CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

July 5, 2017

Mr. David Beroukhim
Radiant Services Corporation
651 West Knox Street
Gardena, California 90248

Certified Mail
Return Receipt Required
Claim No. 7016 0750 0000 3359 6264

Mr. Edgard Bertaut
TDY Industries, LLC
1000 Six PPG Place
Pittsburgh, Pennsylvania 15222

Certified Mail
Return Receipt Required
Claim No. 7016 0750 0000 3359 6271

REVISED MONITORING AND REPORTING PROGRAM NO. CI-10159 – RADIANT SERVICES CORPORATION, 651 WEST KNOX STREET, GARDENA, CALIFORNIA (FILE NO. 15-047, ORDER NO. R4-2014-0187, SERIES NO. 032, CI-10159, GLOBAL ID. WDR 100023409)

Dear Mr. Beroukhim and Mr. Bertaut,

On July 24, 2015, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) enrolled you under general Waste Discharge Requirements (General WDRs Order No. R4-2014-0187) with a Monitoring and Reporting Program (MRP) No. CI-10159 for a pilot test in the shallow and intermediate injection wells (EABIW-1S/EABIW-1I) to inject emulsified vegetable oil and potassium bromide for groundwater remediation of volatile organic compounds (VOCs).

The pilot test results indicated that in situ enhanced anaerobic bioremediation (ISEAB) is an appropriate technology to effectively treat VOCs impacted groundwater at the subject site. The pilot test also provided the site-specific data necessary for the design and implementation of a full-scale groundwater remediation system. On behalf of TDY Industries, LLC and Radiant Services Corporation, Fishbeck, Thompson, Carr & Huber, Inc. and S.S. Papadopulos & Associates, Inc. submitted the *In Situ Enhanced Anaerobic Bioremediation Supplemental Design Document* (Supplemental Design Document) dated April 14, 2017 for the implementation of the full-scale ISEAB treatment. On May 3, 2017, Regional Board Site Cleanup Unit staff approved the Supplemental Design Document.

It is estimated that 18,200 gallons of emulsified vegetable oil solution, 350 gallons of pH buffer, 44 gallons of vitamins, and 16 gallons (60 liters) of bioaugmentation culture (*Dehalococcoides sp.*) will be injected into 60 injection wells. The injection wells include 29 shallow zone wells (IEW-1S through IEW-29S) screened from approximately 30 to 50 feet below ground surface (bgs) and 31 intermediate zone wells (IEW-1I through IEW-31I) screened from approximately 60 to 90 feet bgs. The injection activities are expected to take approximately two months.

The proposed discharge shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, in excess of applicable limits (West Coast Basin of the Los Angeles Coastal Plain Groundwater Basin) given in Attachment B of General WDRs Order No. R4-2014-0187. The groundwater quality objectives are 800 milligrams per liter (mg/L) for total dissolved solids, 250 mg/L for sulfate, 250 mg/L for chloride, and 1.5 mg/L for boron.

The revised MRP, which incorporates additional injection materials, is enclosed. The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100023409. Please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

For all parties who upload electronic documents to State Database GeoTracker, it is no longer necessary to email a copy of these documents to losangeles@waterboards.ca.gov or submit hard copies to our office. The Regional Board will no longer accept documents (submitted by either hard copy or email) already uploaded to GeoTracker. Please see Electronic Submittal to the Los Angeles Regional Board for GeoTracker Users dated December 12, 2011 at: http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20Office%20for%20GT%20Users.pdf

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general WDR in a separate letter when the project is completed and the WDR is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

If you have any questions, please contact the Project Manager, Dr. Ann Chang at (213) 620-6122 (ann.chang@waterboards.ca.gov), or the Chief of Groundwater Permitting Unit, Dr. Eric Wu at (213) 576-6683 (eric.wu@waterboards.ca.gov).

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosure: Revised Monitoring and Reporting Program No. CI-10159 dated July 5, 2017

cc: Mr. Peter A. Lepczyk, Fishbeck, Thompson, Carr & Huber, Inc.

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

REVISED MONITORING AND REPORTING PROGRAM NO. CI-10159
FOR
RADIANT SERVICES CORPORATION
651 WEST KNOX STREET, GARDENA, CALIFORNIA

ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2014-0187 (SERIES NO. 032)
FILE NO. 15-047

I. MONITORING AND REPORTING REQUIREMENTS

A. Radiant Services Corporation and TDY Industries, LLC (hereinafter Dischargers) shall implement this Monitoring and Reporting Program (MRP) on the effective date (July 5, 2017) under Regional Board Order No. R4-2014-0187. The next monitoring report under this program shall be received at the Regional Board by **July 30, 2017**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

Monitoring Period	Report Due
January – March	April 30
April – June	July 30
July – September	October 30
October – December	January 30

B. If there is no discharge or injection, during any reporting period, the report shall so state. By March 1 of each year, the Dischargers shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Dischargers shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements.

C. The Dischargers shall comply with requirements contained in Section G of Order No. R4-2014-0187 "*Monitoring and Reporting Requirements*".

II. DISCHARGE MONITORING PROGRAM

The monitoring reports shall contain the following information regarding the injection activities:

1. Location map showing injection points used for emulsified vegetable oil, pH buffer, vitamins, and bioaugmentation culture.

2. Written and tabular summary defining depth of injection points, quantity and concentration of emulsified vegetable oil, pH buffer, vitamins, and bioaugmentation culture at each injection point, and total amount of emulsified vegetable oil, pH buffer, vitamins, and bioaugmentation culture injected at the Site.

3. Visual inspection at each injection point shall be conducted and recorded during the injection.

III. GROUNDWATER MONITORING PROGRAM

A groundwater monitoring program shall be implemented to evaluate impacts associated with the injection activity. Groundwater samples shall be collected from monitoring wells PES-MW2, PES-MW3, PES-MW7, PES-MW8, and PES-MW14 (Figure 1) for shallow zone monitoring, and from monitoring wells MW-18, MW-20I, MW-21I, MW-22I, and PES-MW13 (Figure 2) for intermediate zone monitoring. The Dischargers shall conduct a baseline sampling prior to the proposed injection, followed by specified schedules from all 10 monitoring wells for the following groundwater parameters:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Dissolved Oxygen	mg/L	grab	Baseline and quarterly after injection
Oxidation-Reduction Potential	millivolts	grab	Baseline and quarterly after injection
pH	pH units	grab	Baseline and quarterly after injection
Specific Conductivity	mS/cm	grab	Baseline and quarterly after injection
Temperature	°C	grab	Baseline and quarterly after injection
Turbidity	NTU	grab	Baseline and quarterly after injection

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total Organic Carbon	mg/L	grab	Baseline and quarterly after injection
Total Dissolved Solids	mg/L	grab	Baseline and quarterly after injection
Sulfate	mg/L	grab	Baseline and quarterly after injection
Chloride	mg/L	grab	Baseline and quarterly after injection
Boron	mg/L	grab	Baseline and quarterly after injection
Nitrate and Nitrite	mg/L	grab	Baseline and quarterly after injection
Volatile Organic Compounds	µg/L	grab	Baseline and quarterly after injection
Dissolved Gases (methane, ethane, and ethene)	mg/L	grab	Baseline and quarterly after injection
Dehalococcoides species	cells/mL	grab	Baseline and quarterly after injection

All groundwater monitoring reports must include, at a minimum, the following:

a. Well identification, date and time of sampling;
b. Sampler identification, and laboratory identification;
c. Observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Dischargers makes a request and the request is backed by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the _____day of _____at _____

_____(Signature)

_____(Title)"

VI. PUBLIC DOCUMENTS

All records and reports submitted in compliance with Regional Board Order No. R4-2014-0187 and Monitoring and Reporting Program No. CI-10159 are public documents and will be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties. Only proprietary information, and only at the request of the Dischargers will be treated as confidential.

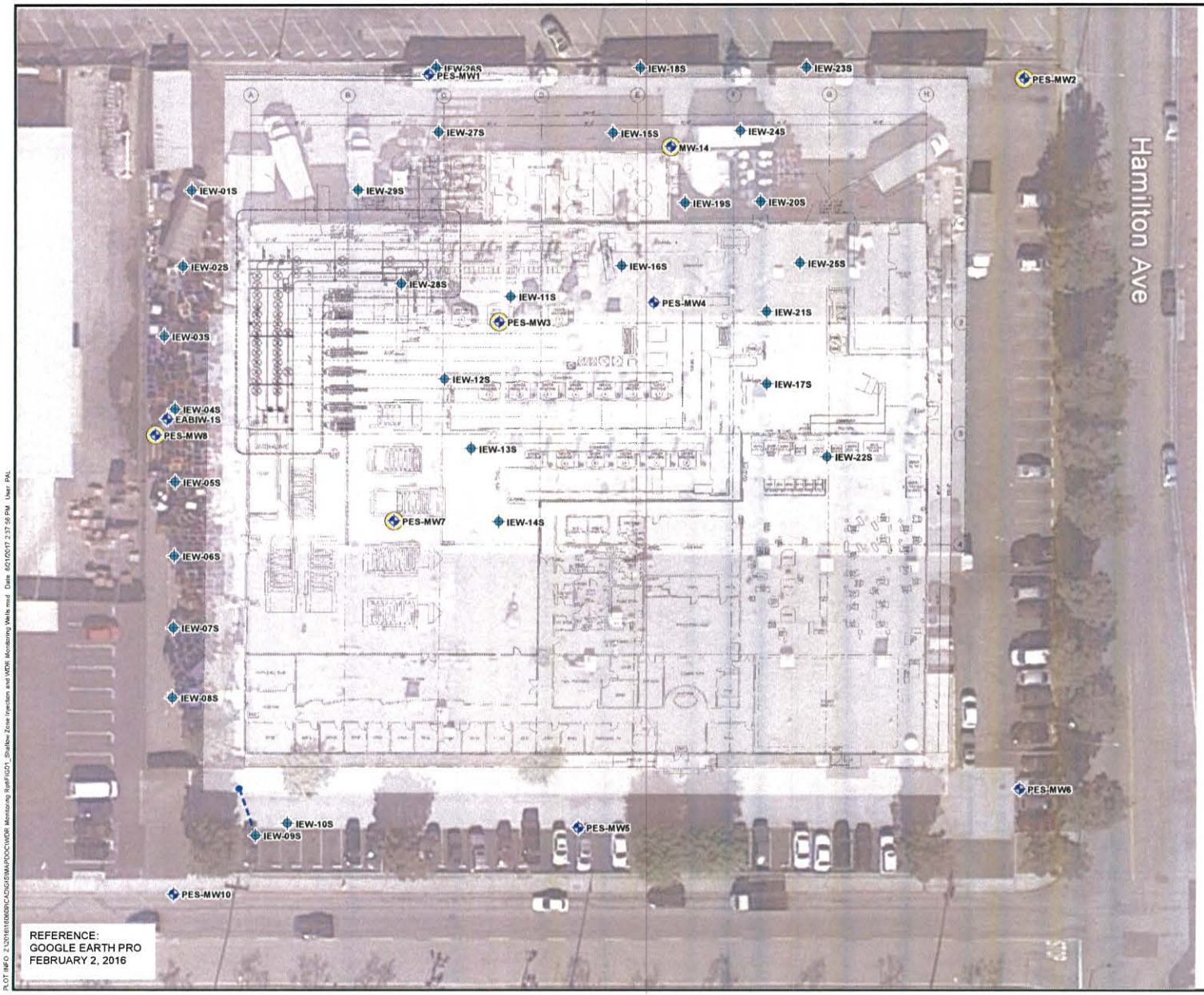
VII. ELECTRONIC SUBMITTAL OF INFORMATION

The Dischargers shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data in Electronic Deliverable Format, discharge location data, and searchable Portable Document Format of monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100023409.

Ordered by: Samuel Unger

Samuel Unger, P.E.
Executive Officer

Date: July 5, 2017



REFERENCE:
GOOGLE EARTH PRO
FEBRUARY 2, 2016

LEGEND

- Monitoring Well (Shallow)
- Injection/Extraction Well (Shallow)

WDR Monitoring Location

- Shallow

NOTE:
IEW-9S/I cluster was angle drilled due to the presence of utilities.

NORTH
0 20 40 FEET

SHALLOW ZONE INJECTION AND WDR MONITORING WELL LAYOUT

fr|c&h
engineers
scientists
architects
constructors

fishbeck, thompson, carr & huber, inc.

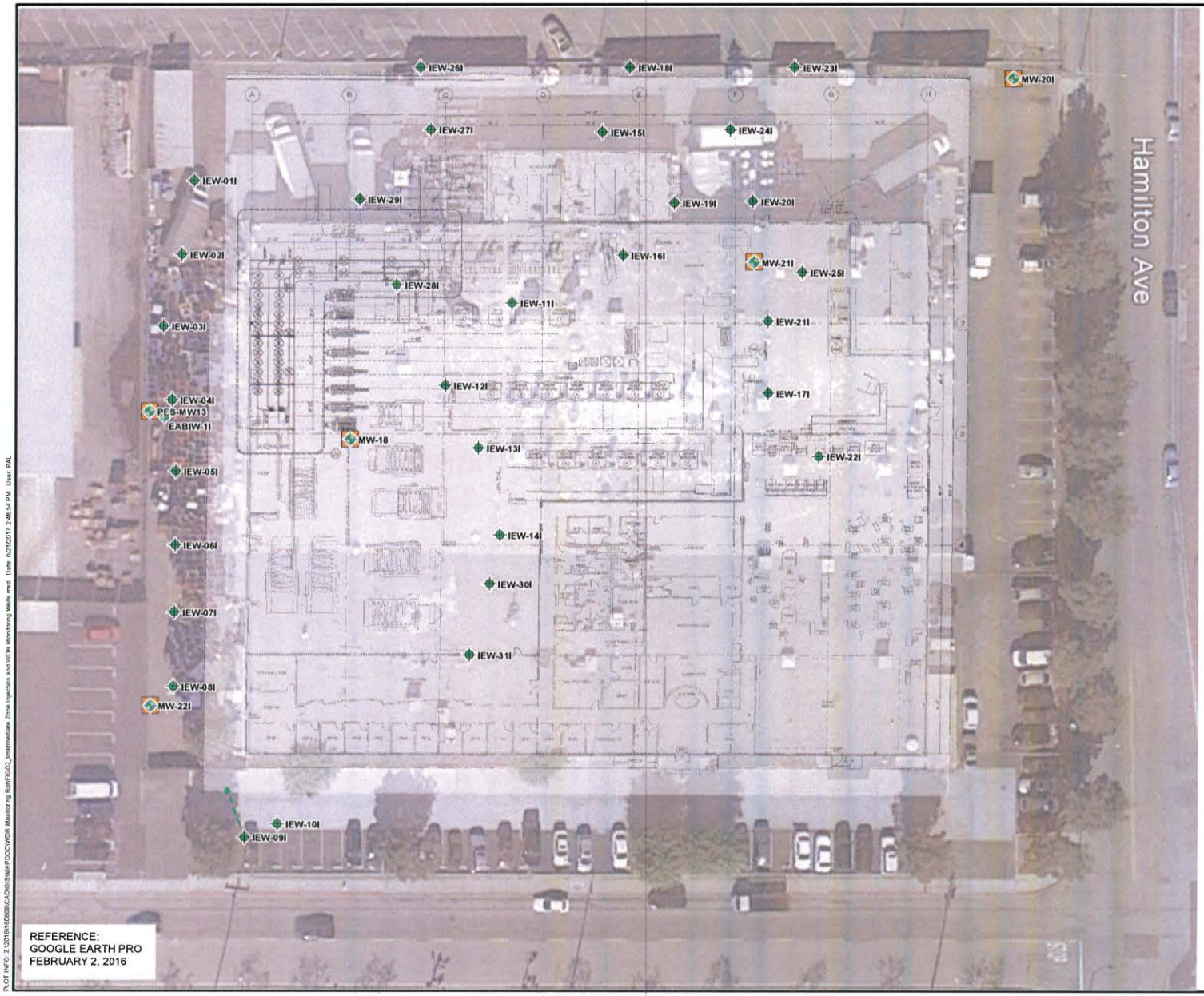
Hard copy is intended to be 11"x17" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

Radiant Services Corporation and Former Teledyne/Aeroquip Site
651 West Knox St., Gardena, California
Supplemental Information for Revised Report of Waste Discharge

PROJECT NO.
160609

FIGURE NO.
1

PLOT INFO: Z:\2016\160609\CAD\GIS\MAPDOC\WDR Monitoring Rpt\FIG01_Shallow Zone Injection and WDR Monitoring Wells.mxd Date: 6/21/2017 2:37:56 PM User: PAL



LEGEND

- Monitoring Well (Intermediate)
- Injection/Extraction Well (Intermediate)

WDR Monitoring Location

- Intermediate

NOTE:
IEW-9S/I cluster was angle drilled due to the presence of utilities.

NORTH
0 20 40 FEET

INTERMEDIATE ZONE INJECTION AND WDR MONITORING WELL LAYOUT

frc&h
engineers
scientists
architects
constructors

fishbeck, thompson, carr & huber, inc.

Hard copy is intended to be 11"x17" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

Radiant Services Corporation and Former Teledyne/Aeroquip Site
651 West Knox St., Gardena, California
Supplemental Information for
Revised Report of Waste Discharge

PROJECT NO.
160609

FIGURE NO.
2