; no stain; no odor; moist.	X	1293-121-0 0725					Soil Cuttings
				X	1293-121-1 0731					
				X	1293-121-2 0739					
			Hole terminated @ 2.5 ft bgs.							
			GPS: 721329.72mN 1771982.95mE 237.89m.							
1293-120			Poorly graded sand (10 YR 4/4); dark yellowish brown; 20% silt; 50% fine sand; ~20% med sand; ~10% coarse sand; no staining or odor	X	1293-120-0 0756					Soil Cuttings
				X	1293-120-1 0800					
				X	1293-120-2 0808					
			Borehole terminated @ 2.5' bgs							
			GPS: 721493.68mN 1772988.57mE 223.12m							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293 - 123 & 1293 - 122	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/3/15 1350 **Completed:** 8/3/15 1442	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 3 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AB/SS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			Debris (Trash) at surface; well graded sand; (10 YR 5/6) Yellowish brown; 25% silt; 35% medium sand; 40% fine sand; ~10-20% gravel; no staining or odor	X	1293-123-0 1350					Soil Cuttings
1			Step out 1' E. Refusal @ 1ft. Step Out 2' N. Refusal @ 3' bgs.	X	1293-123-1 1406					
2				X	1293-123-2 1409					
3										
4										
5			GPS: 721654.29mN 1771035.02mE 258.38amsl.							
0			well graded sand; (10 YR 5/4) Yellowish brown; 5% silt; ~70% fine-med grained sand; coarse sand (~15%); 25% clay; few fine & coarse gravel observed. roots observed @ surface 0.5' bgs. no stain no odor.	X	1293-122-0 1425					Soil Cuttings
1				X	1293-122-1 1435					
2			Hole terminated @ 2.5' bgs.	X	1293-122-2 1441					
5			GPS: 721318.80mN 1771926.57mE 231.81m.							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293 - 126 & 1293 - 124	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/31/17 1256 **Completed:** 8/31/17 1340	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AS/JS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			Well graded sand. (10YR 5/6) yellowish brown; ~20% silt; fine, med coarse grained sand. ~10% angular gravel; no stain no odor. moist. few roots observed, some plastic material observed.	X	1293-126-0 1257					SOIL CUTTINGS
1				X	1293-126-1 1259					
2			Hole terminated @ 2.5' bgs	X	1293-126-2 1301					
3										
4										
5			GPS: 721914.20mN 1770488.87mE 261.01m							
0			well graded sand (10YR 4/6) dark yellowish brown; ~20% silt, ~10% coarse gravel, fine-med coarse grained sand. few roots & some wood chips observed at surface. no odor no stain.	X	1293-124-0 1333					SOIL CUTTINGS
1				X	1293-124-1 1335					
2			Hole terminated @ 2.5' bgs	X	1293-124-2 1338					
3										
4										
5			GPS: 721801.13mN 1770870.65mE 258.78m							
0										

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-127 & 1293-128	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 8/3/15 1140 **Completed:** 8/3/15 1232	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AD/JS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			at surface Debris; poorly graded sand (10YR4/2) dark grayish brown; fine-med grained sand; ~10% coarse sand; few gravel; no odor or staining	X	1293-127-0 1141					
1				X	1293-127-1 1147					
2				X	1293-127-2 1154					
3			Hole terminated @ 2.5' bgs							
4										
5										
			GPS: 721898.12m N 1770445.31m E 257.94m							
0			Grass at surface: Silty sand (2.5YR3/2) very dark grayish brown; moist; med plasticity; micaceous; no odor or staining; roots	X	1293-128-0 1213					
1				X	1293-128-1 1221					
2.5			well graded sand (2.5YR3/3) dark brown; 10% gravel; fine-med grained sand, trace coarse sand; no staining or odors. Refusal @ 1.5' Step out 2' north	X	1293-128-2 1231					
5			Hole terminated @ 2.5' bgs							
			GPS: 721918.64m N 1770389.72m E 257.18m							
0										

SOIL CUTTINGS 127

SOIL CUTTINGS 128

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-130 & 1293-129	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 1036 8/3/11 **Completed:** 8/3/11 1130	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AS/JS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			Silty sand (10 YR 3/3	Dark Brown ~45% gravel; fine-med grained sand; ~5% coarse-grained sand; no staining or odor	X	1293-130-0 1037				
1					X	1293-130-1 1047				
2					X	1293-130-2 1051				
3			Hole terminated @ 2.5' bgs							
4										
5			GPS: 721911.38mN 1770289.5m E 259.35m							
0			Poorly graded sand (10 YR 3/4	dark yellowish brown); fine-med grained sand; ~50% coarse sand; few gravel; no odor or staining	X	1293-129-0 1117				
1					X	1293-129-1 1121				
2					X	1293-129-2 1129				
3			Hole terminated @ 2.5' bgs							
4										
5			GPS: 721904.76 mN 1770359.89m E 258.10 m.							
0										

SOIL CUTTINGS

SOIL CUTTINGS

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-131 & 1293-132	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200 13/04/15	**Northing:** ~~34°08'35.208"N~~ 132	**Easting:** ~~118°42'49.854"W~~	
Drilling Start: 0934 **Completed:** 0947	**Latitude:** 34°08'36.438"N	**Longitude:** 118°44'29.798"W	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** ~~203.55~~	**TOC Elev (ft):** 237.59	
Drilling Company: Stantec	**Initial DTW (ft):** NA	**Borehole Depth (ft):** 2.5 & 2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. BARLOW	**Checked By:**	

1293-131

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace Reading (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			DRY GRASS; PLASTIC, PAPER, METAL DEBRIS	X	0934				0	SAND CUTTINGS
1		SC	CLAYEY SAND (SC); YELLOWISH BROWN (10YR5/4); ~30% ~~LEAN CLAY~~ FAT CLAY; ~30% SILT; FINE TO COARSE GRAINED SAND; TRACE GRAVEL; MEDIUM PLASTICITY; MOIST; NO STAINS OR ODORS; INCREASED CLAY WITH DEPTH AND MOISTURE	X	1293-131-0				1	
2				X	0937				2	
3					1293-131-1				3	
4				X	0939				4	
5					1293-131-2				5	
			BOREHOLE TERMINATED @ 2.5' BGS							

1293-132

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace Reading (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			GOPHER HOLES DRY GRASS; PLASTIC, PAPER, METAL DEBRIS	X	0943				0	SAND CUTTINGS
1		SC	CLAYEY SAND (SC); YELLOWISH BROWN (10YR5/4); ~30% FAT CLAY; ~30% SILT; FINE TO COARSE GRAINED SAND; TRACE GRAVEL; MEDIUM PLASTICITY; MOIST; NO STAINS OR ODORS	X	1293-132-0				1	
2				X	0945				2	
3					1293-132-1				3	
4				X	0947				4	
5					1293-132-2				5	
			BOREHOLE TERMINATED @ 2.5' BGS 34°08'36.380"N 118°44'27.642"W 239.02 M							

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-133 & 1293-134	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200 08/04/15	**Northing:** 34°08'37.530"N	**Easting:** 118°44'40.946"W	
Drilling Start: 1059 **Completed:** 1136	**Latitude:** 34°08'39.199"N	**Longitude:** 118°44'54.456"W	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):** 236.53 M	**TOC Elev (ft):** 231.28M	
Drilling Company: Stantec	**Initial DTW (ft):** NA	**Borehole Depth (ft):** 2.5&2.5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):** NA	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** S. BARLOW	**Checked By:**	

1293-133

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace Gas (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			(COLEANDER) DRY GRASS; PLASTIC, PAPER, METAL DEBRIS						0	
1		SM	SILTY SAND WITH GRAVEL (SM); BROWNISH YELLOW (10YR 6/8); ~30% SILT; TRACE CLAY; FINE TO COARSE GRAINED SAND; ~20% FINE ANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; DECREASED GRAVEL AND INCREASED FINES (SILT) WITH DEPTH; ROOT DEBRIS NEAR SURFACE.		1059 1293-133-0				1	
2					1101 1293-133-1				2	Soil Cuttings
3					1104 1293-133-2				3	
4									4	
5			BOREHOLE TERMINATED @ 2.5' BGS						5	

1293-134

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace Gas (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			(COLEANDER) DRY GRASS; PLASTIC, PAPER, METAL DEBRIS						0	
1		SM	SILTY SAND WITH GRAVEL (SM); BROWNISH YELLOW (10YR 6/8); ~30% SILT; TRACE CLAY; FINE TO COARSE GRAINED SAND; ~20% ANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; DECREASED GRAVEL WITH DEPTH; CONCRETE DEBRIS NEAR SURFACE		1132 1293-134-0				1	
2					1133 1293-134-1				2	Soil Cuttings
3					1136 1293-134-2				3	
4									4	
5			BOREHOLE TERMINATED @ 2.5 BGS						5	

Project: Caltrans, Contract No. 07A3322, Task Order No. 27		**Boring ID:** 1293 - 135 & 1293 - 137	Stantec
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4		**Page:** 1 of 1	
Project #: 1858032027.200 08/04/15		**Northing:** 34°08'39.980" N	**Easting:** 118°44'58.479" W
Drilling Start: 1143	**Completed:** 1226	**Latitude:** 34°09'24.180" N	**Longitude:** 118°4'9'23.574" W
Installation Start: NA	**Completed:** NA	**Ground Elev (ft):** 230.21 M	**TOC Elev (ft):** 248.85M
Drilling Company: Stantec		**Initial DTW (ft):** NA	**Borehole Depth (ft):** 2.5&2.5
Drilling Equipment: Hand Auger Bucket		**Static DTW (ft):** NA	**Well Depth (ft):** NA
Drilling Method: Hand Auger		**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"
Sampling Equipment: Hand Auger / 8 oz. Glass Jars		**Logged By:** S. BOBLEO	**Checked By:**

1293 - 135

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0		SM	DRY GRASS (OLEANDER); PAPER, PLASTIC; NATIVE SILTY SAND WITH GRAVEL (SM); BROWNISH YELLOW (10YR 6/8); ~30% SILT; TRACE CLAY; PINK TO COARSE GRAINED SAND; ~20% FINE ANGULAR GRAVEL; MOIST; NO STAINS OR ODORS; INCREASED GRAVEL AND FINES WITH DEPTH; ROOT DEBRIS NEAR SURFACE		@ SURFACE				0	SOIL CUTTINGS
1					1143 1293-135-0				1	
2					1145 1293-135-1				2	
3					1146 1293-135-2				3	
4									4	
5			BOREHOLE TERMINATED @ 2.5' BGS						5	

1293 - 135

1293 - 137

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0		SC	FLOWERS ~~DRY~~ GRASS (NATIVE); PAPER DEBRIS @ SURFACE; SANDY CLAY (SC); DARK YELLOWISH BROWN (10YR 4/4); ~30% CLAY; ~30% SILT; FINE TO COARSE GRAINED SAND; ~10% FINE ANGULAR GRAVEL; LOW PLASTICITY; MOIST; NO STAINS OR ODORS; INCREASED GRAVEL WITH DEPTH		1202 1293-137-0				0	SOIL CUTTINGS
1					1222 1293-137-1				1	
2					1226 1293-137-2				2	
3									3	
4									4	
5			BOREHOLE TERMINATED @ 2.5' BGS						5	

1293 - 137

Project: Caltrans, Contract No. 07A3322, Task Order No. 27
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4
Project #: 1858032027.200 08/04/15
Drilling Start: 1344 Completed: 1347
Installation Start: NA Completed: NA
Drilling Company: Stantec
Drilling Equipment: Hand Auger Bucket
Drilling Method: Hand Auger
Sampling Equipment: Hand Auger / 8 oz. Glass Jars

Boring ID: 1293 - 13B & 1293 -
Page: 1 of 1
Northing: 34°09'36.759"N
Latitude:
Ground Elev (ft): 244.58 M
Initial DTW (ft): NA
Static DTW (ft): NA
Well Casing DIA (in): NA
Logged By: S. GOBLAD

Stantec
Easting: 118°49'42.319" W
Longitude:
TOC Elev (ft):
Borehole Depth (ft): 25 &
Well Depth (ft): NA
Borehole Dia (in): ~3-4"
Checked By:

1293 - 13B

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			BARE SOIL (PAPER DEBRIS) - SHRUBS NORTH						0	
1		ML	SANDY SILT (ML); DARK YELLOWISH BROWN (10YR 4/6); ~40% SILT; ~20% CLAY CLOT; FINE TO COARSE GRAINED SAND; ~10% FINE ANGULAR GRAVEL; LOW PLASTICITY; MOIST; NO STAINS OR ODORS; INCREASED CLAY WITH DEPTH (SLIGHT); PAPER DEBRIS NEAR SURFACE	X	1344 1293-13B-0				1	
2				X	1345 1293-13B-1				2	
3				X	1347 1293-13B-2				3	
4									4	
5			BOREHOLE TERMINATED @ 2.5' BGS						5	
0									0	
5									5	
0									0	

Project: Caltrans, Contract No. 07A3322, Task Order No. 27	**Boring ID:** 1293-139 & 1293-136	Stantec	
Location: LA-101, PM 29.1/38.2 and VEN-101, PM 0.0/1.4	**Page:** 1 of 1		
Project #: 1858032027.200	**Northing:**	**Easting:**	
Drilling Start: 0831 5/3/15 **Completed:** 5/3/15 1006	**Latitude:**	**Longitude:**	
Installation Start: NA **Completed:** NA	**Ground Elev (ft):**	**TOC Elev (ft):**	
Drilling Company: Stantec	**Initial DTW (ft):**	**Borehole Depth (ft):** 2.5 & 5	
Drilling Equipment: Hand Auger Bucket	**Static DTW (ft):**	**Well Depth (ft):** NA	
Drilling Method: Hand Auger	**Well Casing DIA (in):** NA	**Borehole Dia (in):** ~3-4"	
Sampling Equipment: Hand Auger / 8 oz. Glass Jars	**Logged By:** AJ/JS	**Checked By:**	

Time & Depth (ft)	Graphic log	USCS	Description: Example: SAND (SP) - olive (2.5Y 5/4), trace (5%) fines, 20-30% fine grained sand, fine to coarse gravel, medium dense, medium plasticity, stiff, moist, no petroleum hydrocarbon odor, no staining	Sample	Time/ Sample ID/ Method	Measured Recovery (ft)	Blow Counts	Headspace PID (ppm)	Depth (ft)	Well Construction or Borehole Backfill
0			Silty sand (10YR 3/4) dark yellowish brown; ~10% gravel; fine-med grained sand; ~10% coarse grained sand. med. plasticity; no stain no odor. Refusal @ 1.5'. Skpout 1' South. Refusal @ 1 ft. skpout 2' SE.	X	1293-139-0 0831				0	
1				X	1293-139-1 0834				1	SOIL CUTTINGS
2				X	1293-139-2 0851				2	
3			Hole terminated @ 2.5' bgs						3	
4									4	
5			GPS: 724082.82m N 1762172.22m E 259.63m						5	
0		SP	~~Poorly graded sand~~						0	
1		SP	Poorly graded sand (10YR 3/4) dark yellowish brown, fine-med grained sand, ~ 2% coarse grained sand, few wood observed. no stain no odor.	X	1293-136-0 0928				1	
2			Silty sand: (10YR 5/6) yellowish brown) fine-med grained sand; ~10% clay. few gravel observed, ~5% coarse sand. no odor no stain	X	1293-136-1 0932				2	SOIL CUTTINGS
3			Well graded sand (10YR 4/6) dark yellowish brown; fine-med. coarse sand, few gravel; ~10% clay; no stain, no odor.	X	1293-136-2 0936				3	
4									4	
5			Hole terminated @ 5' bgs	X	1293-136-5 1006				5	
					GPS: 736085.75m N 1762713.90m E					
0									0	

APPENDIX E
ANALYTICAL LABORATORY REPORTS and CHAIN-OF-CUSTODY RECORDS

ADVANCED TECHNOLOGY LABORATORIES

August 12, 2015

Kristy Edblad
Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax:(805) 230-1277

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1502675
Client Reference : 185832027, Task: 200.0004, Caltrans 07A3322-27

Enclosed are the results for sample(s) received on August 03, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1293-139-0	1502675-01	Soil	8/03/15 8:31	8/03/15 15:45
1293-139-1	1502675-02	Soil	8/03/15 8:34	8/03/15 15:45
1293-139-2	1502675-03	Soil	8/03/15 8:51	8/03/15 15:45
1293-136-0	1502675-04	Soil	8/03/15 9:28	8/03/15 15:45
1293-136-1	1502675-05	Soil	8/03/15 9:32	8/03/15 15:45
1293-136-2	1502675-06	Soil	8/03/15 9:36	8/03/15 15:45
1293-136-5	1502675-07	Soil	8/03/15 10:06	8/03/15 15:45
1293-130-0	1502675-08	Soil	8/03/15 10:37	8/03/15 15:45
1293-130-1	1502675-09	Soil	8/03/15 10:47	8/03/15 15:45
1293-130-2	1502675-10	Soil	8/03/15 10:51	8/03/15 15:45
EB2A080315	1502675-11	Water	8/03/15 11:03	8/03/15 15:45
1293-129-0	1502675-12	Soil	8/03/15 11:17	8/03/15 15:45
1293-129-1	1502675-13	Soil	8/03/15 11:21	8/03/15 15:45
1293-129-2	1502675-14	Soil	8/03/15 11:29	8/03/15 15:45
1293-127-0	1502675-15	Soil	8/03/15 11:41	8/03/15 15:45
1293-127-1	1502675-16	Soil	8/03/15 11:47	8/03/15 15:45
1293-127-2	1502675-17	Soil	8/03/15 11:54	8/03/15 15:45
1293-128-0	1502675-18	Soil	8/03/15 12:13	8/03/15 15:45
1293-128-1	1502675-19	Soil	8/03/15 12:21	8/03/15 15:45
1293-128-2	1502675-20	Soil	8/03/15 12:31	8/03/15 15:45
EB2B080315	1502675-21	Water	8/03/15 12:52	8/03/15 15:45
1293-126-0	1502675-22	Soil	8/03/15 12:57	8/03/15 15:45
1293-126-1	1502675-23	Soil	8/03/15 12:59	8/03/15 15:45
1293-126-2	1502675-24	Soil	8/03/15 13:01	8/03/15 15:45
1293-124-0	1502675-25	Soil	8/03/15 13:33	8/03/15 15:45
1293-124-1	1502675-26	Soil	8/03/15 13:35	8/03/15 15:45
1293-124-2	1502675-27	Soil	8/03/15 13:38	8/03/15 15:45
1293-123-0	1502675-28	Soil	8/03/15 13:50	8/03/15 15:45
1293-123-1	1502675-29	Soil	8/03/15 14:06	8/03/15 15:45
1293-123-2	1502675-30	Soil	8/03/15 14:09	8/03/15 15:45
EB2C080315	1502675-31	Water	8/03/15 14:23	8/03/15 15:45
1293-122-0	1502675-32	Soil	8/03/15 14:25	8/03/15 15:45
1293-122-1	1502675-33	Soil	8/03/15 14:35	8/03/15 15:45
1293-122-2	1502675-34	Soil	8/03/15 14:41	8/03/15 15:45

Certificate of Analysis

S... ...ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments:

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-01	1293-139-0	**76**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:51	
1502675-02	1293-139-1	**26**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:52	
1502675-03	1293-139-2	**15**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:52	
1502675-04	1293-136-0	**49**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:53	
1502675-05	1293-136-1	**4.3**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:54	
1502675-06	1293-136-2	**4.9**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:55	
1502675-07	1293-136-5	**ND**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:56	
1502675-08	1293-130-0	**58**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 14:59	
1502675-09	1293-130-1	**49**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:00	
1502675-10	1293-130-2	**59**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/06/15 08:34	
1502675-12	1293-129-0	**36**	mg/kg	1.0	0.16	1	B5H0166	08/06/2015	08/07/15 10:46	
1502675-13	1293-129-1	**22**	mg/kg	1.0	0.16	1	B5H0166	08/06/2015	08/07/15 10:59	
1502675-14	1293-129-2	**23**	mg/kg	1.0	0.16	1	B5H0166	08/06/2015	08/07/15 11:03	
1502675-15	1293-127-0	**35**	mg/kg	1.0	0.16	1	B5H0166	08/06/2015	08/07/15 11:06	
1502675-16	1293-127-1	**65**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:09	
1502675-17	1293-127-2	**25**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:12	
1502675-18	1293-128-0	**79**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:13	
1502675-19	1293-128-1	**59**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:14	
1502675-20	1293-128-2	**42**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:15	
1502675-22	1293-126-0	**59**	mg/kg	1.0	0.16	1	B5H0081	08/05/2015	08/05/15 15:15	
1502675-23	1293-126-1	**28**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:24	
1502675-24	1293-126-2	**20**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:25	
1502675-25	1293-124-0	**34**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:26	
1502675-26	1293-124-1	**12**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:26	
1502675-27	1293-124-2	**8.9**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:27	
1502675-28	1293-123-0	**240**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:28	
1502675-29	1293-123-1	**27**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:29	
1502675-30	1293-123-2	**20**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:29	
1502675-32	1293-122-0	**19**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:30	
1502675-33	1293-122-1	**8.0**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:34	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-34	1293-122-2	**6.4**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:36	

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-01	1293-139-0	**0.042**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 12:56	J
1502675-08	1293-130-0	**0.0071**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:06	J
1502675-10	1293-130-2	**0.017**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:09	J
1502675-16	1293-127-1	**ND**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:12	
1502675-18	1293-128-0	**0.019**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:18	J
1502675-19	1293-128-1	**0.0088**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:21	J
1502675-22	1293-126-0	**0.0040**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:24	J
1502675-28	1293-123-0	**0.17**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:26	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-01	1293-139-0	**4.0**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:17	
1502675-02	1293-139-1	**1.4**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:21	
1502675-03	1293-139-2	**0.46**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:26	J
1502675-04	1293-136-0	**2.8**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:30	
1502675-05	1293-136-1	**ND**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:34	
1502675-06	1293-136-2	**ND**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:38	
1502675-07	1293-136-5	**ND**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:42	
1502675-08	1293-130-0	**1.9**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:53	
1502675-09	1293-130-1	**2.7**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 12:57	
1502675-10	1293-130-2	**2.6**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:01	
1502675-12	1293-129-0	**1.7**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:17	
1502675-13	1293-129-1	**0.87**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:21	J
1502675-14	1293-129-2	**0.99**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:25	J
1502675-15	1293-127-0	**1.7**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:29	
1502675-16	1293-127-1	**1.6**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:40	
1502675-17	1293-127-2	**0.59**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:46	J
1502675-18	1293-128-0	**4.6**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:53	
1502675-19	1293-128-1	**2.9**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 13:57	
1502675-20	1293-128-2	**2.5**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 14:04	
1502675-22	1293-126-0	**1.7**	mg/L	1.0	0.038	20	B5H0134	08/06/2015	08/06/15 14:08	
1502675-23	1293-126-1	**0.69**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:22	J
1502675-24	1293-126-2	**0.38**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:25	J
1502675-25	1293-124-0	**1.9**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:27	
1502675-26	1293-124-1	**0.068**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:30	J
1502675-27	1293-124-2	**0.046**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:32	J
1502675-28	1293-123-0	**12**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:34	
1502675-29	1293-123-1	**0.97**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:37	J
1502675-30	1293-123-2	**0.63**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:43	J
1502675-32	1293-122-0	**0.38**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:45	J
1502675-33	1293-122-1	**0.051**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:48	J

Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks , CA 91361

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Report To : Kristy Edblad
Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-34	1293-122-2	**0.057**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 12:59	J

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-28	1293-123-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 11:44	

rcury by AA (Cold Vapor) EPA 7470A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-11	EB2A080315	**ND**	ug/L	0.20	0.15	1	B5H0120	08/05/2015	08/06/15 07:45	
1502675-21	EB2B080315	**ND**	ug/L	0.20	0.15	1	B5H0120	08/05/2015	08/06/15 07:49	
1502675-31	EB2C080315	**ND**	ug/L	0.20	0.15	1	B5H0120	08/05/2015	08/06/15 07:51	

Mercury by AA (Cold Vapor) EPA 7471A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-28	1293-123-0	**0.11**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 07:56	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502675-28	1293-123-0	**6.1**	pH Units	0.10	0.10	1	B5H0280	08/12/2015	08/12/15 14:23	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB2A080315

Lab ID: 1502675-11

Title 22 Metals by ICP-AES EPA 6010B

Analyst: RR

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0118	08/05/2015	08/06/15 09:37	
Arsenic	ND	0.010	0.0084	1	B5H0118	08/05/2015	08/06/15 09:37	
Barium	ND	0.0030	0.0003	1	B5H0118	08/05/2015	08/06/15 09:37	
Beryllium	ND	0.0030	0.0002	1	B5H0118	08/05/2015	08/06/15 09:36	
Cadmium	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:37	
Chromium	**0.0009**	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:37	J
Cobalt	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:37	
Copper	**0.0017**	0.0090	0.0014	1	B5H0118	08/05/2015	08/06/15 09:37	J
Lead	ND	0.0050	0.0019	1	B5H0118	08/05/2015	08/06/15 09:37	
Molybdenum	**0.0010**	0.0050	0.0006	1	B5H0118	08/05/2015	08/06/15 09:37	J
Nickel	**0.0015**	0.0050	0.0011	1	B5H0118	08/05/2015	08/06/15 09:37	J
Selenium	ND	0.010	0.0065	1	B5H0118	08/05/2015	08/06/15 09:37	
Silver	ND	0.0030	0.0012	1	B5H0118	08/05/2015	08/06/15 09:37	
Thallium	ND	0.015	0.0037	1	B5H0118	08/05/2015	08/06/15 09:37	
Vanadium	ND	0.0030	0.0017	1	B5H0118	08/05/2015	08/06/15 09:37	
Zinc	ND	0.025	0.0087	1	B5H0118	08/05/2015	08/06/15 09:37	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB2B080315

Lab ID: 1502675-21

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0118	08/05/2015	08/06/15 09:41	
Arsenic	ND	0.010	0.0084	1	B5H0118	08/05/2015	08/06/15 09:41	
Barium	ND	0.0030	0.0003	1	B5H0118	08/05/2015	08/06/15 09:41	
Beryllium	ND	0.0030	0.0002	1	B5H0118	08/05/2015	08/06/15 09:40	
Cadmium	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:41	
Chromium	**0.0007**	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:41	J
Cobalt	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:41	
Copper	ND	0.0090	0.0014	1	B5H0118	08/05/2015	08/06/15 09:41	
Lead	ND	0.0050	0.0019	1	B5H0118	08/05/2015	08/06/15 09:41	
Molybdenum	**0.0007**	0.0050	0.0006	1	B5H0118	08/05/2015	08/06/15 09:41	J
'kel	**0.0014**	0.0050	0.0011	1	B5H0118	08/05/2015	08/06/15 09:41	J
nium	ND	0.010	0.0065	1	B5H0118	08/05/2015	08/06/15 09:41	
Silver	ND	0.0030	0.0012	1	B5H0118	08/05/2015	08/06/15 09:41	
Thallium	ND	0.015	0.0037	1	B5H0118	08/05/2015	08/06/15 09:41	
Vanadium	ND	0.0030	0.0017	1	B5H0118	08/05/2015	08/06/15 09:41	
Zinc	**0.013**	0.025	0.0087	1	B5H0118	08/05/2015	08/06/15 09:41	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-123-0
Lab ID: 1502675-28

Title 22 Metals by ICP-AES EPA 6010B

Analyst: RR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:13	
Arsenic	**3.8**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:13	
Barium	**76**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:12	
Beryllium	**0.37**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:12	J
Cadmium	**2.3**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:13	
Chromium	**15**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:12	
Cobalt	**6.5**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:13	
Copper	**32**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:12	
Molybdenum	**2.9**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:12	
Nickel	**20**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:12	
Selenium	**0.95**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:13	J
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:12	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:13	
Vanadium	**32**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:12	
Zinc	**150**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:12	

Client Sample ID EB2C080315
Lab ID: 1502675-31

Title 22 Metals by ICP-AES EPA 6010B

Analyst: RR

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0118	08/05/2015	08/06/15 09:45	
Arsenic	ND	0.010	0.0084	1	B5H0118	08/05/2015	08/06/15 09:45	
Barium	ND	0.0030	0.0003	1	B5H0118	08/05/2015	08/06/15 09:45	
Beryllium	ND	0.0030	0.0002	1	B5H0118	08/05/2015	08/06/15 09:44	
Cadmium	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:45	
Chromium	**0.0007**	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:45	J
Cobalt	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:45	
Copper	ND	0.0090	0.0014	1	B5H0118	08/05/2015	08/06/15 09:45	
Lead	ND	0.0050	0.0019	1	B5H0118	08/05/2015	08/06/15 09:45	
Molybdenum	ND	0.0050	0.0006	1	B5H0118	08/05/2015	08/06/15 09:45	
Nickel	**0.0015**	0.0050	0.0011	1	B5H0118	08/05/2015	08/06/15 09:45	J
Selenium	ND	0.010	0.0065	1	B5H0118	08/05/2015	08/06/15 09:45	
Silver	ND	0.0030	0.0012	1	B5H0118	08/05/2015	08/06/15 09:45	
Thallium	ND	0.015	0.0037	1	B5H0118	08/05/2015	08/06/15 09:45	
Vanadium	ND	0.0030	0.0017	1	B5H0118	08/05/2015	08/06/15 09:45	
Zinc	ND	0.025	0.0087	1	B5H0118	08/05/2015	08/06/15 09:45	

Certificate of Analysis

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QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0118 - EPA 3010A_W									
Blank (B5H0118-BLK1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	ND	0.010			NR				
Arsenic	ND	0.010			NR				
Barium	ND	0.0030			NR				
Beryllium	ND	0.0030			NR				
Cadmium	ND	0.0030			NR				
Chromium	0.000742	0.0030			NR				J
Cobalt	ND	0.0030			NR				
Copper	ND	0.0090			NR				
Lead	ND	0.0050			NR				
Molybdenum	ND	0.0050			NR				
Nickel	0.001223	0.0050			NR				J
[illegible]um	ND	0.010			NR				
Silver	ND	0.0030			NR				
Thallium	ND	0.015			NR				
Vanadium	ND	0.0030			NR				
Zinc	ND	0.025			NR				
LCS (B5H0118-BS1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	0.982811	0.010	1.00000		98.3	80 - 120			
Arsenic	0.980519	0.010	1.00000		98.1	80 - 120			
Barium	1.01541	0.0030	1.00000		102	80 - 120			
Beryllium	1.02861	0.0030	1.00000		103	80 - 120			
Cadmium	0.994279	0.0030	1.00000		99.4	80 - 120			
Chromium	1.01368	0.0030	1.00000		101	80 - 120			
Cobalt	0.999986	0.0030	1.00000		100	80 - 120			
Copper	0.997478	0.0090	1.00000		99.7	80 - 120			
Lead	0.996562	0.0050	1.00000		99.7	80 - 120			
Molybdenum	0.998951	0.0050	1.00000		99.9	80 - 120			
Nickel	0.993955	0.0050	1.00000		99.4	80 - 120			
Selenium	0.950688	0.010	1.00000		95.1	80 - 120			
Silver	1.01271	0.0030	1.00000		101	80 - 120			
Thallium	0.983682	0.015	1.00000		98.4	80 - 120			
Vanadium	0.993718	0.0030	1.00000		99.4	80 - 120			
Zinc	0.956246	0.025	1.00000		95.6	80 - 120			
LCS Dup (B5H0118-BSD1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	0.984470	0.010	1.00000		98.4	80 - 120	0.169	20	
Arsenic	0.981323	0.010	1.00000		98.1	80 - 120	0.0820	20	
Barium	1.01904	0.0030	1.00000		102	80 - 120	0.357	20	
[illegible]llium	1.04188	0.0030	1.00000		104	80 - 120	1.28	20	
[illegible]mium	0.998455	0.0030	1.00000		99.8	80 - 120	0.419	20	
Chromium	1.01979	0.0030	1.00000		102	80 - 120	0.601	20	
Cobalt	1.00598	0.0030	1.00000		101	80 - 120	0.598	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0118 - EPA 3010A_W (continued)									
LCS Dup (B5H0118-BSD1) - Continued					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Copper	1.00170	0.0090	1.00000		100	80 - 120	0.422	20	
Lead	0.999384	0.0050	1.00000		99.9	80 - 120	0.283	20	
Molybdenum	1.00322	0.0050	1.00000		100	80 - 120	0.426	20	
Nickel	0.999534	0.0050	1.00000		100	80 - 120	0.560	20	
Selenium	0.945982	0.010	1.00000		94.6	80 - 120	0.496	20	
Silver	1.01638	0.0030	1.00000		102	80 - 120	0.362	20	
Thallium	0.987351	0.015	1.00000		98.7	80 - 120	0.372	20	
Vanadium	0.997437	0.0030	1.00000		99.7	80 - 120	0.374	20	
Zinc	0.958741	0.025	1.00000		95.9	80 - 120	0.261	20	
Duplicate (B5H0118-DUP1)		**Source: 1502676-04**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	ND	0.010		ND	NR			20	
Arsenic	ND	0.010		ND	NR			20	
Barium	ND	0.0030		ND	NR			20	
Beryllium	ND	0.0030		ND	NR			20	
Cadmium	ND	0.0030		ND	NR			20	
Chromium	0.000611	0.0030		0.000617	NR		1.13	20	J
Cobalt	ND	0.0030		ND	NR			20	
Copper	ND	0.0090		ND	NR			20	
Lead	ND	0.0050		ND	NR			20	
Molybdenum	0.000626	0.0050		0.000717	NR		13.5	20	J
Nickel	0.001129	0.0050		ND	NR			20	J
Selenium	ND	0.010		ND	NR			20	
Silver	ND	0.0030		ND	NR			20	
Thallium	ND	0.015		ND	NR			20	
Vanadium	ND	0.0030		ND	NR			20	
Zinc	0.010796	0.025		ND	NR			20	J

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S									
Blank (B5H0242-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	0.039526	1.0			NR				J
Nickel	0.113530	1.0			NR				J
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
	ND	1.0			NR				
LCS (B5H0242-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	47.9146	2.0	50.0000		95.8	80 - 120			
Arsenic	47.0896	1.0	50.0000		94.2	80 - 120			
Barium	50.1416	1.0	50.0000		100	80 - 120			
Beryllium	49.9608	1.0	50.0000		99.9	80 - 120			
Cadmium	48.0696	1.0	50.0000		96.1	80 - 120			
Chromium	46.3811	1.0	50.0000		92.8	80 - 120			
Cobalt	49.0430	1.0	50.0000		98.1	80 - 120			
Copper	48.6135	2.0	50.0000		97.2	80 - 120			
Molybdenum	49.8246	1.0	50.0000		99.6	80 - 120			
Nickel	48.3915	1.0	50.0000		96.8	80 - 120			
Selenium	44.8751	1.0	50.0000		89.8	80 - 120			
Silver	47.8568	1.0	50.0000		95.7	80 - 120			
Thallium	47.1912	1.0	50.0000		94.4	80 - 120			
Vanadium	49.3951	1.0	50.0000		98.8	80 - 120			
Zinc	46.4690	1.0	50.0000		92.9	80 - 120			
Duplicate (B5H0242-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0		ND	NR			20	
Arsenic	3.90864	1.0		3.79201	NR		3.03	20	
Barium	84.3796	1.0		76.2674	NR		10.1	20	
Beryllium	0.390835	1.0		0.373907	NR		4.43	20	J
Cadmium	2.15449	1.0		2.30822	NR		6.89	20	
Chromium	14.6481	1.0		14.8934	NR		1.66	20	
Cobalt	5.71625	1.0		6.53386	NR		13.3	20	
Copper	46.8309	2.0		31.5355	NR		39.0	20	R
'vbdenum	3.14705	1.0		2.88536	NR		8.68	20	
el	19.0231	1.0		19.8777	NR		4.39	20	
Selenium	0.533235	1.0		0.950330	NR		56.2	20	R, J
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S (continued)									
Duplicate (B5H0242-DUP1) - Continued		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Vanadium	31.7728	1.0		31.5017	NR		0.857	20	
Zinc	146.557	1.0		151.902	NR		3.58	20	
Matrix Spike (B5H0242-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	74.9762	2.0	125.000	ND	60.0	28 - 106			
Arsenic	103.710	1.0	125.000	3.79201	79.9	57 - 109			
Barium	173.653	1.0	125.000	76.2674	77.9	18 - 159			
Beryllium	100.821	1.0	125.000	0.373907	80.4	61 - 107			
Cadmium	95.5598	1.0	125.000	2.30822	74.6	53 - 104			
Chromium	106.598	1.0	125.000	14.8934	73.4	53 - 121			
Cobalt	103.966	1.0	125.000	6.53386	77.9	55 - 109			
Copper	138.409	2.0	125.000	31.5355	85.5	58 - 124			
Molybdenum	104.375	1.0	125.000	2.88536	81.2	57 - 108			
Nickel	114.510	1.0	125.000	19.8777	75.7	44 - 122			
Selenium	97.7838	1.0	125.000	0.950330	77.5	54 - 104			
Silver	101.311	1.0	125.000	ND	81.0	60 - 112			
Thallium	91.8354	1.0	125.000	ND	73.5	50 - 103			
Vanadium	135.073	1.0	125.000	31.5017	82.9	54 - 123			
Zinc	241.785	1.0	125.000	151.902	71.9	29 - 132			
Matrix Spike Dup (B5H0242-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	82.5333	2.0	125.000	ND	66.0	28 - 106	9.60	20	
Arsenic	107.116	1.0	125.000	3.79201	82.7	57 - 109	3.23	20	
Barium	173.780	1.0	125.000	76.2674	78.0	18 - 159	0.0730	20	
Beryllium	106.279	1.0	125.000	0.373907	84.7	61 - 107	5.27	20	
Cadmium	98.8693	1.0	125.000	2.30822	77.2	53 - 104	3.40	20	
Chromium	106.878	1.0	125.000	14.8934	73.6	53 - 121	0.261	20	
Cobalt	106.814	1.0	125.000	6.53386	80.2	55 - 109	2.70	20	
Copper	142.312	2.0	125.000	31.5355	88.6	58 - 124	2.78	20	
Molybdenum	106.444	1.0	125.000	2.88536	82.8	57 - 108	1.96	20	
Nickel	116.747	1.0	125.000	19.8777	77.5	44 - 122	1.93	20	
Selenium	101.654	1.0	125.000	0.950330	80.6	54 - 104	3.88	20	
Silver	105.843	1.0	125.000	ND	84.7	60 - 112	4.38	20	
Thallium	95.6848	1.0	125.000	ND	76.5	50 - 103	4.11	20	
Vanadium	133.891	1.0	125.000	31.5017	81.9	54 - 123	0.878	20	
Zinc	233.250	1.0	125.000	151.902	65.1	29 - 132	3.59	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0081 - EPA 3050 Modified_S									
Blank (B5H0081-BLK1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
Blank (B5H0081-BLK2)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	0.268065	1.0			NR				J
LCS (B5H0081-BS1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	52.1984	1.0	50.0000		104	80 - 120			
Duplicate (B5H0081-DUP1)		**Source: 1502675-22**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	64.2641	1.0		58.8385	NR		8.81	20	
Duplicate (B5H0081-DUP2)		**Source: 1502675-10**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Lead	48.3948	1.0		58.7050	NR		19.3	20	
Matrix Spike (B5H0081-MS1)		**Source: 1502675-22**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
	269.291	1.0	250.000	58.8385	84.2	35 - 129			
Matrix Spike (B5H0081-MS2)		**Source: 1502675-10**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Lead	290.371	1.0	250.000	58.7050	92.7	35 - 129			
Matrix Spike Dup (B5H0081-MSD1)		**Source: 1502675-22**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	268.589	1.0	250.000	58.8385	83.9	35 - 129	0.261	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0082 - EPA 3050 Modified_S									
Blank (B5H0082-BLK1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
Blank (B5H0082-BLK2)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
LCS (B5H0082-BS1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	49.9717	1.0	50.0000		99.9	80 - 120			
Duplicate (B5H0082-DUP1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	13.6103	1.0		11.5803	NR		16.1	20	
Duplicate (B5H0082-DUP2)		**Source: 1502675-33**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	8.54140	1.0		8.00937	NR		6.43	20	
Matrix Spike (B5H0082-MS1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	229.002	1.0	250.000	11.5803	87.0	35 - 129			
Matrix Spike (B5H0082-MS2)		**Source: 1502675-33**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	225.246	1.0	250.000	8.00937	86.9	35 - 129			
Matrix Spike Dup (B5H0082-MSD1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	237.790	1.0	250.000	11.5803	90.5	35 - 129	3.77	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0166 - EPA 3050 Modified_S									
Blank (B5H0166-BLK1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0166-BS1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Lead	49.6351	1.0	50.0000		99.3	80 - 120			
Duplicate (B5H0166-DUP1)		**Source: 1502675-12RE1**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Lead	35.2167	1.0		36.3910	NR		3.28	20	
Matrix Spike (B5H0166-MS1)		**Source: 1502675-12RE1**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Lead	217.836	1.0	250.000	36.3910	72.6	35 - 129			
Matrix Spike Dup (B5H0166-MSD1)		**Source: 1502675-12RE1**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Lead	216.279	1.0	250.000	36.3910	72.0	35 - 129	0.717	20	

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TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0240 - EPA 3010A_S									
Blank (B5H0240-BLK1)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	ND	0.050			NR				
Blank (B5H0240-BLK2)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	ND	0.050			NR				
LCS (B5H0240-BS1)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	1.01810	0.050	1.00000		102	80 - 120			
Duplicate (B5H0240-DUP1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	0.042632	0.050		0.041799	NR		1.97	20	J
Duplicate (B5H0240-DUP2)		**Source: 1502676-02**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	0.106894	0.10		0.097708	NR		8.98	20	D5
Matrix Spike (B5H0240-MS1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	2.27989	0.050	2.50000	0.041799	89.5	77 - 121			
Matrix Spike Dup (B5H0240-MSD1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	2.50354	0.050	2.50000	0.041799	98.5	77 - 121	9.35	20	

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STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0134 - STLC_S Extraction									
Blank (B5H0134-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0134-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0134-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.02891	1.0	2.00000		101	80 - 120			
Duplicate (B5H0134-DUP1)		**Source: 1502675-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.46352	1.0		2.62784	NR		6.46	20	
Duplicate (B5H0134-DUP2)		**Source: 1502675-22**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.17925	1.0		1.69347	NR		25.1	20	R
Matrix Spike (B5H0134-MS1)		**Source: 1502675-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
	4.90405	1.0	2.50000	2.62784	91.0	44 - 130			
Matrix Spike (B5H0134-MS2)		**Source: 1502675-22**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	4.01108	1.0	2.50000	1.69347	92.7	44 - 130			
Matrix Spike Dup (B5H0134-MSD1)		**Source: 1502675-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	4.94359	1.0	2.50000	2.62784	92.6	44 - 130	0.803	20	

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STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0136 - STLC_S Extraction									
Blank (B5H0136-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0136-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0136-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	1.90184	1.0	2.00000		95.1	80 - 120			
Duplicate (B5H0136-DUP1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.058396	1.0		0.051413	NR		12.7	20	J
Duplicate (B5H0136-DUP2)		**Source: 1502676-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.280559	1.0		0.494784	NR		55.3	20	R, J
Matrix Spike (B5H0136-MS1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.23211	1.0	2.50000	0.051413	87.2	44 - 130			
Matrix Spike (B5H0136-MS2)		**Source: 1502676-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.67029	1.0	2.50000	0.494784	87.0	44 - 130			
Matrix Spike Dup (B5H0136-MSD1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.17463	1.0	2.50000	0.051413	84.9	44 - 130	2.61	20	

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STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0283 - STLC DI_S Extraction									
Blank (B5H0283-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
Blank (B5H0283-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
LCS (B5H0283-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.05610	1.0	2.00000		103	80 - 120			
Duplicate (B5H0283-DUP1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Duplicate (B5H0283-DUP2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0283-MS1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
	2.58309	1.0	2.50000	ND	103	70 - 130			
Matrix Spike (B5H0283-MS2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.52309	1.0	2.50000	ND	101	70 - 130			
Matrix Spike Dup (B5H0283-MSD1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.49569	1.0	2.50000	ND	99.8	70 - 130	3.44	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0120 - EPA 245.1/7470_W									
Blank (B5H0120-BLK1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	ND	0.20			NR				
LCS (B5H0120-BS1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	10.1853	0.20	10.0000		102	80 - 120			
LCS Dup (B5H0120-BSD1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	10.4376	0.20	10.0000		104	80 - 120	2.45	20	
Duplicate (B5H0120-DUP1)		**Source: 1502676-04**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	ND	0.20		ND	NR			20	
Post Spike (B5H0120-PS1)		**Source: 1502675-11**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	5.47114		5.00000	0.006479	109	85 - 115			

Certificate of Analysis

S[illegible]ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0245 - EPA 7471_S									
Blank (B5H0245-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	ND	0.10			NR				
LCS (B5H0245-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.805268	0.10	0.833333		96.6	80 - 120			
Duplicate (B5H0245-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.040879	0.10		0.108773	NR		90.7	20	R, J
Matrix Spike (B5H0245-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.799264	0.10	0.833333	0.108773	82.9	70 - 130			
Matrix Spike Dup (B5H0245-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.798418	0.10	0.833333	0.108773	82.8	70 - 130	0.106	20	
Post Spike (B5H0245-PS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
[illegible]ry	0.006286		5.00000E-3	0.001305	99.6	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0280 - Prep_WC1_S									
Duplicate (B5H0280-DUP1)		**Source: 1502676-01**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
pH	7.82000	0.10		7.88000	NR		0.764	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
D5	Sample diluted due to failing internal standard in the original run.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 1 of 4

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1293-139-0	8/3/15	0831	SO	8OZ GLASS JARS	—	1	X	X				
1293-139-1		0834										
1293-139-2		0851										
1293-136-0		0928										
1293-136-1		0932										
1293-136-2		0936										
1293-136-5		1006										
1293-130-0		1037										
1293-130-1		1047										
1293-130-2		1051										
EB2A080315		1103	W	500ML POLY							X	

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Hayno *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	Anuya Sawant	Stantec Consulting	8/3/15	1545
1(b)	*Received by:*	ABNER MANGALINO	ATL	8/3/15	1545
2(a)	*Relinquished by:*	ABNER MANGALINO	ATL	8/3/15	1755
2(b)	*Received by:*	FERNANDO DIAZ	ATL	8/3/15	1755
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____
Page 2 of 4

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
	Project Manager: Kristy Edblad
Telephone: (805) 230-1266	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	

ANALYSES / METHOD REQUEST

Sample No. / Identification	SAMPLE Date	SAMPLE Time	SAMPLE Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045			
1293-129-0	8/3/15	1117	SO	8oz glass jar	—	1	X	X							
1293-129-1		1121													
1293-129-2		1129													
1293-127-0		1141													
1293-127-1		1147													
1293-127-2		1154													
1293-128-0		1213													
1293-128-1		1221													
1293-128-2		1231													
EB2B 080315		1252	W	500mL POLY							X				
1293-126-0		1257	SO	8oz glass jars			X	X							

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Stagno *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a) *Relinquished by:*	[signature]	Anuya Sawant	Stantec Consulting	8/3/15	1545
1(b) *Received by:*	AM	ABNER MANGALLAS	ATL	8/3/15	1545
2(a) *Relinquished by:*	AM	ABNER MANGALLAS	ATL	8/3/15	1755
2(b) *Received by:*	[signature]	FERNANDO DIWA	ATL	8/3/15	1755
3(a) *Relinquished by:*					
3(b) *Received by:*					

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 3 of 4

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Title 22 Metals -6010/7000	[4]pH - 9045
1293-126-1	8/3/15	1259	SO	8oz Glass jar	—	1	X	X				
1293-126-2		1301										
1293-124-0		1333										
1293-124-1		1335										
1293-124-2		1338										
1293-123-0		1350										
1293-123-1		1406										
1293-123-2		1409										
EB2C080315		1423	W	500 mL poly							X	
1293-122-D		1425	SO	8oz, glass jar			X	X				
1293-122-1		1435	SO	"								

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A Sawant / J Stagno *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a) *Relinquished by:*		Anuya Sawant	Stantec Consulting	8/3/15	1545
1(b) *Received by:*		ARNOLD MANGOLTAS	ATL	8/3/15	1545
2(a) *Relinquished by:*		ARNOLD MANGOLTAS	ATL	8/3/15	1755
2(b) *Received by:*		FERNANDO DIAZ	AT	8/3/15	1755
3(a) *Relinquished by:*					
3(b) *Received by:*					

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 4 of 4

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec 290 Conejo Ridge Avenue Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
	Project Manager: Kristy Edblad
Telephone: (805) 230-1266	Laboratory: Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045			
1293 - 122-2	8/3/15	1441	SO	802 Glass jar	—	1	X	X							

ANALYSES / METHOD REQUEST

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Stagno *Shipment Method:* Lab Pickup *Airbill Number:*

Signature	Print Name	Company	Date	Time
1(a) *Relinquished by:*	Anuya Sawant	Stantec Consulting	8/3/15	1545
1(b) *Received by:*	[illegible]	ATL	8/3/15	1545
2(a) *Relinquished by:*	[illegible]	ATL	8/3/15	1755
2(b) *Received by:*	FERNANDO DIAZ	ATL	8/3/15	1755
3(a) *Relinquished by:*				
3(b) *Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

ADVANCED TECHNOLOGY LABORATORIES

Sample Receipt Acknowledgement

Work Order # 1502675

Client:	**Stantec - Thousand Oaks**	**Project Manager:**	**Rachelle Arada**
Project:	**185832027, Task: 200.0004, Caltrans 07A3322-27**	**Project Number:**	**185832027, Task: 200.0004, Caltrans 07A3322-27**

Report To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone: (805) 230-1266
Fax: (805) 230-1277

Invoice To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone :(805) 230-1266
Fax: (805) 230-1277

Date Due:	08/06/15 17:00 (3 day TAT)	Date Received:	08/03/15 15:45
Received By:	Ron Diwa	Date Logged In:	08/03/15 17:30
Logged In By:	Ron Diwa	Shipped by:	ATL

Please review the checklist below. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues. If you have any questions or further instructions, please contact your Project Manager at (562) 989-4045.

Sample(s) received on ice?	Yes ☐	No ☑	Default Cooler	Temp: 5.8 °C
Sample(s) received on blue ice?	Yes ☑	No ☐		
Cooler temperature within acceptance limit?	Yes ☑	No ☐		
Shipping container received in good condition?	Not Applicable			
Custody seals present on shipping container?	Yes ☐	No ☑		
Custody seals intact on shipping container?	Not Applicable			
Custody seals present on sample bottles?	Yes ☐	No ☑		
Custody seals intact on sample bottles?	Not Applicable			
Chain of Custody (COC) present?	Yes ☑	No ☐		
Sampler name present in COC?	Yes ☑	No ☐		
COC signed when relinquished and received?	Yes ☑	No ☐		
COC agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample amount for indicated tests?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water for VOC -- Were VOA vials submitted?	Yes ☐	No ☑		
Water samples submitted?	Yes ☑	No ☐		
VOA vials for VOC meet headspace criteria?	Not Applicable			
Water samples meet preservation criteria?	Yes ☑	No ☐		

Sample Receipt Comments:
Water samples - filter and preserve per client's instruction.

ADVANCED TECHNOLOGY LABORATORIES

August 12, 2015

Kristy Edblad
Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax:(805) 230-1277

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1502676

Client Reference : 185832027, Task: 200.0004, Caltrans 07A3322-27

Enclosed are the results for sample(s) received on August 03, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1293-101-0	1502676-01	Soil	8/03/15 8:45	8/03/15 15:45
1293-101-1	1502676-02	Soil	8/03/15 8:47	8/03/15 15:45
1293-101-2	1502676-03	Soil	8/03/15 8:50	8/03/15 15:45
EB1A-080315	1502676-04	Aqueous	8/03/15 9:46	8/03/15 15:45
1293-104-0	1502676-05	Soil	8/03/15 9:48	8/03/15 15:45
1293-104-1	1502676-06	Soil	8/03/15 9:51	8/03/15 15:45
1293-104-2	1502676-07	Soil	8/03/15 9:55	8/03/15 15:45
1293-104-5	1502676-08	Soil	8/03/15 10:04	8/03/15 15:45
1293-107-0	1502676-09	Soil	8/03/15 10:36	8/03/15 15:45
1293-107-1	1502676-10	Soil	8/03/15 10:42	8/03/15 15:45
1293-107-2	1502676-11	Soil	8/03/15 10:49	8/03/15 15:45
EB1B-080315	1502676-12	Aqueous	8/03/15 11:20	8/03/15 15:45
1293-111-0	1502676-13	Soil	8/03/15 11:27	8/03/15 15:45
1293-111-1	1502676-14	Soil	8/03/15 11:29	8/03/15 15:45
1293-111-2	1502676-15	Soil	8/03/15 11:33	8/03/15 15:45
1293-116-0	1502676-16	Soil	8/03/15 12:14	8/03/15 15:45
1293-116-1	1502676-17	Soil	8/03/15 12:16	8/03/15 15:45
1293-117-0	1502676-18	Soil	8/03/15 12:57	8/03/15 15:45
1293-117-1	1502676-19	Soil	8/03/15 13:04	8/03/15 15:45
1293-117-2	1502676-20	Soil	8/03/15 13:07	8/03/15 15:45
1293-118-0	1502676-21	Soil	8/03/15 13:49	8/03/15 15:45
1293-118-1	1502676-22	Soil	8/03/15 13:51	8/03/15 15:45
1293-118-2	1502676-23	Soil	8/03/15 13:53	8/03/15 15:45
1293-118-5	1502676-24	Soil	8/03/15 13:56	8/03/15 15:45
1293-119-0	1502676-25	Soil	8/03/15 14:30	8/03/15 15:45
1293-119-1	1502676-26	Soil	8/03/15 14:34	8/03/15 15:45
1293-119-2	1502676-27	Soil	8/03/15 14:36	8/03/15 15:45

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments:

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**360**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:37	
1502676-02	1293-101-1	**210**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:37	
1502676-03	1293-101-2	**28**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:38	
1502676-05	1293-104-0	**71**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:39	
1502676-06	1293-104-1	**25**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:40	
1502676-07	1293-104-2	**31**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:40	
1502676-08	1293-104-5	**58**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:44	
1502676-09	1293-107-0	**16**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:44	
1502676-10	1293-107-1	**12**	mg/kg	1.0	0.16	1	B5H0082	08/05/2015	08/05/15 15:45	
1502676-11	1293-107-2	**37**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:51	
1502676-13	1293-111-0	**230**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:55	
1502676-14	1293-111-1	**17**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:55	
1502676-15	1293-111-2	**11**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:56	
1502676-16	1293-116-0	**100**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:57	
1502676-17	1293-116-1	**8.1**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:58	
1502676-18	1293-117-0	**150**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:58	
1502676-19	1293-117-1	**51**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 15:59	
1502676-20	1293-117-2	**74**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:00	
1502676-21	1293-118-0	**160**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:01	
1502676-22	1293-118-1	**37**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:05	
1502676-23	1293-118-2	**17**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:06	
1502676-24	1293-118-5	**12**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:07	
1502676-25	1293-119-0	**64**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:08	
1502676-26	1293-119-1	**40**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:08	
1502676-27	1293-119-2	**25**	mg/kg	1.0	0.16	1	B5H0083	08/05/2015	08/05/15 16:09	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**0.12**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:29	
1502676-02	1293-101-1	**0.098**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:03	D5, J
1502676-05	1293-104-0	**0.014**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:10	D5, J
1502676-08	1293-104-5	**ND**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:40	
1502676-13	1293-111-0	**0.035**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:43	J
1502676-16	1293-116-0	**0.026**	mg/L	0.050	0.0019	1	B5H0240	08/11/2015	08/11/15 13:49	J
1502676-18	1293-117-0	**0.021**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:13	D5, J
1502676-20	1293-117-2	**ND**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:15	D5
1502676-21	1293-118-0	**0.51**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:21	D5
502676-25	1293-119-0	**0.022**	mg/L	0.10	0.0038	2	B5H0240	08/11/2015	08/11/15 14:24	J, D5

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**14**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:04	
1502676-02	1293-101-1	**11**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:06	
1502676-03	1293-101-2	**0.75**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:09	J
1502676-05	1293-104-0	**5.9**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:15	
1502676-06	1293-104-1	**0.55**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:18	J
1502676-07	1293-104-2	**0.77**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:20	J
1502676-08	1293-104-5	**0.92**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:22	J
1502676-09	1293-107-0	**0.34**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:25	J
1502676-10	1293-107-1	**0.49**	mg/L	1.0	0.038	20	B5H0136	08/06/2015	08/06/15 13:27	J
1502676-11	1293-107-2	**1.6**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 13:52	
1502676-13	1293-111-0	**9.4**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 13:54	
1502676-14	1293-111-1	**1.5**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 13:57	
1502676-15	1293-111-2	**0.17**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 13:59	J
1502676-16	1293-116-0	**4.4**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:01	
1502676-17	1293-116-1	**0.087**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:04	J
1502676-18	1293-117-0	**6.8**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:10	
1502676-19	1293-117-1	**1.2**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:19	
1502676-20	1293-117-2	**2.2**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:22	
1502676-21	1293-118-0	**9.2**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:24	
1502676-22	1293-118-1	**1.5**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:26	
1502676-23	1293-118-2	**0.24**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:29	J
1502676-24	1293-118-5	**0.18**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:31	J
1502676-25	1293-119-0	**3.9**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:37	
1502676-26	1293-119-1	**1.6**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:40	
1502676-27	1293-119-2	**1.4**	mg/L	1.0	0.038	20	B5H0137	08/06/2015	08/06/15 14:42	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 11:59	
1502676-02	1293-101-1	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:03	
1502676-05	1293-104-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:07	
1502676-13	1293-111-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:17	
1502676-18	1293-117-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:21	
1502676-21	1293-118-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:25	

Mercury by AA (Cold Vapor) EPA 7470A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-04	EB1A-080315	**ND**	ug/L	0.20	0.15	1	B5H0120	08/05/2015	08/06/15 07:53	
1502676-12	EB1B-080315	**ND**	ug/L	0.20	0.15	1	B5H0120	08/05/2015	08/06/15 07:58	

Mercury by AA (Cold Vapor) EPA 7471A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**0.06**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:06	J
1502676-02	1293-101-1	**0.10**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:08	
1502676-13	1293-111-0	**0.05**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:10	J
1502676-21	1293-118-0	**0.03**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:17	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502676-01	1293-101-0	**7.9**	pH Units	0.10	0.10	1	B5H0280	08/12/2015	08/12/15 14:23	
1502676-02	1293-101-1	**8.3**	pH Units	0.10	0.10	1	B5H0280	08/12/2015	08/12/15 14:23	
1502676-13	1293-111-0	**7.0**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502676-21	1293-118-0	**7.4**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	

Client Sample ID 1293-101-0
Lab ID: 1502676-01

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:26	
Arsenic	**6.1**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:26	
Barium	**230**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:26	
Beryllium	**0.42**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:25	J
Cadmium	**2.1**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:26	
Chromium	**18**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:26	
Cobalt	**5.3**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:26	
Copper	**210**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:26	
Molybdenum	**4.1**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:26	
Nickel	**35**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:26	
Selenium	**0.67**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:26	J
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:26	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:26	
Vanadium	**30**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:26	
Zinc	**150**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:26	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-101-1
Lab ID: 1502676-02

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:29	
Arsenic	**7.8**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:29	
Barium	**200**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:29	
Beryllium	**0.51**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:28	J
Cadmium	**3.4**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:29	
Chromium	**17**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:29	
Cobalt	**7.6**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:29	
Copper	**36**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:29	
Molybdenum	**8.9**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:29	
Nickel	**49**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:29	
[illegible]ium	**1.5**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:29	
[illegible]er	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:29	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:29	
Vanadium	**31**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:29	
Zinc	**110**	1.0	0.48	1	B5H0242	08/11/2015	08/12/15 09:29	

Client Sample ID EB1A-080315
Lab ID: 1502676-04

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0118	08/05/2015	08/06/15 09:49	
Arsenic	ND	0.010	0.0084	1	B5H0118	08/05/2015	08/06/15 09:49	
Barium	ND	0.0030	0.0003	1	B5H0118	08/05/2015	08/06/15 09:49	
Beryllium	ND	0.0030	0.0002	1	B5H0118	08/05/2015	08/06/15 09:48	
Cadmium	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:49	
Chromium	**0.0006**	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:49	J
Cobalt	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:49	
Copper	ND	0.0090	0.0014	1	B5H0118	08/05/2015	08/06/15 09:48	
Lead	ND	0.0050	0.0019	1	B5H0118	08/05/2015	08/06/15 09:49	
Molybdenum	**0.0007**	0.0050	0.0006	1	B5H0118	08/05/2015	08/06/15 09:49	J
Nickel	ND	0.0050	0.0011	1	B5H0118	08/05/2015	08/06/15 09:49	
[illegible]lenium	ND	0.010	0.0065	1	B5H0118	08/05/2015	08/06/15 09:49	
[illegible]er	ND	0.0030	0.0012	1	B5H0118	08/05/2015	08/06/15 09:48	
Thallium	ND	0.015	0.0037	1	B5H0118	08/05/2015	08/06/15 09:49	
Vanadium	ND	0.0030	0.0017	1	B5H0118	08/05/2015	08/06/15 09:48	
Zinc	ND	0.025	0.0087	1	B5H0118	08/05/2015	08/06/15 09:49	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB1B-080315

Lab ID: 1502676-12

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0118	08/05/2015	08/06/15 09:56	
Arsenic	ND	0.010	0.0084	1	B5H0118	08/05/2015	08/06/15 09:56	
Barium	ND	0.0030	0.0003	1	B5H0118	08/05/2015	08/06/15 09:56	
Beryllium	ND	0.0030	0.0002	1	B5H0118	08/05/2015	08/06/15 09:55	
Cadmium	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:56	
Chromium	**0.0008**	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:56	J
Cobalt	ND	0.0030	0.0004	1	B5H0118	08/05/2015	08/06/15 09:56	
Copper	ND	0.0090	0.0014	1	B5H0118	08/05/2015	08/06/15 09:56	
Lead	ND	0.0050	0.0019	1	B5H0118	08/05/2015	08/06/15 09:56	
Molybdenum	**0.0007**	0.0050	0.0006	1	B5H0118	08/05/2015	08/06/15 09:56	J
Nickel	**0.0012**	0.0050	0.0011	1	B5H0118	08/05/2015	08/06/15 09:56	J
Selenium	ND	0.010	0.0065	1	B5H0118	08/05/2015	08/06/15 09:56	
Silver	ND	0.0030	0.0012	1	B5H0118	08/05/2015	08/06/15 09:56	
Thallium	ND	0.015	0.0037	1	B5H0118	08/05/2015	08/06/15 09:56	
Vanadium	ND	0.0030	0.0017	1	B5H0118	08/05/2015	08/06/15 09:56	
Zinc	**0.018**	0.025	0.0087	1	B5H0118	08/05/2015	08/06/15 09:56	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-111-0
Lab ID: 1502676-13

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:32	
Arsenic	**4.4**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:32	
Barium	**150**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:32	
Beryllium	**0.40**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:31	J
Cadmium	**1.8**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:32	
Chromium	**19**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:32	
Cobalt	**5.7**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:32	
Copper	**49**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:32	
Molybdenum	**3.9**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:32	
Nickel	**22**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:32	
[illegible]ium	**0.69**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:32	J
[illegible]er	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:32	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:32	
Vanadium	**26**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:32	
Zinc	**390**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:32	

Client Sample ID 1293-118-0
Lab ID: 1502676-21

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:36	
Arsenic	**3.1**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:36	
Barium	**67**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:35	
Beryllium	**0.25**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:35	J
Cadmium	**0.56**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:36	J
Chromium	**8.0**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:35	
Cobalt	**3.6**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:36	
Copper	**14**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:35	
Molybdenum	**0.83**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:36	J
Nickel	**8.6**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:36	
Selenium	ND	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:36	
[illegible]er	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:35	
[illegible]llium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:36	
Vanadium	**19**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:35	
Zinc	**63**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:35	

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QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0118 - EPA 3010A_W									
Blank (B5H0118-BLK1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	ND	0.010			NR				
Arsenic	ND	0.010			NR				
Barium	ND	0.0030			NR				
Beryllium	ND	0.0030			NR				
Cadmium	ND	0.0030			NR				
Chromium	0.000742	0.0030			NR				J
Cobalt	ND	0.0030			NR				
Copper	ND	0.0090			NR				
Lead	ND	0.0050			NR				
Molybdenum	ND	0.0050			NR				
Nickel	0.001223	0.0050			NR				J
Selenium	ND	0.010			NR				
Silver	ND	0.0030			NR				
Thallium	ND	0.015			NR				
Vanadium	ND	0.0030			NR				
Zinc	ND	0.025			NR				
LCS (B5H0118-BS1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	0.982811	0.010	1.00000		98.3	80 - 120			
Arsenic	0.980519	0.010	1.00000		98.1	80 - 120			
Barium	1.01541	0.0030	1.00000		102	80 - 120			
Beryllium	1.02861	0.0030	1.00000		103	80 - 120			
Cadmium	0.994279	0.0030	1.00000		99.4	80 - 120			
Chromium	1.01368	0.0030	1.00000		101	80 - 120			
Cobalt	0.999986	0.0030	1.00000		100	80 - 120			
Copper	0.997478	0.0090	1.00000		99.7	80 - 120			
Lead	0.996562	0.0050	1.00000		99.7	80 - 120			
Molybdenum	0.998951	0.0050	1.00000		99.9	80 - 120			
Nickel	0.993955	0.0050	1.00000		99.4	80 - 120			
Selenium	0.950688	0.010	1.00000		95.1	80 - 120			
Silver	1.01271	0.0030	1.00000		101	80 - 120			
Thallium	0.983682	0.015	1.00000		98.4	80 - 120			
Vanadium	0.993718	0.0030	1.00000		99.4	80 - 120			
Zinc	0.956246	0.025	1.00000		95.6	80 - 120			
LCS Dup (B5H0118-BSD1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	0.984470	0.010	1.00000		98.4	80 - 120	0.169	20	
Arsenic	0.981323	0.010	1.00000		98.1	80 - 120	0.0820	20	
Barium	1.01904	0.0030	1.00000		102	80 - 120	0.357	20	
Beryllium	1.04188	0.0030	1.00000		104	80 - 120	1.28	20	
Cadmium	0.998455	0.0030	1.00000		99.8	80 - 120	0.419	20	
Chromium	1.01979	0.0030	1.00000		102	80 - 120	0.601	20	
Cobalt	1.00598	0.0030	1.00000		101	80 - 120	0.598	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0118 - EPA 3010A_W (continued)									
LCS Dup (B5H0118-BSD1) - Continued					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Copper	1.00170	0.0090	1.00000		100	80 - 120	0.422	20	
Lead	0.999384	0.0050	1.00000		99.9	80 - 120	0.283	20	
Molybdenum	1.00322	0.0050	1.00000		100	80 - 120	0.426	20	
Nickel	0.999534	0.0050	1.00000		100	80 - 120	0.560	20	
Selenium	0.945982	0.010	1.00000		94.6	80 - 120	0.496	20	
Silver	1.01638	0.0030	1.00000		102	80 - 120	0.362	20	
Thallium	0.987351	0.015	1.00000		98.7	80 - 120	0.372	20	
Vanadium	0.997437	0.0030	1.00000		99.7	80 - 120	0.374	20	
Zinc	0.958741	0.025	1.00000		95.9	80 - 120	0.261	20	
Duplicate (B5H0118-DUP1)		**Source: 1502676-04**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Antimony	ND	0.010		ND	NR			20	
Arsenic	ND	0.010		ND	NR			20	
Barium	ND	0.0030		ND	NR			20	
[illegible]lium	ND	0.0030		ND	NR			20	
[illegible]ium	ND	0.0030		ND	NR			20	
Chromium	0.000611	0.0030		0.000617	NR		1.13	20	J
Cobalt	ND	0.0030		ND	NR			20	
Copper	ND	0.0090		ND	NR			20	
Lead	ND	0.0050		ND	NR			20	
Molybdenum	0.000626	0.0050		0.000717	NR		13.5	20	J
Nickel	0.001129	0.0050		ND	NR			20	J
Selenium	ND	0.010		ND	NR			20	
Silver	ND	0.0030		ND	NR			20	
Thallium	ND	0.015		ND	NR			20	
Vanadium	ND	0.0030		ND	NR			20	
Zinc	0.010796	0.025		ND	NR			20	J

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S									
Blank (B5H0242-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	0.039526	1.0			NR				J
Nickel	0.113530	1.0			NR				J
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B5H0242-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	47.9146	2.0	50.0000		95.8	80 - 120			
Arsenic	47.0896	1.0	50.0000		94.2	80 - 120			
Barium	50.1416	1.0	50.0000		100	80 - 120			
Beryllium	49.9608	1.0	50.0000		99.9	80 - 120			
Cadmium	48.0696	1.0	50.0000		96.1	80 - 120			
Chromium	46.3811	1.0	50.0000		92.8	80 - 120			
Cobalt	49.0430	1.0	50.0000		98.1	80 - 120			
Copper	48.6135	2.0	50.0000		97.2	80 - 120			
Molybdenum	49.8246	1.0	50.0000		99.6	80 - 120			
Nickel	48.3915	1.0	50.0000		96.8	80 - 120			
Selenium	44.8751	1.0	50.0000		89.8	80 - 120			
Silver	47.8568	1.0	50.0000		95.7	80 - 120			
Thallium	47.1912	1.0	50.0000		94.4	80 - 120			
Vanadium	49.3951	1.0	50.0000		98.8	80 - 120			
Zinc	46.4690	1.0	50.0000		92.9	80 - 120			
Duplicate (B5H0242-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0		ND	NR			20	
Arsenic	3.90864	1.0		3.79201	NR		3.03	20	
Barium	84.3796	1.0		76.2674	NR		10.1	20	
Beryllium	0.390835	1.0		0.373907	NR		4.43	20	J
Cadmium	2.15449	1.0		2.30822	NR		6.89	20	
Chromium	14.6481	1.0		14.8934	NR		1.66	20	
Cobalt	5.71625	1.0		6.53386	NR		13.3	20	
Copper	46.8309	2.0		31.5355	NR		39.0	20	R
Molybdenum	3.14705	1.0		2.88536	NR		8.68	20	
Nickel	19.0231	1.0		19.8777	NR		4.39	20	
Selenium	0.533235	1.0		0.950330	NR		56.2	20	R, J
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S (continued)									
Duplicate (B5H0242-DUP1) - Continued		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Vanadium	31.7728	1.0		31.5017	NR		0.857	20	
Zinc	146.557	1.0		151.902	NR		3.58	20	
Matrix Spike (B5H0242-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	74.9762	2.0	125.000	ND	60.0	28 - 106			
Arsenic	103.710	1.0	125.000	3.79201	79.9	57 - 109			
Barium	173.653	1.0	125.000	76.2674	77.9	18 - 159			
Beryllium	100.821	1.0	125.000	0.373907	80.4	61 - 107			
Cadmium	95.5598	1.0	125.000	2.30822	74.6	53 - 104			
Chromium	106.598	1.0	125.000	14.8934	73.4	53 - 121			
Cobalt	103.966	1.0	125.000	6.53386	77.9	55 - 109			
Copper	138.409	2.0	125.000	31.5355	85.5	58 - 124			
Molybdenum	104.375	1.0	125.000	2.88536	81.2	57 - 108			
Nickel	114.510	1.0	125.000	19.8777	75.7	44 - 122			
[illegible]ium	97.7838	1.0	125.000	0.950330	77.5	54 - 104			
[illegible]	101.311	1.0	125.000	ND	81.0	60 - 112			
Thallium	91.8354	1.0	125.000	ND	73.5	50 - 103			
Vanadium	135.073	1.0	125.000	31.5017	82.9	54 - 123			
Zinc	241.785	1.0	125.000	151.902	71.9	29 - 132			
Matrix Spike Dup (B5H0242-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	82.5333	2.0	125.000	ND	66.0	28 - 106	9.60	20	
Arsenic	107.116	1.0	125.000	3.79201	82.7	57 - 109	3.23	20	
Barium	173.780	1.0	125.000	76.2674	78.0	18 - 159	0.0730	20	
Beryllium	106.279	1.0	125.000	0.373907	84.7	61 - 107	5.27	20	
Cadmium	98.8693	1.0	125.000	2.30822	77.2	53 - 104	3.40	20	
Chromium	106.878	1.0	125.000	14.8934	73.6	53 - 121	0.261	20	
Cobalt	106.814	1.0	125.000	6.53386	80.2	55 - 109	2.70	20	
Copper	142.312	2.0	125.000	31.5355	88.6	58 - 124	2.78	20	
Molybdenum	106.444	1.0	125.000	2.88536	82.8	57 - 108	1.96	20	
Nickel	116.747	1.0	125.000	19.8777	77.5	44 - 122	1.93	20	
Selenium	101.654	1.0	125.000	0.950330	80.6	54 - 104	3.88	20	
Silver	105.843	1.0	125.000	ND	84.7	60 - 112	4.38	20	
Thallium	95.6848	1.0	125.000	ND	76.5	50 - 103	4.11	20	
Vanadium	133.891	1.0	125.000	31.5017	81.9	54 - 123	0.878	20	
Zinc	233.250	1.0	125.000	151.902	65.1	29 - 132	3.59	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0082 - EPA 3050 Modified_S									
Blank (B5H0082-BLK1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
Blank (B5H0082-BLK2)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
LCS (B5H0082-BS1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	49.9717	1.0	50.0000		99.9	80 - 120			
Duplicate (B5H0082-DUP1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	13.6103	1.0		11.5803	NR		16.1	20	
Duplicate (B5H0082-DUP2)		**Source: 1502675-33**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	8.54140	1.0		8.00937	NR		6.43	20	
Matrix Spike (B5H0082-MS1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	229.002	1.0	250.000	11.5803	87.0	35 - 129			
Matrix Spike (B5H0082-MS2)		**Source: 1502675-33**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	225.246	1.0	250.000	8.00937	86.9	35 - 129			
Matrix Spike Dup (B5H0082-MSD1)		**Source: 1502676-10**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	237.790	1.0	250.000	11.5803	90.5	35 - 129	3.77	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0083 - EPA 3050 Modified_S									
Blank (B5H0083-BLK1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	0.233126	1.0			NR				J
Blank (B5H0083-BLK2)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	ND	1.0			NR				
LCS (B5H0083-BS1)					Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	50.1854	1.0	50.0000		100	80 - 120			
Duplicate (B5H0083-DUP1)		**Source: 1502676-27**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	27.7129	1.0		25.1976	NR		9.51	20	
Duplicate (B5H0083-DUP2)		**Source: 1502676-21**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	169.315	1.0		164.201	NR		3.07	20	
Matrix Spike (B5H0083-MS1)		**Source: 1502676-27**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
	237.449	1.0	250.000	25.1976	84.9	35 - 129			
Matrix Spike (B5H0083-MS2)		**Source: 1502676-21**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	521.302	1.0	250.000	164.201	143	35 - 129			M1
Matrix Spike Dup (B5H0083-MSD1)		**Source: 1502676-27**			Prepared: 8/5/2015 Analyzed: 8/5/2015				
Lead	246.483	1.0	250.000	25.1976	88.5	35 - 129	3.73	20	

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TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0240 - EPA 3010A_S									
Blank (B5H0240-BLK1)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	ND	0.050			NR				
Blank (B5H0240-BLK2)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	ND	0.050			NR				
LCS (B5H0240-BS1)					Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	1.01810	0.050	1.00000		102	80 - 120			
Duplicate (B5H0240-DUP1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	0.042632	0.050		0.041799	NR		1.97	20	J
Duplicate (B5H0240-DUP2)		**Source: 1502676-02**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	0.106894	0.10		0.097708	NR		8.98	20	D5
Matrix Spike (B5H0240-MS1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	2.27989	0.050	2.50000	0.041799	89.5	77 - 121			
Matrix Spike Dup (B5H0240-MSD1)		**Source: 1502675-01**			Prepared: 8/11/2015 Analyzed: 8/11/2015				
Lead	2.50354	0.050	2.50000	0.041799	98.5	77 - 121	9.35	20	

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STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0136 - STLC_S Extraction									
Blank (B5H0136-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0136-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0136-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	1.90184	1.0	2.00000		95.1	80 - 120			
Duplicate (B5H0136-DUP1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.058396	1.0		0.051413	NR		12.7	20	J
Duplicate (B5H0136-DUP2)		**Source: 1502676-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.280559	1.0		0.494784	NR		55.3	20	R, J
Matrix Spike (B5H0136-MS1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
	2.23211	1.0	2.50000	0.051413	87.2	44 - 130			
Matrix Spike (B5H0136-MS2)		**Source: 1502676-10**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.67029	1.0	2.50000	0.494784	87.0	44 - 130			
Matrix Spike Dup (B5H0136-MSD1)		**Source: 1502675-33**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	2.17463	1.0	2.50000	0.051413	84.9	44 - 130	2.61	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0137 - STLC_S Extraction									
Blank (B5H0137-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0137-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0137-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	1.85821	1.0	2.00000		92.9	80 - 120			
Duplicate (B5H0137-DUP1)		**Source: 1502676-18**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	5.85794	1.0		6.81684	NR		15.1	20	
Duplicate (B5H0137-DUP2)		**Source: 1502676-27**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.697377	1.0		1.44730	NR		69.9	20	R, J
Matrix Spike (B5H0137-MS1)		**Source: 1502676-18**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	8.62576	1.0	2.50000	6.81684	72.4	44 - 130			
Matrix Spike (B5H0137-MS2)		**Source: 1502676-27**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	3.64571	1.0	2.50000	1.44730	87.9	44 - 130			
Matrix Spike Dup (B5H0137-MSD1)		**Source: 1502676-18**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	9.00032	1.0	2.50000	6.81684	87.3	44 - 130	4.25	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0283 - STLC DI_S Extraction									
Blank (B5H0283-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
Blank (B5H0283-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
LCS (B5H0283-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.05610	1.0	2.00000		103	80 - 120			
Duplicate (B5H0283-DUP1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Duplicate (B5H0283-DUP2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0283-MS1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
	2.58309	1.0	2.50000	ND	103	70 - 130			
Matrix Spike (B5H0283-MS2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.52309	1.0	2.50000	ND	101	70 - 130			
Matrix Spike Dup (B5H0283-MSD1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.49569	1.0	2.50000	ND	99.8	70 - 130	3.44	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0120 - EPA 245.1/7470_W									
Blank (B5H0120-BLK1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	ND	0.20			NR				
LCS (B5H0120-BS1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	10.1853	0.20	10.0000		102	80 - 120			
LCS Dup (B5H0120-BSD1)					Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	10.4376	0.20	10.0000		104	80 - 120	2.45	20	
Duplicate (B5H0120-DUP1)		**Source: 1502676-04**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	ND	0.20		ND	NR			20	
Post Spike (B5H0120-PS1)		**Source: 1502675-11**			Prepared: 8/5/2015 Analyzed: 8/6/2015				
Mercury	5.47114		5.00000	0.006479	109	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0245 - EPA 7471_S									
Blank (B5H0245-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	ND	0.10			NR				
LCS (B5H0245-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.805268	0.10	0.833333		96.6	80 - 120			
Duplicate (B5H0245-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.040879	0.10		0.108773	NR		90.7	20	R, J
Matrix Spike (B5H0245-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.799264	0.10	0.833333	0.108773	82.9	70 - 130			
Matrix Spike Dup (B5H0245-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.798418	0.10	0.833333	0.108773	82.8	70 - 130	0.106	20	
Post Spike (B5H0245-PS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
[illegible]ry	0.006286		5.00000E-3	0.001305	99.6	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0280 - Prep_WC1_S									
Duplicate (B5H0280-DUP1)		**Source: 1502676-01**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
pH	7.82000	0.10		7.88000	NR		0.764	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0281 - Prep_WC1_S									
Duplicate (B5H0281-DUP1)		**Source: 1502676-13**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
pH	7.11000	0.10		7.01000	NR		1.42	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
D5	Sample diluted due to failing internal standard in the original run.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 1 of 3

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

ANALYSES / METHOD REQUEST

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1293-101-0	08/03/15	0845	SOIL	CS 8oz	NONE	1	X	X				
1293-101-1		0847					X	X				
1293-101-2		0850					X	X				
EBIA-080315		0946	AQ	P 1L							X	
1293-104-0		0948	SOIL	CS 8oz			X	X				
1293-104-1		0951					X	X				
1293-104-2		0955					X	X				
1293-104-5		1004					X	X				
1293-107-0		1036					X	X				
1293-107-1		1042					X	X				
1293-107-2		1049					X	X				

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD Shipment Method: COURIER Airbill Number:

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	SCOTT EDBLAD	STANTEC	08/03/15	1545
1(b)	*Received by:* AM	ABNER MANGOBAS	ATL	8/3/15	1545
2(a)	*Relinquished by:*	ABNER MANGOBAS	ATL	8/3/15	1755
2(b)	*Received by:*	FERNANDO DIAZ	ATL	8/3/15	1755
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC #

Page 2 of 3

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

ANALYSES / METHOD REQUEST

Sample No. / Identification	SAMPLE Date	SAMPLE Time	SAMPLE Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045			
EB1B-080315	08/03/15	1120	AQ	PIL	NONE	1					X				
1293-111-0	↓	1127	SOIL	CS 8OZ	↓	↓	X	X							
1293-111-1	↓	1129	↓	↓	↓	↓	X	X							
1293-111-2	↓	1133	↓	↓	↓	↓	X	X							
1293-116-0	↓	1214	↓	↓	↓	↓	X	X							
1293-116-1	↓	1216	↓	↓	↓	↓	X	X							
1293-117-0	↓	1257	↓	↓	↓	↓	X	X							
1293-117-1	↓	1304	↓	↓	↓	↓	X	X							
1293-117-2	↓	1307	↓	↓	↓	↓	X	X							
1293-118-0	↓	1349	↓	↓	↓	↓	X	X							
1293-118-1	↓	1351	↓	↓	↓	↓	X	X							

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD *Shipment Method:* COURIER *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a) *Relinquished by:*	Scott Edblad	SCOTT EDBLAD	STANTEC	08/03/15	1545
1(b) *Received by:*	AM	ABNER MANGAHAS	ATL	8/3/15	1545
2(a) *Relinquished by:*	AM	ABNER MANGAHAS	ATL	8/3/15	1755
2(b) *Received by:*	[signature]	FERNANDO DIAZ	ATL	8/3/15	1755
3(a) *Relinquished by:*					
3(b) *Received by:*					

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC #
Page 3 of 3

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
	Project Manager: Kristy Edblad
Telephone: (805) 230-1266	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com, anne.perez@stantec.com	

ANALYSES / METHOD REQUEST

Sample No. / Identification	SAMPLE Date	SAMPLE Time	SAMPLE Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1293-118-2	08/03/15	1353	SOIL	CS 8OZ	NONE	1	X	X				
1293-118-5	↓	1356	↓	↓	↓		X	X				
1293-119-0	↓	1430	↓	↓	↓		X	X				
1293-119-1	↓	1434	↓	↓	↓		X	X				
1293-119-2	↓	1436	↓	↓	↓		X	X				

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD *Shipment Method:* COURIER *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a) *Relinquished by:*	[signature]	SCOTT EDBLAD	STANTEC	08/03/15	1545
1(b) *Received by:*	AM	ABNER MANGANG	ATL	8/3/15	1545
2(a) *Relinquished by:*	AM	ABNER MANGANG	ATL	8/3/15	1755
2(b) *Received by:*	[signature]	FERNANDO DIWA	ATL	8/3/15	1755
3(a) *Relinquished by:*					
3(b) *Received by:*					

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

ADVANCED TECHNOLOGY LABORATORIES

Sample Receipt Acknowledgement

Work Order # 1502676

Client:	**Stantec - Thousand Oaks**	**Project Manager:**	**Rachelle Arada**
Project:	**185832027, Task: 200.0004, Caltrans 07A3322-27**	**Project Number:**	**185832027, Task: 200.0004, Caltrans 07A3322-27**

Report To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone: (805) 230-1266
Fax: (805) 230-1277

Invoice To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone :(805) 230-1266
Fax: (805) 230-1277

Date Due:	08/06/15 17:00 (3 day TAT)	Date Received:	08/03/15 15:45
Received By:	Ron Diwa	Date Logged In:	08/03/15 17:51
Logged In By:	Ron Diwa	Shipped by:	ATL

Please review the checklist below. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues. If you have any questions or further instructions, please contact your Project Manager at (562) 989-4045.

Sample(s) received on ice?	Yes	☐	No	☑	Default Cooler Temp: 5.0 °C
Sample(s) received on blue ice?	Yes	☑	No	☐	
Cooler temperature within acceptance limit?	Yes	☑	No	☐	
Shipping container received in good condition?	Not Applicable				
Custody seals present on shipping container?	Yes	☐	No	☑	
Custody seals intact on shipping container?	Not Applicable				
Custody seals present on sample bottles?	Yes	☐	No	☑	
Custody seals intact on sample bottles?	Not Applicable				
Chain of Custody (COC) present?	Yes	☑	No	☐	
Sampler name present in COC?	Yes	☑	No	☐	
COC signed when relinquished and received?	Yes	☑	No	☐	
COC agrees with sample labels?	Yes	☑	No	☐	
Samples in proper container/bottle?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample amount for indicated tests?	Yes	☑	No	☐	
All samples received within holding time?	Yes	☑	No	☐	
Water for VOC -- Were VOA vials submitted?	Yes	☐	No	☑	
Water samples submitted?	Yes	☑	No	☐	
VOA vials for VOC meet headspace criteria?	Not Applicable				
Water samples meet preservation criteria?	Yes	☑	No	☐	

Sample Receipt Comments:
Water samples - filter and preserve per client's instruction.

ADVANCED TECHNOLOGY LABORATORIES

August 12, 2015

Kristy Edblad
Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax:(805) 230-1277

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1502686
Client Reference : 185832027, Task: 200.0004, Caltrans 07A3322-27

Enclosed are the results for sample(s) received on August 04, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1293-121-0	1502686-01	Soil	8/04/15 7:25	8/04/15 15:45
1293-121-1	1502686-02	Soil	8/04/15 7:31	8/04/15 15:45
1293-121-2	1502686-03	Soil	8/04/15 7:39	8/04/15 15:45
1293-120-0	1502686-04	Soil	8/04/15 7:56	8/04/15 15:45
1293-120-1	1502686-05	Soil	8/04/15 8:00	8/04/15 15:45
1293-120-2	1502686-06	Soil	8/04/15 8:08	8/04/15 15:45
1293-115-0	1502686-07	Soil	8/04/15 8:25	8/04/15 15:45
1293-115-1	1502686-08	Soil	8/04/15 8:34	8/04/15 15:45
EB2A080415	1502686-09	Water	8/04/15 9:00	8/04/15 15:45
1293-114-0	1502686-10	Soil	8/04/15 9:08	8/04/15 15:45
1293-114-1	1502686-11	Soil	8/04/15 9:15	8/04/15 15:45
1293-114-2	1502686-12	Soil	8/04/15 9:18	8/04/15 15:45
1293-113-0	1502686-13	Soil	8/04/15 9:28	8/04/15 15:45
1293-113-1	1502686-14	Soil	8/04/15 9:32	8/04/15 15:45
1293-113-2	1502686-15	Soil	8/04/15 9:50	8/04/15 15:45
1293-112-0	1502686-16	Soil	8/04/15 10:10	8/04/15 15:45
1293-112-1	1502686-17	Soil	8/04/15 10:22	8/04/15 15:45
1293-112-2	1502686-18	Soil	8/04/15 10:40	8/04/15 15:45
EB2B080415	1502686-19	Water	8/04/15 10:56	8/04/15 15:45
1293-109-0	1502686-20	Soil	8/04/15 11:05	8/04/15 15:45
1293-109-1	1502686-21	Soil	8/04/15 11:19	8/04/15 15:45
1293-110-0	1502686-22	Soil	8/04/15 11:22	8/04/15 15:45
1293-108-0	1502686-23	Soil	8/04/15 11:39	8/04/15 15:45
1293-108-1	1502686-24	Soil	8/04/15 11:45	8/04/15 15:45
1293-108-2	1502686-25	Soil	8/04/15 11:49	8/04/15 15:45
1293-106-0	1502686-26	Soil	8/04/15 12:47	8/04/15 15:45
1293-106-1	1502686-27	Soil	8/04/15 12:57	8/04/15 15:45
1293-105-0	1502686-28	Soil	8/04/15 13:20	8/04/15 15:45
1293-105-1	1502686-29	Soil	8/04/15 13:32	8/04/15 15:45
EB2C080415	1502686-30	Water	8/04/15 13:35	8/04/15 15:45
1293-105-2	1502686-31	Soil	8/04/15 13:38	8/04/15 15:45
1293-103-0	1502686-32	Soil	8/04/15 14:03	8/04/15 15:45
1293-103-1	1502686-33	Soil	8/04/15 14:13	8/04/15 15:45
1293-103-2	1502686-34	Soil	8/04/15 14:17	8/04/15 15:45

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CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments:

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: RR

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-01	1293-121-0	**10**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:40	
1502686-02	1293-121-1	**7.1**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:41	
1502686-03	1293-121-2	**14**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:41	
1502686-04	1293-120-0	**7.5**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:45	
1502686-05	1293-120-1	**5.8**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:45	
1502686-06	1293-120-2	**6.1**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:46	
1502686-07	1293-115-0	**41**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:48	
1502686-08	1293-115-1	**13**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:49	
1502686-10	1293-114-0	**41**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:50	
1502686-11	1293-114-1	**31**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:51	
1502686-12	1293-114-2	**29**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:51	
1502686-13	1293-113-0	**86**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:55	
1502686-14	1293-113-1	**26**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:55	
1502686-15	1293-113-2	**8.3**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:57	
1502686-16	1293-112-0	**200**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:57	
1502686-17	1293-112-1	**140**	mg/kg	1.0	0.16	1	B5H0145	08/06/2015	08/06/15 14:58	
1502686-18	1293-112-2	**310**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:07	
1502686-20	1293-109-0	**69**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:08	
1502686-21	1293-109-1	**22**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:09	
1502686-22	1293-110-0	**71**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:09	
1502686-23	1293-108-0	**130**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:10	
1502686-24	1293-108-1	**79**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:11	
1502686-25	1293-108-2	**51**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:12	
1502686-26	1293-106-0	**370**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:12	
1502686-27	1293-106-1	**53**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:13	
1502686-28	1293-105-0	**210**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:24	
1502686-29	1293-105-1	**180**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:26	
1502686-31	1293-105-2	**190**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:27	
1502686-32	1293-103-0	**27**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:27	
1502686-33	1293-103-1	**7.2**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:28	

Certificate of Analysis

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Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-34	1293-103-2	**4.6**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:29	

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-13	1293-113-0	**0.057**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:36	
1502686-16	1293-112-0	**0.093**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:39	
1502686-17	1293-112-1	**0.038**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:41	J
1502686-18	1293-112-2	**0.20**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:48	
1502686-20	1293-109-0	**0.017**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:51	J
1502686-22	1293-110-0	**0.017**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:54	J
1502686-23	1293-108-0	**0.017**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:56	J
1502686-24	1293-108-1	**0.0031**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 13:59	J
1502686-26	1293-106-0	**0.031**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:02	J
1502686-27	1293-106-1	**ND**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:04	
1502686-28	1293-105-0	**0.050**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:12	
1502686-29	1293-105-1	**ND**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:19	
1502686-31	1293-105-2	**0.0053**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:21	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-01	1293-121-0	**0.067**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:16	J
1502686-02	1293-121-1	**0.041**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:18	J
1502686-03	1293-121-2	**0.17**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:21	J
1502686-04	1293-120-0	**0.43**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:23	J
1502686-05	1293-120-1	**ND**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:26	
1502686-06	1293-120-2	**ND**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:28	
1502686-07	1293-115-0	**1.4**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:35	
1502686-08	1293-115-1	**0.32**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:37	J
1502686-10	1293-114-0	**1.1**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:44	
1502686-11	1293-114-1	**1.1**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:46	
1502686-12	1293-114-2	**0.87**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:48	J
1502686-13	1293-113-0	**5.7**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:51	
1502686-14	1293-113-1	**2.4**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:53	
1502686-15	1293-113-2	**0.23**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:55	J
1502686-16	1293-112-0	**11**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 11:58	
1502686-17	1293-112-1	**6.0**	mg/L	1.0	0.038	20	B5H0171	08/07/2015	08/07/15 12:00	
1502686-18	1293-112-2	**21**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 11:40	
1502686-20	1293-109-0	**5.6**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 11:57	
1502686-21	1293-109-1	**0.49**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:01	J
1502686-22	1293-110-0	**5.7**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:05	
1502686-23	1293-108-0	**6.4**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:16	
1502686-24	1293-108-1	**4.3**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:20	
1502686-25	1293-108-2	**1.7**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:24	
1502686-26	1293-106-0	**18**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:28	
1502686-27	1293-106-1	**1.8**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:32	
1502686-28	1293-105-0	**11**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:36	
1502686-29	1293-105-1	**13**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:48	
1502686-31	1293-105-2	**13**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 12:52	
1502686-32	1293-103-0	**0.95**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:03	J
1502686-33	1293-103-1	**0.042**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:07	J

S... ...ec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks , CA 91361

Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
Report To : Kristy Edblad
Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-34	1293-103-2	**ND**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:11	

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-13	1293-113-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:29	
1502686-16	1293-112-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:33	
1502686-17	1293-112-1	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:37	
1502686-18	1293-112-2	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:48	
1502686-20	1293-109-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 12:52	
1502686-22	1293-110-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:03	
1502686-23	1293-108-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:07	
1502686-26	1293-106-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:10	
1502686-28	1293-105-0	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:14	
1502686-29	1293-105-1	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:18	
1502686-31	1293-105-2	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:22	

Mercury by AA (Cold Vapor) EPA 7470A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-09	EB2A080415	**ND**	ug/L	0.20	0.15	1	B5H0143	08/06/2015	08/07/15 09:26	
1502686-19	EB2B080415	**ND**	ug/L	0.20	0.15	1	B5H0143	08/06/2015	08/07/15 09:32	
1502686-30	EB2C080415	**ND**	ug/L	0.20	0.15	1	B5H0143	08/06/2015	08/07/15 09:34	

Stantec
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Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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Mercury by AA (Cold Vapor) EPA 7471A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-16	1293-112-0	**0.06**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:19	J
1502686-18	1293-112-2	**0.04**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:21	J
1502686-26	1293-106-0	**0.12**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:23	
1502686-28	1293-105-0	**0.07**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:25	J
1502686-29	1293-105-1	**0.07**	mg/kg	0.10	0.009	1	B5H0245	08/11/2015	08/12/15 08:27	J
1502686-31	1293-105-2	**0.07**	mg/kg	0.10	0.009	1	B5H0246	08/11/2015	08/12/15 08:33	J

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502686-16	1293-112-0	**7.5**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502686-18	1293-112-2	**7.8**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502686-26	1293-106-0	**7.7**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502686-28	1293-105-0	**8.0**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502686-29	1293-105-1	**8.1**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502686-31	1293-105-2	**8.1**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB2A080415
Lab ID: 1502686-09

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0142	08/06/2015	08/07/15 10:09	
Arsenic	ND	0.010	0.0084	1	B5H0142	08/06/2015	08/07/15 10:09	
Barium	**0.0003**	0.0030	0.0003	1	B5H0142	08/06/2015	08/07/15 10:09	J
Beryllium	**0.0003**	0.0030	0.0002	1	B5H0142	08/06/2015	08/07/15 10:08	J
Cadmium	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:09	
Chromium	**0.0008**	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:09	J
Cobalt	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:09	
Copper	**0.0019**	0.0090	0.0014	1	B5H0142	08/06/2015	08/07/15 10:09	J
Lead	ND	0.0050	0.0019	1	B5H0142	08/06/2015	08/07/15 10:09	
Molybdenum	**0.0007**	0.0050	0.0006	1	B5H0142	08/06/2015	08/07/15 10:09	J
[illegible]el	**0.0019**	0.0050	0.0011	1	B5H0142	08/06/2015	08/07/15 10:09	J
[illegible]ium	ND	0.010	0.0065	1	B5H0142	08/06/2015	08/07/15 10:09	
Silver	**0.0013**	0.0030	0.0012	1	B5H0142	08/06/2015	08/07/15 10:09	J
Thallium	ND	0.015	0.0037	1	B5H0142	08/06/2015	08/07/15 10:09	
Vanadium	ND	0.0030	0.0017	1	B5H0142	08/06/2015	08/07/15 10:09	
Zinc	**0.015**	0.025	0.0087	1	B5H0142	08/06/2015	08/07/15 10:09	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-112-0
Lab ID: 1502686-16

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:46	
Arsenic	**4.7**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:46	
Barium	**140**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:46	
Beryllium	**0.42**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:45	J
Cadmium	**1.8**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:46	
Chromium	**19**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:46	
Cobalt	**4.8**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:46	
Copper	**39**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:46	
Molybdenum	**4.1**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:46	
Nickel	**29**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:46	
Selenium	**0.97**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:46	J
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:46	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:46	
Vanadium	**37**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:46	
Zinc	**180**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:46	

Client Sample ID 1293-112-2
Lab ID: 1502686-18

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:50	
Arsenic	**5.9**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:50	
Barium	**96**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:49	
Beryllium	**0.34**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:49	J
Cadmium	**1.2**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:50	
Chromium	**11**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:49	
Cobalt	**3.9**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:50	
Copper	**16**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:49	
Molybdenum	**2.2**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:50	
Nickel	**16**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:50	
Selenium	**0.61**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:50	J
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:49	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:50	
Vanadium	**23**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:49	
Zinc	**93**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:49	

Certificate of Analysis

S.. .ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB2B080415

Lab ID: 1502686-19

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0142	08/06/2015	08/07/15 10:13	
Arsenic	ND	0.010	0.0084	1	B5H0142	08/06/2015	08/07/15 10:13	
Barium	ND	0.0030	0.0003	1	B5H0142	08/06/2015	08/07/15 10:13	
Beryllium	**0.0004**	0.0030	0.0002	1	B5H0142	08/06/2015	08/07/15 10:12	J
Cadmium	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:13	
Chromium	**0.0007**	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:13	J
Cobalt	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:13	
Copper	**0.0021**	0.0090	0.0014	1	B5H0142	08/06/2015	08/07/15 10:12	J
Lead	ND	0.0050	0.0019	1	B5H0142	08/06/2015	08/07/15 10:13	
Molybdenum	ND	0.0050	0.0006	1	B5H0142	08/06/2015	08/07/15 10:13	
..el	**0.0022**	0.0050	0.0011	1	B5H0142	08/06/2015	08/07/15 10:13	J
..ium	ND	0.010	0.0065	1	B5H0142	08/06/2015	08/07/15 10:13	
Silver	ND	0.0030	0.0012	1	B5H0142	08/06/2015	08/07/15 10:12	
Thallium	ND	0.015	0.0037	1	B5H0142	08/06/2015	08/07/15 10:13	
Vanadium	ND	0.0030	0.0017	1	B5H0142	08/06/2015	08/07/15 10:12	
Zinc	ND	0.025	0.0087	1	B5H0142	08/06/2015	08/07/15 10:13	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-106-0
Lab ID: 1502686-26

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:53	
Arsenic	**7.4**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:53	
Barium	**170**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:53	
Beryllium	**0.51**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:52	J
Cadmium	**3.8**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:53	
Chromium	**21**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:53	
Cobalt	**5.7**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:53	
Copper	**38**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:53	
Molybdenum	**8.4**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:53	
Nickel	**50**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:53	
Selenium	**0.40**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:53	J
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:53	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:53	
Vanadium	**51**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:53	
Zinc	**91**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:53	

Client Sample ID 1293-105-0
Lab ID: 1502686-28

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:56	
Arsenic	**6.7**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:56	
Barium	**180**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:56	
Beryllium	**0.48**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:55	J
Cadmium	**2.5**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:56	
Chromium	**17**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:56	
Cobalt	**5.0**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:56	
Copper	**31**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:56	
Molybdenum	**5.1**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:56	
Nickel	**34**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:56	
Selenium	ND	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:56	
Silver	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:56	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:56	
Vanadium	**43**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:56	
Zinc	**110**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:56	

Certificate of Analysis

[illegible]ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-105-1

Lab ID: 1502686-29

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0242	08/11/2015	08/12/15 09:59	
Arsenic	**6.6**	1.0	0.55	1	B5H0242	08/11/2015	08/12/15 09:59	
Barium	**170**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:59	
Beryllium	**0.48**	1.0	0.05	1	B5H0242	08/11/2015	08/12/15 09:59	J
Cadmium	**2.6**	1.0	0.06	1	B5H0242	08/11/2015	08/12/15 09:59	
Chromium	**17**	1.0	0.19	1	B5H0242	08/11/2015	08/12/15 09:59	
Cobalt	**5.1**	1.0	0.11	1	B5H0242	08/11/2015	08/12/15 09:59	
Copper	**29**	2.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:59	
Molybdenum	**5.9**	1.0	0.04	1	B5H0242	08/11/2015	08/12/15 09:59	
Nickel	**39**	1.0	0.10	1	B5H0242	08/11/2015	08/12/15 09:59	
[illegible]ium	**0.51**	1.0	0.32	1	B5H0242	08/11/2015	08/12/15 09:59	J
[illegible]r	ND	1.0	0.12	1	B5H0242	08/11/2015	08/12/15 09:59	
Thallium	ND	1.0	0.36	1	B5H0242	08/11/2015	08/12/15 09:59	
Vanadium	**43**	1.0	0.20	1	B5H0242	08/11/2015	08/12/15 09:59	
Zinc	**94**	1.0	0.49	1	B5H0242	08/11/2015	08/12/15 09:59	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB2C080415

Lab ID: 1502686-30

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0142	08/06/2015	08/07/15 10:17	
Arsenic	ND	0.010	0.0084	1	B5H0142	08/06/2015	08/07/15 10:17	
Barium	ND	0.0030	0.0003	1	B5H0142	08/06/2015	08/07/15 10:17	
Beryllium	**0.0004**	0.0030	0.0002	1	B5H0142	08/06/2015	08/07/15 10:16	J
Cadmium	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:17	
Chromium	**0.0006**	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:17	J
Cobalt	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:17	
Copper	**0.0020**	0.0090	0.0014	1	B5H0142	08/06/2015	08/07/15 10:16	J
Lead	ND	0.0050	0.0019	1	B5H0142	08/06/2015	08/07/15 10:17	
Molybdenum	**0.0007**	0.0050	0.0006	1	B5H0142	08/06/2015	08/07/15 10:17	J
Nickel	**0.0020**	0.0050	0.0011	1	B5H0142	08/06/2015	08/07/15 10:17	J
Selenium	ND	0.010	0.0065	1	B5H0142	08/06/2015	08/07/15 10:17	
Silver	ND	0.0030	0.0012	1	B5H0142	08/06/2015	08/07/15 10:16	
Thallium	ND	0.015	0.0037	1	B5H0142	08/06/2015	08/07/15 10:17	
Vanadium	ND	0.0030	0.0017	1	B5H0142	08/06/2015	08/07/15 10:16	
Zinc	ND	0.025	0.0087	1	B5H0142	08/06/2015	08/07/15 10:17	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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Client Sample ID 1293-105-2
Lab ID: 1502686-31

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0243	08/11/2015	08/12/15 09:05	
Arsenic	**6.3**	1.0	0.55	1	B5H0243	08/11/2015	08/12/15 09:05	
Barium	**200**	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:05	
Beryllium	**0.52**	1.0	0.05	1	B5H0243	08/11/2015	08/12/15 09:05	J
Cadmium	**2.7**	1.0	0.06	1	B5H0243	08/11/2015	08/12/15 09:05	
Chromium	**21**	1.0	0.19	1	B5H0243	08/11/2015	08/12/15 09:05	
Cobalt	**5.1**	1.0	0.11	1	B5H0243	08/11/2015	08/12/15 09:05	
Copper	**31**	2.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:05	
Molybdenum	**4.9**	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:05	
Nickel	**42**	1.0	0.10	1	B5H0243	08/11/2015	08/12/15 09:05	
[illegible]ium	**0.86**	1.0	0.32	1	B5H0243	08/11/2015	08/12/15 09:05	J
[illegible]r	ND	1.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:05	
Thallium	ND	1.0	0.36	1	B5H0243	08/11/2015	08/12/15 09:05	
Vanadium	**44**	1.0	0.20	1	B5H0243	08/11/2015	08/12/15 09:05	
Zinc	**110**	1.0	0.49	1	B5H0243	08/11/2015	08/12/15 09:05	

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QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0142 - EPA 3010A_W									
Blank (B5H0142-BLK1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	ND	0.010			NR				
Arsenic	ND	0.010			NR				
Barium	ND	0.0030			NR				
Beryllium	ND	0.0030			NR				
Cadmium	ND	0.0030			NR				
Chromium	0.000581	0.0030			NR				J
Cobalt	ND	0.0030			NR				
Copper	ND	0.0090			NR				
Lead	ND	0.0050			NR				
Molybdenum	ND	0.0050			NR				
Nickel	ND	0.0050			NR				
Selenium	ND	0.010			NR				
Silver	0.001287	0.0030			NR				J
Thallium	ND	0.015			NR				
Vanadium	ND	0.0030			NR				
Zinc	ND	0.025			NR				
LCS (B5H0142-BS1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	0.963660	0.010	1.00000		96.4	80 - 120			
Arsenic	0.964486	0.010	1.00000		96.4	80 - 120			
Barium	0.994113	0.0030	1.00000		99.4	80 - 120			
Beryllium	0.992299	0.0030	1.00000		99.2	80 - 120			
Cadmium	0.969431	0.0030	1.00000		96.9	80 - 120			
Chromium	0.991187	0.0030	1.00000		99.1	80 - 120			
Cobalt	0.984039	0.0030	1.00000		98.4	80 - 120			
Copper	0.974201	0.0090	1.00000		97.4	80 - 120			
Lead	0.970984	0.0050	1.00000		97.1	80 - 120			
Molybdenum	0.974340	0.0050	1.00000		97.4	80 - 120			
Nickel	0.972843	0.0050	1.00000		97.3	80 - 120			
Selenium	0.919687	0.010	1.00000		92.0	80 - 120			
Silver	0.986108	0.0030	1.00000		98.6	80 - 120			
Thallium	0.962981	0.015	1.00000		96.3	80 - 120			
Vanadium	0.969673	0.0030	1.00000		97.0	80 - 120			
Zinc	0.915747	0.025	1.00000		91.6	80 - 120			
LCS Dup (B5H0142-BSD1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	1.02554	0.010	1.00000		103	80 - 120	6.22	20	
Arsenic	1.02501	0.010	1.00000		103	80 - 120	6.08	20	
Barium	1.03956	0.0030	1.00000		104	80 - 120	4.47	20	
Beryllium	1.04716	0.0030	1.00000		105	80 - 120	5.38	20	
Cadmium	1.01677	0.0030	1.00000		102	80 - 120	4.77	20	
Chromium	1.03773	0.0030	1.00000		104	80 - 120	4.59	20	
Cobalt	1.02996	0.0030	1.00000		103	80 - 120	4.56	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0142 - EPA 3010A_W (continued)									
LCS Dup (B5H0142-BSD1) - Continued					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Copper	1.02109	0.0090	1.00000		102	80 - 120	4.70	20	
Lead	1.03209	0.0050	1.00000		103	80 - 120	6.10	20	
Molybdenum	1.02160	0.0050	1.00000		102	80 - 120	4.74	20	
Nickel	1.01726	0.0050	1.00000		102	80 - 120	4.46	20	
Selenium	0.979443	0.010	1.00000		97.9	80 - 120	6.29	20	
Silver	1.03592	0.0030	1.00000		104	80 - 120	4.93	20	
Thallium	1.02394	0.015	1.00000		102	80 - 120	6.14	20	
Vanadium	1.01697	0.0030	1.00000		102	80 - 120	4.76	20	
Zinc	0.956755	0.025	1.00000		95.7	80 - 120	4.38	20	
Duplicate (B5H0142-DUP1)		**Source: 1502687-04**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	ND	0.010		ND	NR			20	
Arsenic	ND	0.010		ND	NR			20	
Barium	ND	0.0030		ND	NR			20	
[illegible]lium	ND	0.0030		ND	NR			20	
[illegible]um	ND	0.0030		ND	NR			20	
Chromium	0.000648	0.0030		0.000595	NR		8.57	20	J
Cobalt	ND	0.0030		ND	NR			20	
Copper	ND	0.0090		ND	NR			20	
Lead	ND	0.0050		ND	NR			20	
Molybdenum	ND	0.0050		ND	NR			20	
Nickel	0.001515	0.0050		0.001416	NR		6.75	20	J
Selenium	ND	0.010		ND	NR			20	
Silver	ND	0.0030		ND	NR			20	
Thallium	ND	0.015		ND	NR			20	
Vanadium	ND	0.0030		ND	NR			20	
Zinc	ND	0.025		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S									
Blank (B5H0242-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	0.039526	1.0			NR				J
Nickel	0.113530	1.0			NR				J
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B5H0242-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	47.9146	2.0	50.0000		95.8	80 - 120			
Arsenic	47.0896	1.0	50.0000		94.2	80 - 120			
Barium	50.1416	1.0	50.0000		100	80 - 120			
Beryllium	49.9608	1.0	50.0000		99.9	80 - 120			
Cadmium	48.0696	1.0	50.0000		96.1	80 - 120			
Chromium	46.3811	1.0	50.0000		92.8	80 - 120			
Cobalt	49.0430	1.0	50.0000		98.1	80 - 120			
Copper	48.6135	2.0	50.0000		97.2	80 - 120			
Molybdenum	49.8246	1.0	50.0000		99.6	80 - 120			
Nickel	48.3915	1.0	50.0000		96.8	80 - 120			
Selenium	44.8751	1.0	50.0000		89.8	80 - 120			
Silver	47.8568	1.0	50.0000		95.7	80 - 120			
Thallium	47.1912	1.0	50.0000		94.4	80 - 120			
Vanadium	49.3951	1.0	50.0000		98.8	80 - 120			
Zinc	46.4690	1.0	50.0000		92.9	80 - 120			
Duplicate (B5H0242-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0		ND	NR			20	
Arsenic	3.90864	1.0		3.79201	NR		3.03	20	
Barium	84.3796	1.0		76.2674	NR		10.1	20	
Beryllium	0.390835	1.0		0.373907	NR		4.43	20	J
Cadmium	2.15449	1.0		2.30822	NR		6.89	20	
Chromium	14.6481	1.0		14.8934	NR		1.66	20	
Cobalt	5.71625	1.0		6.53386	NR		13.3	20	
Copper	46.8309	2.0		31.5355	NR		39.0	20	R
Molybdenum	3.14705	1.0		2.88536	NR		8.68	20	
Nickel	19.0231	1.0		19.8777	NR		4.39	20	
Selenium	0.533235	1.0		0.950330	NR		56.2	20	R, J
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0242 - EPA 3050B_S (continued)									
Duplicate (B5H0242-DUP1) - Continued		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Vanadium	31.7728	1.0		31.5017	NR		0.857	20	
Zinc	146.557	1.0		151.902	NR		3.58	20	
Matrix Spike (B5H0242-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	74.9762	2.0	125.000	ND	60.0	28 - 106			
Arsenic	103.710	1.0	125.000	3.79201	79.9	57 - 109			
Barium	173.653	1.0	125.000	76.2674	77.9	18 - 159			
Beryllium	100.821	1.0	125.000	0.373907	80.4	61 - 107			
Cadmium	95.5598	1.0	125.000	2.30822	74.6	53 - 104			
Chromium	106.598	1.0	125.000	14.8934	73.4	53 - 121			
Cobalt	103.966	1.0	125.000	6.53386	77.9	55 - 109			
Copper	138.409	2.0	125.000	31.5355	85.5	58 - 124			
Molybdenum	104.375	1.0	125.000	2.88536	81.2	57 - 108			
Nickel	114.510	1.0	125.000	19.8777	75.7	44 - 122			
ium	97.7838	1.0	125.000	0.950330	77.5	54 - 104			
	101.311	1.0	125.000	ND	81.0	60 - 112			
Thallium	91.8354	1.0	125.000	ND	73.5	50 - 103			
Vanadium	135.073	1.0	125.000	31.5017	82.9	54 - 123			
Zinc	241.785	1.0	125.000	151.902	71.9	29 - 132			
Matrix Spike Dup (B5H0242-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	82.5333	2.0	125.000	ND	66.0	28 - 106	9.60	20	
Arsenic	107.116	1.0	125.000	3.79201	82.7	57 - 109	3.23	20	
Barium	173.780	1.0	125.000	76.2674	78.0	18 - 159	0.0730	20	
Beryllium	106.279	1.0	125.000	0.373907	84.7	61 - 107	5.27	20	
Cadmium	98.8693	1.0	125.000	2.30822	77.2	53 - 104	3.40	20	
Chromium	106.878	1.0	125.000	14.8934	73.6	53 - 121	0.261	20	
Cobalt	106.814	1.0	125.000	6.53386	80.2	55 - 109	2.70	20	
Copper	142.312	2.0	125.000	31.5355	88.6	58 - 124	2.78	20	
Molybdenum	106.444	1.0	125.000	2.88536	82.8	57 - 108	1.96	20	
Nickel	116.747	1.0	125.000	19.8777	77.5	44 - 122	1.93	20	
Selenium	101.654	1.0	125.000	0.950330	80.6	54 - 104	3.88	20	
Silver	105.843	1.0	125.000	ND	84.7	60 - 112	4.38	20	
Thallium	95.6848	1.0	125.000	ND	76.5	50 - 103	4.11	20	
Vanadium	133.891	1.0	125.000	31.5017	81.9	54 - 123	0.878	20	
Zinc	233.250	1.0	125.000	151.902	65.1	29 - 132	3.59	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0243 - EPA 3050B_S									
Blank (B5H0243-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	0.122743	2.0			NR				J
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B5H0243-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	47.5961	2.0	50.0000		95.2	80 - 120			
Arsenic	46.3626	1.0	50.0000		92.7	80 - 120			
Barium	49.7340	1.0	50.0000		99.5	80 - 120			
Beryllium	47.4725	1.0	50.0000		94.9	80 - 120			
Cadmium	47.2320	1.0	50.0000		94.5	80 - 120			
Chromium	50.4374	1.0	50.0000		101	80 - 120			
Cobalt	48.4859	1.0	50.0000		97.0	80 - 120			
Copper	46.4127	2.0	50.0000		92.8	80 - 120			
Molybdenum	49.5014	1.0	50.0000		99.0	80 - 120			
Nickel	47.9447	1.0	50.0000		95.9	80 - 120			
Selenium	44.9132	1.0	50.0000		89.8	80 - 120			
Silver	47.3002	1.0	50.0000		94.6	80 - 120			
Thallium	47.8781	1.0	50.0000		95.8	80 - 120			
Vanadium	49.2888	1.0	50.0000		98.6	80 - 120			
Zinc	45.7311	1.0	50.0000		91.5	80 - 120			
Duplicate (B5H0243-DUP1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0		ND	NR			20	
Arsenic	6.56350	1.0		6.29564	NR		4.17	20	
Barium	181.632	1.0		198.493	NR		8.87	20	
Beryllium	0.518588	1.0		0.519484	NR		0.173	20	J
Cadmium	2.60607	1.0		2.74503	NR		5.19	20	
Chromium	20.0654	1.0		20.7990	NR		3.59	20	
Cobalt	4.42682	1.0		5.10060	NR		14.1	20	
Copper	29.9436	2.0		31.0868	NR		3.75	20	
Molybdenum	4.58681	1.0		4.85268	NR		5.63	20	
Nickel	37.9535	1.0		42.0711	NR		10.3	20	
Selenium	0.706003	1.0		0.857108	NR		19.3	20	J
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0243 - EPA 3050B_S (continued)									
Duplicate (B5H0243-DUP1) - Continued		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Vanadium	44.4785	1.0		44.4481	NR		0.0684	20	
Zinc	97.8596	1.0		112.781	NR		14.2	20	
Matrix Spike (B5H0243-MS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	78.7912	2.0	125.000	ND	63.0	28 - 106			
Arsenic	103.792	1.0	125.000	6.29564	78.0	57 - 109			
Barium	286.732	1.0	125.000	198.493	70.6	18 - 159			
Beryllium	97.7286	1.0	125.000	0.519484	77.8	61 - 107			
Cadmium	89.1732	1.0	125.000	2.74503	69.1	53 - 104			
Chromium	121.387	1.0	125.000	20.7990	80.5	53 - 121			
Cobalt	97.5810	1.0	125.000	5.10060	74.0	55 - 109			
Copper	131.191	2.0	125.000	31.0868	80.1	58 - 124			
Molybdenum	101.637	1.0	125.000	4.85268	77.4	57 - 108			
Nickel	130.186	1.0	125.000	42.0711	70.5	44 - 122			
S[illegible]ium	96.2362	1.0	125.000	0.857108	76.3	54 - 104			
[illegible]	99.4658	1.0	125.000	ND	79.6	60 - 112			
Thallium	76.4906	1.0	125.000	ND	61.2	50 - 103			
Vanadium	152.648	1.0	125.000	44.4481	86.6	54 - 123			
Zinc	192.646	1.0	125.000	112.781	63.9	29 - 132			
Matrix Spike Dup (B5H0243-MSD1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	83.8569	2.0	125.628	ND	66.8	28 - 106	6.23	20	
Arsenic	107.657	1.0	125.628	6.29564	80.7	57 - 109	3.66	20	
Barium	280.180	1.0	125.628	198.493	65.0	18 - 159	2.31	20	
Beryllium	102.450	1.0	125.628	0.519484	81.1	61 - 107	4.72	20	
Cadmium	93.9804	1.0	125.628	2.74503	72.6	53 - 104	5.25	20	
Chromium	123.270	1.0	125.628	20.7990	81.6	53 - 121	1.54	20	
Cobalt	99.5451	1.0	125.628	5.10060	75.2	55 - 109	1.99	20	
Copper	135.764	2.0	125.628	31.0868	83.3	58 - 124	3.43	20	
Molybdenum	106.964	1.0	125.628	4.85268	81.3	57 - 108	5.11	20	
Nickel	131.634	1.0	125.628	42.0711	71.3	44 - 122	1.11	20	
Selenium	100.403	1.0	125.628	0.857108	79.2	54 - 104	4.24	20	
Silver	103.968	1.0	125.628	ND	82.8	60 - 112	4.43	20	
Thallium	82.1447	1.0	125.628	ND	65.4	50 - 103	7.13	20	
Vanadium	151.520	1.0	125.628	44.4481	85.2	54 - 123	0.742	20	
Zinc	186.351	1.0	125.628	112.781	58.6	29 - 132	3.32	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0145 - EPA 3050 Modified_S									
Blank (B5H0145-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.438882	1.0			NR				J
Blank (B5H0145-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	0.177327	1.0			NR				J
LCS (B5H0145-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	46.7456	1.0	50.0000		93.5	80 - 120			
Duplicate (B5H0145-DUP1)		**Source: 1502686-17**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	119.276	1.0		138.777	NR		15.1	20	
Duplicate (B5H0145-DUP2)		**Source: 1502686-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	6.75406	1.0		6.10128	NR		10.2	20	
Matrix Spike (B5H0145-MS1)		**Source: 1502686-17**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	363.259	1.0	250.000	138.777	89.8	35 - 129			
Matrix Spike (B5H0145-MS2)		**Source: 1502686-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	208.610	1.0	250.000	6.10128	81.0	35 - 129			
Matrix Spike Dup (B5H0145-MSD1)		**Source: 1502686-17**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	342.225	1.0	250.000	138.777	81.4	35 - 129	5.96	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0146 - EPA 3050 Modified_S									
Blank (B5H0146-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0146-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0146-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	47.3708	1.0	50.0000		94.7	80 - 120			
Duplicate (B5H0146-DUP1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	21.8418	1.0		16.1942	NR		29.7	20	R
Duplicate (B5H0146-DUP2)		**Source: 1502686-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	218.452	1.0		207.109	NR		5.33	20	
Matrix Spike (B5H0146-MS1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
	231.154	1.0	250.000	16.1942	86.0	35 - 129			
Matrix Spike (B5H0146-MS2)		**Source: 1502686-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	430.214	1.0	250.000	207.109	89.2	35 - 129			
Matrix Spike Dup (B5H0146-MSD1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	240.494	1.0	250.000	16.1942	89.7	35 - 129	3.96	20	

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TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0272 - EPA 3010A_S									
Blank (B5H0272-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050			NR				
Blank (B5H0272-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050			NR				
LCS (B5H0272-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	0.959656	0.050	1.00000		96.0	80 - 120			
Duplicate (B5H0272-DUP1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	0.053663	0.050		0.045310	NR		16.9	20	
Duplicate (B5H0272-DUP2)		**Source: 1502686-27**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050		ND	NR			20	
Matrix Spike (B5H0272-MS1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.16580	0.050	2.50000	0.045310	84.8	77 - 121			
Matrix Spike (B5H0272-MS2)		**Source: 1502686-27**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.12795	0.050	2.50000	ND	85.1	77 - 121			
Matrix Spike Dup (B5H0272-MSD1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.14964	0.050	2.50000	0.045310	84.2	77 - 121	0.749	20	

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Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0171 - STLC_S Extraction									
Blank (B5H0171-BLK1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
Blank (B5H0171-BLK2)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0171-BS1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	1.89470	1.0	2.00000		94.7	80 - 120			
Duplicate (B5H0171-DUP1)		**Source: 1502671-02**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	9.73166	1.0		8.15403	NR		17.6	20	
Duplicate (B5H0171-DUP2)		**Source: 1502686-06**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0171-MS1)		**Source: 1502671-02**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
	10.3309	1.0	2.50000	8.15403	87.1	44 - 130			
Matrix Spike (B5H0171-MS2)		**Source: 1502686-06**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.28173	1.0	2.50000	ND	91.3	44 - 130			
Matrix Spike Dup (B5H0171-MSD1)		**Source: 1502671-02**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	10.1123	1.0	2.50000	8.15403	78.3	44 - 130	2.14	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0172 - STLC_S Extraction									
Blank (B5H0172-BLK1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
Blank (B5H0172-BLK2)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0172-BS1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.01436		2.00000		101	80 - 120			
Duplicate (B5H0172-DUP1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	19.4562	1.0		21.3495	NR		9.28	20	
Duplicate (B5H0172-DUP2)		**Source: 1502686-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	11.7233	1.0		11.0718	NR		5.72	20	
Matrix Spike (B5H0172-MS1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	23.0280		2.50000	21.3495	67.1	44 - 130			
Matrix Spike (B5H0172-MS2)		**Source: 1502686-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	12.9445		2.50000	11.0718	74.9	44 - 130			
Matrix Spike Dup (B5H0172-MSD1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	22.7479		2.50000	21.3495	55.9	44 - 130	1.22	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0283 - STLC DI_S Extraction									
Blank (B5H0283-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
Blank (B5H0283-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
LCS (B5H0283-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.05610	1.0	2.00000		103	80 - 120			
Duplicate (B5H0283-DUP1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Duplicate (B5H0283-DUP2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0283-MS1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
	2.58309	1.0	2.50000	ND	103	70 - 130			
Matrix Spike (B5H0283-MS2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.52309	1.0	2.50000	ND	101	70 - 130			
Matrix Spike Dup (B5H0283-MSD1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.49569	1.0	2.50000	ND	99.8	70 - 130	3.44	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0143 - EPA 245.1/7470_W									
Blank (B5H0143-BLK1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	ND	0.20			NR				
LCS (B5H0143-BS1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	10.4615	0.20	10.0000		105	80 - 120			
LCS Dup (B5H0143-BSD1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	10.4021	0.20	10.0000		104	80 - 120	0.569	20	
Duplicate (B5H0143-DUP1)		**Source: 1502686-09**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	ND	0.20		ND	NR			20	
Post Spike (B5H0143-PS1)		**Source: 1502686-09**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	5.28118		5.00000	-0.015111	106	85 - 115			

Certificate of Analysis

S... ...ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0245 - EPA 7471_S									
Blank (B5H0245-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	ND	0.10			NR				
LCS (B5H0245-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.805268	0.10	0.833333		96.6	80 - 120			
Duplicate (B5H0245-DUP1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.040879	0.10		0.108773	NR		90.7	20	R, J
Matrix Spike (B5H0245-MS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.799264	0.10	0.833333	0.108773	82.9	70 - 130			
Matrix Spike Dup (B5H0245-MSD1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.798418	0.10	0.833333	0.108773	82.8	70 - 130	0.106	20	
Post Spike (B5H0245-PS1)		**Source: 1502675-28**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
...ry	0.006286		5.00000E-3	0.001305	99.6	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0246 - EPA 7471_S									
Blank (B5H0246-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	ND	0.10			NR				
LCS (B5H0246-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.813753	0.10	0.833333		97.7	80 - 120			
Duplicate (B5H0246-DUP1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.058612	0.10		0.074931	NR		24.4	20	R, J
Matrix Spike (B5H0246-MS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.901508	0.10	0.833333	0.074931	99.2	70 - 130			
Matrix Spike Dup (B5H0246-MSD1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.889549	0.10	0.833333	0.074931	97.8	70 - 130	1.34	20	
Post Spike (B5H0246-PS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.006631		5.00000E-3	0.000899	115	85 - 115			

Certificate of Analysis

Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks , CA 91361

Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
Report To : Kristy Edblad
Reported : 08/12/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0281 - Prep_WC1_S									
Duplicate (B5H0281-DUP1)		**Source: 1502676-13**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
pH	7.11000	0.10		7.01000	NR		1.42	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 1 of 4

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

1502686

	Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1	1293 - 121 - 0	8/4/15	0725	SO	8oz glass jar	—	1	X	X				
2	1293 - 121 - 1		0731										
3	1293 - 121 - 2		0739										
4	1293 - 120 - 0		0756										
5	1293 - 120 - 1		0800										
6	1293 - 120 - 2		0808										
7	1293 - 115 - 0		0825										
8	1293 - 115 - 1		0834										
9	EB2A080415		0900	W	1L POLY							X	
10	1293 - 114 - 0		0908	SO	8oz glass jar			X	X				
11	1293 - 114 - 1		0915										

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Stayno *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	Aneya Sawant	Stantec Consulting	8/4/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FPOWN	AT	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 2 of 4

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

ANALYSES / METHOD REQUEST

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

	Sample No. / Identification	SAMPLE Date	SAMPLE Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
12	1293 -114-2	8/4/15	0918	SO	5oz glass jar	-	1	X	X				
13	1293 - 113 -0		0928										
14	1293 -113-1		0932										
15	1293 -113-2		0950										
16	1293 -112-0		1010										
17	1293 -112-1		1022										
18	1293 -112-2		1040										
19	EB 2B080415		1056	W	1L POLY 5oz glass jar							X	
20	1293 - 109 -0		1105	SO				X	X				
21	1293 - 109 -1		1119										
22	1293 - 110 -0		1122										

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Stagno *Shipment Method:* Lab Pick up *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	Anuya Sawant	Stantec Consulting	8/4/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FEDEX	AT	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 3 of 4

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
Telephone: (805) 230-1266	Project Manager: Kristy Edblad
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755

1502486

	Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045			
23	1293-108-0	8/4/15	1139	SO	8oz glass jar	—	1	X	X							
24	1293-108-1		1145													
25	1293-108-2		1149													
26	1293-106-0		1247													
27	1293-106-1		1257													
28	1293-105-0		1320													
29	1293 105-1		1332													
30	EB2C080415		1335	W	1L poly							X				
31	1293-105-2		1338	SO	8oz glass jar			X	X							
32	1293-103-0		1403													
33	1293-103-1		1413													

ANALYSES / METHOD REQUEST

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

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Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Savant / J. Stapp *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	Ameya Savant	Stantec Consulting	8/4/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FP Driver	ATL	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 4 of 4

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
Telephone: (805) 230-1266	Project Manager: Kristy Edblad
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
150486-34 1293-103-2	8/4/15	1417	SO	8oz glass jar	—	1	X	X				
			AR.									

ANALYSES / METHOD REQUEST

REMARKS/ PRECAUTIONS

TAT
- ☐ Normal
- ☐ Rush
- ☒ Other: 3 days

REPORTING REQUIREMENTS
- ☐ MB & SURGS
- ☐ Dup/MS/MSD
- ☐ Raw Data
- ☐ CLP Rpt
- ☒ EDD
- ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

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Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: A. Sawant / J. Segno *Shipment Method:* Lab Pickup *Airbill Number:*

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	Anuja Sawant	Stantec consulting	8/4/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FEDEX	AR	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

ADVANCED TECHNOLOGY LABORATORIES

Sample Receipt Acknowledgement

Work Order # 1502686

Client:	**Stantec - Thousand Oaks**	**Project Manager:**	**Rachelle Arada**
Project:	**185832027, Task: 200.0004, Caltrans 07A3322-27**	**Project Number:**	**185832027, Task: 200.0004, Caltrans 07A3322-27**

Report To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone: (805) 230-1266
Fax: (805) 230-1277

Invoice To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone :(805) 230-1266
Fax: (805) 230-1277

Date Due:	08/07/15 17:00 (3 day TAT)	Date Received:	08/04/15 15:45
Received By:	Ron Diwa	Date Logged In:	08/04/15 18:24
Logged In By:	Ron Diwa	Shipped by:	ATL

Please review the checklist below. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues. If you have any questions or further instructions, please contact your Project Manager at (562) 989-4045.

Sample(s) received on ice?	Yes	☐	No	☑	Default Cooler Temp: 5.7 °C
Sample(s) received on blue ice?	Yes	☑	No	☐	
Cooler temperature within acceptance limit?	Yes	☑	No	☐	
Shipping container received in good condition?	Not Applicable				
Custody seals present on shipping container?	Yes	☐	No	☑	
Custody seals intact on shipping container?	Not Applicable				
Custody seals present on sample bottles?	Yes	☐	No	☑	
Custody seals intact on sample bottles?	Not Applicable				
Chain of Custody (COC) present?	Yes	☑	No	☐	
Sampler name present in COC?	Yes	☑	No	☐	
COC signed when relinquished and received?	Yes	☑	No	☐	
COC agrees with sample labels?	Yes	☑	No	☐	
Samples in proper container/bottle?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample amount for indicated tests?	Yes	☑	No	☐	
All samples received within holding time?	Yes	☑	No	☐	
Water for VOC -- Were VOA vials submitted?	Yes	☐	No	☑	
Water samples submitted?	Yes	☑	No	☐	
VOA vials for VOC meet headspace criteria?	Not Applicable				
Water samples meet preservation criteria?	Yes	☑	No	☐	

Sample Receipt Comments:
Water samples - filter and preserve per client's instruction.

ADVANCED TECHNOLOGY LABORATORIES

August 12, 2015

Kristy Edblad
Stantec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax:(805) 230-1277

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1502687
Client Reference : 185832027, Task: 200.0004, Caltrans 07A3322-27

Enclosed are the results for sample(s) received on August 04, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

S...ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1293-102-0	1502687-01	Soil	8/04/15 7:42	8/04/15 15:45
1293-102-1	1502687-02	Soil	8/04/15 7:47	8/04/15 15:45
1293-102-2	1502687-03	Soil	8/04/15 7:57	8/04/15 15:45
EB1A-080415	1502687-04	Aqueous	8/04/15 8:50	8/04/15 15:45
1293-125-0	1502687-05	Soil	8/04/15 8:53	8/04/15 15:45
1293-125-1	1502687-06	Soil	8/04/15 8:55	8/04/15 15:45
1293-125-2	1502687-07	Soil	8/04/15 8:57	8/04/15 15:45
1293-131-0	1502687-08	Soil	8/04/15 9:34	8/04/15 15:45
1293-131-1	1502687-09	Soil	8/04/15 9:37	8/04/15 15:45
1293-131-2	1502687-10	Soil	8/04/15 9:39	8/04/15 15:45
1293-132-0	1502687-11	Soil	8/04/15 9:43	8/04/15 15:45
)93-132-1	1502687-12	Soil	8/04/15 9:45	8/04/15 15:45
1293-132-2	1502687-13	Soil	8/04/15 9:47	8/04/15 15:45
1293-133-0	1502687-14	Soil	8/04/15 10:59	8/04/15 15:45
1293-133-1	1502687-15	Soil	8/04/15 11:01	8/04/15 15:45
1293-133-2	1502687-16	Soil	8/04/15 11:04	8/04/15 15:45
1293-134-0	1502687-17	Soil	8/04/15 11:32	8/04/15 15:45
1293-134-1	1502687-18	Soil	8/04/15 11:33	8/04/15 15:45
1293-134-2	1502687-19	Soil	8/04/15 11:36	8/04/15 15:45
1293-135-0	1502687-20	Soil	8/04/15 11:43	8/04/15 15:45
1293-135-1	1502687-21	Soil	8/04/15 11:45	8/04/15 15:45
1293-135-2	1502687-22	Soil	8/04/15 11:46	8/04/15 15:45
1293-137-0	1502687-23	Soil	8/04/15 12:02	8/04/15 15:45
1293-137-1	1502687-24	Soil	8/04/15 12:22	8/04/15 15:45
1293-137-2	1502687-25	Soil	8/04/15 12:26	8/04/15 15:45
EB1B-080415	1502687-26	Aqueous	8/04/15 13:24	8/04/15 15:45
1293-138-0	1502687-27	Soil	8/04/15 13:44	8/04/15 15:45
1293-138-1	1502687-28	Soil	8/04/15 13:45	8/04/15 15:45
1293-138-2	1502687-29	Soil	8/04/15 13:47	8/04/15 15:45

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments:

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**570**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:30	
1502687-02	1293-102-1	**66**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:30	
1502687-03	1293-102-2	**270**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:34	
1502687-05	1293-125-0	**42**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:34	
1502687-06	1293-125-1	**16**	mg/kg	1.0	0.16	1	B5H0146	08/06/2015	08/06/15 15:35	
1502687-07	1293-125-2	**7.9**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:41	
1502687-08	1293-131-0	**120**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:45	
1502687-09	1293-131-1	**17**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:45	
1502687-10	1293-131-2	**15**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:46	
502687-11	1293-132-0	**38**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:47	
1502687-12	1293-132-1	**15**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:48	
1502687-13	1293-132-2	**8.5**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:49	
1502687-14	1293-133-0	**100**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:50	
1502687-15	1293-133-1	**52**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:50	
1502687-16	1293-133-2	**44**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:51	
1502687-17	1293-134-0	**100**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:56	
1502687-18	1293-134-1	**36**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:57	
1502687-19	1293-134-2	**14**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:58	
1502687-20	1293-135-0	**51**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:58	
1502687-21	1293-135-1	**49**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 15:59	
1502687-22	1293-135-2	**12**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 16:00	
1502687-23	1293-137-0	**43**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 16:01	
1502687-24	1293-137-1	**29**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 16:01	
1502687-25	1293-137-2	**9.8**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 16:02	
1502687-27	1293-138-0	**35**	mg/kg	1.0	0.16	1	B5H0147	08/06/2015	08/06/15 16:05	
1502687-28	1293-138-1	**14**	mg/kg	1.0	0.16	1	B5H0148	08/06/2015	08/06/15 16:10	
1502687-29	1293-138-2	**3.8**	mg/kg	0.99	0.16	1	B5H0148	08/06/2015	08/06/15 16:16	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: RR

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**0.45**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:24	
1502687-02	1293-102-1	**0.019**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:27	J
1502687-03	1293-102-2	**0.31**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:30	
1502687-08	1293-131-0	**0.0089**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:32	J
1502687-14	1293-133-0	**0.0066**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:35	J
1502687-15	1293-133-1	**0.0078**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:38	J
1502687-17	1293-134-0	**0.045**	mg/L	0.050	0.0019	1	B5H0272	08/12/2015	08/12/15 14:40	J

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**20**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:15	
1502687-02	1293-102-1	**4.8**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:19	
1502687-03	1293-102-2	**14**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:23	
1502687-05	1293-125-0	**1.4**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:27	
1502687-06	1293-125-1	**0.41**	mg/L	1.0	0.038	20	B5H0172	08/07/2015	08/07/15 13:32	J
1502687-07	1293-125-2	**0.089**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:13	J
1502687-08	1293-131-0	**4.1**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:24	
1502687-09	1293-131-1	**0.56**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:26	J
1502687-10	1293-131-2	**0.59**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:28	J
502687-11	1293-132-0	**1.2**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:34	
1502687-12	1293-132-1	**0.42**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:37	J
1502687-13	1293-132-2	**0.15**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:39	J
1502687-14	1293-133-0	**3.4**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:42	
1502687-15	1293-133-1	**2.6**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:44	
1502687-16	1293-133-2	**1.2**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:46	
1502687-17	1293-134-0	**5.9**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:53	
1502687-18	1293-134-1	**1.6**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 12:55	
1502687-19	1293-134-2	**0.37**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:02	J
1502687-20	1293-135-0	**2.4**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:04	
1502687-21	1293-135-1	**1.6**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:06	
1502687-22	1293-135-2	**0.15**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:09	J
1502687-23	1293-137-0	**1.7**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:11	
1502687-24	1293-137-1	**0.82**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:13	J
1502687-25	1293-137-2	**0.42**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:16	J
1502687-27	1293-138-0	**1.4**	mg/L	1.0	0.038	20	B5H0173	08/07/2015	08/07/15 13:18	
1502687-28	1293-138-1	**0.54**	mg/L	1.0	0.038	20	B5H0174	08/07/2015	08/07/15 13:29	J
1502687-29	1293-138-2	**ND**	mg/L	1.0	0.038	20	B5H0174	08/07/2015	08/07/15 13:38	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**1.1**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:26	
1502687-03	1293-102-2	**ND**	mg/L	1.0	0.038	20	B5H0283	08/12/2015	08/12/15 13:30	
1502687-17	1293-134-0	**ND**	mg/L	1.0	0.038	20	B5H0284	08/12/2015	08/12/15 11:40	

Mercury by AA (Cold Vapor) EPA 7470A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-04	EB1A-080415	**ND**	ug/L	0.20	0.15	1	B5H0143	08/06/2015	08/07/15 09:36	
1502687-26	EB1B-080415	**ND**	ug/L	0.20	0.15	1	B5H0143	08/06/2015	08/07/15 09:38	

Mercury by AA (Cold Vapor) EPA 7471A

Analyte: Mercury **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**0.02**	mg/kg	0.10	0.009	1	B5H0246	08/11/2015	08/12/15 08:47	J
1502687-03	1293-102-2	**0.03**	mg/kg	0.10	0.009	1	B5H0246	08/11/2015	08/12/15 08:49	J

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1502687-01	1293-102-0	**8.0**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	
1502687-03	1293-102-2	**8.1**	pH Units	0.10	0.10	1	B5H0281	08/12/2015	08/12/15 14:26	

Certificate of Analysis

S. ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID 1293-102-0
Lab ID: 1502687-01

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.58**	2.0	0.21	1	B5H0243	08/11/2015	08/12/15 09:12	J
Arsenic	**3.0**	1.0	0.55	1	B5H0243	08/11/2015	08/12/15 09:12	
Barium	**90**	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:12	
Beryllium	**0.46**	1.0	0.05	1	B5H0243	08/11/2015	08/12/15 09:12	J
Cadmium	**0.56**	1.0	0.06	1	B5H0243	08/11/2015	08/12/15 09:12	J
Chromium	**9.8**	1.0	0.19	1	B5H0243	08/11/2015	08/12/15 09:12	
Cobalt	**4.0**	1.0	0.11	1	B5H0243	08/11/2015	08/12/15 09:12	
Copper	**15**	2.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:12	
Molybdenum	ND	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:12	
Nickel	**12**	1.0	0.10	1	B5H0243	08/11/2015	08/12/15 09:12	
nium	ND	1.0	0.32	1	B5H0243	08/11/2015	08/12/15 09:12	
r	ND	1.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:12	
Thallium	ND	1.0	0.36	1	B5H0243	08/11/2015	08/12/15 09:12	
Vanadium	**19**	1.0	0.20	1	B5H0243	08/11/2015	08/12/15 09:12	
Zinc	**100**	1.0	0.49	1	B5H0243	08/11/2015	08/12/15 09:12	

Client Sample ID 1293-102-2
Lab ID: 1502687-03

Title 22 Metals by ICP-AES EPA 6010B **Analyst: RR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.21	1	B5H0243	08/11/2015	08/12/15 09:14	
Arsenic	**2.3**	1.0	0.55	1	B5H0243	08/11/2015	08/12/15 09:14	
Barium	**98**	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:14	
Beryllium	**0.39**	1.0	0.05	1	B5H0243	08/11/2015	08/12/15 09:14	J
Cadmium	**1.7**	1.0	0.06	1	B5H0243	08/11/2015	08/12/15 09:14	
Chromium	**9.2**	1.0	0.19	1	B5H0243	08/11/2015	08/12/15 09:14	
Cobalt	**3.8**	1.0	0.11	1	B5H0243	08/11/2015	08/12/15 09:14	
Copper	**16**	2.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:14	
Molybdenum	**0.81**	1.0	0.04	1	B5H0243	08/11/2015	08/12/15 09:14	J
Nickel	**15**	1.0	0.10	1	B5H0243	08/11/2015	08/12/15 09:14	
Selenium	ND	1.0	0.32	1	B5H0243	08/11/2015	08/12/15 09:14	
ver	ND	1.0	0.12	1	B5H0243	08/11/2015	08/12/15 09:14	
llium	ND	1.0	0.36	1	B5H0243	08/11/2015	08/12/15 09:14	
Vanadium	**18**	1.0	0.20	1	B5H0243	08/11/2015	08/12/15 09:14	
Zinc	**87**	1.0	0.49	1	B5H0243	08/11/2015	08/12/15 09:14	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
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Thousand Oaks , CA 91361	Reported : 08/12/2015

Client Sample ID EB1A-080415
Lab ID: 1502687-04

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0142	08/06/2015	08/07/15 10:20	
Arsenic	ND	0.010	0.0084	1	B5H0142	08/06/2015	08/07/15 10:20	
Barium	ND	0.0030	0.0003	1	B5H0142	08/06/2015	08/07/15 10:20	
Beryllium	ND	0.0030	0.0002	1	B5H0142	08/06/2015	08/07/15 10:19	
Cadmium	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:20	
Chromium	**0.0006**	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:20	J
Cobalt	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:20	
Copper	ND	0.0090	0.0014	1	B5H0142	08/06/2015	08/07/15 10:20	
Lead	ND	0.0050	0.0019	1	B5H0142	08/06/2015	08/07/15 10:20	
Molybdenum	ND	0.0050	0.0006	1	B5H0142	08/06/2015	08/07/15 10:20	
Nickel	**0.0014**	0.0050	0.0011	1	B5H0142	08/06/2015	08/07/15 10:20	J
Selenium	ND	0.010	0.0065	1	B5H0142	08/06/2015	08/07/15 10:20	
Silver	ND	0.0030	0.0012	1	B5H0142	08/06/2015	08/07/15 10:20	
Thallium	ND	0.015	0.0037	1	B5H0142	08/06/2015	08/07/15 10:20	
Vanadium	ND	0.0030	0.0017	1	B5H0142	08/06/2015	08/07/15 10:20	
Zinc	ND	0.025	0.0087	1	B5H0142	08/06/2015	08/07/15 10:20	

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Client Sample ID EB1B-080415

Lab ID: 1502687-26

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: RR**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	0.0073	1	B5H0142	08/06/2015	08/07/15 10:28	
Arsenic	ND	0.010	0.0084	1	B5H0142	08/06/2015	08/07/15 10:28	
Barium	**0.0007**	0.0030	0.0003	1	B5H0142	08/06/2015	08/07/15 10:28	J
Beryllium	ND	0.0030	0.0002	1	B5H0142	08/06/2015	08/07/15 10:27	
Cadmium	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:28	
Chromium	**0.0006**	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:28	J
Cobalt	ND	0.0030	0.0004	1	B5H0142	08/06/2015	08/07/15 10:28	
Copper	ND	0.0090	0.0014	1	B5H0142	08/06/2015	08/07/15 10:28	
Lead	ND	0.0050	0.0019	1	B5H0142	08/06/2015	08/07/15 10:28	
Molybdenum	ND	0.0050	0.0006	1	B5H0142	08/06/2015	08/07/15 10:28	
Nickel	**0.0015**	0.0050	0.0011	1	B5H0142	08/06/2015	08/07/15 10:28	J
Selenium	ND	0.010	0.0065	1	B5H0142	08/06/2015	08/07/15 10:28	
Silver	ND	0.0030	0.0012	1	B5H0142	08/06/2015	08/07/15 10:28	
Thallium	ND	0.015	0.0037	1	B5H0142	08/06/2015	08/07/15 10:28	
Vanadium	ND	0.0030	0.0017	1	B5H0142	08/06/2015	08/07/15 10:28	
Zinc	ND	0.025	0.0087	1	B5H0142	08/06/2015	08/07/15 10:28	

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QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0142 - EPA 3010A_W									
Blank (B5H0142-BLK1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	ND	0.010			NR				
Arsenic	ND	0.010			NR				
Barium	ND	0.0030			NR				
Beryllium	ND	0.0030			NR				
Cadmium	ND	0.0030			NR				
Chromium	0.000581	0.0030			NR				J
Cobalt	ND	0.0030			NR				
Copper	ND	0.0090			NR				
Lead	ND	0.0050			NR				
Molybdenum	ND	0.0050			NR				
Nickel	ND	0.0050			NR				
Selenium	ND	0.010			NR				
Silver	0.001287	0.0030			NR				J
Thallium	ND	0.015			NR				
Vanadium	ND	0.0030			NR				
Zinc	ND	0.025			NR				
LCS (B5H0142-BS1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	0.963660	0.010	1.00000		96.4	80 - 120			
Arsenic	0.964486	0.010	1.00000		96.4	80 - 120			
Barium	0.994113	0.0030	1.00000		99.4	80 - 120			
Beryllium	0.992299	0.0030	1.00000		99.2	80 - 120			
Cadmium	0.969431	0.0030	1.00000		96.9	80 - 120			
Chromium	0.991187	0.0030	1.00000		99.1	80 - 120			
Cobalt	0.984039	0.0030	1.00000		98.4	80 - 120			
Copper	0.974201	0.0090	1.00000		97.4	80 - 120			
Lead	0.970984	0.0050	1.00000		97.1	80 - 120			
Molybdenum	0.974340	0.0050	1.00000		97.4	80 - 120			
Nickel	0.972843	0.0050	1.00000		97.3	80 - 120			
Selenium	0.919687	0.010	1.00000		92.0	80 - 120			
Silver	0.986108	0.0030	1.00000		98.6	80 - 120			
Thallium	0.962981	0.015	1.00000		96.3	80 - 120			
Vanadium	0.969673	0.0030	1.00000		97.0	80 - 120			
Zinc	0.915747	0.025	1.00000		91.6	80 - 120			
LCS Dup (B5H0142-BSD1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	1.02554	0.010	1.00000		103	80 - 120	6.22	20	
Arsenic	1.02501	0.010	1.00000		103	80 - 120	6.08	20	
Barium	1.03956	0.0030	1.00000		104	80 - 120	4.47	20	
Beryllium	1.04716	0.0030	1.00000		105	80 - 120	5.38	20	
Cadmium	1.01677	0.0030	1.00000		102	80 - 120	4.77	20	
Chromium	1.03773	0.0030	1.00000		104	80 - 120	4.59	20	
Cobalt	1.02996	0.0030	1.00000		103	80 - 120	4.56	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0142 - EPA 3010A_W (continued)									
LCS Dup (B5H0142-BSD1) - Continued					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Copper	1.02109	0.0090	1.00000		102	80 - 120	4.70	20	
Lead	1.03209	0.0050	1.00000		103	80 - 120	6.10	20	
Molybdenum	1.02160	0.0050	1.00000		102	80 - 120	4.74	20	
Nickel	1.01726	0.0050	1.00000		102	80 - 120	4.46	20	
Selenium	0.979443	0.010	1.00000		97.9	80 - 120	6.29	20	
Silver	1.03592	0.0030	1.00000		104	80 - 120	4.93	20	
Thallium	1.02394	0.015	1.00000		102	80 - 120	6.14	20	
Vanadium	1.01697	0.0030	1.00000		102	80 - 120	4.76	20	
Zinc	0.956755	0.025	1.00000		95.7	80 - 120	4.38	20	
Duplicate (B5H0142-DUP1)		**Source: 1502687-04**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Antimony	ND	0.010		ND	NR			20	
Arsenic	ND	0.010		ND	NR			20	
Barium	ND	0.0030		ND	NR			20	
[illegible]ium	ND	0.0030		ND	NR			20	
[illegible]um	ND	0.0030		ND	NR			20	
Chromium	0.000648	0.0030		0.000595	NR		8.57	20	J
Cobalt	ND	0.0030		ND	NR			20	
Copper	ND	0.0090		ND	NR			20	
Lead	ND	0.0050		ND	NR			20	
Molybdenum	ND	0.0050		ND	NR			20	
Nickel	0.001515	0.0050		0.001416	NR		6.75	20	J
Selenium	ND	0.010		ND	NR			20	
Silver	ND	0.0030		ND	NR			20	
Thallium	ND	0.015		ND	NR			20	
Vanadium	ND	0.0030		ND	NR			20	
Zinc	ND	0.025		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0243 - EPA 3050B_S									
Blank (B5H0243-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	0.122743	2.0			NR				J
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B5H0243-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	47.5961	2.0	50.0000		95.2	80 - 120			
Arsenic	46.3626	1.0	50.0000		92.7	80 - 120			
Barium	49.7340	1.0	50.0000		99.5	80 - 120			
Beryllium	47.4725	1.0	50.0000		94.9	80 - 120			
Cadmium	47.2320	1.0	50.0000		94.5	80 - 120			
Chromium	50.4374	1.0	50.0000		101	80 - 120			
Cobalt	48.4859	1.0	50.0000		97.0	80 - 120			
Copper	46.4127	2.0	50.0000		92.8	80 - 120			
Molybdenum	49.5014	1.0	50.0000		99.0	80 - 120			
Nickel	47.9447	1.0	50.0000		95.9	80 - 120			
Selenium	44.9132	1.0	50.0000		89.8	80 - 120			
Silver	47.3002	1.0	50.0000		94.6	80 - 120			
Thallium	47.8781	1.0	50.0000		95.8	80 - 120			
Vanadium	49.2888	1.0	50.0000		98.6	80 - 120			
Zinc	45.7311	1.0	50.0000		91.5	80 - 120			
Duplicate (B5H0243-DUP1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	ND	2.0		ND	NR			20	
Arsenic	6.56350	1.0		6.29564	NR		4.17	20	
Barium	181.632	1.0		198.493	NR		8.87	20	
Beryllium	0.518588	1.0		0.519484	NR		0.173	20	J
Cadmium	2.60607	1.0		2.74503	NR		5.19	20	
Chromium	20.0654	1.0		20.7990	NR		3.59	20	
Cobalt	4.42682	1.0		5.10060	NR		14.1	20	
Copper	29.9436	2.0		31.0868	NR		3.75	20	
Molybdenum	4.58681	1.0		4.85268	NR		5.63	20	
Nickel	37.9535	1.0		42.0711	NR		10.3	20	
Selenium	0.706003	1.0		0.857108	NR		19.3	20	J
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0243 - EPA 3050B_S (continued)									
Duplicate (B5H0243-DUP1) - Continued		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Vanadium	44.4785	1.0		44.4481	NR		0.0684	20	
Zinc	97.8596	1.0		112.781	NR		14.2	20	
Matrix Spike (B5H0243-MS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	78.7912	2.0	125.000	ND	63.0	28 - 106			
Arsenic	103.792	1.0	125.000	6.29564	78.0	57 - 109			
Barium	286.732	1.0	125.000	198.493	70.6	18 - 159			
Beryllium	97.7286	1.0	125.000	0.519484	77.8	61 - 107			
Cadmium	89.1732	1.0	125.000	2.74503	69.1	53 - 104			
Chromium	121.387	1.0	125.000	20.7990	80.5	53 - 121			
Cobalt	97.5810	1.0	125.000	5.10060	74.0	55 - 109			
Copper	131.191	2.0	125.000	31.0868	80.1	58 - 124			
Molybdenum	101.637	1.0	125.000	4.85268	77.4	57 - 108			
Nickel	130.186	1.0	125.000	42.0711	70.5	44 - 122			
[illegible]ium	96.2362	1.0	125.000	0.857108	76.3	54 - 104			
	99.4658	1.0	125.000	ND	79.6	60 - 112			
Thallium	76.4906	1.0	125.000	ND	61.2	50 - 103			
Vanadium	152.648	1.0	125.000	44.4481	86.6	54 - 123			
Zinc	192.646	1.0	125.000	112.781	63.9	29 - 132			
Matrix Spike Dup (B5H0243-MSD1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Antimony	83.8569	2.0	125.628	ND	66.8	28 - 106	6.23	20	
Arsenic	107.657	1.0	125.628	6.29564	80.7	57 - 109	3.66	20	
Barium	280.180	1.0	125.628	198.493	65.0	18 - 159	2.31	20	
Beryllium	102.450	1.0	125.628	0.519484	81.1	61 - 107	4.72	20	
Cadmium	93.9804	1.0	125.628	2.74503	72.6	53 - 104	5.25	20	
Chromium	123.270	1.0	125.628	20.7990	81.6	53 - 121	1.54	20	
Cobalt	99.5451	1.0	125.628	5.10060	75.2	55 - 109	1.99	20	
Copper	135.764	2.0	125.628	31.0868	83.3	58 - 124	3.43	20	
Molybdenum	106.964	1.0	125.628	4.85268	81.3	57 - 108	5.11	20	
Nickel	131.634	1.0	125.628	42.0711	71.3	44 - 122	1.11	20	
Selenium	100.403	1.0	125.628	0.857108	79.2	54 - 104	4.24	20	
Silver	103.968	1.0	125.628	ND	82.8	60 - 112	4.43	20	
Thallium	82.1447	1.0	125.628	ND	65.4	50 - 103	7.13	20	
Vanadium	151.520	1.0	125.628	44.4481	85.2	54 - 123	0.742	20	
Zinc	186.351	1.0	125.628	112.781	58.6	29 - 132	3.32	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0146 - EPA 3050 Modified_S									
Blank (B5H0146-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0146-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0146-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	47.3708	1.0	50.0000		94.7	80 - 120			
Duplicate (B5H0146-DUP1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	21.8418	1.0		16.1942	NR		29.7	20	R
Duplicate (B5H0146-DUP2)		**Source: 1502686-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	218.452	1.0		207.109	NR		5.33	20	
Matrix Spike (B5H0146-MS1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	231.154	1.0	250.000	16.1942	86.0	35 - 129			
Matrix Spike (B5H0146-MS2)		**Source: 1502686-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	430.214	1.0	250.000	207.109	89.2	35 - 129			
Matrix Spike Dup (B5H0146-MSD1)		**Source: 1502687-06**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	240.494	1.0	250.000	16.1942	89.7	35 - 129	3.96	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0147 - EPA 3050 Modified_S									
Blank (B5H0147-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
Blank (B5H0147-BLK2)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0147-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	47.7420	1.0	50.0000		95.5	80 - 120			
Duplicate (B5H0147-DUP1)		**Source: 1502687-27**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	28.6007	1.0		35.4134	NR		21.3	20	R
Duplicate (B5H0147-DUP2)		**Source: 1502687-16**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	42.0715	1.0		43.5509	NR		3.46	20	
Matrix Spike (B5H0147-MS1)		**Source: 1502687-27**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
	240.406	1.0	250.000	35.4134	82.0	35 - 129			
Matrix Spike (B5H0147-MS2)		**Source: 1502687-16**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	251.668	1.0	250.000	43.5509	83.2	35 - 129			
Matrix Spike Dup (B5H0147-MSD1)		**Source: 1502687-27**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	247.214	1.0	250.000	35.4134	84.7	35 - 129	2.79	20	

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Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0148 - EPA 3050 Modified_S									
Blank (B5H0148-BLK1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	ND	1.0			NR				
LCS (B5H0148-BS1)					Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	47.1899	1.0	50.0000		94.4	80 - 120			
Duplicate (B5H0148-DUP1)		**Source: 1502687-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	16.3456	1.0		14.3824	NR		12.8	20	
Matrix Spike (B5H0148-MS1)		**Source: 1502687-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	224.652	1.0	250.000	14.3824	84.1	35 - 129			
Matrix Spike Dup (B5H0148-MSD1)		**Source: 1502687-28**			Prepared: 8/6/2015 Analyzed: 8/6/2015				
Lead	229.295	1.0	250.000	14.3824	86.0	35 - 129	2.05	20	

Certificate of Analysis

S[illegible]ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0272 - EPA 3010A_S									
Blank (B5H0272-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050			NR				
Blank (B5H0272-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050			NR				
LCS (B5H0272-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	0.959656	0.050	1.00000		96.0	80 - 120			
Duplicate (B5H0272-DUP1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	0.053663	0.050		0.045310	NR		16.9	20	
Duplicate (B5H0272-DUP2)		**Source: 1502686-27**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	0.050		ND	NR			20	
Matrix Spike (B5H0272-MS1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
	2.16580	0.050	2.50000	0.045310	84.8	77 - 121			
Matrix Spike (B5H0272-MS2)		**Source: 1502686-27**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.12795	0.050	2.50000	ND	85.1	77 - 121			
Matrix Spike Dup (B5H0272-MSD1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.14964	0.050	2.50000	0.045310	84.2	77 - 121	0.749	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0172 - STLC_S Extraction									
Blank (B5H0172-BLK1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
Blank (B5H0172-BLK2)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0172-BS1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.01436		2.00000		101	80 - 120			
Duplicate (B5H0172-DUP1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	19.4562	1.0		21.3495	NR		9.28	20	
Duplicate (B5H0172-DUP2)		**Source: 1502686-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	11.7233	1.0		11.0718	NR		5.72	20	
Matrix Spike (B5H0172-MS1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	23.0280		2.50000	21.3495	67.1	44 - 130			
Matrix Spike (B5H0172-MS2)		**Source: 1502686-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	12.9445		2.50000	11.0718	74.9	44 - 130			
Matrix Spike Dup (B5H0172-MSD1)		**Source: 1502686-18**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	22.7479		2.50000	21.3495	55.9	44 - 130	1.22	20	

Certificate of Analysis

S ec
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks , CA 91361

Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
Report To : Kristy Edblad
Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0173 - STLC_S Extraction									
Blank (B5H0173-BLK1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
Blank (B5H0173-BLK2)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0173-BS1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	1.89634		2.00000		94.8	80 - 120			
Duplicate (B5H0173-DUP1)		**Source: 1502687-07**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	0.054019	1.0		0.088839	NR		48.7	20	R, J
Duplicate (B5H0173-DUP2)		**Source: 1502687-16**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	1.07545	1.0		1.24988	NR		15.0	20	
Matrix Spike (B5H0173-MS1)		**Source: 1502687-07**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
	2.34571		2.50000	0.088839	90.3	44 - 130			
Matrix Spike (B5H0173-MS2)		**Source: 1502687-16**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	3.47572		2.50000	1.24988	89.0	44 - 130			
Matrix Spike Dup (B5H0173-MSD1)		**Source: 1502687-07**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.35808		2.50000	0.088839	90.8	44 - 130	0.526	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0174 - STLC_S Extraction									
Blank (B5H0174-BLK1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	ND	1.0			NR				
LCS (B5H0174-BS1)					Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	1.84622		2.00000		92.3	80 - 120			
Duplicate (B5H0174-DUP1)		**Source: 1502687-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	0.549245	1.0		0.542704	NR		1.20	20	J
Matrix Spike (B5H0174-MS1)		**Source: 1502687-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.93279		2.50000	0.542704	95.6	44 - 130			
Matrix Spike Dup (B5H0174-MSD1)		**Source: 1502687-28**			Prepared: 8/7/2015 Analyzed: 8/7/2015				
Lead	2.93161		2.50000	0.542704	95.6	44 - 130	0.0404	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0283 - STLC DI_S Extraction									
Blank (B5H0283-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
Blank (B5H0283-BLK2)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
LCS (B5H0283-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.05610	1.0	2.00000		103	80 - 120			
Duplicate (B5H0283-DUP1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Duplicate (B5H0283-DUP2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0283-MS1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
	2.58309	1.0	2.50000	ND	103	70 - 130			
Matrix Spike (B5H0283-MS2)		**Source: 1502686-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.52309	1.0	2.50000	ND	101	70 - 130			
Matrix Spike Dup (B5H0283-MSD1)		**Source: 1502675-28**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.49569	1.0	2.50000	ND	99.8	70 - 130	3.44	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0284 - STLC DI_S Extraction									
Blank (B5H0284-BLK1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0			NR				
LCS (B5H0284-BS1)					Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.04970	1.0	2.00000		102	80 - 120			
Duplicate (B5H0284-DUP1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	ND	1.0		ND	NR			20	
Matrix Spike (B5H0284-MS1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.48169	1.0	2.50000	ND	99.3	70 - 130			
Matrix Spike Dup (B5H0284-MSD1)		**Source: 1502687-17**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
Lead	2.51913	1.0	2.50000	ND	101	70 - 130	1.50	20	

Certificate of Analysis

S[illegible]ec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0143 - EPA 245.1/7470_W									
Blank (B5H0143-BLK1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	ND	0.20			NR				
LCS (B5H0143-BS1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	10.4615	0.20	10.0000		105	80 - 120			
LCS Dup (B5H0143-BSD1)					Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	10.4021	0.20	10.0000		104	80 - 120	0.569	20	
Duplicate (B5H0143-DUP1)		**Source: 1502686-09**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	ND	0.20		ND	NR			20	
Post Spike (B5H0143-PS1)		**Source: 1502686-09**			Prepared: 8/6/2015 Analyzed: 8/7/2015				
Mercury	5.28118		5.00000	-0.015111	106	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0246 - EPA 7471_S									
Blank (B5H0246-BLK1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	ND	0.10			NR				
LCS (B5H0246-BS1)					Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.813753	0.10	0.833333		97.7	80 - 120			
Duplicate (B5H0246-DUP1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.058612	0.10		0.074931	NR		24.4	20	R, J
Matrix Spike (B5H0246-MS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.901508	0.10	0.833333	0.074931	99.2	70 - 130			
Matrix Spike Dup (B5H0246-MSD1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.889549	0.10	0.833333	0.074931	97.8	70 - 130	1.34	20	
Post Spike (B5H0246-PS1)		**Source: 1502686-31**			Prepared: 8/11/2015 Analyzed: 8/12/2015				
Mercury	0.006631		5.00000E-3	0.000899	115	85 - 115			

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5H0281 - Prep_WC1_S									
Duplicate (B5H0281-DUP1)		**Source: 1502676-13**			Prepared: 8/12/2015 Analyzed: 8/12/2015				
pH	7.11000	0.10		7.01000	NR		1.42	20	

Certificate of Analysis

Stantec	Project Number : 185832027, Task: 200.0004, Caltrans 07A3322-27
290 Conejo Ridge Avenue, Suite 200	Report To : Kristy Edblad
Thousand Oaks , CA 91361	Reported : 08/12/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 1 of 3

FIELD OFFICE INFORMATION

OFFICE: Stantec - Thousand Oaks

Send Report to:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Telephone: (805) 230-1266

Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com
anne.perez@stantec.com

PROJECT INFORMATION

Project No.: 185832027 Task: 200.0004

Project Name: Caltrans 07A3322-27

Project Manager: Kristy Edblad

Laboratory: Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

REMARKS/ PRECAUTIONS

TAT
☐ Normal
☐ Rush
☒ Other: 3 days

REPORTING REQUIREMENTS
☐ MB & SURGS
☐ Dup/MS/MSD
☐ Raw Data
☐ CLP Rpt
☒ EDD
☐ Other

	Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1	1293-102-0	08/04/15	0742	SO	CS 8oz	NONE	1	X	X				
2	1293-102-1		0747					X	X				
3	1293-102-2		0757					X	X				
4	EB1A-080415		0850	AQ	1L P							X	
5	1293-125-0		0853	SO	CS 8oz			X	X				
6	1293-125-1		0855					X	X				
7	1293-125-2		0857					X	X				
8	1293-131-0		0934					X	X				
9	1293-131-1		0937					X	X				
10	1293-131-2		0939					X	X				
11	1293-132-0		0943					X	X				

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD Shipment Method: LAB PICK-UP Airbill Number:

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	SCOTT EDBLAD	STANTEC	08/04/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FEDEX	AT	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 2 of 3

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
Telephone: (805) 230-1266	Project Manager: Kristy Edblad
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755

1902689

	Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045	
12	1293-132-1	08/04/15	0945	SO	CS 8oz	NONE	1	X	X					
13	1293-132-2		0947					X	X					
14	1293-133-0		1059					X	X					
15	1293-133-1		1101					X	X					
16	1293-133-2		1104					X	X					
17	1293-134-0		1132					X	X					
18	1293-134-1		1133					X	X					
19	1293-134-2		1136					X	X					
20	1293-135-0		1143					X	X					
21	1293-135-1		1145					X	X					
22	1293-135-2		1146					X	X					

ANALYSES / METHOD REQUEST

REMARKS / PRECAUTIONS

TAT: ☐ Normal ☐ Rush ☒ Other: 3 days

REPORTING REQUIREMENTS: ☐ MB & SURGS ☐ Dup/MS/MSD ☐ Raw Data ☐ CLP Rpt ☒ EDD ☐ Other

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification: ☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD Shipment Method: LAB PICK-UP Airbill Number:

	Signature	Print Name	Company	Date	Time
1(a)	*Relinquished by:*	SCOTT EDBLAD	STANTEC	08/04/15	1545
1(b)	*Received by:*	Edward Rodriguez	ATL	8-4-15	1545
2(a)	*Relinquished by:*	Edward Rodriguez	ATL	8-4-15	1900
2(b)	*Received by:*	FPD.WA	ATL	8/4/15	1900
3(a)	*Relinquished by:*				
3(b)	*Received by:*				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

STANTEC CHAIN-OF-CUSTODY RECORD

COC # _____ Page 3 of 3

FIELD OFFICE INFORMATION	PROJECT INFORMATION
OFFICE: Stantec - Thousand Oaks	Project No.: 185832027 Task: 200.0004
Send Report to: Stantec, 290 Conejo Ridge Avenue, Thousand Oaks, CA 91361	Project Name: Caltrans 07A3322-27
Telephone: (805) 230-1266	Project Manager: Kristy Edblad
Fax/E-Mail: kristy.edblad@stantec.com / scott.edblad@stantec.com anne.perez@stantec.com	Laboratory: Advanced Technology Laboratories, 3275 Walnut Avenue, Signal Hill, CA 90755

TAT: ☐ Normal ☐ Rush ☒ Other: 3 days

REPORTING REQUIREMENTS: ☐ MB & SURGS ☐ Dup/MS/MSD ☐ Raw Data ☐ CLP Rpt ☒ EDD ☐ Other

Sample No. / Identification	SAMPLE Date	Time	Matrix *	Container & Size **	Preservative	Number of Containers	[1]Total Lead (TTLC) - 6010	[1]STLC : Cal-WET Citric	[2]STLC : Di-WET	[3]TCLP - 1311	[4]Tittle 22 Metals -6010/7000	[4]pH - 9045
1293-137-0	08/04/15	1202	SO	8oz	NONE	1	X	X				
1293-137-1		1222					X	X				
1293-137-2		1226					X	X				
EB1B-080415		1324	AQ	PIL							X	
1293-138-0		1344	SO	8oz			X	X				
1293-138-1		1345					X	X				
1293-138-2		1347					X	X				

[1]Contact Stantec with results, as additional analyses may be selected.

[2]STLC results greater than 5.0 mg/l analyze for Di-WET.

[3]Thirty-seven (37) highest TTLC results analyze for TCLP. TTLC results equal or greater than 1,000 mg/kg analyze for TCLP.

[4]Twelve (12) highest TTLC results analyze for Title 22 Metals and pH.

Possible Hazard Identification: ☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Sampled by: SCOTT EDBLAD Shipment Method: CAR BACK-UP Airbill Number:

	Signature	Print Name	Company	Date	Time
1(a)	Relinquished by:	SCOTT EDBLAD	STANTEC	08/04/15	1545
1(b)	Received by:	Edward Rodriguez	ATL	8-4-15	1545
2(a)	Relinquished by:	Edward Rodriguez	ATL	8-4-15	1900
2(b)	Received by:	FEDEX	ATL	8/4/15	1900
3(a)	Relinquished by:				
3(b)	Received by:				

*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other **Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

ADVANCED TECHNOLOGY LABORATORIES

Sample Receipt Acknowledgement

Work Order # 1502687

Client:	**Stantec - Thousand Oaks**	**Project Manager:**	**Rachelle Arada**
Project:	**185832027, Task: 200.0004, Caltrans 07A3322-27**	**Project Number:**	**185832027, Task: 200.0004, Caltrans 07A3322-27**

Report To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone: (805) 230-1266
Fax: (805) 230-1277

Invoice To:
Stantec
Kristy Edblad
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Phone :(805) 230-1266
Fax: (805) 230-1277

Date Due:	08/07/15 17:00 (3 day TAT)	Date Received:	08/04/15 15:45
Received By:	Ron Diwa	Date Logged In:	08/04/15 18:38
Logged In By:	Ron Diwa	Shipped by:	ATL

Please review the checklist below. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues. If you have any questions or further instructions, please contact your Project Manager at (562) 989-4045.

Sample(s) received on ice?	Yes	☐	No	☑	Default Cooler Temp: 5.6 °C
Sample(s) received on blue ice?	Yes	☑	No	☐	
Cooler temperature within acceptance limit?	Yes	☑	No	☐	
Shipping container received in good condition?	Not Applicable				
Custody seals present on shipping container?	Yes	☐	No	☑	
Custody seals intact on shipping container?	Not Applicable				
Custody seals present on sample bottles?	Yes	☐	No	☑	
Custody seals intact on sample bottles?	Not Applicable				
Chain of Custody (COC) present?	Yes	☑	No	☐	
Sampler name present in COC?	Yes	☑	No	☐	
COC signed when relinquished and received?	Yes	☑	No	☐	
COC agrees with sample labels?	Yes	☑	No	☐	
Samples in proper container/bottle?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample amount for indicated tests?	Yes	☑	No	☐	
All samples received within holding time?	Yes	☑	No	☐	
Water for VOC -- Were VOA vials submitted?	Yes	☐	No	☑	
Water samples submitted?	Yes	☑	No	☐	
VOA vials for VOC meet headspace criteria?	Not Applicable				
Water samples meet preservation criteria?	Yes	☑	No	☐	

Sample Receipt Comments:
Water samples - filter and preserve per client's instruction.

APPENDIX F

DATA VALIDATION REPORT

AERIALLY DEPOSITED LEAD (ADL) SITE INVESTIGATION REPORT
FOR ROADSIDE IMPROVEMENTS IN LOS ANGELES AND VENTURA COUNTIES
LA-101 (PM 29.1/38.2) AND VEN-101 (PM 0.0/1.4)
Caltrans Contract Number 07A3322, Task Order #27
EA Number: 07-281501
Los Angeles and Ventura Counties, California

The data validation procedure is based on the principles of the *U.S. EPA National Functional Guidelines* and U.S. EPA Region 9 requirements and is designed to ensure completeness and adequacy of the data set. Samples were collected and submitted for analysis to Advanced Technology Laboratories (ATL) in Signal Hill, California. Samples were analyzed for Total Title 22 Metals, STLC Lead, TCLP Lead and STLC DI Lead by SW 846 6010B, Mercury by 7471A/7470A and pH by 9045C.

The Data Validation Reports/Checklists summarize compounds that were qualified and are attached to this summary. Data was validated based on Regional EPA and *U.S. EPA National Functional Guidelines.* Data validation was performed in accordance with the Scope of Work. Data validation was performed to ensure the quality of project data. Four analytical reports and associated addenda were validated:

- 1502675;
- 1502676;
- 1502686; and
- 1502687.

The data were validated and reviewed for the following:

- Completeness of data deliverables (chain of custody records, laboratory data, laboratory quality assurance and quality control (QA/QC) data);
- Sample holding time;
- Sample preservation;
- Blank data (method, trip, and equipment);
- Laboratory control sample (LCS) recovery;
- Laboratory duplicate sample precision;
- Matrix spike/matrix spike duplicate (MS/MSD) recovery; and
- Overall data assessment.

The following summarizes the results of the validation:

1. Data Completeness: Data for 114 solid samples and 10 equipment blanks were collected August 03, 2015 and August 04, 2015 were validated. Samples specified for analysis on the chain of custodies were analyzed as specified. The project goal of 90 percent completeness was achieved.

2. Sample Hold Times: All samples were analyzed within method specific sample hold times.

3. Sample Preservation: All samples were preserved in appropriate containers and preservative.

4. Method Blanks: Several metals analytes (chromium, lead, molybdenum, nickel, silver and zinc) were reported in the method blank at very low concentrations. Associated sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit is changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action.

5. Equipment Blanks: Several metals were reported in equipment blanks at very low levels, and may be reflective of laboratory method blank detections, field artifact associated with dust, incomplete decontamination or artifact from contact with metal sampling equipment.

6. Laboratory Control Samples: No LCS samples reported percent recoveries outside of method and/or laboratory limits.

7. Laboratory Duplicate Samples: Laboratory duplicate samples were reported within the relative percent difference (RPD) control limit of 20 percent except for the following:

    a. Laboratory report 1502675; 6010B batch B5H0242 – Laboratory duplicate RPD above ±20% for Copper at 39% and Selenium at 56%. Associated results flagged "J" for 1293-123-0 only.

    b. Batch B5H0134 – Laboratory duplicate RPD above ±20% for STLC Lead at 25%. Associated result flagged "J" for 1293-126-0 only.

    c. 7471A batch B5H0245 – Laboratory duplicate RPD above ±20% for Mercury at 91%. Associated result flagged "J" for 1293-123-0 only.

    d. Laboratory report 1502676; 6010B batch B5H0136 – Laboratory duplicate RPD above ±20% for STLC Lead at 55%. Associated result flagged "J" for 1293-107-1 only.

    e. Batch B5H0137 – Laboratory duplicate RPD above ±20% for STLC Lead at 70%. Associated result flagged "J" for 1293-119-2 only.

    f. Laboratory report 1502686; 7471A batch B5H0246 – Laboratory duplicate RPD above ±20% for Mercury at 24%. Associated result flagged "J" for 1293-105-2 only.

    g. Laboratory report 1502687; 6010B batch B5H0146 – Laboratory duplicate RPD above ±20% for Lead at 30%. Associated result flagged "J" for 1293-125-1 only.

h. Batch B5H0147 - Laboratory duplicate RPD above ±20% for Lead at 21%. Associated result flagged "J" for 1293-138-0 only.

i. Batch B5H0173 - Laboratory duplicate RPD above ±20% for STLC Lead at 49%. Associated result flagged "J" for 1293-125-2 only.

Reason Code – LDUP

8. Matrix Spike and Spike Duplicates: Matrix spike and duplicate samples were analyzed to assess accuracy and to evaluate matrix effects on data analysis. The percent recoveries and RPDs were found to within laboratory-determined control limits except;

   a. Laboratory report 1502676; 6010B batch B5H0083 - %R above ±40% limit for Lead at 143%. Associated result flagged "J" for 1293-118-0 only.

   b. Laboratory report 1502686; 6010B batch B5H0172 - %R below ±40% limit for Lead at 56%. Associated result flagged "J" for 1293-112-2 only.

   Reason Code – MS

9. No Field Duplicates were collected.

10. Data were considered "useable" and marked as such in the tables provided and that it was validated according to the EPA and scope of work. No data was qualified as "rejected". The Data Validation Reports/Checklists summarize compounds that were qualified and are attached to this summary. Additionally, data qualifiers and the reason codes associated with the qualifier are in Table 1.

Stantec Analytical Validation Report/Checklist — Report No. 081815-EC-01

Project Name: Caltrans 07A3322 TO-27	Project Number: 185832027
Stantec Validator: Elizabeth Crowley	Laboratory: ATL, Signal Hill, CA
Date Validated: 08/16/15	Laboratory Project Number: 1502675
Sample Start-End Date: 08/03/15	Laboratory Report Date: 08/12/15

Parameters Validated: Title 22 Total Metals, SPLC Lead, STLC DI Lead and TCLP Lead by EPA SW-846 6010B, Mercury by 7471A/7470A and pH by 9045C.

Samples Validated: 31 solid field samples and 3 Equipment Blanks

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

B The analyte was detected in the method, field and/or trip blank.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	X	

Comments: Initial analyses completed. Additional analyses are dependent on initial analyses results.

	Yes	No
2. Did the laboratory identify any non-conformances related to the analytical result?	X	

Comments: Refer to laboratory report for dilution and minor issues.

	Yes	No
3. Were sample Chain-of-Custody forms complete?	X	

Comments: All signatures and required items present.

	Yes	No
4. Were samples received in good condition and at the appropriate temperature?	X	

Comments:

	Yes	No
5. Were sample holding times met?	X	

Comments: All holding times met for all analyses.

	Yes	No
6. Were correct concentration units reported?	X	

Comments: Results reported in both mg/Kg and mg/L depending on the analytical method.

	Yes	No
7. Were detections found in laboratory blank samples?	X	

Comments: 6010B batch B5H0118 – Chromium = 0.0007 mg/L and Nickel = 0.0012 mg/L. Batch B5H0242 – Molybdenum = 0.04 mg/Kg and Nickel = 0.11 mg/Kg. Batch B5H0081 – Lead = 0.27 mg/Kg. Sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action. Reason Code – MB		
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	Yes X	No
Comments: EB2A-080315 – Chromium = 0.0009 mg/L, Copper = 0.0017 mg/L, Molybdenum = 0.0010 mg/L and Nickel = 0.0015 mg/L. EB2B-080315 – Molybdenum = 0.0007 mg/L, Nickel = 0.0014 mg/L and Zinc = 0.013 mg/L. EB2C-080315 – Nickel = 0.0015 mg/L. Sample results greater than 10 times the blank concentration, no qualifying action required.		
9. Were instrument calibrations within method criteria?	Yes NA	No
Comments: Level II data package and validation, no data provided.		
10. Were surrogate recoveries within control limits?	Yes NA	No
Comments: No organic analyses requested.		
11. Were laboratory control (LC/LD) sample recoveries within control limits?	Yes X	No
Comments: All laboratory control sample recoveries are within limits.		
12. Were site specific matrix spike (MS/MD) recoveries within control limits?	Yes X	No
Comments:		
13. Were RPDs within control limits?	Yes	No X
Comments: 6010B batch B5H0242 – Laboratory duplicate RPD above ±20% for Copper at 39% and Selenium at 56%. Associated results flagged "J" for 1293-123-0 only. Batch B5H0134 – Laboratory duplicate RPD above ±20% for STLC Lead at 25%. Associated result flagged "J" for 1293-126-0 only. 7471A batch B5H0245 – Laboratory duplicate RPD above ±20% for Mercury at 91%. Associated result flagged "J" for 1293-123-0 only. Reason Code – LDUP		
14. Were dilutions required on any samples?	Yes	No

			X
Comments: Dilutions were required as determined by method, no action required.			
15. Were Tentatively Identified Compounds (TIC) present?		Yes X	No
Comments: Sample results below the reporting limit do not possess the degree of qualitative or quantitative confidence required. The value may be a false positive and is an estimated value and is flagged "NJ". Reason Code – SQL			
16. Were organic system performance criteria met?	NA	Yes	No
Comments: No organic analyses requested.			
17. Were GC/MS internal standards within method criteria?	NA	Yes	No
Comments: No organic analyses requested.			
18. Were inorganic system performance criteria met?		Yes X	No
Comments:			
19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results. Duplicate Sample Nos.		Yes	No X
Comments:			
20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes X	No	Initials EAC
Comments:			
21. Other:		Yes	No X
Comments:			

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials EAC
Comments: Data usable as qualified.			
Sensitivity:	Acceptable X	Unacceptable	Initials EAC
Comments: Samples analyzed at lowest levels possible to achieve required screening limits.			
Accuracy:	Acceptable X	Unacceptable	Initials EAC
Comments: No data qualified for laboratory control issues.			

Representativeness:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Completeness:	Acceptable X	Unacceptable	Initials EAC
Comments: No data are rejected.			

Stantec Analytical Validation Report/Checklist — Report No. 081815-EC-02

Project Name: Caltrans 07A3322 TO-27	Project Number: 185832027
Stantec Validator: Elizabeth Crowley	Laboratory: ATL, Signal Hill, CA
Date Validated: 08/17/15	Laboratory Project Number: 1502676
Sample Start-End Date: 08/03/15	Laboratory Report Date: 08/12/15

Parameters Validated: Title 22 Total Metals, SPLC Lead, STLC DI Lead and TCLP Lead by EPA SW-846 6010B, Mercury by 7471A/7470A and pH by 9045C.

Samples Validated: 25 solid field samples and 2 Equipment Blanks

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

B The analyte was detected in the method, field and/or trip blank.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	X	

Comments: Initial analyses completed. Additional analyses are dependent on initial analyses results.

	Yes	No
2. Did the laboratory identify any non-conformances related to the analytical result?	X	

Comments: Refer to laboratory report for dilution and minor issues.

	Yes	No
3. Were sample Chain-of-Custody forms complete?	X	

Comments: All signatures and required items present.

	Yes	No
4. Were samples received in good condition and at the appropriate temperature?	X	

Comments:

	Yes	No
5. Were sample holding times met?	X	

Comments: All holding times met for all analyses.

	Yes	No
6. Were correct concentration units reported?	X	

Comments: Results reported in both mg/Kg and mg/L depending on the analytical method.

	Yes	No
7. Were detections found in laboratory blank samples?	X	

Comments: 6010B batch B5H0118 – Chromium = 0.0007 mg/L and Nickel = 0.0012 mg/L. Batch B5H0242 – Molybdenum = 0.04 mg/Kg and Nickel = 0.11 mg/Kg. Sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action. Reason Code – MB		
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	Yes X	No
Comments: EB1A-080315 – Molybdenum = 0.0007 mg/L. EB1B-080315 – Chromium = 0.0008 mg/L and Molybdenum = 0.0007 mg/L. Sample results greater than 10 times the blank concentration, no qualifying action required.		
9. Were instrument calibrations within method criteria?	Yes NA	No
Comments: Level II data package and validation, no data provided.		
10. Were surrogate recoveries within control limits?	Yes NA	No
Comments: No organic analyses requested.		
11. Were laboratory control (LC/LD) sample recoveries within control limits?	Yes X	No
Comments: All laboratory control sample recoveries are within limits.		
12. Were site specific matrix spike (MS/MD) recoveries within control limits?	Yes	No X
Comments: 6010B batch B5H0083 - %R above ±40% limit for Lead at 143%. Associated result flagged "J" for 1293-118-0 only. Reason Code – MS		
13. Were RPDs within control limits?	Yes	No X
Comments: 6010B batch B5H0136 – Laboratory duplicate RPD above ±20% for STLC Lead at 55%. Associated result flagged "J" for 1293-107-1 only. Batch B5H0137 – Laboratory duplicate RPD above ±20% for STLC Lead at 70%. Associated result flagged "J" for 1293-119-2 only. Reason Code – LDUP		
14. Were dilutions required on any samples?	Yes	No X
Comments: Dilutions were required as determined by method, no action required.		
15. Were Tentatively Identified Compounds (TIC) present?	Yes X	No

Comments: Sample results below the reporting limit do not possess the degree of qualitative or quantitative confidence required. The value may be a false positive and is an estimated value and is flagged "NJ". Reason Code – SQL			
16. Were organic system performance criteria met? NA		Yes	No
Comments: No organic analyses requested.			
17. Were GC/MS internal standards within method criteria? NA		Yes	No
Comments: No organic analyses requested.			
18. Were inorganic system performance criteria met?		Yes X	No
Comments:			
19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results. Duplicate Sample Nos.		Yes	No X
Comments:			
20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes X	No	Initials EAC
Comments:			
21. Other:		Yes	No X
Comments:			

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials EAC
Comments: Data usable as qualified.			
Sensitivity:	Acceptable X	Unacceptable	Initials EAC
Comments: Samples analyzed at lowest levels possible to achieve required screening limits.			
Accuracy:	Acceptable X	Unacceptable	Initials EAC
Comments: No data qualified for laboratory control issues.			
Representativeness:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials EAC

Stantec Analytical Validation Report/Checklist — Report No. 081815-EC-03

Project Name: Caltrans 07A3322 TO-27	Project Number: 185832027
Stantec Validator: Elizabeth Crowley	Laboratory: ATL, Signal Hill, CA
Date Validated: 08/17/15	Laboratory Project Number: 1502686
Sample Start-End Date: 08/04/15	Laboratory Report Date: 08/12/15

Parameters Validated: Title 22 Total Metals, SPLC Lead, STLC DI Lead and TCLP Lead by EPA SW-846 6010B, Mercury by 7471A/7470A and pH by 9045C.

Samples Validated: 31 solid field samples and 3 Equipment Blanks

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

B The analyte was detected in the method, field and/or trip blank.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	X	
Comments: Initial analyses completed. Additional analyses are dependent on initial analyses results.		
2. Did the laboratory identify any non-conformances related to the analytical result?	X	
Comments: Refer to laboratory report for dilution and minor issues.		
3. Were sample Chain-of-Custody forms complete?	X	
Comments: All signatures and required items present.		
4. Were samples received in good condition and at the appropriate temperature?	X	
Comments:		
5. Were sample holding times met?	X	
Comments: All holding times met for all analyses.		
6. Were correct concentration units reported?	X	
Comments: Results reported in both mg/Kg and mg/L depending on the analytical method.		
7. Were detections found in laboratory blank samples?	X	

Comments: 6010B batch B5H0142 – Chromium = 0.0006 mg/L and Silver = 0.0013 mg/L. Batch B5H0242 – Molybdenum = 0.04 mg/Kg and Nickel = 0.11 mg/Kg. Batch B5H0243 – Copper = 0.12 mg/Kg. Batch B5H0145 – Lead = 0.44 mg/Kg. Sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action. Reason Code – MB		
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	Yes X	No
Comments: EB2A-080415 – Barium = 0.0003 mg/L, Beryllium = 0.0003 mg/L, Chromium = 0.0008 mg/L, Copper = 0.0019 mg/L, Molybdenum = 0.0007 mg/L and Nickel = 0.0019 mg/L. EB2B-080415 – Beryllium = 0.0004 mg/L, Chromium = 0.0007 mg/L, Copper = 0.0021 mg/L and Nickel = 0.0022 mg/L. EB2C-080415 – Beryllium = 0.0004 mg/L, Copper = 0.0020 mg/L, Molybdenum = 0.0007 mg/L and Nickel = 0.0020 mg/L. Sample results greater than 10 times the blank concentration, no qualifying action required.		
9. Were instrument calibrations within method criteria?	Yes NA	No
Comments: Level II data package and validation, no data provided.		
10. Were surrogate recoveries within control limits?	Yes NA	No
Comments: No organic analyses requested.		
11. Were laboratory control (LC/LD) sample recoveries within control limits?	Yes X	No
Comments: All laboratory control sample recoveries are within limits.		
12. Were site specific matrix spike (MS/MD) recoveries within control limits?	Yes	No X
Comments: 6010B batch B5H0172 - %R below ±40% limit for Lead at 56%. Associated result flagged "J" for 1293-112-2 only. Reason Code – MS		
13. Were RPDs within control limits?	Yes	No X
Comments: 7471A batch B5H0246 – Laboratory duplicate RPD above ±20% for Mercury at 24%. Associated result flagged "J" for 1293-105-2 only. Reason Code – LDUP		
14. Were dilutions required on any samples?	Yes	No

			X
Comments: Dilutions were required as determined by method, no action required.			
15. Were Tentatively Identified Compounds (TIC) present?		Yes X	No
Comments: Sample results below the reporting limit do not possess the degree of qualitative or quantitative confidence required. The value may be a false positive and is an estimated value and is flagged "NJ". Reason Code – SQL			
16. Were organic system performance criteria met?	NA	Yes	No
Comments: No organic analyses requested.			
17. Were GC/MS internal standards within method criteria?	NA	Yes	No
Comments: No organic analyses requested.			
18. Were inorganic system performance criteria met?		Yes X	No
Comments:			
19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results. Duplicate Sample Nos.		Yes	No X
Comments:			
20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes X	No	Initials EAC
Comments:			
21. Other:		Yes	No X
Comments:			

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials EAC
Comments: Data usable as qualified.			
Sensitivity:	Acceptable X	Unacceptable	Initials EAC
Comments: Samples analyzed at lowest levels possible to achieve required screening limits.			
Accuracy:	Acceptable X	Unacceptable	Initials EAC
Comments: No data qualified for laboratory control issues.			

Representativeness:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Completeness:	Acceptable X	Unacceptable	Initials EAC
Comments: No data are rejected.			

Stantec Analytical Validation Report/Checklist — Report No. 081815-EC-04

Project Name: Caltrans 07A3322 TO-27	Project Number: 185832027
Stantec Validator: Elizabeth Crowley	Laboratory: ATL, Signal Hill, CA
Date Validated: 08/18/15	Laboratory Project Number: 1502687
Sample Start-End Date: 08/04/15	Laboratory Report Date: 08/12/15

Parameters Validated: Title 22 Total Metals, SPLC Lead, STLC DI Lead and TCLP Lead by EPA SW-846 6010B, Mercury by 7471A/7470A and pH by 9045C.

Samples Validated: 27 solid field samples and 2 Equipment Blanks

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

B The analyte was detected in the method, field and/or trip blank.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	X	
Comments: Initial analyses completed. Additional analyses are dependent on initial analyses results.		
2. Did the laboratory identify any non-conformances related to the analytical result?	X	
Comments: Refer to laboratory report for dilution and minor issues.		
3. Were sample Chain-of-Custody forms complete?	X	
Comments: All signatures and required items present.		
4. Were samples received in good condition and at the appropriate temperature?	X	
Comments:		
5. Were sample holding times met?	X	
Comments: All holding times met for all analyses.		
6. Were correct concentration units reported?	X	
Comments: Results reported in both mg/Kg and mg/L depending on the analytical method.		
7. Were detections found in laboratory blank samples?	X	

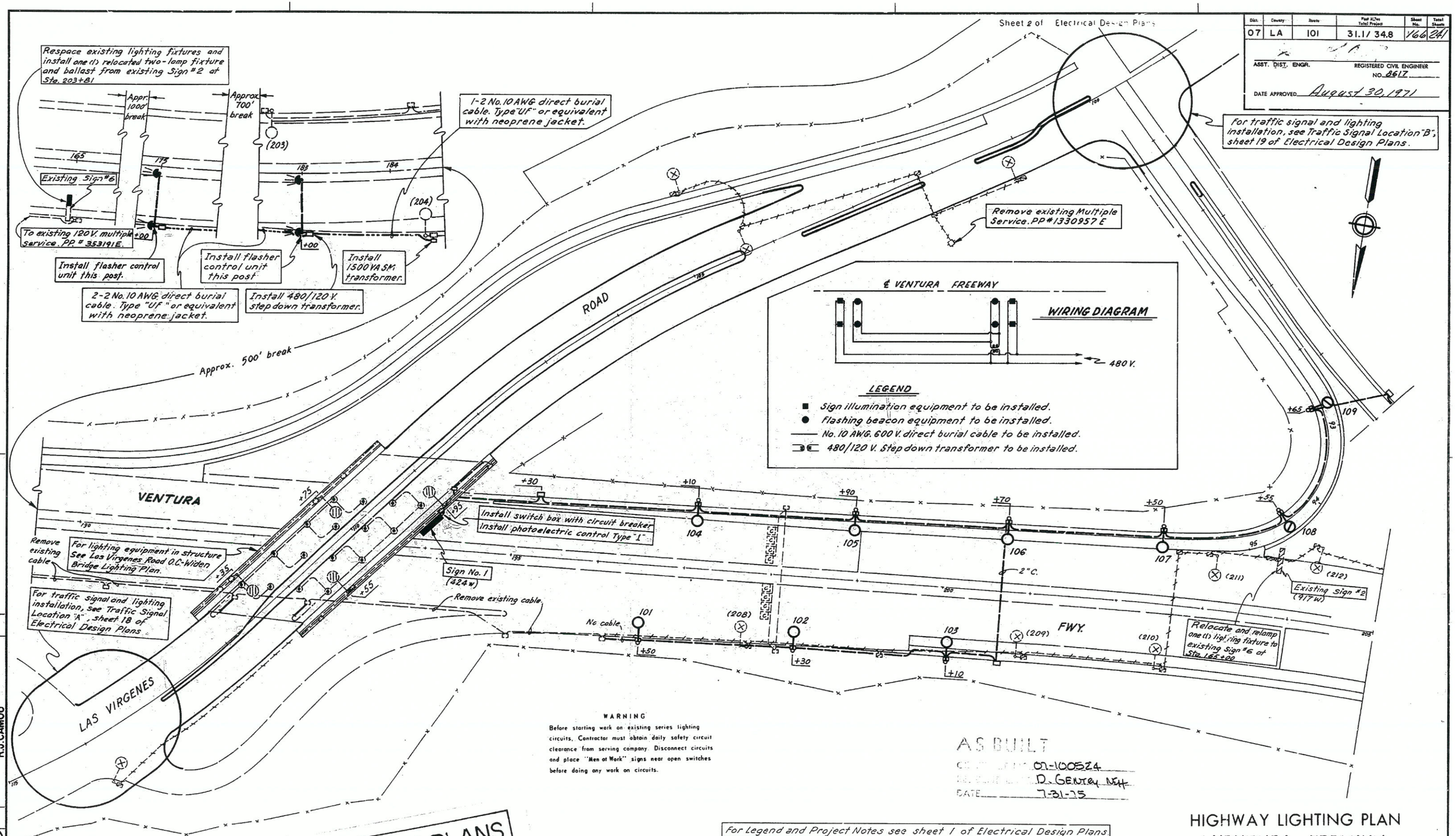
Comments: 6010B batch B5H0142 – Chromium = 0.0006 mg/L and Silver = 0.0013 mg/L. Batch B5H0243 – Copper = 0.12 mg/Kg. Sample results below the blank concentration are validated to non-detect and flagged "UJB". Sample results greater than the blank concentration are flagged "JB". The detection limit changed to the blank concentration. Sample results greater than 10 times the blank concentration require no qualifying action. Reason Code – MB		
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	Yes X	No
Comments: EB1A-080415 – Nickel = 0.0014 mg/L. EB1B-080415 – Barium = 0.0007 mg/L and Nickel = 0.0015 mg/L. Sample results greater than 10 times the blank concentration, no qualifying action required.		
9. Were instrument calibrations within method criteria?	Yes NA	No
Comments: Level II data package and validation, no data provided.		
10. Were surrogate recoveries within control limits?	Yes NA	No
Comments: No organic analyses requested.		
11. Were laboratory control (LC/LD) sample recoveries within control limits?	Yes X	No
Comments: All laboratory control sample recoveries are within limits.		
12. Were site specific matrix spike (MS/MD) recoveries within control limits?	Yes X	No
Comments:		
13. Were RPDs within control limits?	Yes	No X
Comments: 6010B batch B5H0146 – Laboratory duplicate RPD above ±20% for Lead at 30%. Associated result flagged "J" for 1293-125-1 only. Batch B5H0147 - Laboratory duplicate RPD above ±20% for Lead at 21%. Associated result flagged "J" for 1293-138-0 only. Batch B5H0173 - Laboratory duplicate RPD above ±20% for STLC Lead at 49%. Associated result flagged "J" for 1293-125-2 only. Reason Code – LDUP		
14. Were dilutions required on any samples?	Yes	No X
Comments: Dilutions were required as determined by method, no action required.		
15. Were Tentatively Identified Compounds (TIC) present?	Yes X	No

Comments: Sample results below the reporting limit do not possess the degree of qualitative or quantitative confidence required. The value may be a false positive and is an estimated value and is flagged "NJ". Reason Code – SQL			
16. Were organic system performance criteria met? NA		Yes	No
Comments: No organic analyses requested.			
17. Were GC/MS internal standards within method criteria? NA		Yes	No
Comments: No organic analyses requested.			
18. Were inorganic system performance criteria met?		Yes X	No
Comments:			
19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results. Duplicate Sample Nos.		Yes	No X
Comments:			
20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes X	No	Initials EAC
Comments:			
21. Other:		Yes	No X
Comments:			

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials EAC
Comments: Data usable as qualified.			
Sensitivity:	Acceptable X	Unacceptable	Initials EAC
Comments: Samples analyzed at lowest levels possible to achieve required screening limits.			
Accuracy:	Acceptable X	Unacceptable	Initials EAC
Comments: No data qualified for laboratory control issues.			
Representativeness:	Acceptable X	Unacceptable	Initials EAC
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials EAC

Comments:			
Completeness:	Acceptable X	Unacceptable	Initials EAC
Comments: No data are rejected.			



WARNING

Before starting work on existing series lighting circuits, Contractor must obtain daily safety circuit clearance from serving company. Disconnect circuits and place "Men at Work" signs near open switches before doing any work on circuits.

AS BUILT
07-100524
D. GENTRY NEH
DATE 7-31-75

For Legend and Project Notes see sheet 1 of Electrical Design Plans.

For Wiring Diagrams see sheet 13 of Electrical Design Plans.

HIGHWAY LIGHTING PLAN
VENTURA FREEWAY
LAS VIRGENES ROAD to KANAN ROAD

FEET 0 50 100 200

NOTE THIS PLAN ACCURATE FOR LIGHTING ONLY

TRAFFIC DEPT.		
Designed by	GW	8/69
Drawn by	WE	8/69
Checked by	WM	8/69

R.J. CAMOU

MICROFILMED SEP 8 1975

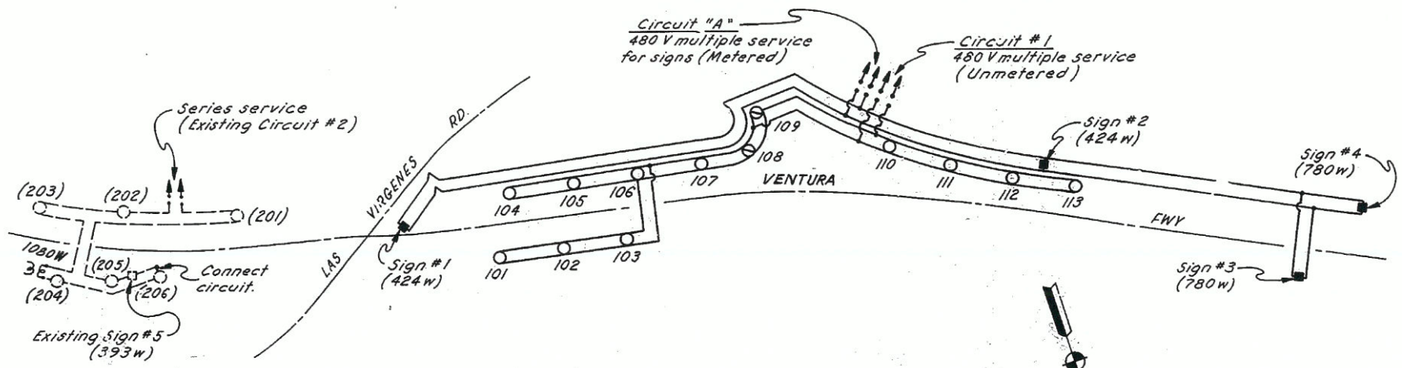
AS BUILT PLANS
Contract No. 07-100524
Date Completed 3-26-74
Document No. 70007088

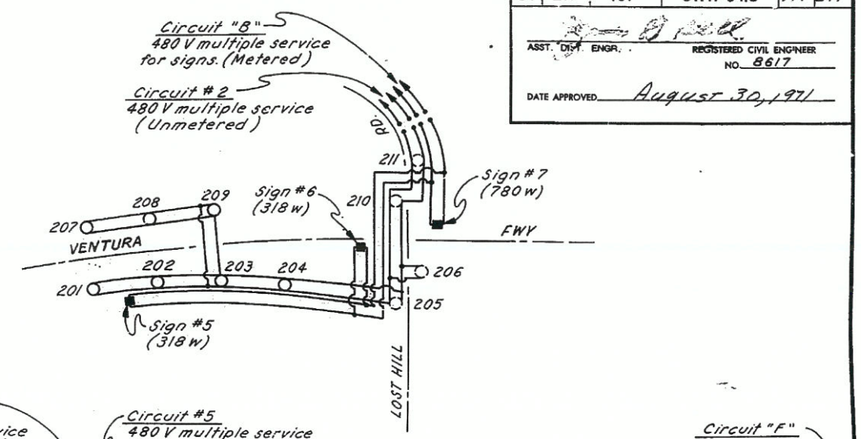
07213-100521

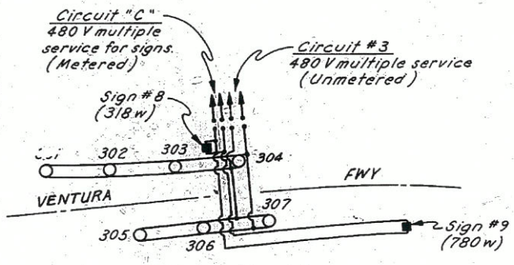
Dist.	County	Route	Post Miles Total Project	Sheet No.	Total Sheets
07	LA	101	31.1 / 34.8	Y77	241

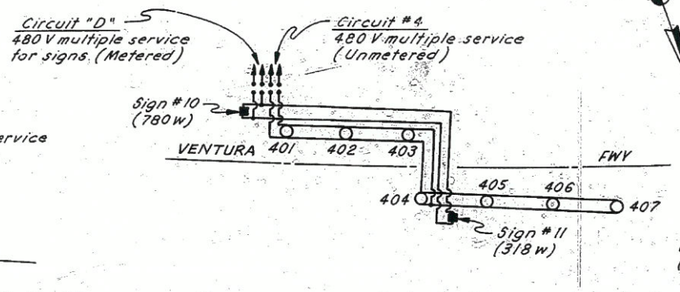
ASST. DIST. ENGR. _____ REGISTERED CIVIL ENGINEER NO. 8617

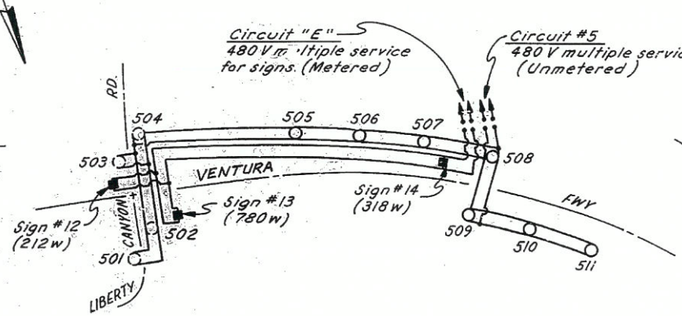
DATE APPROVED August 30, 1971

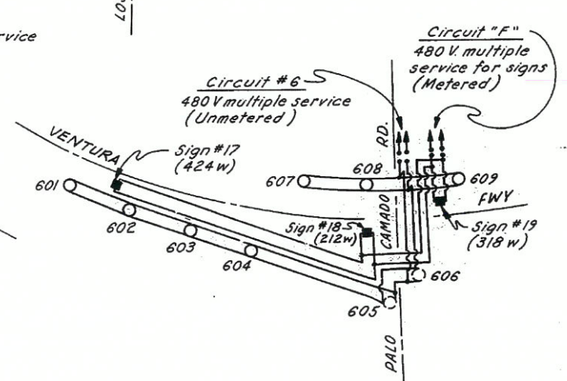


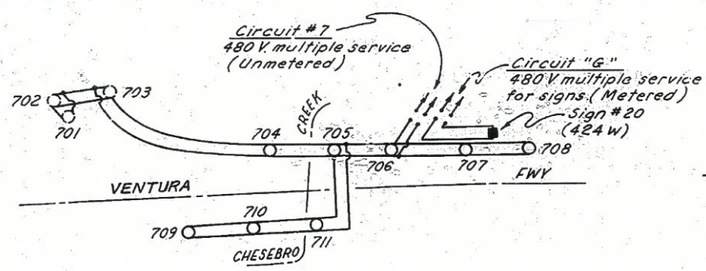


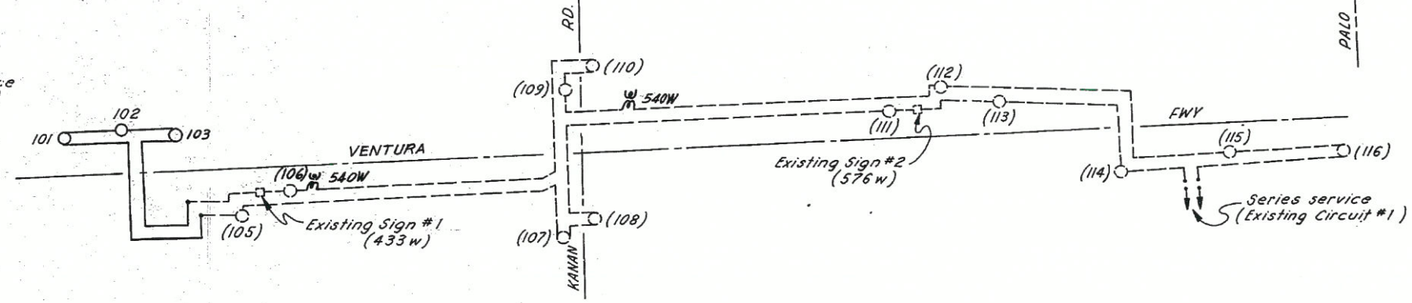












LEGEND

- ○ 700 watt mercury vapor lamp and ballast to be installed.
- ⊘ 400 watt mercury vapor lamp and ballast to be installed.
- ◌ Existing 400 watt mercury vapor lamp. Install multiple ballast.
- ■ Sign illumination equipment to be installed.
- ▫ Existing sign illumination equipment to remain.
- —— No. 8 AWG cable to be installed.
- SM SM transformer for flashing beacons and sign illumination to be installed.
- ——— Existing cable to remain.

TOTALS

Exist. CKT#2	CKT#1	CKT#2	CKT#3	CKT#4	CKT#5	CKT#6	CKT#7	Exist. CKT#1	CKT"A"	CKT"B"	CKT"C"	CKT"D"	CKT"E"	CKT"F"	CKT"G"
——	11	7	7	7	7	7	8	3	——	——	——	——	——	——	——
——	2	——	——	——	——	——	——	——	——	——	——	——	——	——	——
6 *	——	4	——	——	4	2	3	12 *	——	——	——	——	——	——	——
——	——	——	——	——	——	——	——	——	2408w	1416w	1098w	1098w	1310w	954w	424w
393w	——	——	——	——	——	——	——	1009w	——	——	——	——	——	——	——
5 KV	600 V	600 V	600 V	600 V	600 V	600 V	600 V	5 KV	600 V	600 V	600 V	600 V	600 V	600 V	600 V
1	— —	——	——	——	——	——	——	2	——	——	——	——	——	——	——

* Existing Series Ballast to remain.

AS BUILT
CONTRACT NO. 07-100524
RECORDED BY O. GELTRY 12-17
DATE 7-31-75

WIRING DIAGRAMS
VENTURA FREEWAY
LAS VIRGENES ROAD to KANAN ROAD

TRAFFIC DEPT.		
Designed by	GW	8/69
Drawn by	WE	8/69
Checked by	WM	8/69

AS BUILT PLANS
Contract No. 07-100524
Date Completed 3-26-74
Document No. 70007088

MICROFILMED SEP 5 1975

07213 - 100521

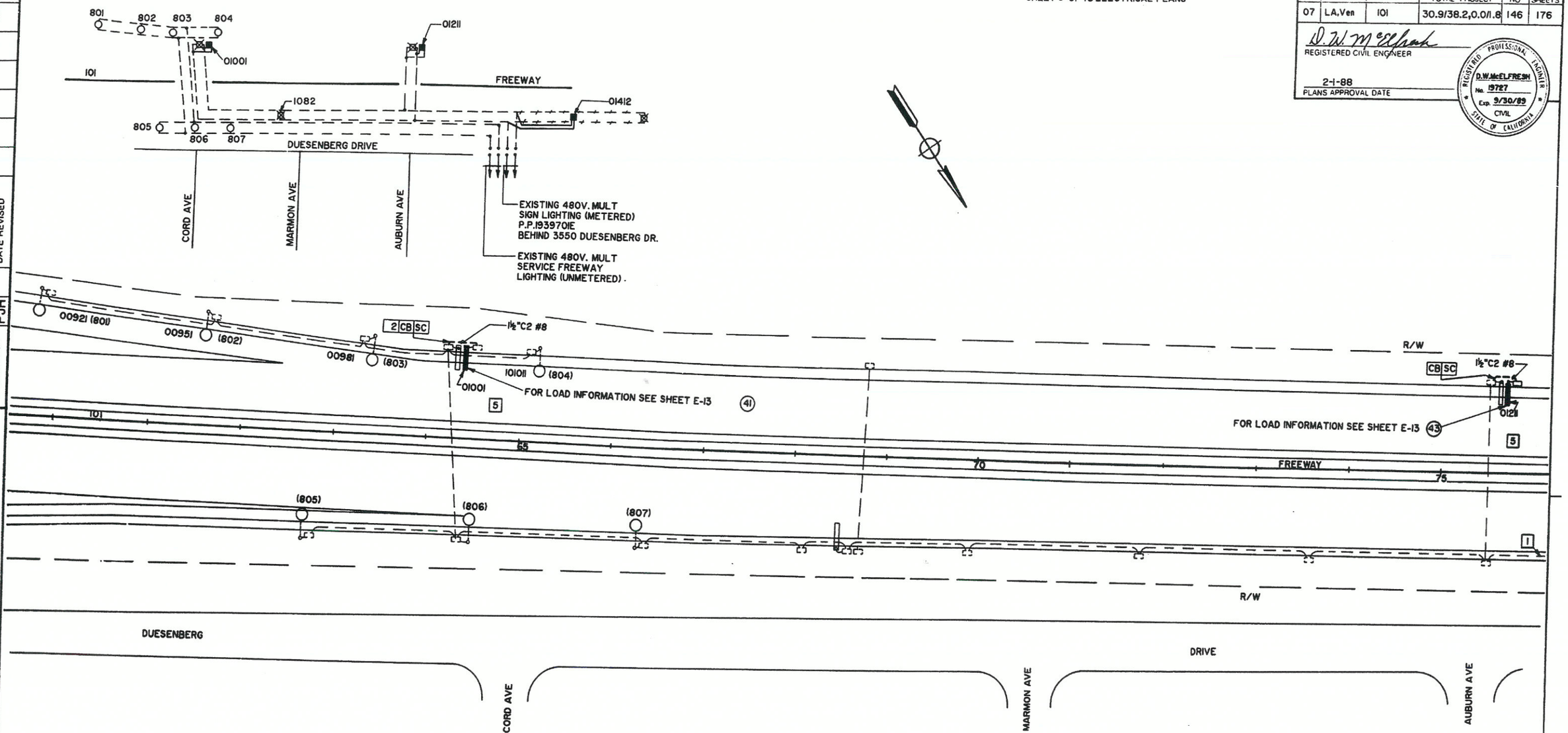
SHEET 5 OF 19 ELECTRICAL PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
07	LA,Ven	101	30.9/38.2,0.0/1.8	146	176

D. W. McElfresh
REGISTERED CIVIL ENGINEER

2-1-88
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
D.W.McELFRESH
No. 19727
Exp. 9/30/89
CIVIL
STATE OF CALIFORNIA



AS BUILT PLANS
Contract No. 07-109054
Date Completed 4-14-89
Document No.

AS BUILT
CONTRACT NO. 109054
RESIDENT ENGR. G.C. Ethier
DATE 4-14-89

SIGN ILLUMINATION (MODIFY)

SCALE 1"=50'

NOTE: THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

E-5

DATE	REVISED BY	DATE REVISED
LEC		
PJH		

CALCULATED/DESIGNED BY
CHECKED BY

PROJECT ENGINEER
P.J. HORVATH

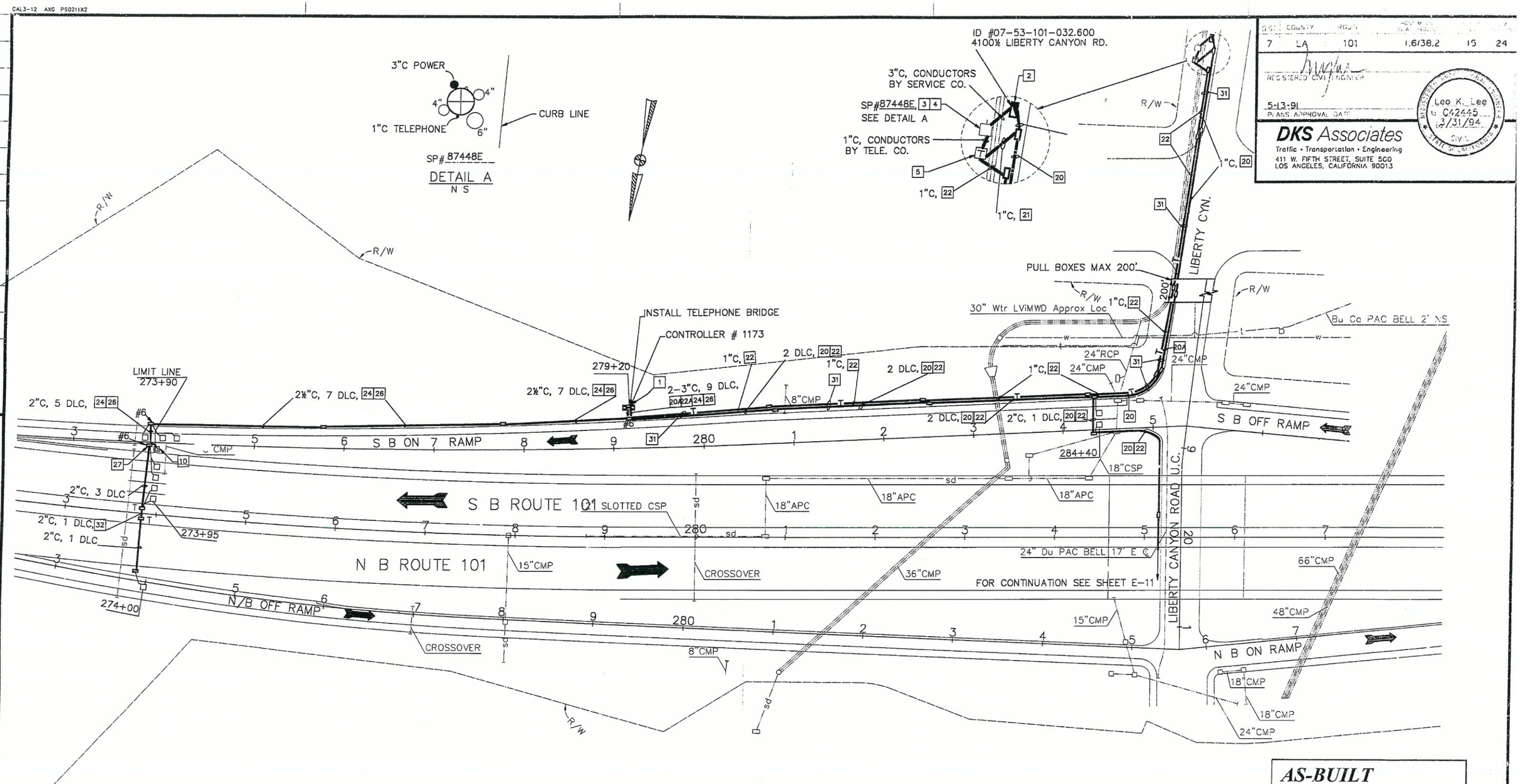
STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION
Caltrans

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3

CU 07204 | EA 109051

46

CAL3-12 AXG PS0211X2



DIST	COUNTY	ROUTE	POST MILES		
7	LA	101	1.6/38.2	15	24

REGISTERED CIVIL ENGINEER

5-13-91
PLANS APPROVAL DATE

Leo K. Lee
No. C42445
3/31/94
CIVIL
STATE OF CALIFORNIA

DKS Associates
Traffic • Transportation • Engineering
411 W. FIFTH STREET, SUITE 500
LOS ANGELES, CALIFORNIA 90013

AS-BUILT

Contract No. 07-	118814
Resident Engineer:	CORPUZ, N.
Completion Date:	04/30/1997

RAMP METERING SYSTEM

LOCATION 9
ROUTE 101
AT
LIBERTY CANYON ROAD

SCALE 1" = 50'

E-10

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT
Ken Bush

CALCULATED/DESIGNED BY | CHECKED BY | DATE | REVISED BY | DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

CU 07372 EA 118871

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	23,101	3.3/3.8, R0.1/R4.5	451	652

REGISTERED ELECTRICAL ENGINEER — 03/25/13 DATE

6-3-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — KEVIN G. AGUIGUI — No. E19880 — Exp. 03/31/14 — ELECTRICAL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

KIMLEY-HORN AND ASSOCIATES, INC.
6800 OWENSMOUTH AVENUE, STE 410
CANOGA PARK, CA 91303

CITY OF THOUSAND OAKS
2100 THOUSAND OAKS BLVD
THOUSAND OAKS. CA 91362

PROJECT NOTES (SHEETS E-2 TO E-40):

1. INSTALL DEPARTMENT-FURNISHED LOOP DETECTOR SENSOR UNIT.
2. INSTALL CONDUIT RISER CONNECTIONS AND EXPANSION FITTINGS.
3. INSTALL ONE TEMPORARY SPLICE CLOSURE. SPLICE NEW 12SMFO CABLE, EXISTING 48SMFO CABLE FOR VOICE/DATA, EXISTING 48SMFO CABLE FOR MULTIPLEXED DATA/VIDEO, AND EXISTING 48SMFO CABLE FOR VIDEO DISTRIBUTION TO TEMPORARY 144SMFO CABLE.
4. REMOVE EXISTING 12SMFO (RMS 1500). REPULL 1-12SMFO (RMS 1476) AND INSTALL NEW 1-12SMFO (RMS 1500).
5. ADD 1-12SMFO AND TERMINATE IN FIBER DISTRIBUTION UNIT (FDU) IN DATA NODE CABINET. SEE SHEET E-46.
6. INSTALL FIBER OPTIC TRAFFIC MODEM (FOTM) IN DATA NODE CABINET. SEE SHEET E-46.
7. REPULL 4#22 SHIELDED TELEPHONE CABLE AND INSTALL IN NEW CONDUIT RUN TO CONTROLLER CABINET AS SHOWN.
8. REMOVE EXISTING 12SMFO (RMS 1474). REPULL 1-12SMFO (RMS 1473) AND INSTALL NEW 1-12SMFO (RMS 1474).
9. INSTALL CONDUIT UNDER SOUNDWALL AS SHOWN ON E-43.
10. INSTALL COMMUNICATION PULL BOX OUTSIDE OF SOUND WALL.
11. INSTALL 2"C. 12SMFO CABLE FOR VOICE/DATA.
12. INSTALL CONDUIT IN TRENCHED SOIL. SEE SHEET E-42 FOR DETAILS.
13. INSTALL TWO TYPE 1 CONDUITS THROUGH 10½" Dia HOLE AS IDENTIFIED ON BRIDGE PLANS (HAMPSHIRE ROAD ABUTMENT 1 LAYOUT). CONDUITS SHALL BE 2-4" CONDUITS. INSTALL FOUR 1" INNERDUCT WITH 48SMFO CABLE FOR VOICE/DATA, 48SMFO CABLE FOR MULTIPLEXED DATA/VIDEO, 48SMFO CABLE FOR VIDEO DISTRIBUTION, IN ONE CONDUIT. THE SECOND CONDUIT WILL BE LEFT EMPTY.
14. EXISTING CONDUIT IN TRENCH IN ASPHALT IS SHALLOW. WHEN EXCAVATING, HAND TOOLS SHALL BE USED TO PREVENT DAMAGE TO THE FACILITY.
15. EXISTING FIBER OPTIC COMMUNICATION CONDUIT CROSSING IS SHALLOW. WHEN EXCAVATING, HAND TOOLS SHALL BE USED TO PREVENT DAMAGE TO THE FACILITY.
16. RELOCATE EXISTING CCTV POLE TYPE 45 AND CCTV CAMERA EQUIPMENT OUTSIDE OF SOUNDWALL. CONNECT WITH COAXIAL AND CCTV CONTROL CABLES IN 3" CONDUIT, RELOCATED FROM EXISTING CONDUIT TO NEW CONDUIT. THE CONTRACTOR MUST VERIFY EXISTING POLE BASE PLATE AND NEW ANCHOR BOLT PATTERN MATCH PRIOR TO FOUNDATION CONSTRUCTION.
17. INSTALL 12SMFO CABLE FOR VOICE/DATA PER PLAN.
18. INSTALL RED STATUS LIGHT ON STANDARD PER DETAIL "E" ON SHEET E-26. PROVIDE HARDWARE AND MOUNTINGS NECESSARY FOR A COMPLETE INSTALLATION.
19. INSTALL THREE NEW SPLICE ENCLOSURES. SPLICE 12SMFO CABLE AND NEW AND EXISTING 48SMFO CABLE FOR VOICE/DATA, 48SMFO CABLE FOR MULTIPLEXED DATA/VIDEO, AND 48SMFO CABLE FOR VIDEO DISTRIBUTION.
20. TERMINATE AND SPLICE NEW 12SMFO TO EXISTING DATA DISTRIBUTION FIBER PER CURRENT CONFIGURATION.
21. CUT THREE 48SMFO CABLES, MAINTAINING A MINIMUM 100' OF SLACK PER CABLE.
22. INSTALL 480/120, 0.5 kVA STEP-DOWN TRANSFORMER IN NEMA 3R ENCLOSURE. SEE STANDARD PLAN ES-15C.
23. RELOCATE EXISTING WIRES/CONDUCTORS FROM EXISTING CONDUIT TO NEW CONDUIT.
24. PULL BOX TO REMAIN AT THE END OF LIGHTING (TEMPORARY) STAGE FOR PERMANENT USE.
25. INSTALL TEMPORARY WOOD POLE WITH 1½" TYPE 1 CONDUIT RISER AND GUY WIRE. SHEE SHEETS E-28 AND E-29 FOR TEMPORARY WOOD POLE DETAILS.
26. INSTALL 1½"C STRAPPED ON THE EXISTING COLUMN WITH ½" Dia ROD AT 10'-0" ON CENTER. EMBED DRILL AND BOND ANCHORS 4" INTO THE COLUMN.
27. CONDUIT AND CONDUCTORS TO REMAIN AT THE END OF LIGHTING (TEMPORARY) STAGE FOR PERMANENT USE.
28. INSTALL WOOD POLE FOR TEMPORARY OVERHEAD LIGHTING SERVICE. SEE SHEETS E-28 AND E-29 FOR TEMPORARY LIGHTING WOOD POLE DETAILS.
29. INSTALL TEMPORARY WOOD POLE WITH LUMINAIRE WITH 6' MAST ARM AND GUY WIRE. SEE SHEETS E-28 AND E-29 FOR TEMPORARY LIGHTING WOOD POLE DETAILS.
30. REMOVE CONDUCTORS IN CONDUIT RUN No. 1 AND RUN No. 2 AT THE END OF LIGHTING (TEMPORARY).
31. INSTALL CONDUIT RUN ALONG BRIDGE PER SHEET E-27.
32. INSTALL FIBER DISTRIBUTION UNIT (FDU) AND FIBER OPTIC TRAFFIC MODEM (FOTM) IN RAMP METER CONTROLLER CABINET. SEE DETAIL ON SHEETS E-46 AND E-47.
33. REPULL EXISTING 2-12SMFO. ADD 1-12SMFO.
34. CONDUCTORS TO REMAIN AT THE END OF LIGHTING (TEMPORARY) STAGE FOR PERMANENT USE.
35. INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER ASSEMBLY INCLUDING CONTROLLER UNIT, COMPLETELY WIRED MODEL 334 CONTROLLER CABINET, AND DETECTOR SENSOR UNITS.
36. RC 12SMFO AND INSTALL 12SMFO AND INSTALL 12SMFO(1) IN EXISTING CONDUIT.
37. INSTALL 3" CONDUIT WITH 144SMFO CABLE.
38. INSTALL 144SMFO CABLE WITH MAXIMUM SPAN OF 150 FEET. PROVIDE MINIMUM 16' OVERHEAD CLEARANCE, INCLUDING SAG.

ELECTRICAL INDEX:

E-1	ELECTRICAL LEGEND, NOTES, AND SYMBOLS
E-2 to E-11	MODIFY RAMP METERING SYSTEM
E-12 to E-16	LIGHTING (TEMPORARY)
E-17 to E-24	MODIFY LIGHTING AND SIGN ILLUMINATION
E-25	SOFFIT LIGHTING
E-26 to E-29	ELECTRICAL DETAILS
E-30 to E-33	ELECTRICAL SERVICE (IRRIGATION)
E-34	SPRINKLER CONTROL CONDUIT (BRIDGE)
E-35 to E-37	ELECTRICAL QUANTITIES
E-38	TEMPORARY COMMUNICATION SYSTEM
E-39 to E-41	MODIFY COMMUNICATION SYSTEM
E-42 to E-47	ELECTRICAL DETAILS
E-48	ELECTRICAL QUANTITIES

ELECTRICAL SYMBOLS:

- EXISTING SPLICE VAULT
- NEW SPLICE VAULT

ABBREVIATION:

SMFO SINGLE MODE FIBER OPTIC
TEL TELEPHONE CABLE

LEGEND (FOR WIRING DIAGRAMS ON SHEETS E-17 TO E-25):

- EXISTING SPLICE
- SPLICE
- NEW LED LAMP 235 W
- NEW LED LAMP 165 W
- EXISTING LAMP 310 W
- EXISTING LAMP 200 W
- RC EXISTING LAMP AND BALLAST
- EXISTING SIGN ILLUMINATION LAMP(S)
- SIGN ILLUMINATION LAMP(S) FOR NEW/RELOCATED SIGN
- RS EXISTING SIGN ILLUMINATION LAMP
- EXISTING CONDUCTORS TO REMAIN
- NEW CONDUCTOR TO BE INSTALLED
- RC CONDUCTORS
- NEW SOFFIT LIGHT 70 W

ELECTRICAL LEGEND, NOTES AND SYMBOLS

NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: SRIKANTH CHAKRAVARTHY
CALCULATED-DESIGNED BY: KWASI AKWABI/ROSSINA CHICHIRI ANGELA PINLEY
CHECKED BY: MICHAEL WASHKOWIAK
REVISED BY
DATE REVISED

LAST REVISION 02-07-13
DATE PLOTTED => 08-JUN-2013
TIME PLOTTED => 15:57

BORDER LAST REVISED 7/2/2010
USERNAME => s109858
DGN FILE => 07000002011ua001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1821
PROJECT NUMBER & PHASE 07000002011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	23,101	3.3/3.8, R0.1/R4.5	452	652

REGISTERED ELECTRICAL ENGINEER — 03/25/13 DATE

KEVIN G. AGUIGUI, No. E19880, Exp. 03/31/14, ELECTRICAL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

6-3-13
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

KIMLEY-HORN AND ASSOCIATES, INC.
6800 OWENSMOUTH AVENUE, STE 410
CANOGA PARK, CA 91303

CITY OF THOUSAND OAKS
2100 THOUSAND OAKS BLVD
THOUSAND OAKS. CA 91362

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

NOTES (THIS SHEET ONLY):

1. PRIOR TO THE START OF ANY CONSTRUCTION OF RAMP METERING ELEMENTS, THE CONTRACTOR SHALL INFORM RAMP METERING BRANCH 2 WEEKS IN ADVANCE TO ENSURE THE PRE-MARKED LOCATIONS OF STOP BARS, CABINETS, METER ON SIGNS, FLASHING BEACONS, LOOPS, ETC., ARE CORRECT.

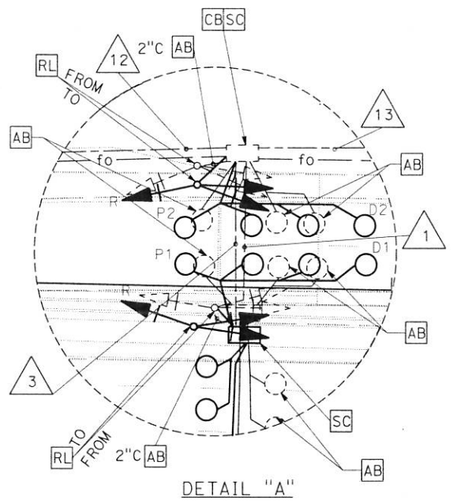
CONDUIT AND CONDUCTOR SCHEDULE

CABLE SCHEDULE		CONDUIT RUN No. AND SIZE (LOCATION 1)																	
AWG OR CABLE	CONDUIT RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3CSC	METER ON SIGNAL		2		2	2		2	1		2				1(N)	1(N)		1(N)	
5CSC	RAMP SIGNAL		1,1(N)	1(N)										1,1(N)	1(N)				1(N)
#10	SIGNAL COMMON														1	1		1	1
DLC	QUEUE DETECTOR		2		2	2		2	1		2				2(N)	2(N)		1(N)	
	DEMAND DETECTOR		1,1(N)	1(N)										1,1(N)	1(N)				1(N)
	PASSAGE DETECTOR		1,1(N)	1(N)										1,1(N)	1(N)				1(N)
	COUNT DETECTOR		1									1	1	1					
	OFF-RAMP DETECTOR		4		4	4		4	4	4	4								
	SURVEILLANCE DETECTOR	4,1(N)	4,1(N)											4,1(N)	5(N)				5(N)
#4	SERVICE FOR CONTROLLER					4	4		4										
#8	SERVICE FOR CONTROLLER		2		2	2	2		2						2(N)	2	2		
#8	FLASHING BEACONS		4		4	4					4								
#8	GROUND		1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)			1(N)	1(N)	1(N)	1(N)	1(N)	1(N)
CONDUIT SIZE		2½"	2-3"	2"(N)	3"	3"	2½"	2½"	2½"	2"	2"	1½"	2"	3"	2-3"(N)	2"	2"	2"	2"

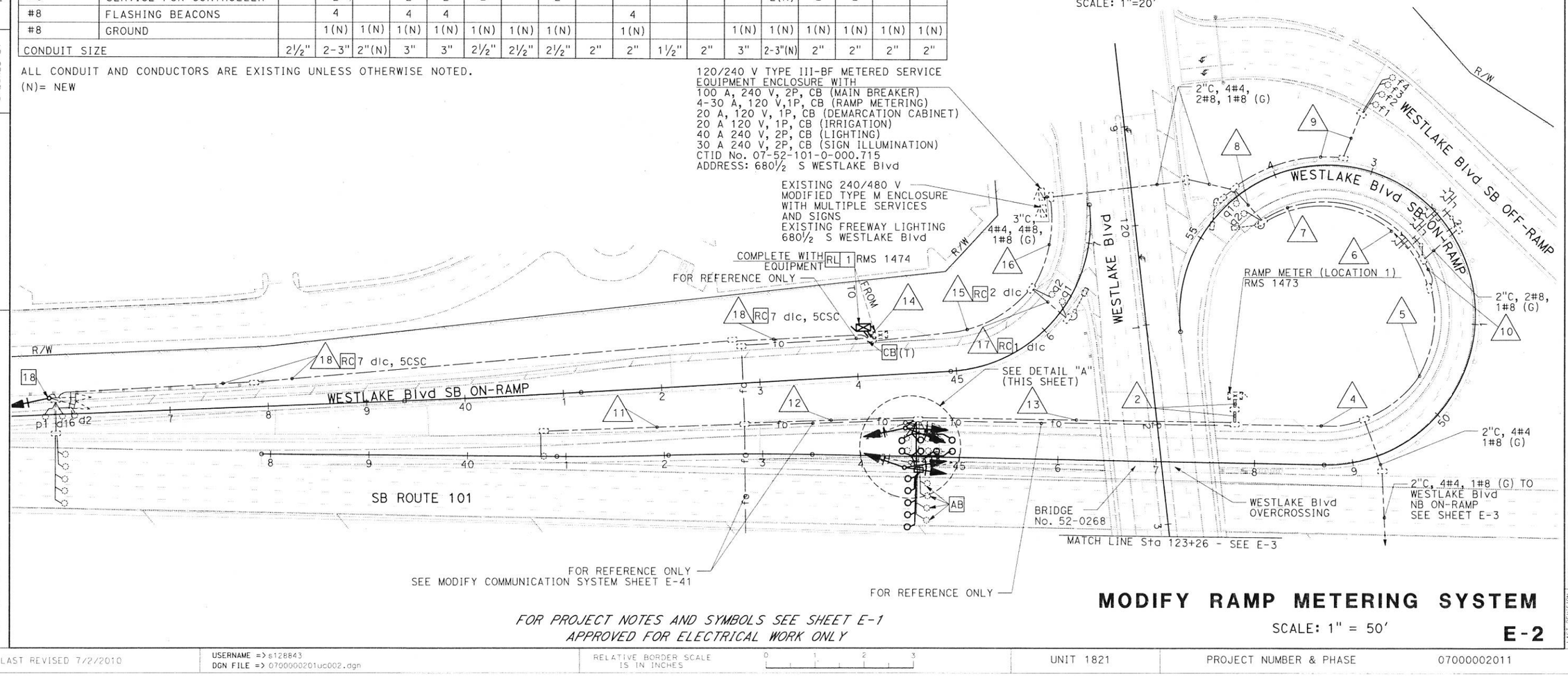
ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.
(N)= NEW

120/240 V TYPE III-BF METERED SERVICE EQUIPMENT ENCLOSURE WITH
100 A, 240 V, 2P, CB (MAIN BREAKER)
4-30 A, 120 V,1P, CB (RAMP METERING)
20 A, 120 V, 1P, CB (DEMARCATION CABINET)
20 A 120 V, 1P, CB (IRRIGATION)
40 A 240 V, 2P, CB (LIGHTING)
30 A 240 V, 2P, CB (SIGN ILLUMINATION)
CTID No. 07-52-101-0-000.715
ADDRESS: 680½ S WESTLAKE Blvd

EXISTING 240/480 V MODIFIED TYPE M ENCLOSURE WITH MULTIPLE SERVICES AND SIGNS
EXISTING FREEWAY LIGHTING
680½ S WESTLAKE Blvd



DETAIL "A"
SCALE: 1"=20'



FOR PROJECT NOTES AND SYMBOLS SEE SHEET E-1
APPROVED FOR ELECTRICAL WORK ONLY

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: SRIKANTH CHAKRAVARTHY
CALCULATED-DESIGNED BY: KWASI AKWABI/ROSSINA CHICHIRI / ANGELA PINLEY
CHECKED BY: MICHAEL WASHKOWIAK
REVISED BY / DATE REVISED

LAST REVISION 03-25-13
DATE PLOTTED => 10-JUN-2013
TIME PLOTTED => 13:41

BORDER LAST REVISED 7/2/2010 | USERNAME => s128843 | DGN FILE => 07000002011uc002.dgn | RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3) | UNIT 1821 | PROJECT NUMBER & PHASE 07000002011

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

NOTES (THIS SHEET ONLY):

1. PRIOR TO THE START OF ANY CONSTRUCTION OF RAMP METERING ELEMENTS, THE CONTRACTOR SHALL INFORM RAMP METERING BRANCH 2 WEEKS IN ADVANCE TO ENSURE THE PRE-MARKED LOCATIONS OF STOP BARS, CABINETS, METER ON SIGNS, FLASHING BEACONS, LOOPS, ETC., ARE CORRECT.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	23,101	3.3/3.8, R0.1/R4.5	453	652

REGISTERED ELECTRICAL ENGINEER — 03/25/13 DATE

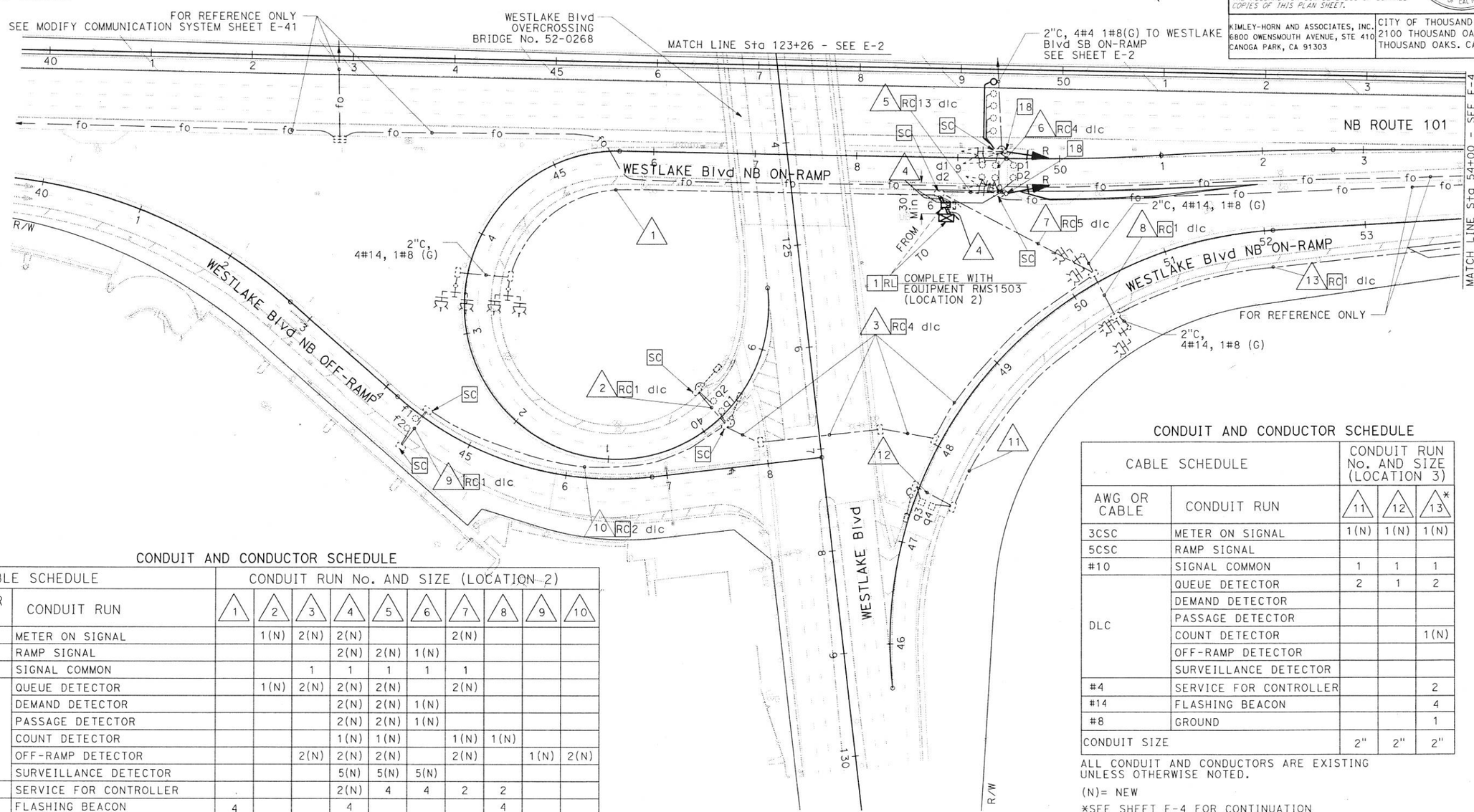
KEVIN G. AGUIGUI, No. E19880, Exp. 03/31/14, ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-3-13
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

KIMLEY-HORN AND ASSOCIATES, INC.
6800 OWENSMOUTH AVENUE, STE 410
CANOGA PARK, CA 91303

CITY OF THOUSAND OAKS
2100 THOUSAND OAKS BLVD
THOUSAND OAKS. CA 91362



CONDUIT AND CONDUCTOR SCHEDULE

CABLE SCHEDULE		CONDUIT RUN No. AND SIZE (LOCATION 2)									
AWG OR CABLE	CONDUIT RUN	1	2	3	4	5	6	7	8	9	10
3CSC	METER ON SIGNAL		1(N)	2(N)	2(N)			2(N)			
5CSC	RAMP SIGNAL				2(N)	2(N)	1(N)				
#10	SIGNAL COMMON			1	1	1	1	1			
DLC	QUEUE DETECTOR		1(N)	2(N)	2(N)	2(N)		2(N)			
	DEMAND DETECTOR				2(N)	2(N)	1(N)				
	PASSAGE DETECTOR				2(N)	2(N)	1(N)				
	COUNT DETECTOR				1(N)	1(N)		1(N)	1(N)		
	OFF-RAMP DETECTOR			2(N)	2(N)	2(N)		2(N)		1(N)	2(N)
	SURVEILLANCE DETECTOR				5(N)	5(N)	5(N)				
#4	SERVICE FOR CONTROLLER				2(N)	4	4	2	2		
#14	FLASHING BEACON	4			4				4		
#8	GROUND	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)		
CONDUIT SIZE		2"	2"	2"	2-3"(N)	3½"	2½"	3"	2"	2"	2"

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.
(N)= NEW

CONDUIT AND CONDUCTOR SCHEDULE

CABLE SCHEDULE		CONDUIT RUN No. AND SIZE (LOCATION 3)		
AWG OR CABLE	CONDUIT RUN	11	12	13*
3CSC	METER ON SIGNAL	1(N)	1(N)	1(N)
5CSC	RAMP SIGNAL			
#10	SIGNAL COMMON	1	1	1
DLC	QUEUE DETECTOR	2	1	2
	DEMAND DETECTOR			
	PASSAGE DETECTOR			
	COUNT DETECTOR			1(N)
	OFF-RAMP DETECTOR			
	SURVEILLANCE DETECTOR			
#4	SERVICE FOR CONTROLLER			2
#14	FLASHING BEACON			4
#8	GROUND			1
CONDUIT SIZE		2"	2"	2"

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.
(N)= NEW
*SEE SHEET E-4 FOR CONTINUATION

FOR PROJECT NOTES AND SYMBOLS SEE SHEET E-1
APPROVED FOR ELECTRICAL WORK ONLY

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: SRIKANTH CHAKRAVARTHY
CALCULATED-DESIGNED BY: KWASI AKWABI/ROSSINA CHICHIRI/ANGELA PINLEY
CHECKED BY: MICHAEL WASHKOWIAK
REVISED BY | DATE REVISED

LAST REVISION: DATE PLOTTED => 02-JUN-2013 | TIME PLOTTED => 15:57
02-07-13

BORDER LAST REVISED 7/2/2010
USERNAME => s109858
DGN FILE => 07000002011ua003.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 1821
PROJECT NUMBER & PHASE 07000002011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	23,101	3.3/3.8, R0.1/R4.5	454	652

REGISTERED ELECTRICAL ENGINEER — 03/25/13 DATE

6-3-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — KEVIN G. AGUIGUI — No. E19880 — Exp. 03/31/14 — ELECTRICAL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

KIMLEY-HORN AND ASSOCIATES, INC.
6800 OWENSMOUTH AVENUE, STE 410
CANOGA PARK, CA 91303

CITY OF THOUSAND OAKS
2100 THOUSAND OAKS BLVD
THOUSAND OAKS. CA 91362

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

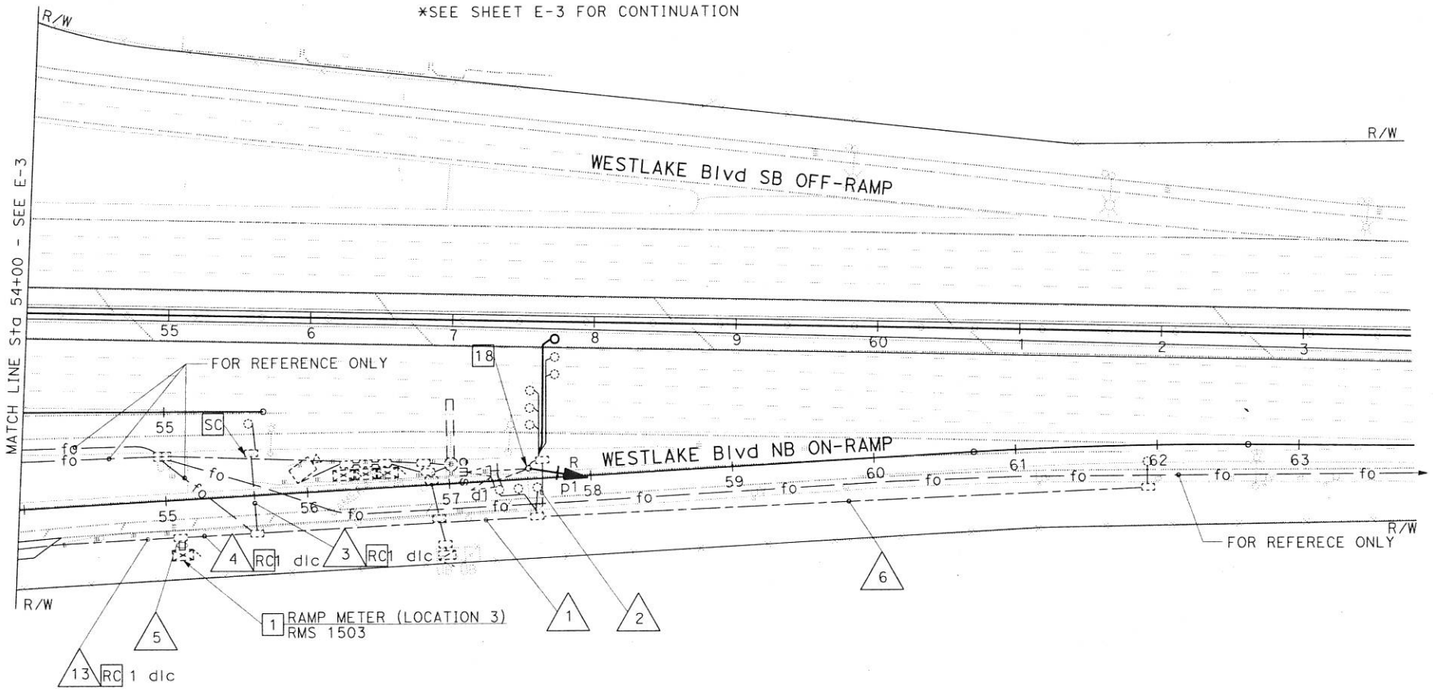
NOTES (THIS SHEET ONLY):

1. PRIOR TO THE START OF ANY CONSTRUCTION OF RAMP METERING ELEMENTS, THE CONTRACTOR SHALL INFORM RAMP METERING BRANCH 2 WEEKS IN ADVANCE TO ENSURE THE PRE-MARKED LOCATIONS OF STOP BARS, CABINETS, METER ON SIGNS, FLASHING BEACONS, LOOPS, ETC., ARE CORRECT.

CONDUIT AND CONDUCTOR SCHEDULE

CABLE SCHEDULE		CONDUIT RUN No. AND SIZE (LOCATION 3)						
AWG OR CABLE	CONDUIT RUN	13*	1	2	3	4	5	6
3CSC	METER ON SIGNAL	1(N)						
5CSC	RAMP SIGNAL		1(N)	1(N)		1(N)	1(N)	
#10	SIGNAL COMMON	1	1	1		1	2	
DLC	QUEUE DETECTOR	2					2	
	DEMAND DETECTOR		1			1	1	
	PASSAGE DETECTOR		1			1	1	
	COUNT DETECTOR	1(N)	1		1(N)	1(N)	1	1
	OFF-RAMP DETECTOR							
	SURVEILLANCE DETECTOR		5,1(N)	5,1(N)		5,1(N)	5,1(N)	
#4	SERVICE FOR CONTROLLER	2					2	
#14	FLASHING BEACON	4					4	
#8	GROUND	1(N)	1(N)	1(N)		1(N)	1(N)	
CONDUIT SIZE		2"	3"	2½"	2"	3"	2-3"	2"

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.
(N)= NEW
*SEE SHEET E-3 FOR CONTINUATION



FOR PROJECT NOTES AND SYMBOLS SEE SHEET E-1
APPROVED FOR ELECTRICAL WORK ONLY

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: SRIKANTH CHAKRAVARTHY
CALCULATED-DESIGNED BY: KWASI AKWABI/ROSSINA CHICHIRI ANGELA PINLEY
CHECKED BY: MICHAEL WASHKOWIAK
REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 08-JUN-2013 | TIME PLOTTED => 16:11

BORDER LAST REVISED 7/2/2010 | USERNAME => s109858 | DGN FILE => 07000002011ud004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1821 | PROJECT NUMBER & PHASE 07000002011

Bio strip

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
07	LA,Ven	23,101	Var	61	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID PADILLA — No. E16233 — Exp. 12-31-06 ELECTRICAL — STATE OF CALIFORNIA

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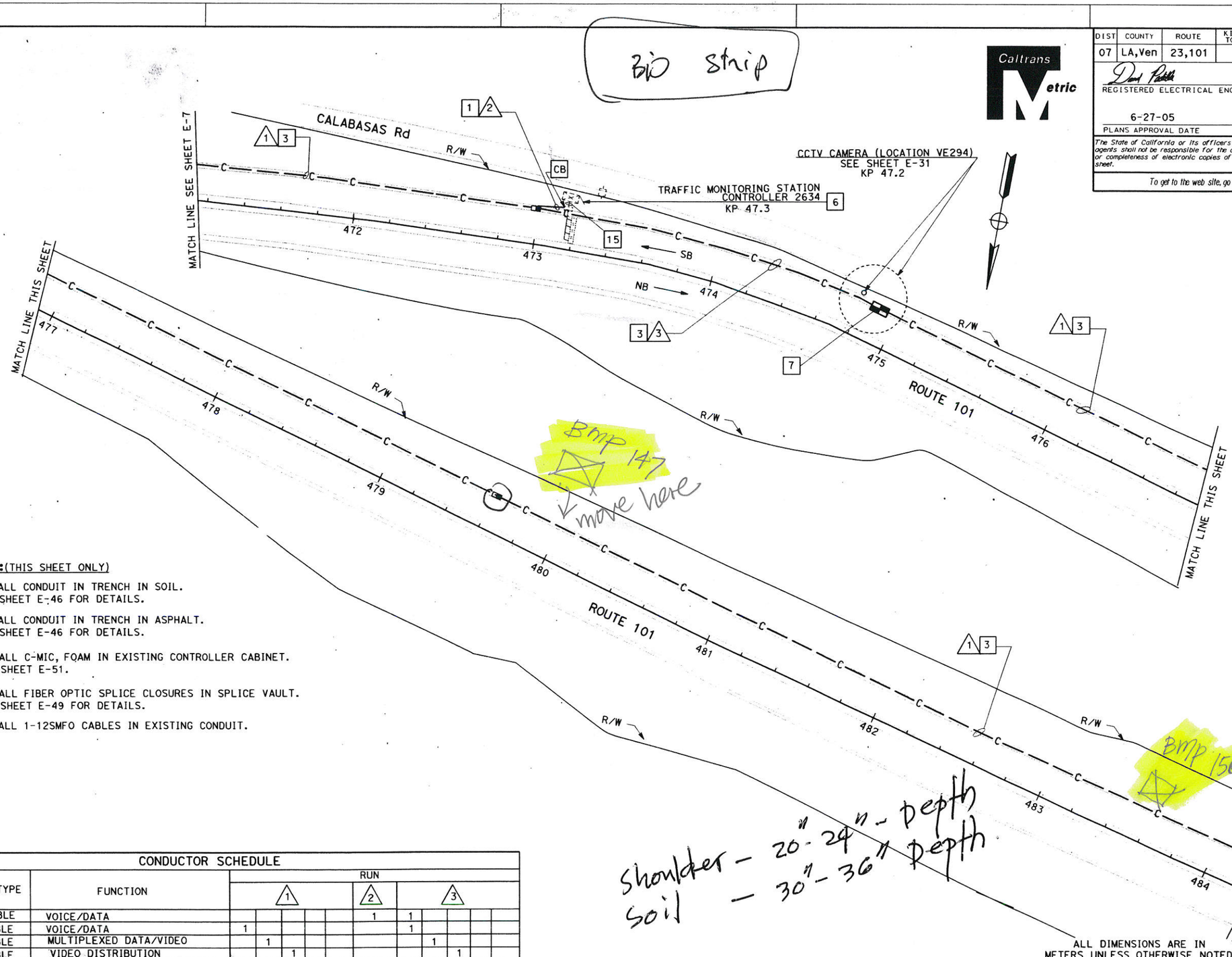
To get to the web site, go to: http://www.dot.ca.gov

Caltrans Metric



NOTES:(THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-46 FOR DETAILS.
6. INSTALL C-MIC, FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
15. INSTALL 1-12SMFO CABLES IN EXISTING CONDUIT.

Shoulder – 20"-24" depth
Soil – 30"-36" depth

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2	RUN 3				
12SMFO CABLE	VOICE/DATA						1	1				
48SMFO CABLE	VOICE/DATA	1						1				
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1						1			
48SMFO CABLE	VIDEO DISTRIBUTION			1						1		
	SIZE 25 INNERDUCT	1	1	1	1			1	1	1	1	
CONDUIT SIZE		103				103	53	103				103

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	CALCULATED/DESIGNED BY	CHECKED BY	DATE	REVISED BY	DATE REVISED
Caltrans ITS DESIGN	DAVID PADILLA	DAVID PADILLA	DAVID PADILLA	6/05		6/05

LAST REVISION 00-00-00 DATE PLOTTED => 29-JUN-2005 TIME PLOTTED => 10:58

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trmnguye
DGN FILE => 712088ua008.dgn

CU 07388 EA 120881

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	62	160

REGISTERED ELECTRICAL ENGINEER

DAVID PADILLA No. E16233 EXP. 12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-27-05
PLANS APPROVAL DATE

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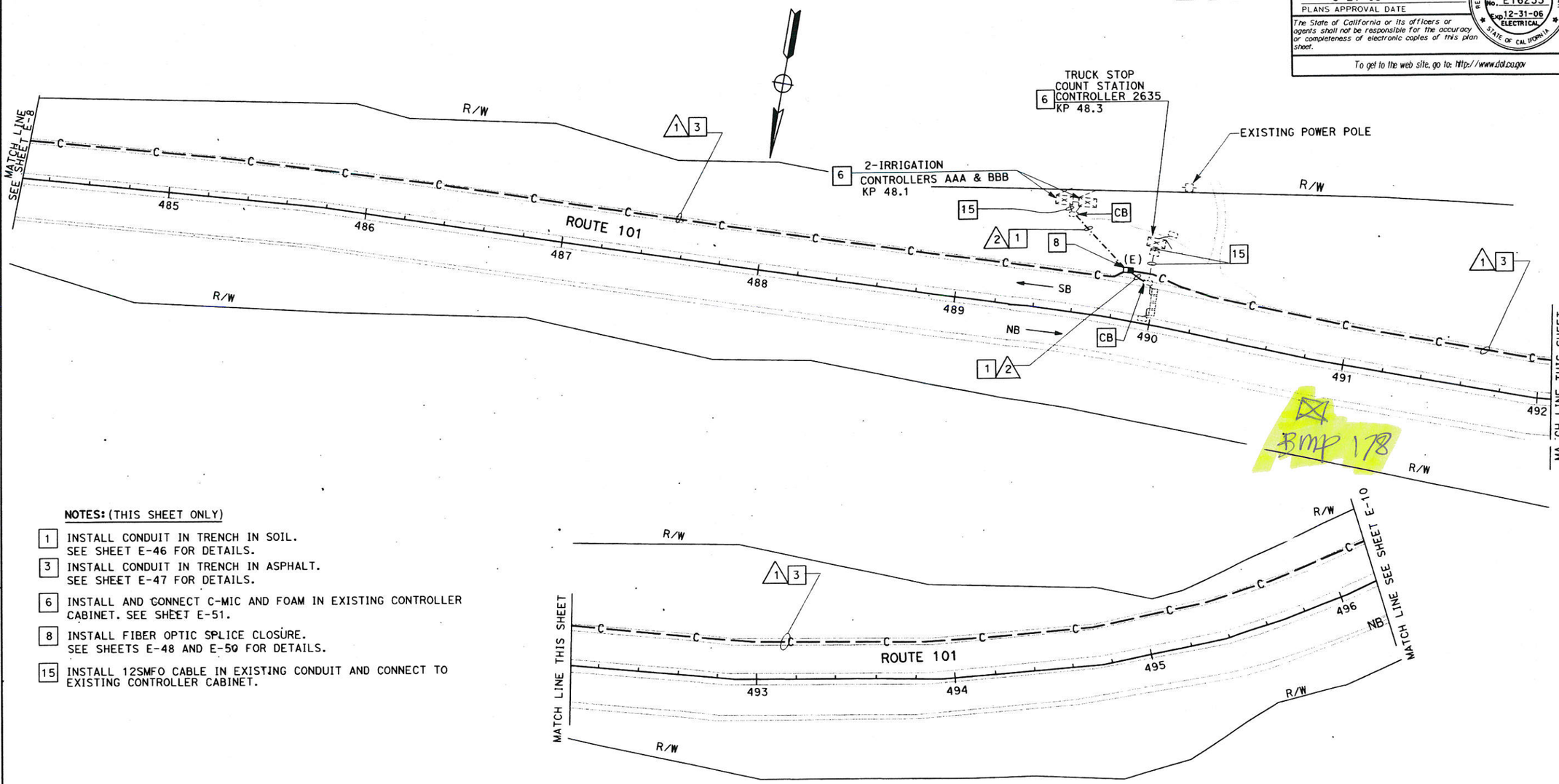
To get to the web site, go to: http://www.dot.ca.gov

DATE	REVISED BY
6/05	DAVID PADILLA
6/05	DATE REVISED

CALCULATED/DESIGNED BY: DAVID PADILLA
CHECKED BY: DAVID PADILLA

PROJECT ENGINEER: DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN



NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
6. INSTALL AND CONNECT C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
15. INSTALL 12SMFO CABLE IN EXISTING CONDUIT AND CONNECT TO EXISTING CONTROLLER CABINET.

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2
12SMFO CABLE	VOICE/DATA						1
48SMFO CABLE	VOICE/DATA	1					
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1				
48SMFO CABLE	VIDEO DISTRIBUTION			1			
	SIZE 25 INNERDUCT	1	1	1	1		
CONDUIT SIZE		103				103	53

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

COMMUNICATION SYSTEM ROUTING

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

SCALE 1:1000

E-9

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

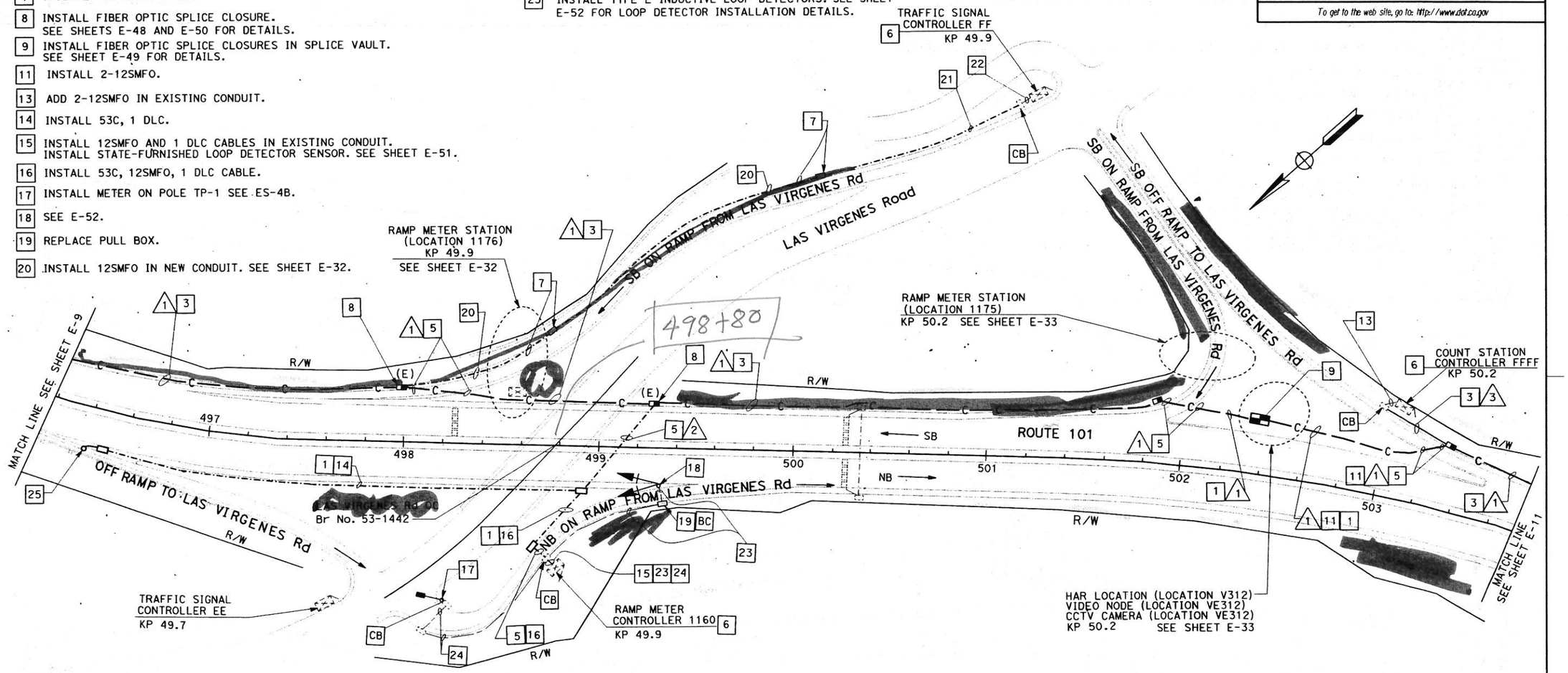
USERNAME => trnnguye
DGN FILE => 712088ua009.dgn

CU 07388 | EA 120881

LAST REVISION 00-00-00 DATE PLOTTED => 29-JUN-2005 TIME PLOTTED => 10:28

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. INCLUDED IN SHEET E-32.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
9. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
11. INSTALL 2-12SMFO.
13. ADD 2-12SMFO IN EXISTING CONDUIT.
14. INSTALL 53C, 1 DLC.
15. INSTALL 12SMFO AND 1 DLC CABLES IN EXISTING CONDUIT. INSTALL STATE-FURNISHED LOOP DETECTOR SENSOR. SEE SHEET E-51.
16. INSTALL 53C, 12SMFO, 1 DLC CABLE.
17. INSTALL METER ON POLE TP-1 SEE ES-4B.
18. SEE E-52.
19. REPLACE PULL BOX.
20. INSTALL 12SMFO IN NEW CONDUIT. SEE SHEET E-32.
21. INSTALL 53C IN ASPHALT. INSTALL 12SMFO.
22. ADD 12SMFO TO EXISTING CONDUIT AND CONNECT TO EXISTING CONTROLLER CABINET.
23. INSTALL 6#14, 1#10.
24. INSTALL 3#10.
25. INSTALL TYPE E INDUCTIVE LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.



CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2	RUN 3
12SMFO CABLE	VOICE/DATA						1	2
48SMFO CABLE	VOICE/DATA	1						
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1					
48SMFO CABLE	VIDEO DISTRIBUTION			1				
	SIZE 25 INNERDUCT	1	1	1	1			
CONDUIT SIZE		103				103	53	53

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-10

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	63	160

REGISTERED ELECTRICAL ENGINEER — DAVID PADILLA No. E16233 Exp.12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-27-05
PLANS APPROVAL DATE

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DATE	REVISED BY
6/05	DAVID PADILLA

DATE	REVISED
6/05	DAVID PADILLA

CALCULATED/DESIGNED BY: DAVID PADILLA
CHECKED BY: DAVID PADILLA

PROJECT ENGINEER: DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua010.dgn

CU 07388 | EA 120881

LAST REVISION 00-00-00 | DATE PLOTTED => 07-JUL-2005 | TIME PLOTTED => 07:07

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	64	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER DAVID PADILLA No. E16233 Exp. 12-31-06 ELECTRICAL STATE OF CALIFORNIA

To get to the web site, go to: http://www.dot.ca.gov

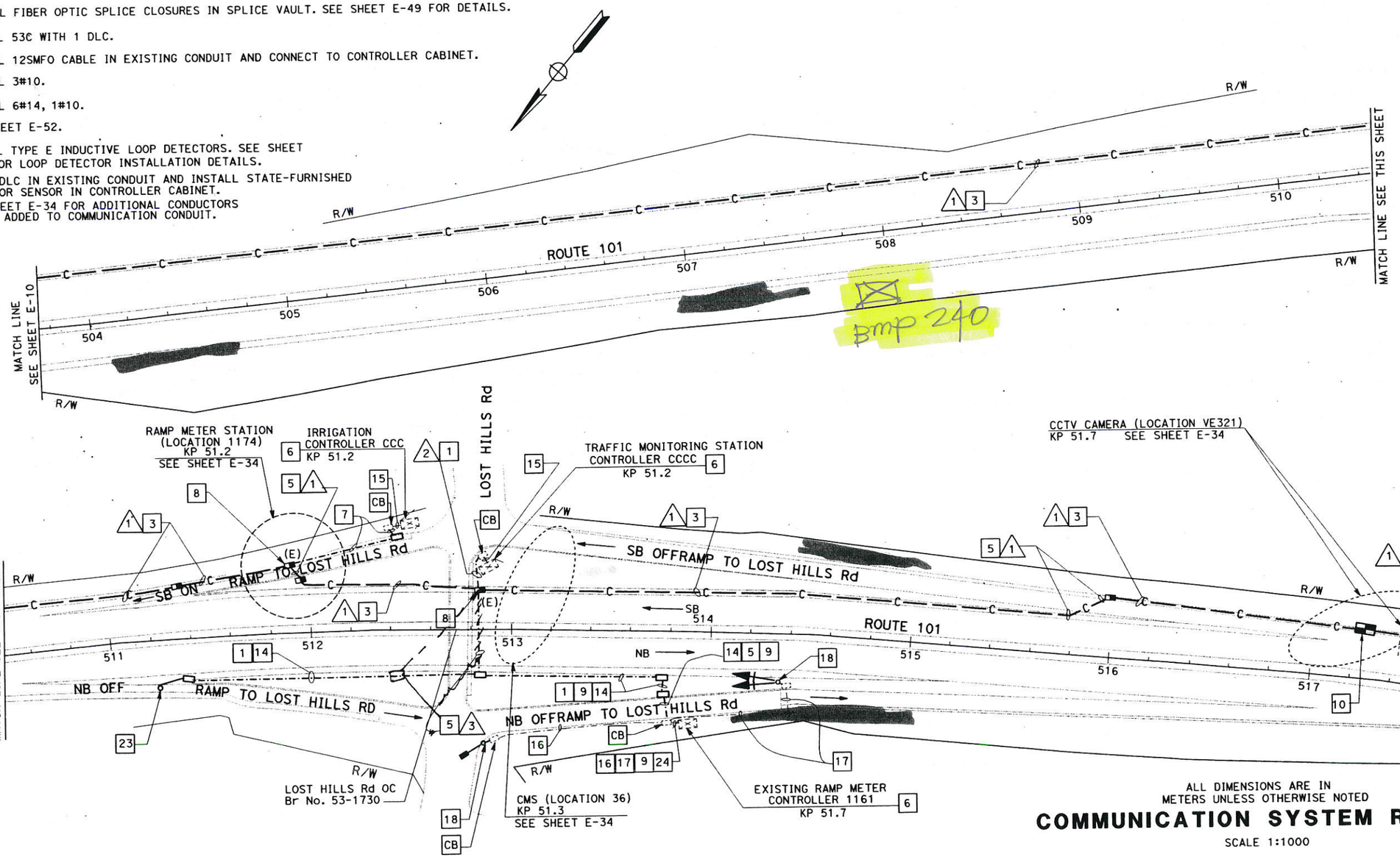
Caltrans Metric

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC, AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. SEE E-34 FOR CONDUIT INSTALLATION. INSTALL 12SMFO FOR IRRIGATION CABINET.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
9. INSTALL 12SMFO.
10. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
14. INSTALL 53C WITH 1 DLC.
15. INSTALL 12SMFO CABLE IN EXISTING CONDUIT AND CONNECT TO CONTROLLER CABINET.
16. INSTALL 3#10.
17. INSTALL 6#14, 1#10.
18. SEE SHEET E-52.
23. INSTALL TYPE E INDUCTIVE LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC IN EXISTING CONDUIT AND INSTALL STATE-FURNISHED DETECTOR SENSOR IN CONTROLLER CABINET.
25. SEE SHEET E-34 FOR ADDITIONAL CONDUCTORS TO BE ADDED TO COMMUNICATION CONDUIT.

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2	RUN 3
12SMFO CABLE	VOICE/DATA						1	1
48SMFO CABLE	VOICE/DATA	1						
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1					
48SMFO CABLE	VIDEO DISTRIBUTION			1				
	SIZE 25 INNERDUCT	1	1	1	1			
CONDUIT SIZE		103				103	53	103



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-11

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN

PROJECT ENGINEER: DAVID PADILLA
CALCULATED/DESIGNED BY: DAVID PADILLA
CHECKED BY: DAVID PADILLA
DATE 6/05
REVISED BY
DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trmnguye
DGN FILE => 712088ua011.dgn

CU 07388

EA 120881

LAST REVISION 00-00-00
DATE PLOTTED => 29-JUN-2005
TIME PLOTTED => 10:58

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	65	160

REGISTERED ELECTRICAL ENGINEER

DAVID PADILLA No. E16233 12-31-06 EXP. ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-27-05
PLANS APPROVAL DATE

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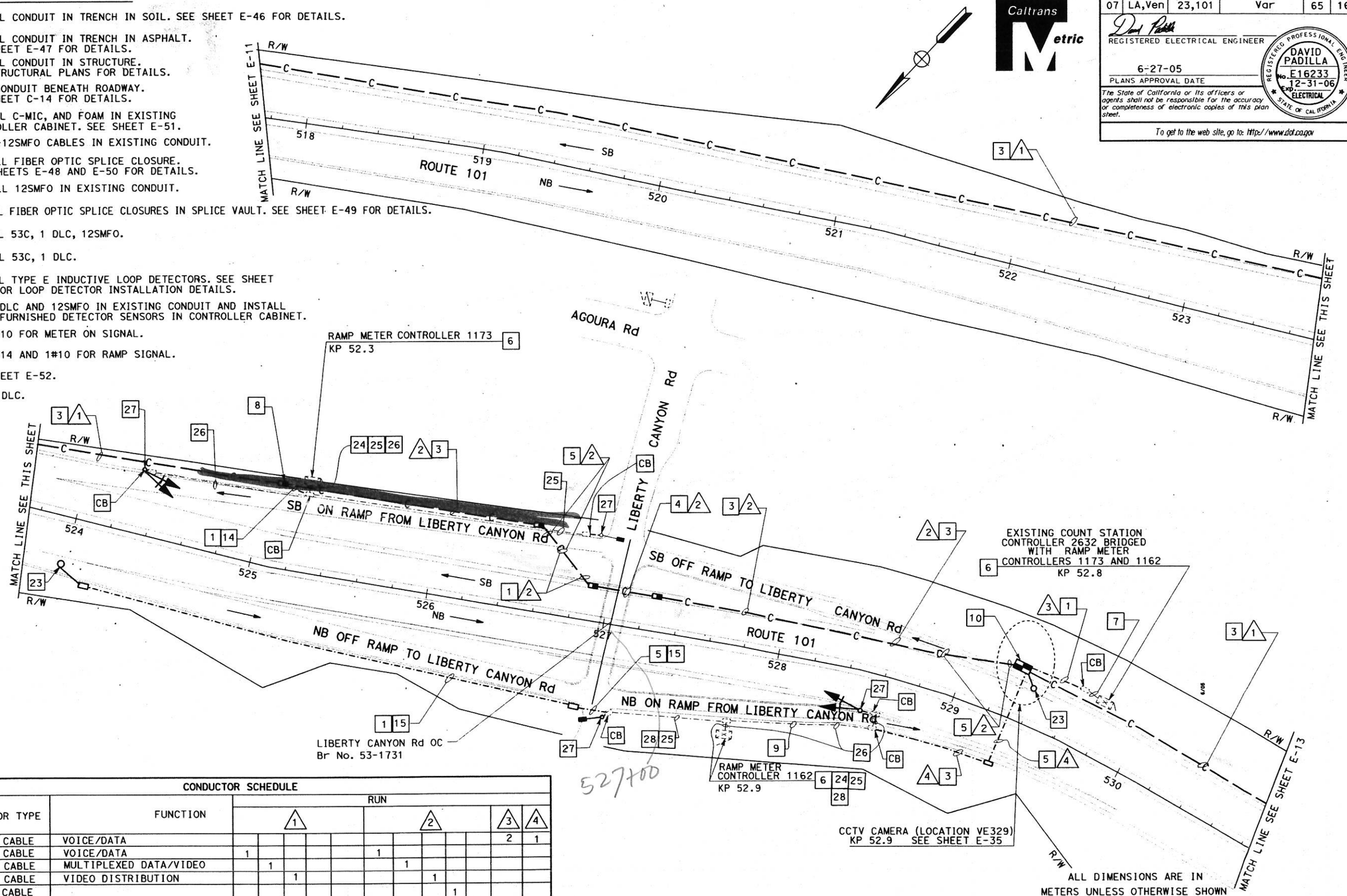
To get to the web site, go to: http://www.dot.ca.gov

Caltrans Metric

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
4. INSTALL CONDUIT IN STRUCTURE. SEE STRUCTURAL PLANS FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC, AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. ADD 2-12SMFO CABLES IN EXISTING CONDUIT.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
9. INSTALL 12SMFO IN EXISTING CONDUIT.
10. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
14. INSTALL 53C, 1 DLC, 12SMFO.
15. INSTALL 53C, 1 DLC.
23. INSTALL TYPE E INDUCTIVE LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC AND 12SMFO IN EXISTING CONDUIT AND INSTALL STATE-FURNISHED DETECTOR SENSORS IN CONTROLLER CABINET.
25. ADD 3#10 FOR METER ON SIGNAL.
26. ADD 6#14 AND 1#10 FOR RAMP SIGNAL.
27. SEE SHEET E-52.
28. ADD 1 DLC.



CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2					RUN 3	RUN 4
12SMFO CABLE	VOICE/DATA											2	1
48SMFO CABLE	VOICE/DATA	1					1						
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1					1					
48SMFO CABLE	VIDEO DISTRIBUTION			1					1				
DLC CABLE										1			
	SIZE 25 INNERDUCT	1	1	1	1		1	1	1	1			
CONDUIT SIZE		103				103	103				103	53	53

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans — ITS DESIGN

PROJECT ENGINEER: DAVID PADILLA

DATE	REVISED BY	DATE REVISED
6/05	DAVID PADILLA	6/05

CALCULATED/DESIGNED BY: DAVID PADILLA
CHECKED BY: DAVID PADILLA

LAST REVISION 00-00-00
DATE PLOTTED => 07-JUL-2005
TIME PLOTTED => 07:02

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS (0 20 40 60 80)

USERNAME => trienard
DGN FILE => 712088ua012.dgn

CU 07388 | EA 120881

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	66	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

DAVID PADILLA No. E16233 EXP. 12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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DATE	REVISED BY	DATE REVISED
6/05	DAVID PADILLA	6/05

CALCULATED/DESIGNED BY: DAVID PADILLA
CHECKED BY: DAVID PADILLA

PROJECT ENGINEER: DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN

MATCH LINE SEE SHEET E-12

R/W

ROUTE 101

SB

NB

MATCH LINE SEE THIS SHEET

MATCH LINE SEE THIS SHEET

SB OFF RAMP TO PALO COMADO CANYON Rd

PALO COMADO CANYON Rd OC
Br No. 53-1678

PALO COMADO CANYON Rd

NB ON RAMP FROM PALO COMADO CANYON Rd

CCTV CAMERA
(LOCATION VE336)
SEE SHEET E-36
KP 54.1

IRRIGATION
CONTROLLER DDD
KP 54.1

RAMP METER
CONTROLLER 1163
KP 54.1

Type E Loops

CHESEBRO Rd

DOROTHY Dr

EXISTING RAMP METER CONTROLLER 1172 BRIDGED WITH 1163
KP 54.2

CCTV, CCTV POLE, CONTROLLER CABINET AND ABANDONED PULL BOXES

SB OFF RAMP TO CHESEBRO Rd

LEWIS PEDESTRIAN OC
Br No. 53-998

LEWIS Rd

CHESEBRO CREEK

CHESEBRO CREEK UC
Br No. 53-755

BMP 25

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
4. INSTALL CONDUIT IN BRIDGE. SEE STRUCTURAL SHEETS FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC, AND FOAM AND ADD 12SMFO TO EXISTING CONTROLLER CABINET. SEE SHEET E-51.
8. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
9. ADD 3#10 IN EXISTING CONDUIT FOR METER ON SIGN.
10. ADD 2-12SMFO AND 6#14 AND 1#10 FOR RAMP SIGNAL IN EXISTING CONDUIT.
11. INSTALL 6#14 AND 1#10 FOR RAMP SIGNAL IN EXISTING CONDUIT.
12. INSTALL 3#10, 6#14 AND 1#10 IN EXISTING CONDUIT.
14. INSTALL 53C, 1 DLC.
23. INSTALL TYPE E LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC IN EXISTING CONDUIT AND INSTALL STATE-FURNISHED DETECTOR SENSORS IN CONTROLLER CABINET.
25. SEE SHEET E-52.

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2					RUN 3	RUN 4	RUN 5
12SMFO CABLE	VOICE/DATA									1		1	2	1
48SMFO CABLE	VOICE/DATA	1					1							
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1					1						
48SMFO CABLE	VIDEO DISTRIBUTION			1					1					
DLC CABLE												1		
	SIZE 25 INNERDUCT	1	1	1	1		1	1	1	1				
CONDUIT SIZE		103				103	103				103	53	53	53

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-13

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trmnguye
DGN FILE => 712088ua013.dgn

CU 07388

EA 120881

LAST REVISION 00-00-00
DATE PLOTTED => 29-JUN-2005
TIME PLOTTED => 10:58

CONDUCTOR SCHEDULE							
CONDUCTOR TYPE	FUNCTION	RUN 1					2
12SMFO CABLE	VOICE/DATA						1
48SMFO CABLE	VOICE/DATA	1					
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1				
48SMFO CABLE	VIDEO DISTRIBUTION			1			
	SIZE 25 INNERDUCT	1	1	1	1		
CONDUIT SIZE		103				103	53

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	67	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID PADILLA — No. E16233 — EXP. 12-31-06 — ELECTRICAL — STATE OF CALIFORNIA

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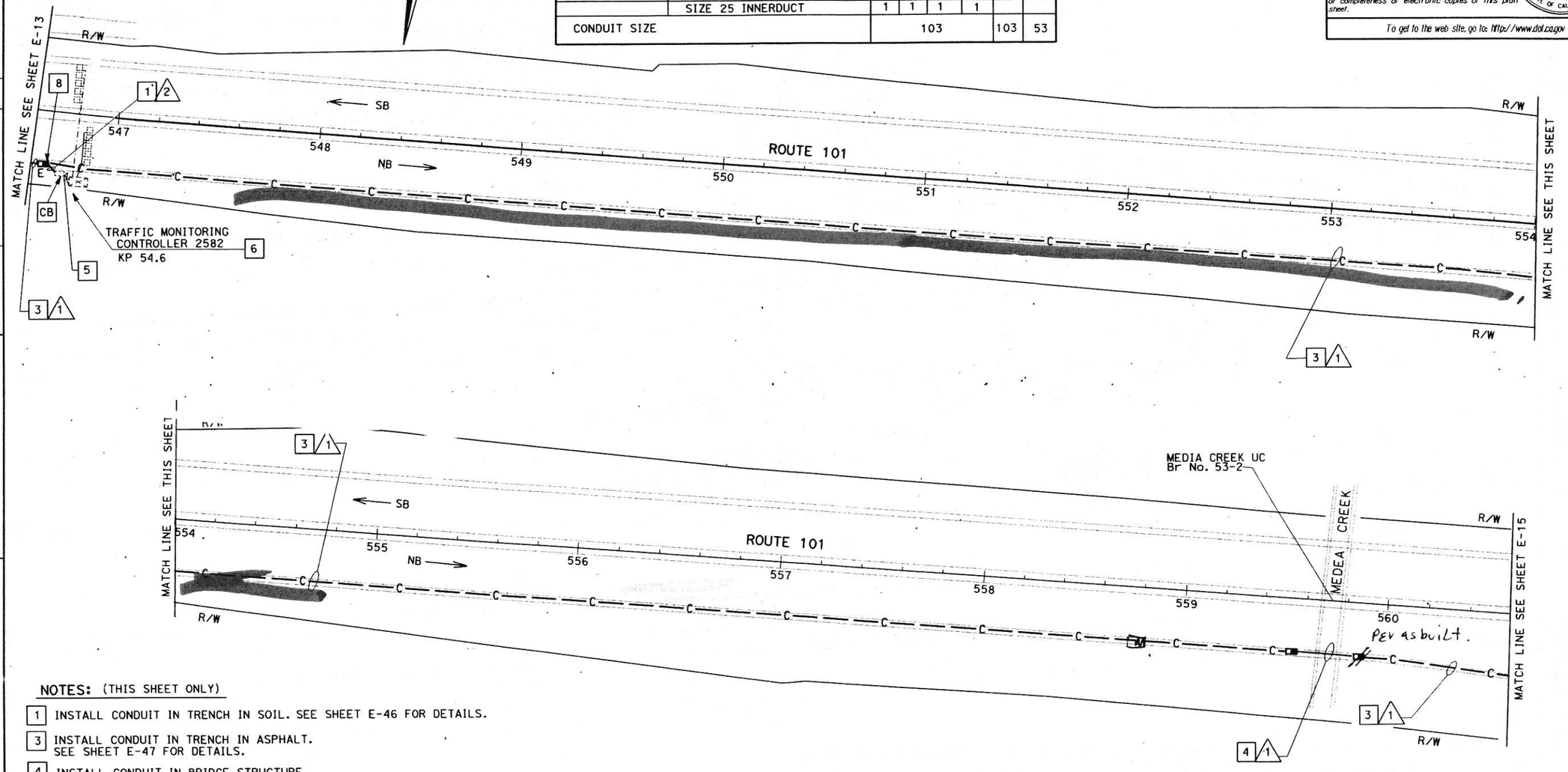
To get to the web site, go to: http://www.dot.ca.gov



NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
4. INSTALL CONDUIT IN BRIDGE STRUCTURE. SEE STRUCTURAL SHEETS FOR DETAILS.
5. INSTALL 12SMFO IN EXISTING CONDUIT.
6. INSTALL C-MIC, AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-14

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trmnguye
DGN FILE => 712088ua014.dgn

CU 07388

EA 120881

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN

PROJECT ENGINEER: DAVID PADILLA

CALCULATED/ DESIGNED BY	CHECKED BY	DATE	REVISED BY
DAVID PADILLA	DAVID PADILLA	6/05	DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 29-JUN-2005
TIME PLOTTED => 10:58

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	68	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

DAVID PADILLA No. E16233 EXP. 12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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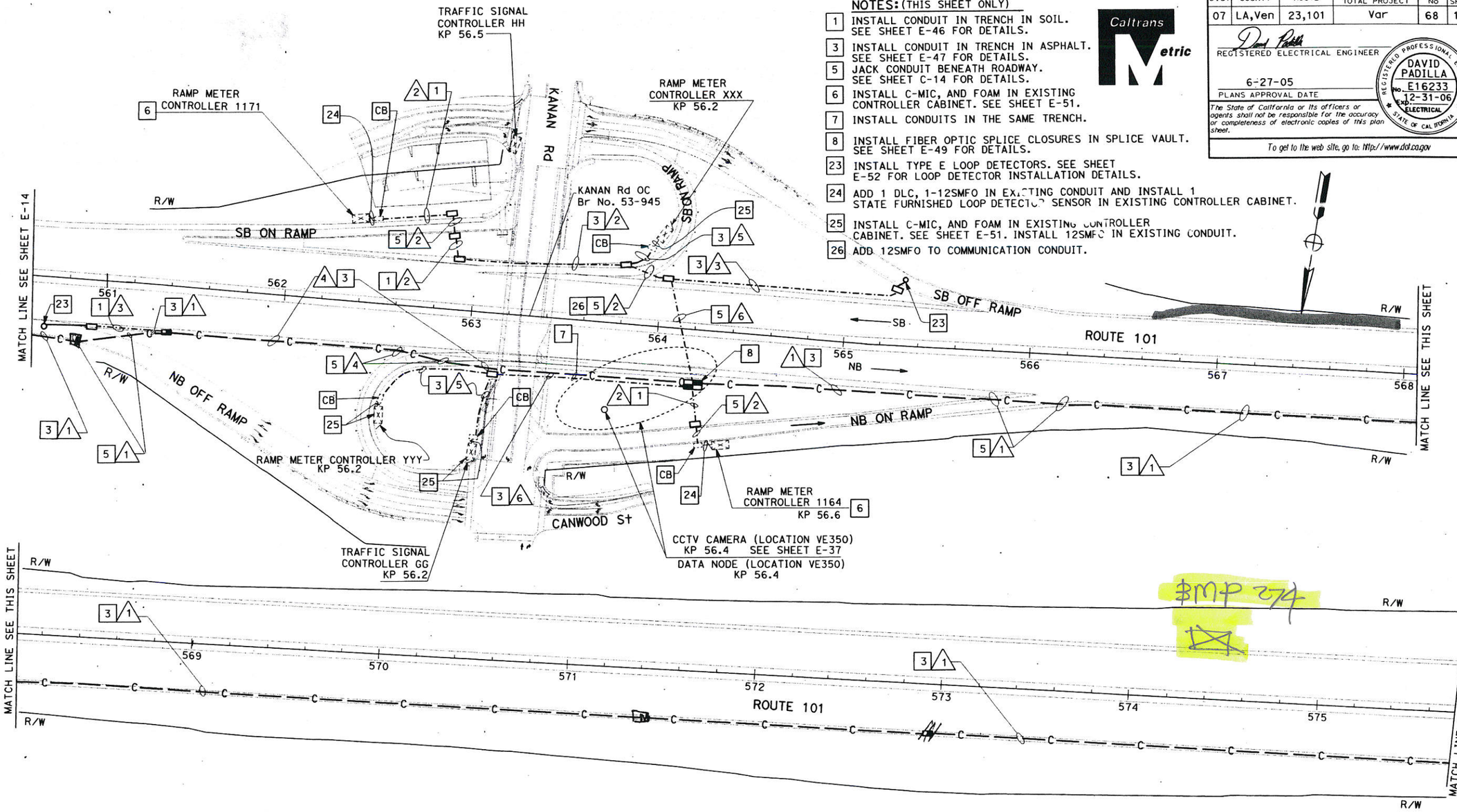
To get to the web site, go to: http://www.dot.ca.gov

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC, AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. INSTALL CONDUITS IN THE SAME TRENCH.
8. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
23. INSTALL TYPE E LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC, 1-12SMFO IN EXISTING CONDUIT AND INSTALL 1 STATE FURNISHED LOOP DETECTOR SENSOR IN EXISTING CONTROLLER CABINET.
25. INSTALL C-MIC, AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51. INSTALL 12SMFO IN EXISTING CONDUIT.
26. ADD 12SMFO TO COMMUNICATION CONDUIT.



CONDUCTOR SCHEDULE																
CONDUCTOR TYPE	FUNCTION	RUN														
		1					2	3	4						5	6
12SMFO CABLE	VOICE/DATA						1								1	2
48SMFO CABLE	VOICE/DATA	1							1							
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1							1						
48SMFO CABLE	VIDEO DISTRIBUTION			1							1					
DLC CABLE							1	1				1				
	SIZE 25 INNERDUCT	1	1	1	1				1	1	1	1				
CONDUIT SIZE		103				103	53	53	103					103	53	53

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-15

CALCULATED/ DESIGNED BY	CHECKED BY	DATE	REVISED BY	DATE	REVISED
DAVID PADILLA	DAVID PADILLA	6/05	DAVID PADILLA	6/05	DATE REVISED

PROJECT ENGINEER: DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ITS DESIGN

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED = 02-JUL-2005 | TIME PLOTTED = 08:13

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua015.dgn

CU 07388

EA 120881

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	69	160

REGISTERED ELECTRICAL ENGINEER

DAVID PADILLA No. E16233 Exp 12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-27-05
PLANS APPROVAL DATE

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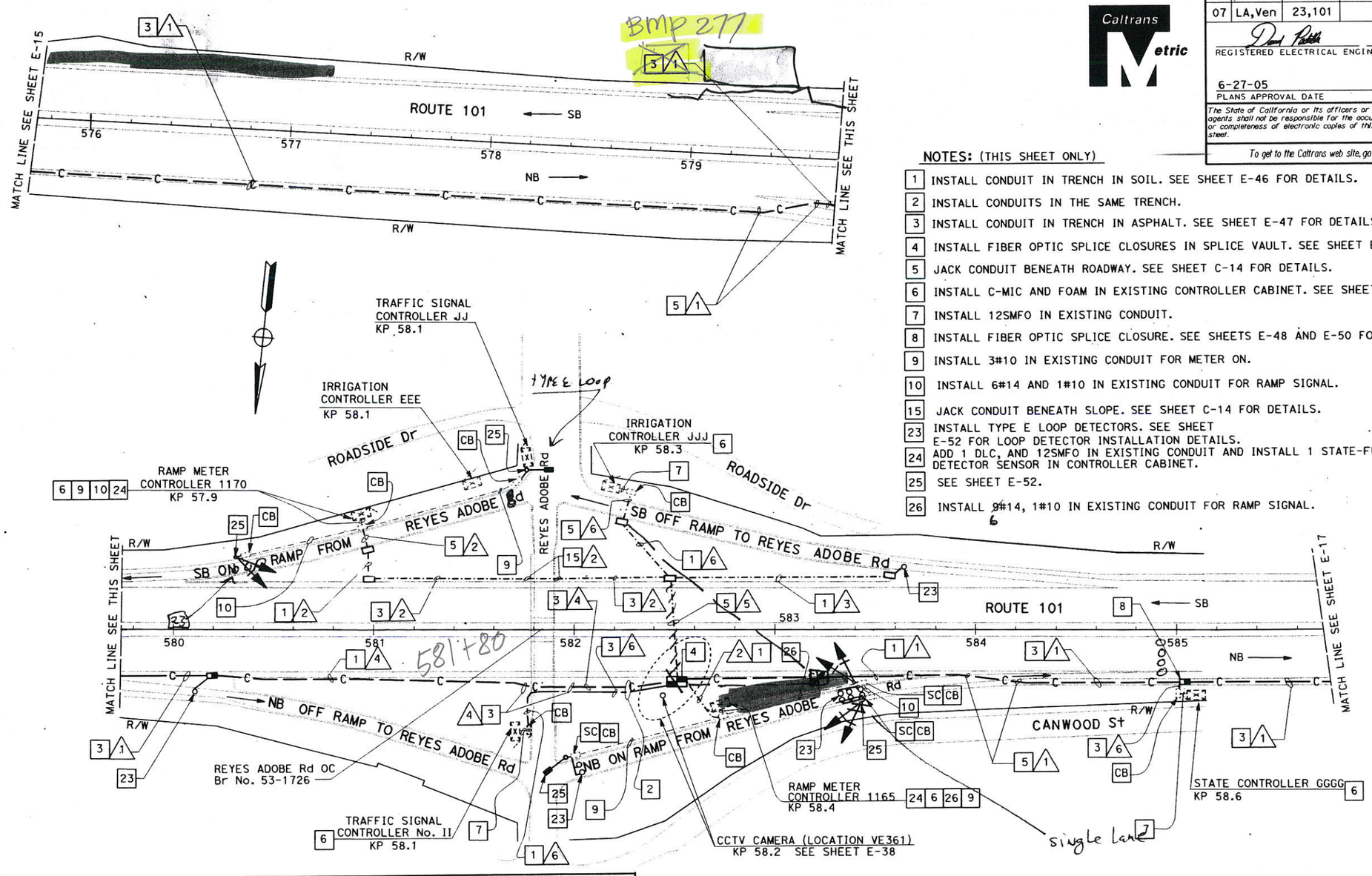
To get to the Caltrans web site, go to: http://www.dot.ca.gov

REVISED BY	DATE	CALCULATED/ DESIGNED BY	PROJECT ENGINEER
DAVID PADILLA	6/05	DAVID PADILLA	DAVID PADILLA
DATE REVISED		CHECKED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN



NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
2. INSTALL CONDUITS IN THE SAME TRENCH.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
4. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. INSTALL 12SMFO IN EXISTING CONDUIT.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
9. INSTALL 3#10 IN EXISTING CONDUIT FOR METER ON.
10. INSTALL 6#14 AND 1#10 IN EXISTING CONDUIT FOR RAMP SIGNAL.
15. JACK CONDUIT BENEATH SLOPE. SEE SHEET C-14 FOR DETAILS.
23. INSTALL TYPE E LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC, AND 12SMFO IN EXISTING CONDUIT AND INSTALL 1 STATE-FURNISHED LOOP DETECTOR SENSOR IN CONTROLLER CABINET.
25. SEE SHEET E-52.
26. INSTALL 9#14, 1#10 IN EXISTING CONDUIT FOR RAMP SIGNAL.

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1	2	3	4	5	6
12SMFO CABLE	VOICE/DATA		1			2	1
48SMFO CABLE	VOICE/DATA	1			1		
48SMFO CABLE	MULTIPLEXED DATA/VIDEO	1			1		
48SMFO CABLE	VIDEO DISTRIBUTION	1			1		
DLC CABLE			1	1	1		
	SIZE 25 INNERDUCT	1 1 1 1			1 1 1 1		
CONDUIT SIZE		103	53	53	103	103	53

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-16

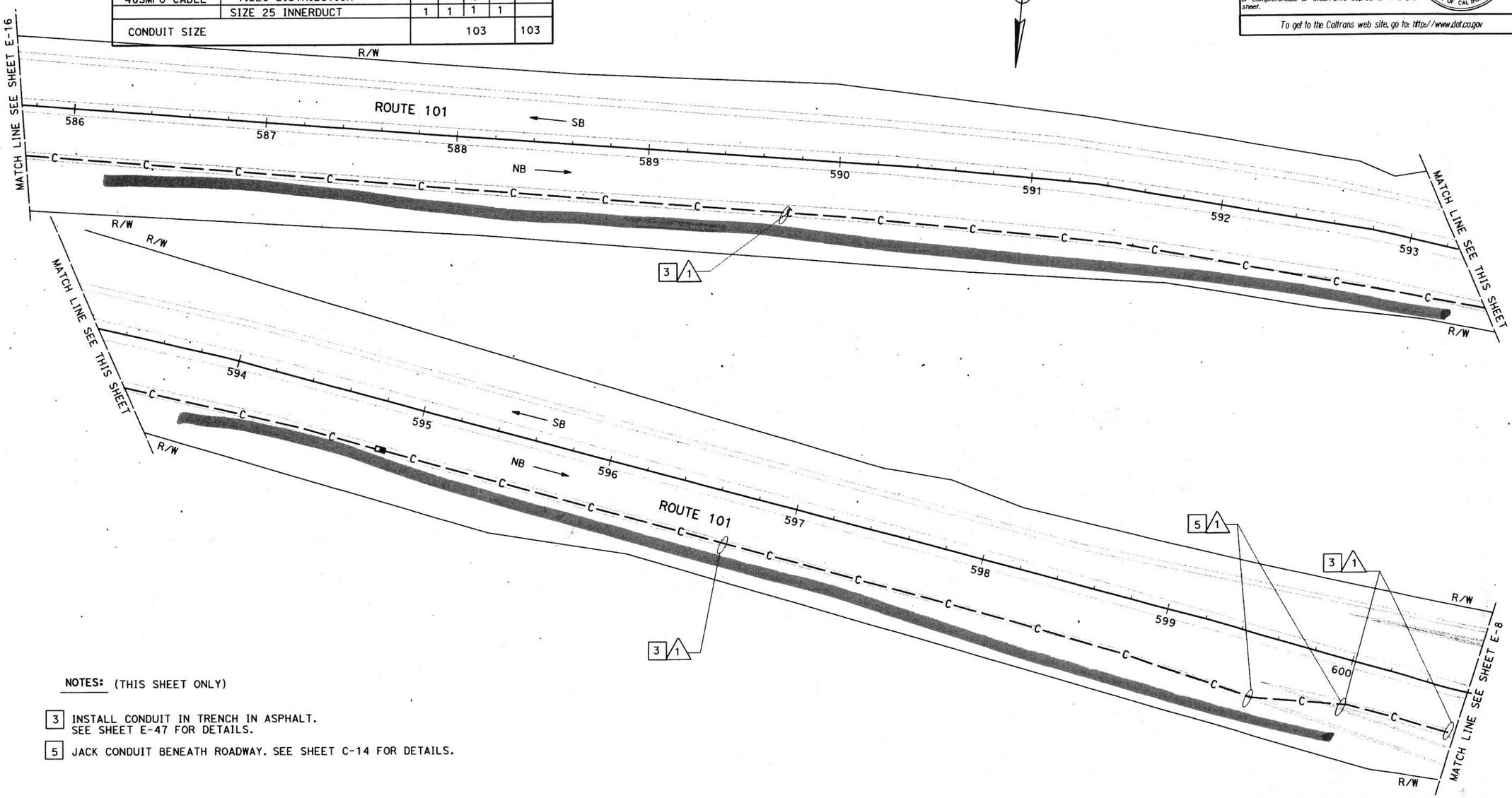
LAST REVISION 00-00-00 | DATE PLOTTED => 08-JUL-2005 | TIME PLOTTED => 09:19

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua016.dgn

CU 07388 | EA 120881

CONDUCTOR SCHEDULE						
CONDUCTOR TYPE	FUNCTION	RUN 1				
48SMFO CABLE	VOICE/DATA	1				
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1			
48SMFO CABLE	VIDEO DISTRIBUTION			1		
	SIZE 25 INNERDUCT	1	1	1	1	
CONDUIT SIZE		103				103



NOTES: (THIS SHEET ONLY)

[3] INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.

[5] JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-17

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua017.dgn

CU 07388

EA 120881

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	70	160

REGISTERED ELECTRICAL ENGINEER

DAVID PADILLA No. E16233 EXP. 12-31-06 ELECTRICAL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

6-27-05
PLANS APPROVAL DATE

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To get to the Caltrans web site, go to: http://www.dot.ca.gov

DATE	REVISED BY
6-05	DATE REVISED

CALCULATED/ DESIGNED BY	CHECKED BY
DAVID PADILLA	DAVID PADILLA

PROJECT ENGINEER: DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

ITS DESIGN

LAST REVISION 00-00-00 DATE PLOTTED => 07-JUL-2005 TIME PLOTTED => 07:03

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	71	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

DAVID PADILLA No. E16233 Exp. 12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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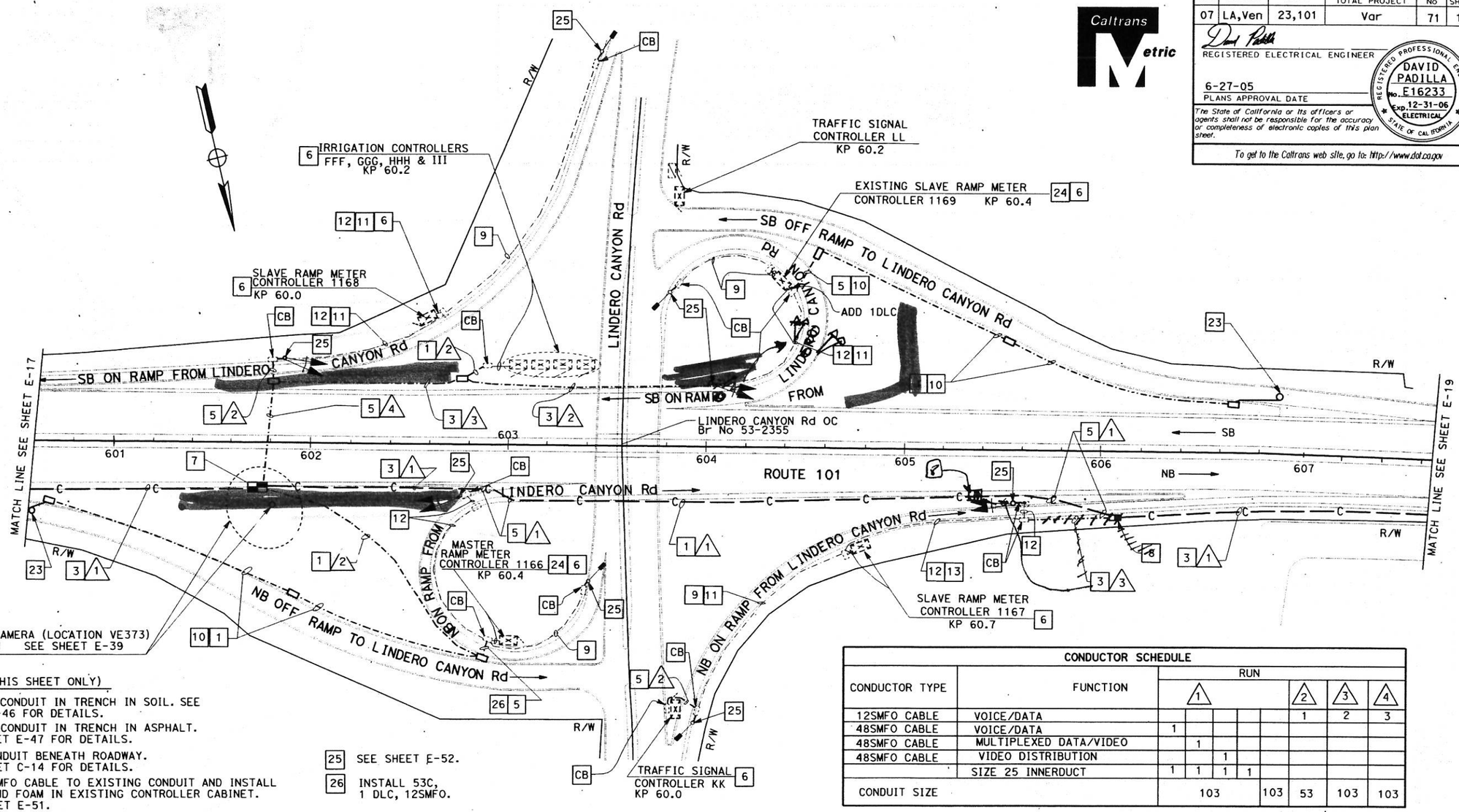
DATE	REVISED BY
6-05	DATE REVISED
DAVID PADILLA	DAVID PADILLA
CALCULATED/ DESIGNED BY	CHECKED BY

PROJECT ENGINEER
DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN



NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN TRENCH IN SOIL. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. ADD 12SMFO CABLE TO EXISTING CONDUIT AND INSTALL C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51.
7. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT. SEE SHEET E-49 FOR DETAILS.
8. INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.
9. INSTALL 3#10 IN EXISTING CONDUIT FOR METER ON SIGN.
10. INSTALL 53C, 1 DLC.
11. INSTALL 12SMFO IN EXISTING CONDUIT.
12. INSTALL 6#14 AND 1#10 IN EXISTING CONDUIT.
13. INSTALL 2-12SMFO IN EXISTING CONDUIT.
23. INSTALL TYPE E LOOP DETECTORS. SEE SHEET E-52 FOR LOOP DETECTOR INSTALLATION DETAILS.
24. ADD 1 DLC IN EXISTING CONDUIT AND INSTALL 1 STATE-FURNISHED LOOP DETECTOR SENSORS IN EXISTING CONTROLLER CABINET.
25. SEE SHEET E-52.
26. INSTALL 53C, 1 DLC, 12SMFO.

CONDUCTOR SCHEDULE

CONDUCTOR TYPE	FUNCTION	RUN 1					RUN 2	RUN 3	RUN 4
12SMFO CABLE	VOICE/DATA						1	2	3
48SMFO CABLE	VOICE/DATA	1							
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1						
48SMFO CABLE	VIDEO DISTRIBUTION			1					
	SIZE 25 INNERDUCT	1	1	1	1				
CONDUIT SIZE		103				103	53	103	103

see also Lindero Improvement Job

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-18

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua018.dgn

CU 07388

EA 120881

LAST REVISION 00-00-00
DATE PLOTTED => 07-JUL-2005
TIME PLOTTED => 07:03

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	72	160

REGISTERED ELECTRICAL ENGINEER

6-27-05
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DAVID PADILLA No. E16233 Exp. 12-31-06 ELECTRICAL STATE OF CALIFORNIA

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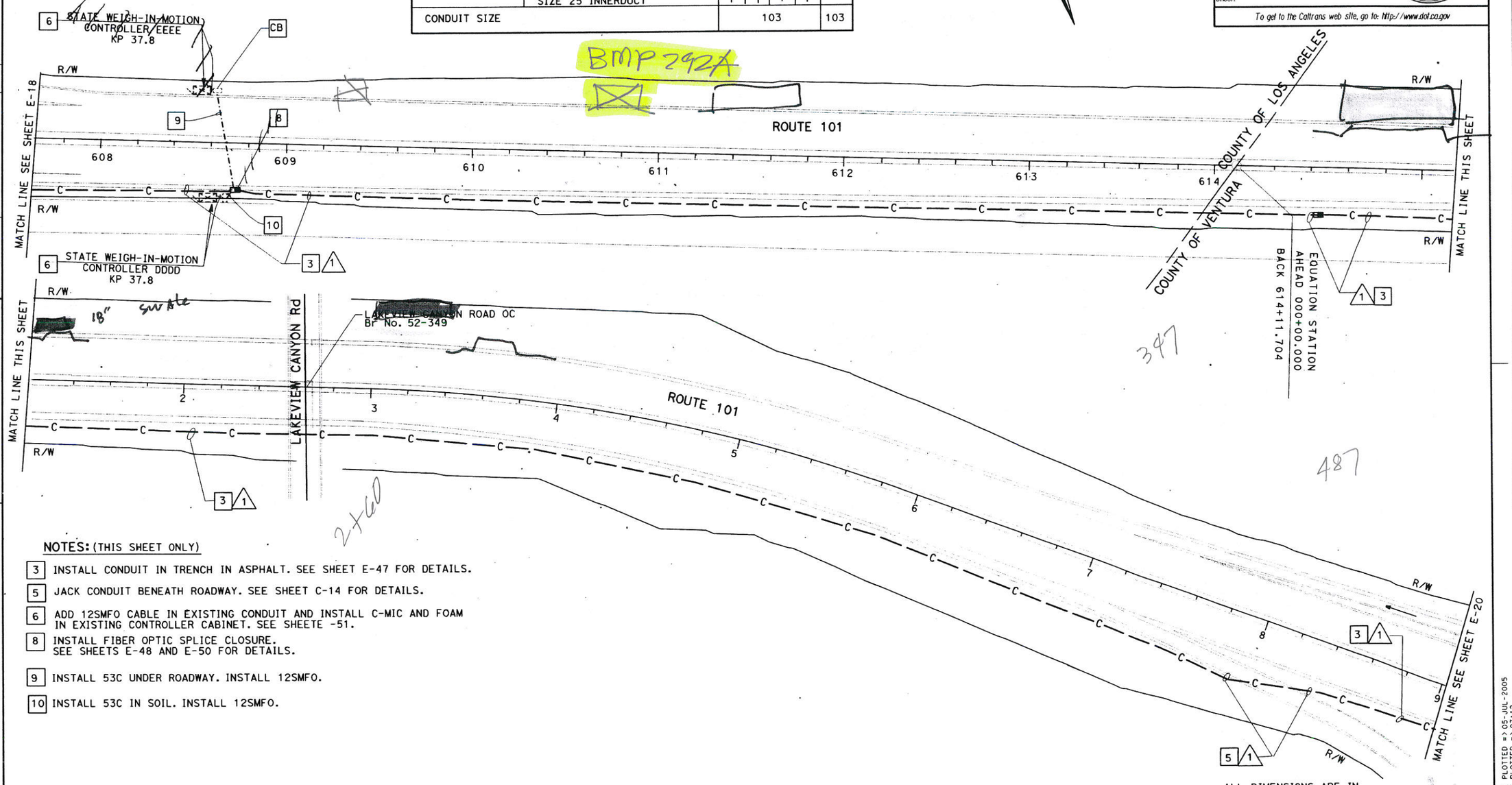
Caltrans Metric

CONDUCTOR SCHEDULE						
CONDUCTOR TYPE	FUNCTION	RUN 1				
48SMFO CABLE	VOICE/DATA	1				
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1			
48SMFO CABLE	VIDEO DISTRIBUTION			1		
	SIZE 25 INNERDUCT	1	1	1	1	
CONDUIT SIZE		103				103



NOTES: (THIS SHEET ONLY)

3 INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.

5 JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.

6 ADD 12SMFO CABLE IN EXISTING CONDUIT AND INSTALL C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEETE -51.

8 INSTALL FIBER OPTIC SPLICE CLOSURE. SEE SHEETS E-48 AND E-50 FOR DETAILS.

9 INSTALL 53C UNDER ROADWAY. INSTALL 12SMFO.

10 INSTALL 53C IN SOIL. INSTALL 12SMFO.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

E-19

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua019.dgn

CU 07388

EA 120881

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN

PROJECT ENGINEER DAVID PADILLA

CALCULATED/DESIGNED BY DAVID PADILLA DATE 6-05
CHECKED BY DAVID PADILLA 6-05
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 05-JUL-2005
TIME PLOTTED => 07:12

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA,Ven	23,101	Var	73	160

REGISTERED ELECTRICAL ENGINEER

DAVID PADILLA No. E16233 Exp.12-31-06 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-27-05
PLANS APPROVAL DATE

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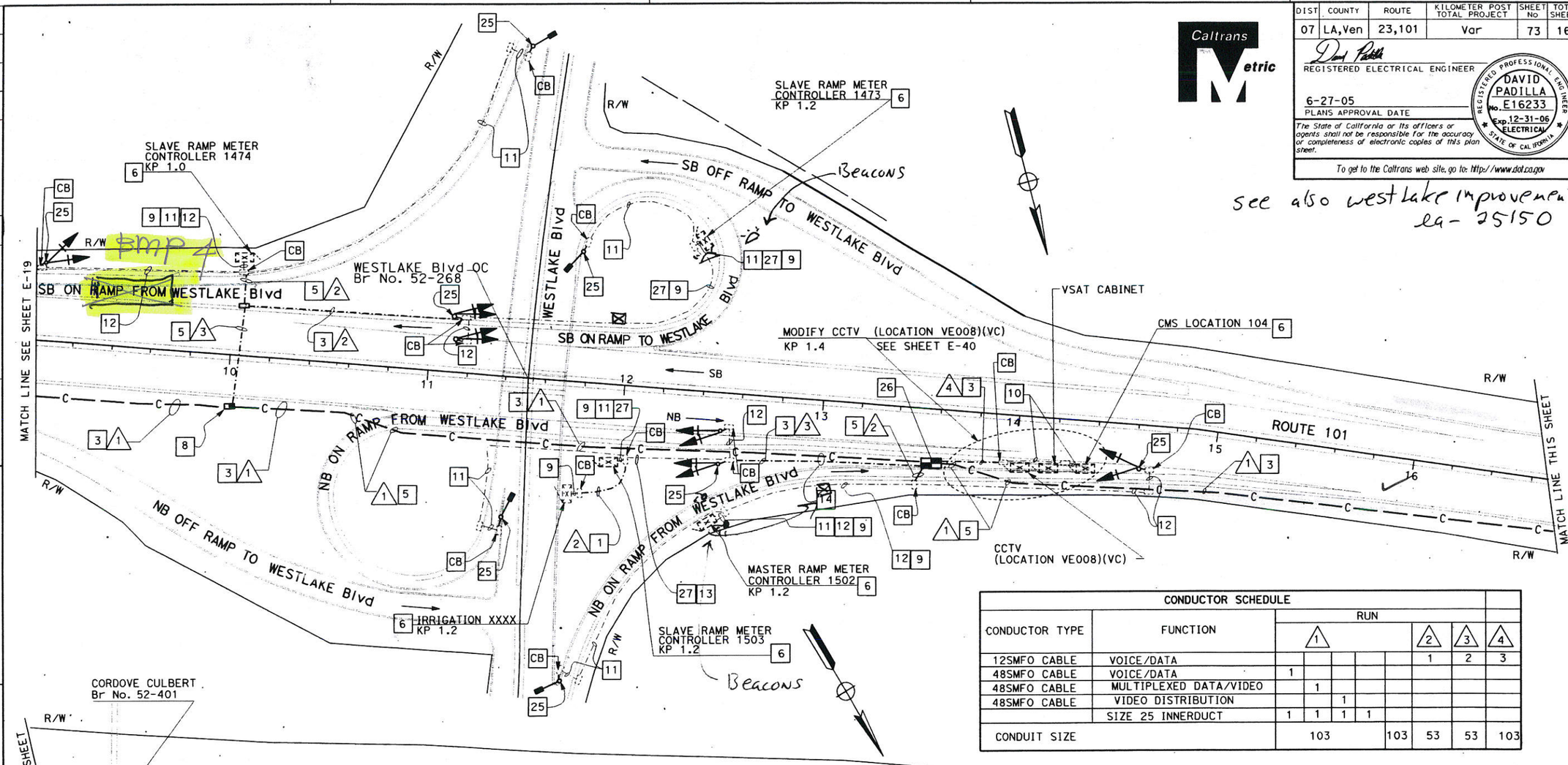
see also westlake improvement ea- 25150

DATE	REVISED BY
6-05	DAVID PADILLA
6-05	DAVID PADILLA

CALCULATED/DESIGNED BY
CHECKED BY

PROJECT ENGINEER
DAVID PADILLA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ITS DESIGN



CONDUCTOR SCHEDULE									
CONDUCTOR TYPE	FUNCTION	RUN 1					2	3	4
12SMFO CABLE	VOICE/DATA						1	2	3
48SMFO CABLE	VOICE/DATA	1							
48SMFO CABLE	MULTIPLEXED DATA/VIDEO		1						
48SMFO CABLE	VIDEO DISTRIBUTION			1					
	SIZE 25 INNERDUCT	1	1	1	1				
CONDUIT SIZE		103				103	53	53	103

NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN SOIL IN ASPHALT. SEE SHEET E-46 FOR DETAILS.
3. INSTALL CONDUIT IN TRENCH IN ASPHALT. SEE SHEET E-47 FOR DETAILS.
5. JACK CONDUIT BENEATH ROADWAY. SEE SHEET C-14 FOR DETAILS.
6. INSTALL C-MIC AND FOAM IN EXISTING CONTROLLER CABINET. SEE SHEET E-51; ADD 12SMFO AND CONNECT TO CONTROLLER.
8. INSTALL FIBER OPTIC SPLICE CLOSURE.
9. ADD 12SMFO IN EXISTING CONDUIT.
10. RC 12P22 CABLE. INSTALL 1-12SMFO IN EXISTING CONDUIT.
11. INSTALL 3#10 IN EXISTING CONDUIT.
12. INSTALL 6#14 AND 1#10 IN EXISTING CONDUIT.
13. INSTALL 2-12SMFO IN EXISTING CONDUIT.
14. INSTALL CONDUITS IN THE SAME TRENCH.
25. SEE SHEET E-52.
26. INSTALL FIBER OPTIC SPLICE CLOSURES IN SPLICE VAULT SEE SHEET E-49 FOR DETAILS.
27. INSTALL 9#14, 1#10 IN EXISTING CONDUIT.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM ROUTING

SCALE 1:1000

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

E-20

LAST REVISION 00-00-00
DATE PLOTTED => 05-JUL-2005
TIME PLOTTED => 07:12

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 712088ua020.dgn

CU 07388 EA 120881