

**ENGINEERING EVALUATION  
AUTHORITY TO CONSTRUCT**

**Facility Name:** Escondido Auto Park Express Wash

**Application Number:** APCD2025-APP-008556

**Equipment Type:** Retail Gas Station – 26A

**Facility ID:** APCD1990-SITE-07754

**Equipment Address:** 1400 Auto Park Way  
Escondido, CA 92029

**Facility Contact:** Tim Montijo

**Company Affiliation:** ECS

**Contact Title:** Project Manager

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**Permit Engineer:** John Lee

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**X**

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Allison Weller  
Senior Engineer

**Senior Engineer:**

## 1.0 BACKGROUND

- 1.1 Type of Application – This application is in response to APCD2025-NOV-000015. The applicant is applying for the following modification for their gas station: 1) conversion of the Phase II system from VR-203 to VR-204, to increase their annual gasoline throughput from 600,000 gallons to 1.8 million gallons.

Installation, operation and maintenance conditions will be incorporated into the ATC and PTO to ensure compliance with all requirements, regulations and standards in the applicable CARB Executive Order, relevant Installation, Operation and Maintenance Manual (IOMs) and District Rules and Regulations.

- 1.2 Permit History – This is an existing permitted gas station with the following modifications:

| Record ID           | Description  |
|---------------------|--|
| APCD1990-APP-891005 | Initial application: 24 nozzles, three (3) 10 kgal gasoline tanks, Phase I and II controls   |
| APCD2006-PTO-891005 | Approved permit for APP-891005   |
| APCD2003-APP-979714 | Replace Phase I to Phil-Tite VR-101; replace Phase II to Balance; New dispensers with 8 nozzles with 3 grades per nozzle. Actual throughput = 0.6 MGY, projected throughput = 1.5 MGY. |
| APCD2004-APP-981505 | Change hose configuration from exb 10 to exb 9b. Minor change.   |
| APCD2008-APP-987274 | Install Phase II, VR-202   |
| APCD2010-APP-001257 | Replace VR-202 with VR-203, VST Balance, VR Vapor Polisher without ISD.  |
| APCD2022-APP-007179 | Remove ISD   |
| APCD2024-APP-008165 | Replace dispensers   |
| APCD2025-APP-008556 | Current application to install ISD in response to NOV-000015   |

- 1.3 Facility Description – This is a retail gasoline dispensing facility.
- 1.4 Other Background Information – APCD2025-NOV-000015 for exceeding the 600,000 gallon throughput limit.

## 2.0 PROCESS DESCRIPTION

- 2.1 Equipment Description –

Current PTO:

Gasoline Dispensing Facility (Retail):

Eight (8) nozzles, as listed in Exhibit 1 of the Phase II Executive Order specified below, with three (3) grades per nozzle

Phase II VRS: VST Balance per ARB EO VR-204

Processor: Veeder-Root Vapor Polisher, model 332761-002, per Figure 2B-3, Exhibit 2 of ARB EO VR-204

Phase I VRS: Two Point Phil-Tite per ARB EO VR-101

Tanks: Three (3) 10,000 gallon, gasoline, underground {manifolded underground and aboveground}

ATC:

Gasoline Dispensing Facility (Retail):

Eight (8) nozzles, as listed in Exhibit 1 of the Phase II Executive Order specified below, with three (3) grades per nozzle

ISD System: Compliant Veeder Root Software Version

Phase II VRS: Balance per ARB EO VR-204

Processor: Veeder-Root Vapor Polisher per Exhibit 2 of ARB EO VR-204

Phase I VRS: Phil-Tite per ARB EO VR-101

Tanks: Three (3) 10,000 gallon, gasoline, underground {manifolded underground and aboveground}

- 2.2 Process – This is a facility equipped with a gasoline tank and the associated equipment to receive, store and dispense gasoline.
- 2.3 Emissions Controls – This facility is equipped with Phase I and Phase II controls.
- 2.4 Attachments – Refer to applicable Executive Order and/or Installation, Operation and Maintenance Manual for supporting information.

### 3.0 EMISSIONS

- 3.1 Emission Estimate Summary – The increase in VOC emissions resulting from the increase in throughput from 600,000 gallons per year to 1.8 million gallons is summarized in the table below:

Table 1: Pre- and Post-Project PTE

| VOC Emission Rates | Pre-project | Post-project | Increase |
|--------------------|-------------|--------------|----------|
| Lbs/hour           | 0.04        | 0.1          | 0.06     |
| Lbs/hour maximum*  | 4.5         | 4.6          | 0.1      |
| Lbs/day            | 0.9         | 2.6          | 1.7      |
| Lbs/year           | 320         | 960          | 640      |

*\* Maximum hourly emissions are based on the worst-case scenario where: gasoline is transferred from the mobile transport tank to the storage tank and from the storage tank to the vehicles within the same hour. However, the actual max hourly emissions are expected to be lower. Facilities are not allowed to fill tanks past 90% and most full deliveries are not filling an empty tank as fuel deliveries are typically ordered in advance before tanks run dry. Additionally, the average volume of bulk tank deliveries can also vary.*

Average Hourly Emissions are based on the projected annual gasoline throughput (gallons per year) over a time period of 365 days per year and 24 hours per day.

- 3.2 Emission Estimate Assumptions –  
The VOC emissions are calculated based on the SDCAPCD's Standard Calculation. (ref: [APCD-G11-Underground-Storage-w-Phase-I-and-II-EVR](#)).

Equations:

$$E_a = U_a \times EF_t \times C_i$$

$$E_h = T \times EF_l \times C_i$$

Variables:

|        |   |
|--------|---|
| $E_a$  | Annual emissions of gasoline vapor (lbs/year)             |
| $E_h$  | Maximum hourly emissions of gasoline vapor (lbs/hour)     |
| $U_a$  | Annual gasoline throughput (gallons/year)                 |
| $T$    | Maximum one-hour bulk gasoline delivery                   |
| $EF_t$ | Emission factor (combined) for throughput (lbs/gallon)    |
| $EF_l$ | Emission factor for underground tank loading (lbs/gallon) |

|       |  |
|-------|--|
| $C_i$ | Concentration of each listed substance in the gasoline vapor (lb/lb) |
|-------|--|

Emission Factors:

The above SDAPCD methodology requires the input of emission factors from CARB's Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities dated December 23, 2013 were used

(<https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf>), which are shown in the following table:

Table 2: Emission Factors:

| Sub Category                        | Revised (lbs/1000 gal) |
|-------------------------------------|------------------------|
|                                     | EVR                    |
| Phase II Fueling                    | 0.11                   |
| Phase I Bulk Transfer Losses        | 0.15                   |
| Pressure Driven Losses              | 0.024                  |
| Phase II Fueling – Spillage         | 0.24                   |
| Gasoline Dispensing Hose Permeation | 0.009                  |
| Year 2017                           |                        |
| <b>Total</b>                        | <b>0.53</b>            |

The Phase II Fueling emission factor for Non-ORVR and ORVR vehicles was calculated based on a weighted average per the “Engineering Manager Assigned Task – GDF Risk Assessment Report (Dated: 7/22/2014).” The document assumed ARB’s 2015 ORVR saturation rate of 0.78 for the state. The weighted average calculation is as follows:

$$\begin{aligned}
 & (\text{Percent NonORVR} \times \text{NonORVR EVR Emission Factor}) \\
 & + (\text{Percent ORVR} \times \text{ORVR EVR Emission Factor}) \\
 & = \text{Phase II Fueling Emission Factor}
 \end{aligned}$$

$$\begin{aligned}
 & \left( (1 - 0.78) \times 0.42 \frac{\text{lbs}}{1000 \text{ gallons}} \right) + \left( 0.78 \times 0.021 \frac{\text{lbs}}{1000 \text{ gallons}} \right) \\
 & = 0.11 \frac{\text{lbs}}{1000 \text{ gallon}}
 \end{aligned}$$

### 3.3 Emission Calculations –

Emissions Post Construction:

| Variable | Value            | Units            | Description                              |
|----------|------------------|------------------|--|
| $U_A$    | <b>1,800,000</b> | gallons/year     | Annual Gasoline Throughput               |
| $EF_T$   | <b>0.53</b>      | lbs/1000 gallons | Total Emission Factor                    |
| $C_i$    | 1                | lbs/lb           | Concentration of VOCs in gasoline vapor  |
| $E_A$    | <b>957</b>       | lbs/year         | Annual VOC Emissions: $U_A * EF_T * C_i$ |

|                       |             |           |  |
|-----------------------|-------------|-----------|--|
| $E_A$                 | <b>0.48</b> | tons/year | Annual VOC Emission: $E_A * (1 \text{ ton}/2000 \text{ lbs})$  |
| $E_D$                 | <b>2.6</b>  | lbs/day   | Daily VOC Emissions: $E_A * (1 \text{ year}/365 \text{ days})$   |
| $E_{H\text{average}}$ | <b>0.11</b> | lbs/hour  | Average Hourly VOC Emissions:<br>$E_D * (1 \text{ day}/24 \text{ hours})$                                      |
| $E_{H\text{max}}$     | <b>3.5</b>  | lbs/hour  | MAX Hourly VOC Emissions: (Tank capacity* $E_{FI} * C_i$ ) + ( $E_A$ – Average Phase I EVR/Loading Emissions ) |

### 3.4 Attachments – VR Emission Calculations

## 4.0 APPLICABLE RULES

### 4.1 Prohibitory Rules

#### Rule 61.3 – Transfer of Volatile Organic Compounds into Stationary Storage Tanks

The facility will be subject to Rule 61.3.1, which is more stringent than this rule. Compliance with 61.3.1 is expected as outlined below.

#### Rule 61.3.1 – Transfer of Gasoline into Stationary Underground Storage Tanks

Before issuance of the PTO, the engineering inspection will ensure the equipment is installed in compliance with this rule. Conditions will be included in the ATC and PTO to further ensure compliance.

The CARB certified Phase I EVR system is installed, specifically Phil-Tite ARB E.O. VR-101.

The Authority to Construct (ATC) and Permit to Operate (PTO) will incorporate conditions pertaining to the allowable replacement parts and identification, installation, maintenance, repairs, operation, required testing and recordkeeping.

#### Rule 61.4 – Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks

*(5) VOC's from any stationary storage tank into a vehicle fuel tank at any non-retail service station where 95 percent of vehicles refueled are equipped with Onboard Refueling Vapor Recovery (ORVR) provided that the Phase II vapor recovery system, if previously installed, has been properly removed. Any person claiming this exemption shall maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is equipped with ORVR, for all vehicles refueled at such facility. These records shall be maintained on site for at least three years and be made available to the District upon request.*

Compliance is expected. This gas station will have Phase II EVR equipment installed. The dispensers will incorporate CARB certified Phase II EVR equipment.

Rule 61.4.1 – Transfer of Gasoline from stationary underground storage tanks into vehicle fuel tanks

*(5) Transfer of gasoline from any stationary underground storage tank into a vehicle fuel tank at any non-retail gasoline dispensing facility where 95 percent of vehicles refueled are equipped with Onboard Refueling Vapor Recovery (ORVR) provided that the Phase II vapor recovery system, if previously installed, has been properly removed. Any person claiming this exemption shall maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is equipped with ORVR, for all vehicles refueled at such facility. These records shall be maintained on site for at least three years and be made available to the District upon request.*

Compliance is expected. This gas station will have Phase II EVR equipment installed. The dispensers will incorporate CARB certified Phase II EVR equipment.

Rule 61.5 – Visible Emissions Standards for Vapor Control Systems

*No person shall discharge, or allow to be discharged, into the atmosphere from any vapor control system used to meet the requirements of Rules 61.1, 61.2, 61.3, 61.4 or 61.7, air contaminants in such a manner that the opacity of the emission is:*

- (1) Greater than 10% for a period or periods aggregating more than one (1) minute in any 60 consecutive minutes; or*
- (2) Greater than 40% at any time.*

Compliance is expected given the nature of the process.

Rule 61.6 – NSPS Requirements for Storage of Volatile Organic Compounds

*Any person owning or operating any source subject to the provisions of any federal New Source Performance Standard (NSPS), the enforcement of which has been delegated to the San Diego County Air Pollution Control District must, in addition to complying with Rules 61.1 through 61.5 and 61.7 and 61.8, comply with Regulation X.*

This source is not subject to NSPS requirements.

Rule 61.7 – Spillage and Leakage of Volatile Organic Compounds

*This rule is applicable to the spillage and fugitive liquid leaks associated with the transfer and storage of volatile organic compounds.*

*(1) Except as provided for in Section (b) above, no person shall:*

- (i) Spill, allow the spillage or cause spillage of such compounds during the disconnection of fittings used for transfer, except for spillage which would normally occur with equipment handled in a manner designed to minimize spillage.*
- (ii) Use or allow equipment to be used to transfer fuel unless the equipment is free of defects and properly maintained in a manner designed to minimize spillage, and*
- (iii) No person shall allow fugitive liquid leaks along the liquid transfer path, including any storage tank.*

The facility is expected to comply. Conditions will be added to the permit to limit spillage and fugitive liquid leaks. Compliance with Rule 61.7 will be verified during inspections, and performance tests will be required on an annual basis in order to verify the vapor recovery systems comply with Rule 61.7.

#### Rule 61.8 – Certification Requirements for Vapor Control Equipment

*This rule is applicable to all vapor recovery systems installed after July 1, 1976, which are subject to the certification requirements of Division 26, Part 4, Chapter 3, Article 5, of the State of California Health and Safety Code.*

#### **(c) STANDARDS**

*No person shall install, provide, sell or sell for use within the County of San Diego a gasoline vapor control system or system component subject to the certification requirements of Division 26, Part 4, Chapter 3, Article 5, of the State of California Health and Safety Code unless it has been certified by the California Air Resources Board.*

Complies, Phase I vapor recovery system certified per CARB Executive Order VR-101 series and Phase II vapor recovery system certified per CARB Executive Order VR-204 series is proposed.

## **4.2 New Source Review (NSR)**

#### Rule 20.1 New Source Review – General Provisions

*This rule is applicable to any new or modified stationary source or emission unit if the stationary source is not a major stationary source. A federal major stationary source, as defined in Rule 20.1(c)(30), means “any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate, an aggregate potential to emit one or more air contaminants in amounts equal to or greater than any of the emission rates listed below in Table 20.1 –5b”.*

**TABLE 20.1 – 5b  
Federal Major Stationary Source**

| <u>Air Contaminant</u>                       | <u>Emission Rate<br/>(Ton/yr)</u> |
|--|-----------------------------------|
| Fine Particulate Matter (PM <sub>2.5</sub> ) | 100                               |
| Particulate Matter (PM <sub>10</sub> )       | 100                               |
| Oxides of Nitrogen (NO <sub>x</sub> )*       |                                   |
| marginal or moderate                         | 100                               |
| serious                                      | 50                                |
| severe                                       | 25                                |
| extreme                                      | 10                                |
| Volatile Organic Compounds (VOC)*            |                                   |
| marginal or moderate                         | 100                               |
| serious                                      | 50                                |
| severe                                       | 25                                |
| extreme                                      | 10                                |
| Oxides of Sulfur (SO <sub>x</sub> )          | 100                               |
| Carbon Monoxide (CO)                         | 100                               |
| Lead (Pb)                                    | 100                               |

\* based on EPA's ozone nonattainment designation for the San Diego Air Basin in 40 CFR 81.305

District Rule 20.1 outlines the terms and definitions for New Source Review.

NSR is applicable since the facility is adding an emission unit (GDF). The proposed aggregate VOC potential to emit (PTE) is less than 25 tons per year, therefore the source is not a major stationary source as given in Table 20.1-6 and is subject to the non-major source requirements of Rule 20.2.

**Rule 20.2 – Non-Major Stationary Sources**

***(d)(1)(i) BACT for New or Modified Emission Units***

*Any new or modified emission unit which has any increase in its potential to emit particulate matter (PM<sub>10</sub>), oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOC) or oxides of sulfur (SO<sub>x</sub>) and which unit has a post-project potential to emit of 10 pounds per day or more of PM<sub>10</sub>, NO<sub>x</sub>, VOC, or SO<sub>x</sub> shall be equipped with Best Available Control Technology (BACT) for each such air contaminant.*

The potential to emit for this pollutant from this equipment can exceed this trigger level, so BACT is required. The facility will be installing CARB certified Phase I and Phase II EVR systems with compatible ISD software, which is considered BACT.

***(d)(2)(i) AQIA for New or Modified Emission Units***

*For each project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.2 - 1, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA that the project will not:*

- (A) cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard, nor*
- (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor*
- (C) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), nor*
- (D) prevent or interfere with the attainment or maintenance of any state or national ambient air quality standard.*

**TABLE 20.2 - 1**  
**AQIA Trigger Levels**

| <u>Air Contaminant</u>                       | <u>Emission Rate</u> |                 |                  |
|--|----------------------|-----------------|------------------|
|  | <u>(lb/hr)</u>       | <u>(lb/day)</u> | <u>(tons/yr)</u> |
| Particulate Matter (PM <sub>10</sub> )       | ---                  | 100             | 15               |
| Fine Particulate Matter (PM <sub>2.5</sub> ) | ---                  | 67              | 10               |
| Oxides of Nitrogen (NO <sub>x</sub> )        | 25                   | 250             | 40               |
| Oxides of Sulfur (SO <sub>x</sub> )          | 25                   | 250             | 40               |
| Carbon Monoxide (CO)                         | 100                  | 550             | 100              |
| Lead and Lead Compounds                      | ---                  | 3.2             | 0.6              |

The facility emissions are below the levels listed in Table 20.2-1, therefore an AQIA is not required.

This subsection and all subsequent provisions ((d)(3) and (d)(4)) of Rule 20.2 do not apply because emissions fall below the thresholds requiring an AQIA as summarized in Table 20.2-1 and (d)(4) (VOC emissions increase of 250 pounds per day or 40 tons per year).



### 4.3 Toxic New Source Review- Rule 1200

*Rule 1200 applies to any new, relocated or modified emission unit which results in any increase in emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required. This rule requires health risks be reviewed to ensure the risks are below one in one million for cancer (with T-BACT installed), and that the health hazard index is less than one from chronic non-cancer and acute toxic air contaminants.*

This gasoline dispensing facility (GDF) is subject to Rule 1200. CARB certified vapor control systems will be installed and are considered T-BACT as required by the following from Rule 1200.

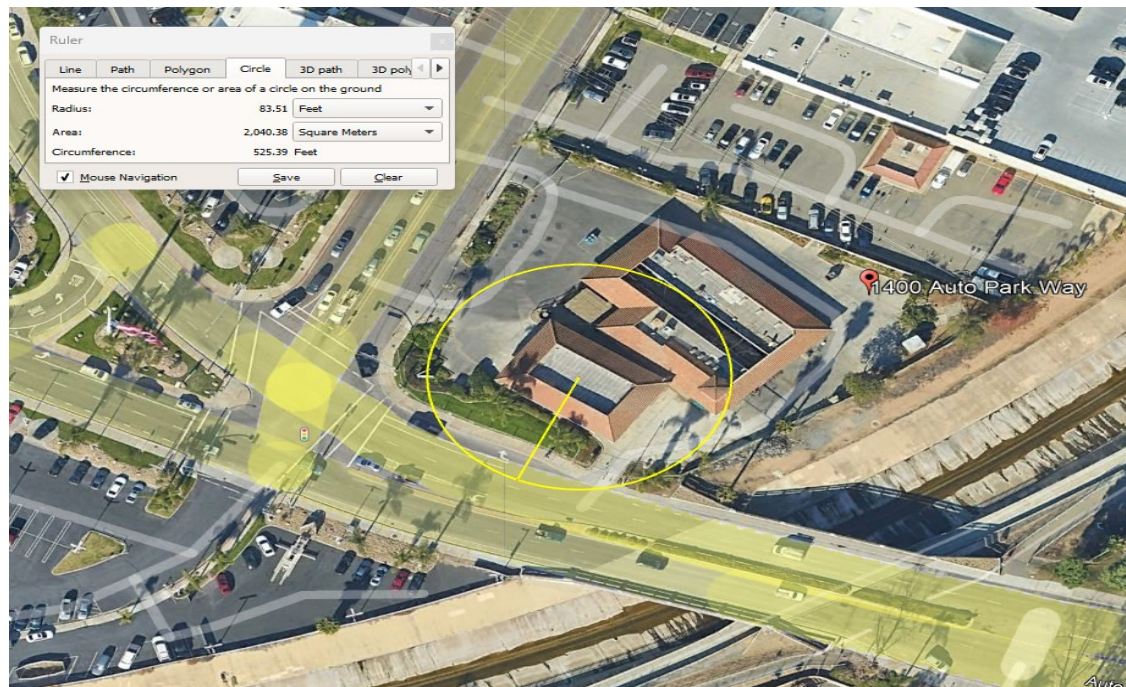
#### *Rule 1200 (b) **EXEMPTIONS***

*(1) The standards of Section (d) shall not apply to:*

*(v) The following emission units provided the resulting increase in maximum incremental cancer risk at every receptor location is less than 100 in one million, the total acute noncancer health hazard index is less than 10 and the total chronic noncancer health hazard index is less than 10:*

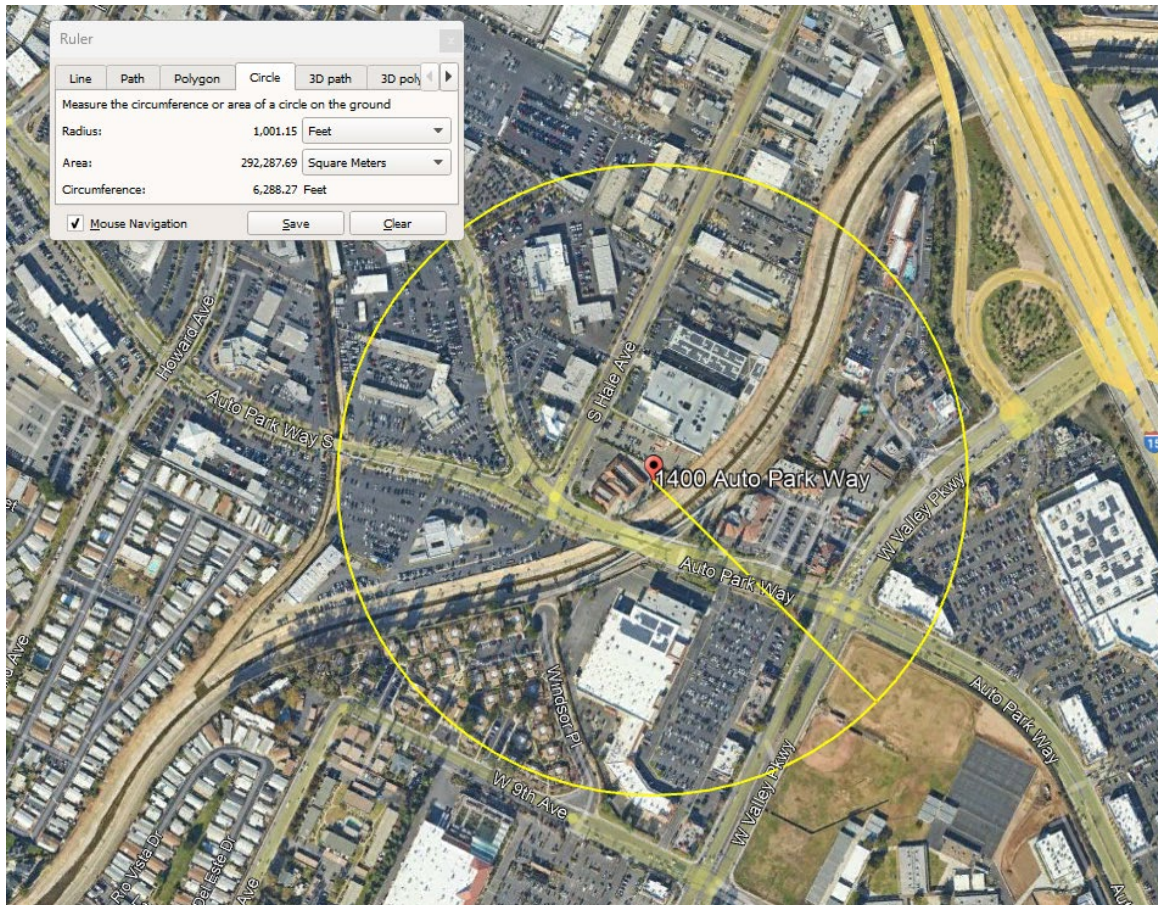
*(B) Gasoline service station emission units, provided that T-BACT will be installed.*

The GDF will be equipped with certified Phase I and Phase II vapor recovery controls, which are considered T-BACT. De minimis was performed as if this were a new gas station, and it passed the screening with a stack height of 5ft and a receptor distance of 83ft. The stack height is expected to be higher than 5ft and the receptor distance is expected to be greater than 83ft, as shown in the aerial photo below. The increase in maximum incremental cancer risk, the total acute noncancer health hazard index and the chronic noncancer health hazard index are all within the standards of Rule 1200, see the attached de minimis for details.



#### 4.4 AB3205

AB3205 requires a public notice prior to issuing an Authority to Construct for equipment emitting hazardous air contaminants at a facility within 1000 feet of a school. There is a middle school, Del Dios Academy, within 1,000 ft of the emission source. AB3205 is required.



## 4.5 NESHAPS, NSPS and ATCMs

*NESHAP:*

*CFR Part 63, Subpart CCCCCC, NESHAP for Area Source Categories: Gasoline Dispensing Facilities*

*This NESHAP is applicable to all gasoline dispensing facilities.*

*Date of Promulgation: January 1, 2008*

All of the applicable requirements for this regulation are currently met by the EVR Phase I and Phase II equipment that will be installed at this location and operating practices required under the various CARB Executive Orders and SDAPCD District Rules 61.3.1 and 61.4.1 for gasoline dispensing facilities.

*NSPS*: None

*ATCM:*



*Subchapter 7.5, Section 93101 Benzene Airborne Toxic Control Measure – Retail Service Stations*

Complies, CARB Certified Phase I and Phase II EVR will be installed.

**4.6 Title V** – This is not a Title V facility.

**4.7 Attachments** – N/A.

**5.0 RECOMMENDATION & CONDITIONS**

It is expected that the gasoline dispensing facility will comply with all of the applicable requirements, and it is recommended that an Authority to Construct be issued with standard conditions.

**6.0 RECOMMENDED CONDITIONS**

ATC Conditions for Gasoline APCD2010-CON-000124, with start-up testing conditions.

| Record ID:          | Title/Org  |
|---------------------|--|
| APCD2010-CON-000124 | Retail Gas Station with VST Balance, Canister/Vapor Polisher and VR ISD  |
| ATC condition 1     | In addition to the annual compliance tests referenced above, the applicant shall schedule an initial compliance test with the undersigned engineer, within 60 days of the Construction Completion. (Rule 61.3, 61.3.1, 61.4, 61.4.1) |