Equipment Owner/Operator: Dansk Investment Group, Inc. / Dansk Investment Group, Inc.

Equipment Location: Station Number: 1569 located at: 603 N. "H" Street in Lompoc, CA

Equipment Description: FID No. 01569 Balance EVR w/ ISD

TANK LOCATION: Underground

TANK NO.	FUEL	CAPACITY (gal)
1	Gasoline/87	20,000
2a	Gasoline/91	12,000

DISPENSER MFGR.	MODEL	SERIES	SERIAL NO	# OF DISPENSERS	NOZZLES PER DISPENSER
Gilbarco	NN1	Encore 700	tbd	2	2
Gilbarco	NL1	Encore 700	tbd	2	2

TANK PRESSURE MANAGEMENT SYSTEM / ISD SYSTEM	
Healy Clean Air Separator	Model 9961
Veeder-Root	TLS-350 Plus

Total Number of Phase II Gasoline Nozzles: 8

Phase I Vapor Recovery Executive Order No.: VR-101-V

Phase II Vapor Recovery Executive Order No.: VR-204-AA

Applicable Prohibitory Rules: Rule 303 (*Nuisance*); Rule 316 (*Storage and Transfer of Gasoline*),

Authorized Modifications: Station rebuild. Install new tanks and dispensers.

Applicable Conditions:

1. **Gasoline Throughput.** Gasoline throughput shall not exceed 2,520,000 gallons per year. Records shall be kept on site by the operator and shall be made available to District personnel upon request.

2. **Emission Limits.** Facility emissions of Reactive Organic Compounds ("ROCs") shall not exceed either 5.32 lbs/day or 0.99 tons/yr. Compliance with this condition will be assessed through: (a) the annual gasoline throughput limit, (b) the vapor recovery systems testing, and (c) the inspection and maintenance requirements of this permit, Rule 316, the applicable Executive Orders and State laws, rules and regulations. A copy of this permit and complete copies of the applicable Phase I and Phase II Executive Orders shall be maintained onsite at all times and be made available upon request.

3. **Parking Adjacent to Pressure/Vacuum Vent Valve.** As shown in the site plan submitted on March 23, 2023, the parking space immediately to the west of the Pressure/Vacuum Vent Valve shall be clearly marked to indicate that no public parking is allowed. This could include painted hatching and text reading "NO PARKING" on the pavement of the parking space.

4. **Annual Report.** An annual report shall be submitted to the District by March 1 of each year detailing the previous calendar year's activities. The report shall list the gross gasoline throughput on a monthly and yearly basis.

5. **Facility Condition.** Any defective component of the Vapor Recovery System ("VRS") shall be removed from service until it is repaired, replaced, or adjusted as necessary to ensure compliance.

6. **Vapor Tight Seals.** Gauging and sampling devices on the tanks shall be equipped with vapor-tight covers which shall be closed at all times except during gauging or sampling.

7. **Equipment Operation.** Equipment operation shall be conducted in compliance with all data, specifications and assumptions included with the applications and as documented in the District's project file. The VRS system(s) listed above shall be installed, operated and maintained in accordance with the applicable California Air Resources Board ("CARB") Executive Orders. The permittee shall maintain, and make available to the District upon request, a complete list of the VRS components installed prior to the performance testing (list by component type, make and model number).

8. **Vapor Recovery System (VRS) Performance Testing - Initial Operations.** Once construction is completed and **between 15 to 30 days** of initial operations, the permittee shall conduct and successfully pass the VRS system tests as outlined in Table T (see attachment A) as well as any VRS specific tests required in the applicable Executive Orders. These tests shall be conducted pursuant to Table T and shall be performed pursuant to test protocols approved by the CARB. The permittee shall contact the District to arrange an inspection not less than five (5) business days prior to the testing. Testing shall not occur if a District inspector is not present unless prior approval is obtained from the District. Inspection fees, per Rule 210.F.4, will be assessed when an arranged inspection is cancelled by the permit holder or their representative after a District Inspector is onsite. An inspection can be arranged via email (enfr@sbcapcd.org) or by calling the District Compliance Division at (805) 979-8050. Test results, using District or CARB approved reporting forms[1] shall be submitted to the District via email (vrstest@sbcapcd.org) or mailed to 260 North San Antonio Drive, Suite A, Santa Barbara, CA, 93110 (Attn: *Compliance Division*) within 15 days of test completion.

   Upon notification from the District, operations of non-compliant equipment shall immediately cease if: (a) the VRS does not pass the required performance tests, or (b) if the facility does not satisfactory pass a Rule 316 inspection or (c) if equipment installed was not authorized by this permit.

9. **Vapor Recovery System (VRS) Testing – Routine/Ongoing Operations.** The permittee shall routinely conduct and successfully pass the VRS system tests as outlined in Table T as well as any VRS specific tests required in the applicable Executive Orders. These tests shall be conducted pursuant to Table T and shall be performed pursuant to test protocols approved by the ARB. Pre-testing shall not be performed within 24 hours of the arranged test date. In order for the District to witness testing, the permittee shall notify the District via email (vrstest@sbcapcd.org) of the planned testing date not less than five (5) business days prior to the testing. Inspection fees, per Rule 210.F.4, will be assessed when an arranged inspection is cancelled by the permit holder or their representative after a District Inspector is onsite. All data for each test (including any data showing initial test failures) shall be submitted to the District via email (vrstest@sbcapcd.org) or mailed to the District at 260 North San Antonio Road, Suite A, Santa Barbara, CA, 93110 (Attn: *Compliance Division*) within 30 days of successful test completion, using District or ARB approved reporting forms[1].

[1] see the District's Gasoline Station Webpage at http://www.ourair.org/gas-station/

10. **Inspection, Maintenance, Repair and Testing Records.** The permittee shall keep clear and legible records of all inspections, maintenance, repairs, and testing of any of the gasoline dispensing VRS components at this station. This includes, but is not limited to, the activities for normal operation and maintenance per the manufacturer, ISD control panel alarm tracking (if applicable), performance and/or compliance testing according to ARB protocols, and those following damage to dispensing equipment from a "driveoff" or other kind of damage. The permittee shall ensure that all records obtained from third party contractors are a legible form. The records listed in Attachment "B" shall be maintained on site by the permittee for at least three years and shall be made available for District inspection upon request.

11. **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on the first page of this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form –01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.

12. **Phase II Enhanced Vapor Recovery (EVR).** The Balance Phase II EVR vapor recovery system is subject to the following requirements:

    - The Balance Phase II Enhanced Vapor Recovery System shall be installed, operated and maintained in accordance with the provisions of ARB Executive Order VR-204-AA. Scheduled maintenance of the Balance system shall follow the requirements of the Executive Order and the ARB approved *Installation, Operation and Maintenance Manual* (IOM).

    - Only technicians certified by the manufacturer(s) of the vapor recovery and ISD system equipment installed at this site ("Certified Technicians") shall be used to install, repair and maintain the Balance Phase II vapor recovery and ISD systems. The Certified Technicians must be able to show proof of certification at all times. One Certified Technician is required to be at the station during the installation, repair or maintenance of the Balance vapor recovery and/or ISD systems. Other technicians, working under the guidance of the Certified Technician(s), may perform installation, repair or maintenance of the System(s). The Certified Technicians are responsible for conducting start-up testing to verify proper installation/operation of the Balance vapor recovery and ISD systems. A Certified Technician shall be present whenever any other technicians are working on the applicable system

    - Any nozzle with a product dispensing rate of less than 6 gal/min or more than 10 gal/min shall be taken out of service until repaired.

    - The Veeder-Root vapor pressure sensor shall be installed into one of the dispensers located closest to the underground storage tanks. Any dispenser can be used if a row of dispensers are equal distance from the tank pad and are within 10 feet of each other.

    - Only Teflon tape (or equivalent) shall be used when installing the vapor flow meter.

    A copy of the *Installation, Operation, and Maintenance Manual for Balance Phase II EVR Systems, Including ISD* and the applicable Phase I and Phase II Executive Orders shall be maintained at the facility at all times and be made available for review by the District upon request.

13. **In-Station Diagnostics (ISD).** The following requirements apply to the ISD system:

General ISD Requirements: The In-Station Diagnostics ("ISD") system shall be operational at all times. The ISD system shall automatically prohibit the dispensing of fuel to the affected dispenser(s) upon a Red Failure alarm or loss of power to the TLS panel. The designated posting time for the daily 24-hour ISD system tests shall be **8:00 AM**. Anytime the ISD TLS panel indicates a Yellow Warning alarm, the permittee may wait up to 48 hours after the appearance of the alarm to determine if a call for service is required and may cancel a previously scheduled service call. If an ISD alarm is still active 48 hours after the first appearance of the alarm, the permittee shall initiate corrective action within the next 8 hours. All repair action information shall be entered into the *Facility Repair Log* (see Attachment "A"). The permittee shall not "clear" an ISD TLS panel Red Failure alarm without first having made repairs to the system. "Clearing" a Red Failure alarm without attempting a repair subjects the permittee to District enforcement action. The ISD system shall maintain an electronic archive of monthly reports for a period up to 12 consecutive months and an archive of daily reports for the last 365 consecutive days. The permittee shall maintain an adequate quantity of printer supplies onsite at all times. The District shall be granted access to the ISD TLS panel for the printout of daily and archive reports and to connect a portable computer for system data downloads from the panel's RS-232 and Multiport boards. The permittee shall update the ISD software to the most current certified version within 120 days of ARB certification.

Winter Fuel Overpressure Alarm Policy: Notwithstanding the above requirements, from November 1 until March 31, no service or equipment testing is required prior to clearing any ISD overpressure alarm listed in Table 1 of ARB Special Advisory 405-D. All other ISD alarms, those not related to over-pressurization, shall be responded to in a normal fashion, only by certified service providers. All overpressure alarms that occur from April 1 to October 31 shall be responded to in a normal fashion, only by certified service providers.

Restarting the Station Pumps after ISD Shutdown: The permittee may "re-enable" operations after the ISD system shuts down the station pumps by using the ISD Shutdown Override command. The permittee may only initiate such action if repairs to the vapor recovery system have been made or if the failed equipment is taken out of service. Such corrective actions shall be documented in the *Facility Repair Log*. The *Facility Repair Log* shall also note when the Red Failure alarm was "cleared".

ISD Equipment Failure: Gasoline dispensing activities shall cease during a failure of the ISD system itself, unless the permittee contacts the District via email at enfr@sbcapcd.org to obtain Rule 505 "Breakdown" protection for the failed equipment. Breakdown relief is valid for up to 24 hours. If the ISD system itself is unable to be repaired within 24 hours, gasoline dispensing operations shall cease unless a variance is obtained from the District Hearing Board.

Condition Re-Opening: The District may revise or suspend (in whole or in part) the requirements of this permit condition and the test matrix Table T based on the District's evaluation of ISD system's effectiveness.

14. **Source Compliance Demonstration Period.** The permittee shall be allowed to temporarily operate the equipment under this permit until a Permit to Operate is issued if the following requirements are followed:

- *Pre-Backfill Inspection*: Notify the District to schedule a pre-backfill inspection of the vapor recovery and vent piping installation. Initial operations may not commence if the vapor return and vent lines do not have a minimum slope of ⅛ inch per foot at all points towards the underground storage tanks. This inspection shall not be combined with the other test scheduling or test witnessing specified in this Authority to Construct

- *Initial Operations Notification*: Notify the District that the pre-backfill inspection passed and, that the authorized modifications have been completed and that initial operations have commenced. Initial operations are defined as the first fueling of a motor vehicle using the permitted equipment. The permittee shall send this notification to the Compliance Division via e-mail enfr@sbcapcd.org.

- *ISD Software Update:* The permittee shall update the ISD software to the most current certified version with 15 days of initial operations.

- *Compliance Inspection*: Conduct and pass all required Vapor Recovery System (VRS) performance tests and obtain a satisfactory Rule 316 inspection of the VRS components by a District inspector within 30 days of initial operations. Contact the District to arrange an inspection not less than five (5) business days prior to the scheduled testing by e-mailing the Compliance Division at enfr@sbcapcd.org or by calling the Compliance Division at (805) 979-8050. The Compliance Division may waive this inspection requirement if an initial inspection is deemed unnecessary to verify that the modifications authorized by this permit are in compliance with District rules and permit conditions.

- *Non-Compliance*: Upon notification from the District, operations of non-compliant equipment shall immediately cease if: (a) the VRS does not pass the required performance tests, or (b) if the facility does not satisfactory pass a Rule 316 inspection or (c) if equipment installed was not authorized by this permit.

- *Permit to Operate Application Required*: Submit a Permit to Operate application (using District Form -25P) along with test results (using District or CARB approved reporting forms) to the District at 260 North San Antonio Drive, Suite A, Santa Barbara, CA, 93110 (Attn: *Engineering Division*) within 15 days of test completion per the *VRS Performance Testing - Initial Operation* Condition above.

15. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

_____
AIR POLLUTION CONTROL OFFICER

_____
DATE

ATTACHMENTS:

- Permit Evaluation for Authority to Construct 15969

NOTES:
1) This permit expires one year from the issuance date, if unused.
2) If this permit is used, it will supersede all prior air quality permits for this station.

\\Nt\shares\Groups\ENGR\WP\GDF\Permits\ATC 15969\ATC 15969 - Draft Permit - 3-23-2023.docx

air pollution control district
SANTA BARBARA COUNTY

DRAFT

PERMIT EVALUATION FOR AUTHORITY TO CONSTRUCT 15969

1.0 BACKGROUND

1.1 General: The application for Authority to Construct/Permit to Operate 15969 was submitted on September 22, 2022, and deemed complete on March 22, 2023. This permit authorizes a rebuild of the gas station at 603 North H Street in Lompoc.

1.2 Permit History: The follow table contains a recent permit history for this facility:

PERMIT	FINAL ISSUED	PERMIT DESCRIPTION
PTO 12380	2/12/2009	Dispenser retrofit.

1.3 Compliance History: The facility received notice of violation #12421 on October 30, 2020, for failing to submit the 2019 annual report by the March 1, 2020 deadline. Compliance was achieved on July 6, 2020.

2.0 ENGINEERING ANALYSIS

2.1 Equipment/Processes: Installation of one (1) 20,000 gallon underground gasoline storage tank, one (1) 12,000 gallon underground gasoline storage tank. Install four (4) Gilbarco Encore 700 series dispensers equipped with a total of 8 phase II gasoline nozzles. Phase I and II EVR with ISD.

2.2 Emission Controls: A California Air Resources Board (CARB) certified Phase I enhanced vapor recovery (EVR) system under Executive Order VR-101-V is used to recover the vapors generated during the transfer of gasoline from the gasoline delivery vessel into the underground storage tanks. A CARB certified Phase II EVR system under Executive Order VR-204-AA is used to recover the vapors generated during the fueling of motor vehicles from the underground storage tanks.

2.3 Emission Factors: The following District approved ROC emission factors were used to calculate emissions from these processes:

GDF ROC Emission Factors for Underground Storage Tanks With Phase I EVR and Phase II EVR and Vent Valves

	SBCAPCD Approved
	lb/1000 gal
Loading	0.150
Breathing	0.024
Refueling	0.356
Spillage	0.240
Total	**0.770**

Benzene loading, breathing, and refueling emissions were calculated using CAPCOA's *Gasoline Service Station Industry Wide Risk Assessment Guidelines* listed weight percentage of benzene in

gasoline vapor of 0.3%. Benzene spillage emissions were calculated using the listed weight percentage of benzene in liquid gasoline of 1.0%.

Additionally, hose permeation emissions were calculated using the following District approved factors for balance Phase II EVR systems:

Hose Permeation ROC Emission Factors

Hose Type	SBCAPCD Approved	
	lb/day-per hose	lb/year-per hose
Balance System Types	0.010	3.74

2.4 Reasonable Worst-Case Emission Scenario: A worst case emission scenario was based on a maximum gasoline throughput of 2,520,000 gallons per year.

2.5 Emission Calculations: Detailed emission calculation spreadsheets may be found in Attachment A. These emissions define the Potential to Emit for the permitted equipment.

2.6 Special Calculations: There are no special calculations.

2.7 BACT Analyses: Best Available Control Technology was not required for this project.

2.8 Enforceable Operational Limits: The permit has enforceable operating conditions to ensure compliance with permitted emission limits.

2.9 Monitoring Requirements: The permit has enforceable monitoring conditions to ensure compliance with operational limits.

2.10 Recordkeeping and Reporting Requirements: The permit requires that specific data be recorded and reported to the District.

3.0 REEVALUATION REVIEW (not applicable)

4.0 REGULATORY REVIEW

4.1 Partial List of Applicable Rules: This project is anticipated to operate in compliance with the following rules:

Rule 201. Permits Required
Rule 202. Exemptions to Rule 201
Rule 205. Standards for Granting Permits
Rule 301. Circumvention
Rule 302. Visible Emissions
Rule 316. Storage and Transfer of Gasoline
Rule 801. New Source Review – Definitions and General Requirements
Rule 802. New Source Review
Rule 809. Federal Minor Source New Source Review

4.2 Rules Requiring Review: None.

5.0 AQIA

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

6.0 OFFSETS/ERCs

6.1 Offsets: The emission offset thresholds of Regulation VIII are not exceeded.

6.2 ERCs: This source does not generate emission reduction credits.

7.0 AIR TOXICS

An air toxics health risk assessment was performed for this permitting action and the District determined that the proposed gasoline service station re-build at 603 North H St in Lompoc will not present a significant risk to the surrounding community. See the attached Health Risk Assessment Memo for details regarding the health risk assessment.

8.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REVIEW

This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County District (revised April 30, 2015). Appendix A.2.x (*Equipment or Operations Exempt from CEQA*) specifically exempts Gasoline Fueling Stations. No further action is necessary.

9.0 SCHOOL NOTIFICATION PROCESS

A school notice pursuant to the requirements of H&SC §42301.6 was not required.

10.0 PUBLIC and AGENCY NOTFICATION PROCESS/COMMENTS ON DRAFT PERMIT

This project is located within 1,000 feet of Lompoc High School and triggers a 30-day public notice requirement.

Draft comments, if any, may be found in the final permit.

11.0 FEE DETERMINATION

Fees for the District's work efforts are assessed on a fee basis. The Project Code is 500100 (*Gasoline Stations*). The fee calculations may be found in Attachment D.

12.0 RECOMMENDATION

It is recommended that this permit be granted with the conditions as specified in the permit.

Paula Andrew	March 2023		March 28, 2023
AQ Engineer	Date	Supervisor	Date

13.0 ATTACHMENT(S)

- Attachment A - Table T Vapor Recovery System Testing Requirements
- Attachment B - Vapor Recovery System Facility Repair Log and Testing Records
- Attachment C - Emission Calculations
- Attachment E - Fee Statement
- Attachment F - Health Risk Assessment Memo for ATC 15969

DRAFT

Authority to Construct 15969

Attachment A
Table T – Vapor Recovery System Testing Requirements

Start-Up Tests	Initial Startup Tests Required. (a) All Phase I EVR tests listed below. (b) All Phase II EVR and ISD tests listed below. (c) Tank Manifold Tie-test per ARB TP-201.3C. (d) Maximum product flow rate test for each dispenser (gal/min). (e) Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valve test per ARB TP-201.E. (*only required for new or rebuilt stations*) . (f) Drop Tube/Drain Valve Assembly Leak Test per ARB TP-201.1C (or TP-201.1D if equipped with a flapper valve).
Phase I EVR Tests	Testing required. These tests shall be performed per the listed ARB test procedure and the applicable Executive Order: (a) Annual test: Static Torque of Phase I Adapters per ARB TP-201.1B. (b) Triennial test: Pressure Integrity Check of the Drop Tube/Drain Valve Assembly per ARB TP-201.1C/D. (c) As requested by District: Drop Tube/Drain Valve Assembly Leak Test per ARB TP-201.1C (or TP-201.1D if equipped with a flapper valve).
Balance Phase II EVR Tests	Annual testing required. (the Exhibits referenced below are for the version of VR-204 installed for this permit) (a) Static Leak Decay Test using ARB TP-201.3 per Exhibit 4. (b) Dynamic Back Pressure test using ARB TP-201.4 and Exhibit 6. (c) Liquid Removal Test per Exhibit 5. (d) Vapor Pressure Sensor Verification Test per Exhibit 10. (e) Franklin Fueling Systems Clean Air Separator; Static Pressure Performance Test per Exhibit 14.
ISD Tests	(a) Annual Testing: ISD Flow Meter Operability Test per Exhibit 17 or Exhibit 19 of Executive Order VR-204.
Time Frames Defined	Annual tests shall occur at least 350 days between tests, but not to exceed 410 days between tests. Triennial tests shall occur one time every three years (+/- 30 days of the three year test anniversary date).

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee according to the time frames indicated. At any time, the District may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

DRAFT

Authority to Construct 15969

Attachment A

Table T – Vapor Recovery System Testing Requirements

All Static Leak Decay tests are subject to the following requirements: (a) during the test the tank ullage shall meet the requirements specified in TP-201.3 - Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities; (b) no fuel drops shall occur within 3 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Compliance test results (including initial failures) shall be documented by using SBCAPCD or ARB approved reporting forms[1]. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on District Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing any of the above required tests or which have Vapor Recovery Equipment Defects per Exhibit 2 of the Executive Order shall not be used to dispense or receive gasoline until the system is repaired and successfully passes the required tests, unless the permittee contacts the District via email at enfr@sbcapcd.org to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the District Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The compliance tests must be arranged for in accordance with the applicable permit condition(s).

DRAFT

Authority to Construct 15969

Attachment B
Vapor Recovery System Facility Repair Log and Testing Records

The permittee shall maintain a Facility Repair Log and maintain the results of all VRS Testing Records in a folder or filing system separate from other regulatory agency documents and as noted below:

1. **Facility Repair Log**: A Repair Log that includes the information below. District Form ENF –99 shall be used. An alternative log form may be used if approved, in advance, by the District.

    - Date and time the problem was detected (e.g., component malfunction, defect, ISD Warning alarm, ISD Failure alarm, reconnection of breakaways)
    - Date and time the component was removed from service
    - Date and time the call for service was placed (including calls for service due to an ISD Warning alarm or ISD Failure alarm)
    - Date of actual service for which the component or defect was repaired or replaced (indicate if the ISD Failure alarm was "cleared")
    - Name of the person performing the service and telephone number
    - Affiliation (company name) of the person performing the service
    - Indicate whether the service call was due to an ISD Warning alarm or ISD Failure alarm
    - Provide a short description of the service performed and list each component repaired, serviced, or removed, (include the component(s) manufacturer's (or re-manufacturer's) name and model number
    - Receipts for parts used in the repair and, if applicable, work orders, which shall include the name and signature of the person responsible for performing the repairs shall be made available to the District upon request
    - Any other information specifically required by the applicable Executive Orders

2. **Testing Records**: Records of all Compliance Tests, and any other VRS specific tests required in the applicable Executive Orders that include:

    - The date and start time of each test;
    - The type of test (specify ARB TP number);
    - Name(s), employer (or affiliation), address and phone number of the person(s) performing the tests;
    - Test data and calibration data for all equipment used;
    - Date and time each test is completed and the facility owner/operator is notified of the test results. For a test that fails, a description of the reason(s) for the test failure shall also be included; and
    - For a retest following a failed test, a description of the repairs performed prior to the retest (or a cross-reference to the Facility Repair Log above).
    - Completed CARB or District-approved reporting forms[1.]

DRAFT

Authority to Construct 15969

Attachment C
Emission Calculations

Gasoline Dispensing Facility (GDF) Emission Calculations with Santa Barbara County Approved Emission Factors - April 2023

Facility Data

Permit:	ATC 15969
FID:	1569
Hose Type:	H3 - Balance (All Balance System Types)
Number of Hoses:	8
Annual Throughput (gal/yr):	2,520,000
System Type:	U1 - UST with Phase I EVR and Phase II EVR w/ Vent Valve

Emission Factors for Facility

Sum of Loading, Breathing, Refueling & Spillage Emission Factors:	0.77	lb/1000 gal
Daily Hose Permeation Factor:	0.010	(lb/day-per hose)
Annual Hose Permeation Factor:	3.740	(lb/year-per hose)

Facility ROC Emissions

Total Daily ROC Emissions:	5.40	lb/day
Total Annual ROC Emissions:	0.99	ton/yr

Table 1 - GDF ROC Emission Factors for Loading, Breathing, Refueling and Spillage

System Type	Loading (lb/1000 gal)	Breathing (lb/1000 gal)	Refueling (lb/1000 gal)	Spillage (lb/1000 gal)	Sum of Loading, Breathing, Refueling & Spillage (lb/1000 gal)
U1 - UST with Phase I EVR and Phase II EVR w/ Vent Valve	0.15	0.024	0.356	0.24	**0.77**
U2 - UST with Phase 1 EVR and II w/Vent Valve	0.15	0.25	0.42	0.42	**1.24**
U3 - UST with Phase I and II w/Vent Valve	0.42	0.25	0.42	0.42	**1.51**
U4 - UST with Phase I and II w/o Vent Valve	0.42	1.00	0.42	0.42	**2.26**
U5 - UST with Phase I with Vent Valve	0.42	0.25	8.40	0.61	**9.68**
U6 - UST with Phase I only	0.42	1.00	8.40	0.61	**10.43**
U7 - UST with No Control	8.40	1.00	8.40	0.61	**18.41**
A1 - AST with Phase I EVR and II w/Vent Valve	0.15	0.53	0.42	0.42	**1.52**
A2 - AST with Phase I and II w/Vent Valve	0.42	0.53	0.42	0.42	**1.79**
A3 - AST with Phase I and II w/o Vent Valve	0.42	2.10	0.42	0.42	**3.36**
A4 - AST with Phase I only	0.42	2.10	8.40	0.61	**11.53**
A5 - AST with No Control	8.40	2.10	8.40	0.61	**19.51**

Table 2 - Hose Permeation ROC Emission Factors

Hose Type	ROC Emission Factor (lb/day-per hose)	ROC Emission Factor (lb/year-per hose)
H1- Conventional, Assist Uncontrolled (Pre-EVR)	0.030	10.98
H2 - Assist Controlled (EVR for both Phase I and II)	0.001	0.47
H3 - Balance (All Balance System Types)	0.010	3.74

Notes:
1. User inputs in red.
2. Calculated values in blue.

References:

1. Santa Barbara County Air Pollution Control District's Internal Memorandum. November 18, 2019. Cobbs, R. *Hose Permeation Emission Factors for Gasoline Dispensing Facilities.*
\\sbcapcd.org\shares\Toxics\Source Types\Gas Stations\Hose Permeation Emission Factors for GDFs Memo.docx
2. Santa Barbara County Air Pollution Control District's Internal Memorandum. November 18, 2019. Cobbs, R. *GDF Emission Factors for Phase I EVR and Phase II EVR.*
\\sbcapcd.org\shares\Toxics\Source Types\Gas Stations\GDF Emission Factors Memo _18Nov19.pdf

air pollution control district
SANTA BARBARA COUNTY

FEE STATEMENT

ATC No. 15969
FID: 01569 H St, 603 N. (MVFF) / SSID: 01569

Permit Fee

8 Total Nozzles at $45.87 per Nozzle	**$366.96**

Fee Statement Grand Total = $366.00

Notes:

(1) Fee Schedule Items are listed in District Rule 210, Fee Schedule "A".
(2) The term "Units" refers to the unit of measure defined in the Fee Schedule.

air pollution control district
SANTA BARBARA COUNTY

MEMORANDUM

TO: Project File for FID 01569 H St, 603 N. (MVFF)
FROM: Charlotte Mountain
SUBJECT: Health Risk Assessment for ATC 15969
DATE: March 29, 2023

Background

On September 22, 2022, Dansk Investment Group, Inc. applied for Authority to Construct No. 15969 for a gasoline service station re-build at 603 North H St in Lompoc. The first complete health risk assessment (HRA) submittal for this project was received by the District on January 4, 2023. The District provided comments on the January 2023 HRA on January 24, 2023. A revised HRA was submitted on February 6, 2023, and the District provided comments on this revised HRA on February 16, 2023. The most recent HRA was submitted on February 20, 2023. The District's only concern with the February 20, 2023 HRA was a single receptor with an acute hazard index above the significance threshold of 1.0.

The acute non-cancer significant risk threshold was exceeded at receptor no. 3087 in the model, which is located near a parking spot immediately to the west of the pressure/vacuum vent valve. In addition, receptor no. 3087 is within 20 meters of the risk-driving source, the pressure/vacuum vent valve. Appendix G of Form-15i allows an acute risk receptor to be excluded from the analysis if it is located within 20 meters of the risk driving-source and an actual person is not expected to be located there for at least an hour. The District was concerned that a member of the public could reasonably be located in a parked car for at least an hour at the parking spot near receptor no. 3087. The applicant proposed to lease this parking space and clearly mark it with painted hatching and text reading "NO PARKING" on the pavement; a revised site plan was submitted on March 23, 2023. The District agreed to exclude receptor no. 3087 from the acute non-cancer risk analysis under these conditions. This memo details the results of the February 20, 2023 HRA submitted by E-Tech Environmental on behalf of the owner/operator.

Health Risk Assessment Modeling Results

The calculated cancer risks and chronic, 8-hour and acute non-cancer hazard indices (HIs) at the point of maximum impact (PMI), maximally exposed individual resident (MEIR) and maximally exposed individual worker (MEIW) for the HRA are summarized in Tables 1 through 4. None of the risk results are above the District's significant risk thresholds.

Table 1: Cancer Risk Results at PMI, MEIR and MEIW

Receptor Type	Receptor Number	UTME (m)	UTMN (m)	Cancer Risk Result	Cancer Significance Threshold
PMI	3096	732984.00	3836873.00	35.5/million	N/A
MEIR	1292	732927.00	3836773.00	3.15/million	$\geq$ 10/million
MEIW	3047	733021.00	3836866.00	0.72/million	$\geq$ 10/million

Table 2: Chronic Non-Cancer Risk Results at PMI, MEIR and MEIW

Receptor Type	Receptor Number	UTME (m)	UTMN (m)	Chronic Non-Cancer HI	Chronic Non-Cancer Significance Threshold
PMI	3096	732984.00	3836873.00	0.139	N/A
MEIR	1292	732927.00	3836773.00	0.013	> 1.0
MEIW	3047	733021.00	3836866.00	0.035	> 1.0

Table 3: 8-Hour Non-Cancer Risk Results at PMI, MEIR and MEIW

Receptor Type	Receptor Number	UTME (m)	UTMN (m)	8-Hour Non-Cancer HI	8-Hour Non-Cancer Significance Threshold
PMI	3096	732984.00	3836873.00	0.139	N/A
MEIW	3047	733021.00	3836866.00	0.035	> 1.0

Table 4: Acute Non-Cancer Risk Results at PMI, MEIR and MEIW

Receptor Type	Receptor Number	UTME (m)	UTMN (m)	Acute Non-Cancer HI	Acute Non-Cancer Significance Threshold
PMI[1]	3088	732937.00	3836883.00	1.01[2]	> 1.0
MEIR	1292	732927.00	3836773.00	0.24	> 1.0
MEIW	3047	733021.00	3836866.00	0.33	> 1.0

Conclusion

Per District guidelines, if a facility's toxic emissions result in a cancer risk equal to or greater than 10 in a million, it is considered a significant risk facility. For non-cancer risk, if a facility's toxic emissions result in a Hazard Index greater than 1.0, it is considered a significant risk facility. The HRA modeling results show that the proposed gasoline service station re-build at 603 North H St in Lompoc will not present a significant risk to the surrounding community.

[1] The maximum calculated acute HI at receptor no. 3087 is 1.23. However, this receptor was excluded from the analysis, as discussed in the Background section of this memo.

[2] Per the Health Risk Calculation and Rounding Policy described in Appendix E of the District's *Modeling Guidelines for Health Risk Assessments*, an HI of 1.01 rounds to 1.0. Therefore, the risk is below the acute non-cancer significance threshold.

References

- Risk notification levels were adopted by the Santa Barbara County Air Pollution Control Board of Directors on June 1993. The risk notification levels were set at 10 per million for cancer risk and a Hazard Index of greater than 1.0 for non-cancer risk.

- Risk reduction thresholds were adopted by the Santa Barbara County Air Pollution Control Board of Directors on September 17, 1998. These risk reduction thresholds were set at the same level as public notification thresholds, i.e., 10 per million for cancer risk and a Hazard Index of greater than 1.0 for non-cancer risk.

- A & S Engineering Inc. June 23, 2022 (received on March 23, 2023). *Conserv Fuel: Proposed Site List and Piping Plan*.

- E-Tech Environmental. February 2023 (received on February 20, 2023). *Conserv Fuel Gasoline Dispensing Facility: HARP2 Site Specific Air Dispersion Modeling & Health Risk Assessment Revision 1.1*.

- OEHHA. February 2015. *Air Toxics Hot Spots Program: Risk Assessment Guidelines*. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

- Santa Barbara County Air Pollution Control District. March 2022. *Modeling Guidelines for Health Risk Assessments* (Form-25T). https://www.ourair.org/wp-content/uploads/apcd-25T.pdf.

- Santa Barbara County Air Pollution Control District. June 2020. *Modeling Guidelines for Health Risk Assessments* (Form-15i). https://www.ourair.org/wp-content/uploads/apcd-15i.pdf.

Attachments

E-Tech Environmental's Health Risk Assessment Report received by the District on February 20, 2023 is attached to this memo.

The submitted modeling files may be found in the following location:
\\sbcapcd.org\shares\Toxics\ActiveSourceFiles\MVFF\SSID01569_H_St_603_N\ATC 15969\2-20-23 HRA Submittal\ATC 15969 HRA.zip

Conserv Fuel

GASOLINE DISPENSING FACILITY

603 North H Street
Lompoc, California

HARP2

Site Specific
Air Dispersion Modeling &
Health Risk Assessment

Revision 1.1

February 2023

E-Tech Environmental
Engineers • Scientists • Consultants

21927 Birds Eye Drive, Diamond Bar, CA 91765 • (626) 261-3782

HARP2

Site Specific
Air Dispersion Modeling
and
Health Risk Assessment
(Rev. 1.1)

603 North H Street
Lompoc, California

submitted by
W. Chung Lee
(626) 262-3782

This report presents the air quality impact analysis and health risk assessment for air toxic emissions from an independent gasoline dispensing facility located at the northwest corner of North H Street and West College Avenue, Lompoc, California, based on an annual throughput of 2,520,000 gallons. The risk assessment is conducted using CalEPA HARP2 program and a VOC emission factor provided by SBCAPCD.

2. Facility Description

The gasoline dispensing facility is located at the northwest corner of North H Street and West College Avenue, Lompoc California. (Figure 1). Figure 2 shows the vicinity of the station and Figure 3 shows the plot plan of the facility.

3. Emission Calculations

The VOC emissions from the gasoline dispensing operation were used as recommended by SBCAPCD for a balance system. Emission rates of benzene are calculated based on SBCAPCD guidelines of 0.457% in vapor phase and 0.707% in liquid phase. Phase I control refers to the collection of gasoline vapors displaced from the USTs when cargo trucks make gasoline deliveries. Phase II vapor recovery controls the vapor displaced from the vehicle fuel tanks during refueling.

The vent pipes at the tanks are equipped with vent valves and therefore, both Phase I and Phase II vapor recovery systems. Contents of benzene and other air toxics are listed in Table 1. Based on guidelines from SBCAPCD and CAPCOA Air Toxics AHot Spot Program emission calculation procedures, the net emissions of VOC from gasoline and benzene from UST filling and ORVR motor vehicle refueling operations are shown in Table 1 and Table 2.

PROJECT LOCATION

FIGURE 1. PROJECT LOCATION
603 NORTH H STREET
LOMPOC, CALIFORNIA

E-Tech Environmental | **NOV 2023**

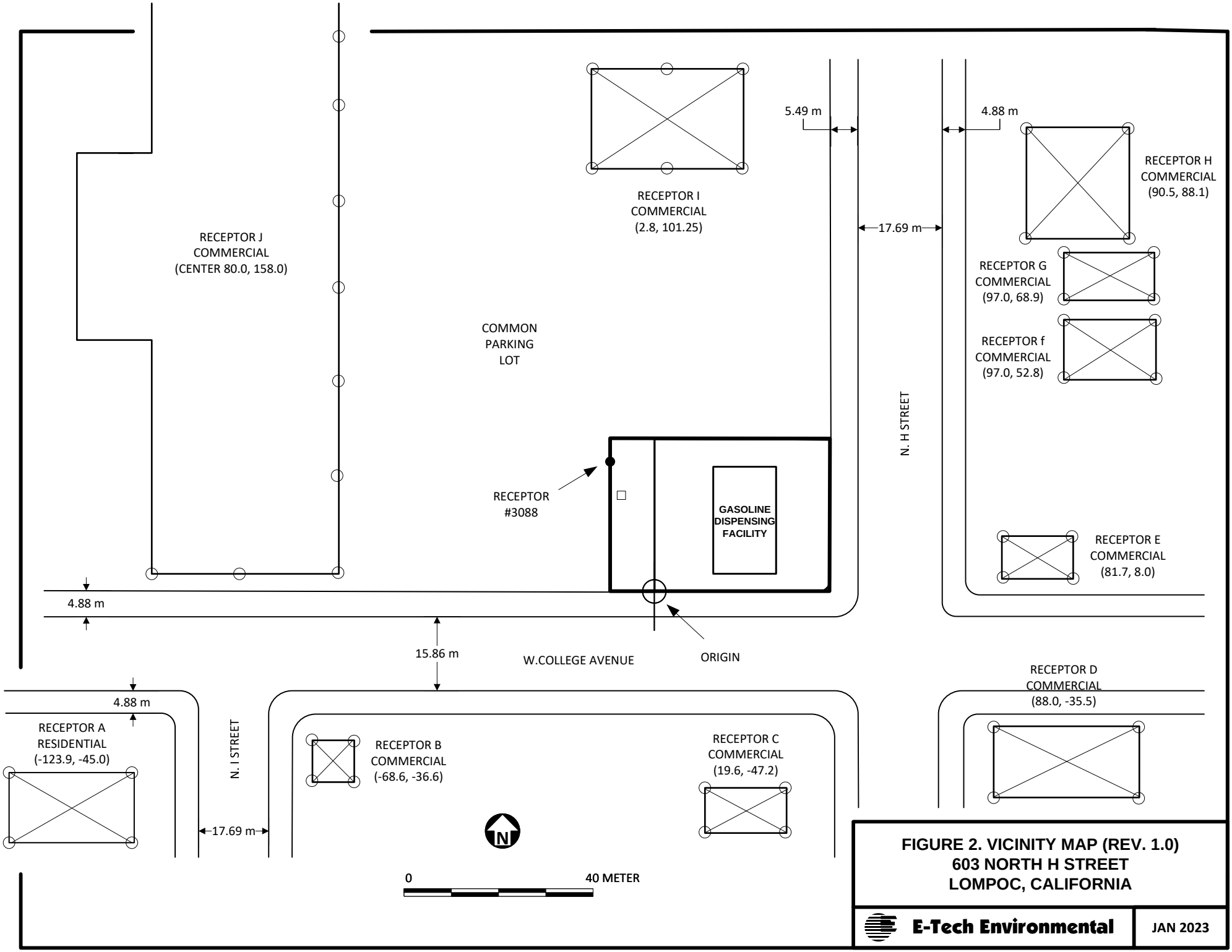
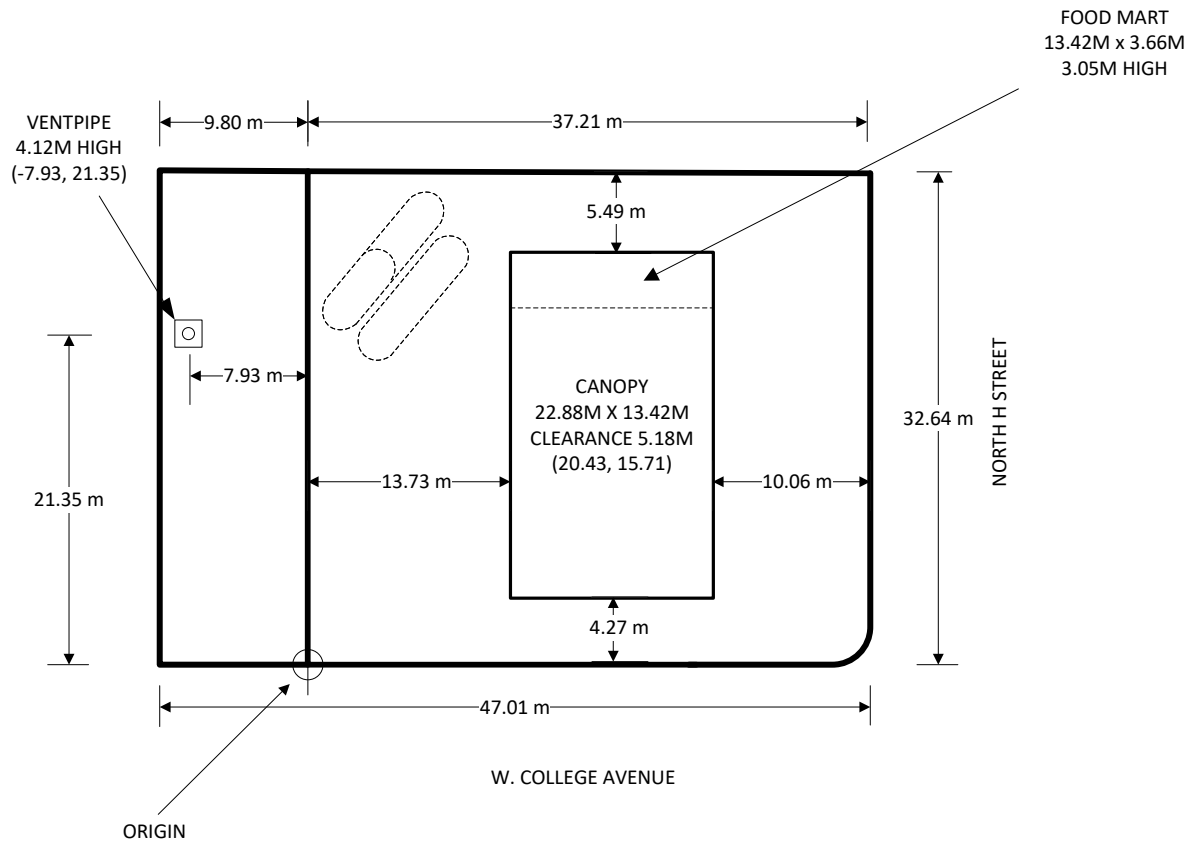


FIGURE 2. VICINITY MAP (REV. 1.0)
603 NORTH H STREET
LOMPOC, CALIFORNIA

E-Tech Environmental | **JAN 2023**



0

20 METER

FIGURE 3. PLOT PLAN (REV. 1.0)
603 NORTH H STREET
LOMPOC, CALIFORNIA

E-Tech Environmental

NOV 2023

The proposed maximum throughput for the subject gasoline dispensing facility is 2,520,000 gallons per year. The facility is equipped with Phase I and Phase II EVR control and the ventpipes are fitted with pressure-vacuum relief valves. Uncontrolled emission factors used were based on CARB guidelines and controlled emission factors were based on guidelines from air toxic program. Details of the VOC, benzene, and other hazardous air contaminant emission calculations are shown in Table 1 and Table 2.

4. Air Dispersion Analysis Using HARP2 Program

The HotSpots Analysis and Reporting Program (HARP2) developed by the California Air Resources Board (CARB) was used in this assessment. SBCAPCD recommends the use of the program, along with a full year of meteorological data provided by SBCAPCD, to estimate the maximum annual average ground-level concentrations that could occur at any point outside the property lines of the facility. The results of this analysis are considered as conservative and tend to over-estimate the exposure to the population.

Emissions from the ventpipes were calculated using point source algorithms and emissions due to spillage and dispensing were calculated using volume source algorithms. All required input parameters were input to the Dispersion Modeling section of the HARP2 program. Default option with flat and elevated terrain was used. Modeled results generated were input directly to Risk Assessment section of the program. Table 2 summaries the parameters of the facility used in the analysis. Table 3 tabulates both residential and worker receptors located nearby the proposed site and Table 4 shows the refined boundary coordinates of the service station and the food mart.

5. Dispersion Analysis and Health Risk Assessment Results

AERMOD program was used in HARP2 program. Default mode was used with flat and elevated terrain option. Based on the modeled results and health risk assessment generated for the facility, the highest air toxic concentrations of maximum cancer risks and health indices at the throughput being applied are summarized in Table 5.

Specific approaches were implemented in the HARP2 program and guidelines were follows as recommended by SBCAPCD. RMP Derived Method with 30-year exposure duration for residents and OEHHA Derived Method with 25-year exposure duration for off-site workers were used. Also, FAH options were not used in the analyses. The highest health risks based on throughput being applied are summarized below. Details of the results are shown in Tables 4 and 5. Summary of the highest cancer risks, non-cancer health indices, and point of maximum impact (PMI) are shown in Table 6.

The modeled highest health risks at residential receptor, commercial receptors and offsite point of maximum impact are summarized in the following table:

Table 1. Emissions Calculations (HARP2) - Lompoc (Rev. 1.1)

					Lompoc	SBCAPCD
Gasoline (VOC)	lb/1,000 gal					
Loading loss	0.15					
Breathing loss	0.024					
Refueling oss	0.356					
Hose permeation loss *	3.74	(lb/yr/hose for Balance System)			0.01	(lb/day/hose)
Spillage loss	0.24					
Total loss						
Air Toxics in Gasoline, %	Benzene	Ethyl Benzene	n-Hexane	Naphthalene	Propylene	Toulene	Xylenes
Loading emissions (vapor)	0.457%	0.107%	1.820%	0.000445%	0.003594%	1.110%	0.409%
Breathing emissions (vapor)	0.457%	0.107%	1.820%	0.000445%	0.003594%	1.110%	0.409%
Refueling emissions (vapor)	0.457%	0.107%	1.820%	0.000445%	0.003594%	1.110%	0.409%
Hose permeatoin (vapor) *	0.457%	0.107%	1.820%	0.000445%	0.003594%	1.110%	0.409%
Spillage emissions (liquid)	0.707%	1.290%	1.860%	0.174%	0.000122%	5.630%	6.590%
			24-hr operation				
Applying for **2,520,000**	**gal/year**						
Air Toxics in Gasoline, per million gal	Benzene	Ethyl Benzene	n-Hexane	Naphthalene	Propylene	Toulene	Xylenes
Loading emissions, lb/yr (S1)	1.727	0.404	6.880	0.002	0.014	4.196	1.546
Breathing emissions, lb/yr (S2)	0.276	0.065	1.101	0.0003	0.002	0.671	0.247
Refueling emissions, lb/yr (S3)	4.100	0.960	16.328	0.004	0.032	9.958	3.669
Hose permeatoin, lb/yr * (S4)	*0.137*	*0.032*	*0.545*	*0.0001*	*0.0011*	*0.332*	*0.122*
Spillage emissions, lb/yr (S5)	4.276	7.802	11.249	1.052	0.001	34.050	39.856
Loading emissions, lb/hr ** (S1)	7.25E-03					1.78E-02	6.72E-03
Breathing emissions, lb/hr ** (S2)	9.22E-05					2.27E-04	8.55E-05
Refueling emissions, lb/hr **(S3)	1.37E-03					3.36E-03	1.27E-03
Hose permeatoin, lb/hr * (S4)	*1.83E-05*					*4.50E-05*	*1.70E-05*
Spillage emissions, lb/hr **(S5)	1.18E-03					9.74E-03	1.16E-02

*** Number of hoses**	**8**	**hoses**			**	**For Max. Hourly Calculations**	
Balance System, VOC	3.74	lb/yr/hose	0.01	lb/day/hose		Benzene	Toulene	Xylenes
					Vapor %	0.549%	1.35%	0.509%
					Liquid %	0.702%	5.80%	6.91%
Hose VOC permetation loss = (3.74 lb/yr/hose) (8 hoses) =29.92 lb/yr					***			
Hose VOC permetation loss = (0.01 lb/day/hose) (8 hoses) / 24 hr = 0.0033 lb/hr					Phase I Loading		8,800	gal/hour
Hose Benzene permeation loss = (29.92) (0.457%) = 0.137 lb/yr					Phase II Hourly Rate		*700*	gal/hour
Hose Benzene permeation loss = (0.0033) (0.549%) = 0.0000183 lb/hr								

Table 2. Air Dispersion Model Parameters (Rev. 1.1)

Meteorological Monitoring Station					Lompoc
Digital Elevation Model					Lompoc
Model Mode					Rural
Applying for Throughput, gal/mon					210,000
Applying for Throughput, gal/year					2,520,000
Site Origin		34.647153	North	120.458367	West
UTM Datum, NAD 83		**732,946.65**	**Easting**	**3,836,853.43**	**Northing**
Elevation		29.00	m		ft
Stack height		4.12	m		ft
Stack diameter		0.051	m		ft
Loading exit temperature		291.5	deg K		deg F
Breathing exit temperature		288.7	deg K		deg F
Loading exit velocity		0.00035	m/sec		ft/min
Breathing exit velocity		0.00011	m/sec		ft/min
Canopy length		22.88	m		ft
Canopy width		13.42	m		ft
Canopy clearance		5.18	m		ft
Refueling release height		1.0	m		ft
Spill release height		0.0	m		ft
Sigma y		4.08	m		ft
Sigma z		2.41	m		ft

Table 3. Receptor Identification and Coordinates - Lompoc (Rev. 1.1)
UTM Conversion (NAD 83)

Receptor No. (User Defined)	Cartesian X	Cartesian Y	UTM (NAD 83) Easting (X)	UTM (NAD 83) Northing (Y)
Origin, Degree	34.647153	120.458367	732,947	3,836,853
Origin	0.00	0.00	732,947	3,836,853
Ventpipes	-7.93	21.35	732,939	3,836,875
Canopy	20.43	15.71	732,967	3,836,869
Gasoline Station				
SW Corner	-9.80	0.00	732,937	3,836,853
NW Corner	-9.80	32.64	732,937	3,836,886
NE Corner	37.21	32.64	732,984	3,836,886
SE Croner	37.21	0.00	732,984	3,836,853
Receptor A Res (Center) 1	**-112.40**	**-35.62**	**732,834**	**3,836,818**
2	-122.40	-25.62	732,824	3,836,828
3	-102.40	-25.62	732,844	3,836,828
4	-102.40	-45.62	732,844	3,836,808
5	-122.40	-45.62	732,824	3,836,808
Receptor B Comm (Center) 6	**-68.60**	**-36.60**	**732,878**	**3,836,817**
7	-73.00	-32.20	732,874	3,836,821
8	-64.20	-32.20	732,882	3,836,821
9	-73.00	-41.00	732,874	3,836,812
10	-64.20	-41.00	732,882	3,836,812
Receptor C Comm (Center) 11	**19.60**	**-47.20**	**732,966**	**3,836,806**
12	10.60	-42.40	732,957	3,836,811
13	28.60	-42.40	732,975	3,836,811
14	28.60	-52.00	732,975	3,836,801
15	10.60	-52.00	732,957	3,836,801
Receptor D Comm (Center) 16	**88.00**	**-35.50**	**733,035**	**3,836,818**
17	72.40	-27.80	733,019	3,836,826
18	103.60	-27.80	733,050	3,836,826
19	103.60	-43.20	733,050	3,836,810
20	72.40	-43.20	733,019	3,836,810

Receptor No. (User Defined)	Cartesian X	Cartesian Y	UTM (NAD 83) Easting (X)	UTM (NAD 83) Northing (Y)
Receptor E Comm (Center) 21	**81.70**	**8.00**	**733,028**	**3,836,861**
22	73.90	12.6	733,021	3,836,866
23	89.40	12.6	733,036	3,836,866
24	89.40	3.4	733,036	3,836,857
25	73.90	3.40	733,021	3,836,857
Receptor F Comm (Center) 26	**97.00**	**52.80**	**733,044**	**3,836,906**
27	87.40	59.80	733,034	3,836,913
28	106.60	59.80	733,053	3,836,913
29	106.60	45.80	733,053	3,836,899
30	87.40	45.80	733,034	3,836,899
Receptor G Comm (Center) 31	**97.00**	**67.90**	**733,044**	**3,836,921**
32	87.40	73.00	733,034	3,836,926
33	106.60	73.00	733,053	3,836,926
34	106.60	62.80	733,053	3,836,916
35	87.40	62.80	733,034	3,836,916
Receptor H Comm (Center) 36	**90.50**	**88.10**	**733,037**	**3,836,942**
37	79.60	99.80	733,026	3,836,953
38	101.40	99.80	733,048	3,836,953
39	101.40	76.40	733,048	3,836,930
40	79.60	76.40	733,026	3,836,930
Receptor I Comm (Center) 41	**2.80**	**101.25**	**732,949**	**3,836,955**
42	-13.40	112.00	732,933	3,836,965
43	2.60	112.00	732,949	3,836,965
44	18.60	112.00	732,965	3,836,965
45	18.60	90.50	732,965	3,836,944
46	2.60	90.50	732,949	3,836,944
47	-13.40	90.50	732,933	3,836,944
Receptor J Comm (Center) 48	**-80.00**	**80.00**	**732,867**	**3,836,933**
49	-107.40	3.60	732,839	3,836,857
50	-87.40	3.60	732,859	3,836,857
51	-67.40	3.60	732,879	3,836,857
52	-67.40	23.60	732,879	3,836,877
53	-67.40	43.60	732,879	3,836,897
54	-67.40	63.60	732,879	3,836,917
55	-67.40	86.60	732,879	3,836,940
56	-67.40	106.60	732,879	3,836,960
57	-67.40	126.60	732,879	3,836,980
58	-107.40	126.60	732,839	3,836,980
School (Nearest Point)	-410.00	0.00	732,537	3,836,853

Table 4. Refined Boundary and Food Mart Coordinates - Lompoc (Rev. 1.1)
UTM Conversion (NAD 83)

Receptor No.	Cartesian		UTM (NAD 83)	
	X	Y	Easting (X)	Northing (Y)
Origin, Degree	34.647153	120.458367	732,947	3,836,853
Origin	0.00	0.00	732,947	3,836,853
Ventpipes	-7.93	21.35	732,939	3,836,875
Canopy	20.43	15.71	732,967	3,836,869
Receptor No. (User Defined)				
Gasoline Station				
1	-9.80	0.00	732,937	3,836,853
2	-9.80	10.00	732,937	3,836,863
3	-9.80	20.00	732,937	3,836,873
4	**-9.80**	**30.00**	**732,937**	**3,836,883**
5	-9.80	32.64	732,937	3,836,886
6	0.00	32.64	732,947	3,836,886
7	10.00	32.64	732,957	3,836,886
8	20.00	32.64	732,967	3,836,886
9	30.00	32.64	732,977	3,836,886
10	37.21	32.64	732,984	3,836,886
11	37.21	30.00	732,984	3,836,883
12	37.21	20.00	732,984	3,836,873
13	37.21	10.00	732,984	3,836,863
14	37.21	0.00	732,984	3,836,853
15	30.00	0.00	732,977	3,836,853
16	20.00	0.00	732,967	3,836,853
17	10.00	0.00	732,957	3,836,853
18	0.00	0.00	732,947	3,836,853

Receptor No. (User Defined)	Cartesian		UTM (NAD 83)	
	X	Y	Easting (X)	Northing (Y)
Food Mart				
SW Corner	13.30	23.49	732,960	3,836,877
NW Corner	13.73	27.15	732,960	3,836,881
NE Corner	27.15	27.15	732,974	3,836,881
SE Croner	27.15	23.49	732,974	3,836,877
Gasoline Station				
SW Corner	-9.80	0.00	732,937	3,836,853
NW Corner	-9.80	32.64	732,937	3,836,886
NE Corner	37.21	32.64	732,984	3,836,886
SE Croner	37.21	0.00	732,984	3,836,853

Table 5. Highlight of Risk Analyses - Lompoc (Rev. 1.1)
(Cancer Risks and Hazard Indices per Million Gallon per Year)

Receptor No.	Cartesian		UTM (NAD 83)	
(User Defined)	X	Y	Easting (X)	Northing (Y)
Origin, Degree	34.647153	120.458367	732,947	3,836,853
Origin	0.00	0.00	732,947	3,836,853
Ventpipes	-7.93	21.35	732,939	3,836,875
Canopy	20.43	15.71	732,967	3,836,869

Receptor No. (HARP2 Generated)	Cancer Risk	Hazard Index (Chronic)	Hazard Index (8 Hr Chronic)	Hazard Index (Acute)
Gasoline Station				
3096	**2.89E-06**	**1.39E-01**	**1.39E-01**	
3087				**1.23E+00**
		(@ 2.52 million gallons per year)		
Receptor A Res (Center) 1				
1399	**2.86E-06**	**1.15E-02**	**1.14E-02**	**2.26E-01**
3028	2.45.E-06	9.84.E-03	9.84.E-03	2.22.E-01
4				
5				
Receptor B Comm (Center) 6				
7				
8				
9				
10				
Receptor C Comm (Center) 11				
12				
13				
14				
15				
Receptor D Comm (Center) 16				
17				
18				
19				
20				

Receptor No. (HARP2 Generated)	Cancer Risk	Hazard Index (Chronic)	Hazard Index (8 Hr Chronic)	Hazard Index (Acute)
Receptor E Comm (Center) 21				
3047	**7.24.E-07**	**3.50E-02**	**3.50E-02**	**3.32E-01**
23				
24				
25				
Receptor F Comm (Center) 26				
27				
28				
29				
30				
Receptor G Comm (Center) 31				
32				
33				
34				
35				
		(@r 2.52 million gallons per year)		
Receptor H Comm (Center) 36				
37				
38				
39				
40				
Receptor I Comm (Center) 41				
42				
43				
44				
45				
46				
47				
Receptor J Comm (Center) 48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
School 3084	**4.49E-07**	**1.81E-03**	**1.81E-03**	**7.77E-02**

Table 6. Summary of Cancer Risks and Non-Cancer Health Indices - Lompoc (Rev. 1.1)

Receptor Type	Based on Modeled Mode	Receptor Number (HARP2 Generated)	UTME	UTMN	Cancer	Significant Threshold
Offsite PMI	Worker	**3096**	**732,967**	**3,836,853**	**2.89E-06**	
Offsite PMI	Individual Resident	3096	732,957	3,836,853	3.55E-05	
MEIR		**1399**	**732867**	**3,836,813**	**2.86E-06**	1.00E-05
MEIW		3047	733,021	3,836,866	7.24E-07	1.00E-05
Sensitive Receptor		3084	732,537	3,836,853	4.49E-07	1.00E-05
Receptor Type		**Receptor Number (HARP2 Generated)**	**UTME**	**UTMN**	**Chronic HI**	**Significant Threshold**
Offsite PMI		**3096**	**732967**	**3836853**	1.39E-01	
MEIR		**1399**	**732867**	**3836813**	**1.15E-02**	1.0
MEIW		3047	733021	3836866	3.50E-02	1.0
Sensitive Receptor		3084	732537	3836853	1.81E-03	1.0
Receptor Type		**Receptor Number (HARP2 Generated)**	**UTME**	**UTMN**	**8 Hr Chronic HI**	**Significant Threshold**
Offsite PMI		**3096**	**732967**	**3836853**	**1.39E-01**	
MEIR		**1399**	**732867**	**3836813**	**1.14E-02**	1.0
MEIW		3047	733021	3836866	3.50E-02	1.0
Sensitive Receptor		3084	732537	3836853	1.81E-03	1.0
Receptor Type		**Receptor Number (HARP2 Generated)**	**UTME**	**UTMN**	**Acute HI**	**Significant Threshold**
Offsite PMI		**3087**	**732937**	**3836873**	**1.23E+00**	
MEIR		**1399**	**732867**	**3836813**	**2.26E-01**	1.0
MEIW		3047	733021	3836866	3.32E-01	1.0
Sensitive Receptor		3084	732537	3836853	7.77E-02	1.0

	Cancer Risk	HIC Chronic	8 Hr Chronic	HIA Acute
Offsite PMI #3096 Based on Worker Mode	**2.89×10^{-6}**	1.39×10^{-1}	1.39×10^{-1}	
Offsite PMI #3096 Based on Residential Mode	3.55×10^{-5}			
Offsite PMI Receptor #3087				**1.23×10^{-0}**
Residential Receptor #1399	**2.86×10^{-6}**	1.15×10^{-2}	1.14×10^{-2}	2.26×10^{-1}
Commercial Receptor #3047	7.24×10^{-7}	3.50×10^{-2}	3.50×10^{-2}	3.32×10^{-1}
Sensitive Receptor #3084	4.49×10^{-7}	1.81×10^{-3}	1.81×10^{-3}	7.77×10^{-2}

The highest offsite PMI cancer risk is 2.89×10^{-6} at receptor #3096 (732967, 3836853) when using modeled results based on worker mode. However, the highest offsite PMI cancer risk is 3.55×10^{-5} if using modeled results based on individual residential mode. Since the offsite PMI is located at the boundary of the property in a parking lot and not at any residential receptors, the offsite PMI cancer risk should be reported as 2.89×10^{-6}, not 3.55×10^{-5}. As shown in the above summary and in Table 6, the highest cancer risks and non-cancer health indices are below regulatory thresholds.

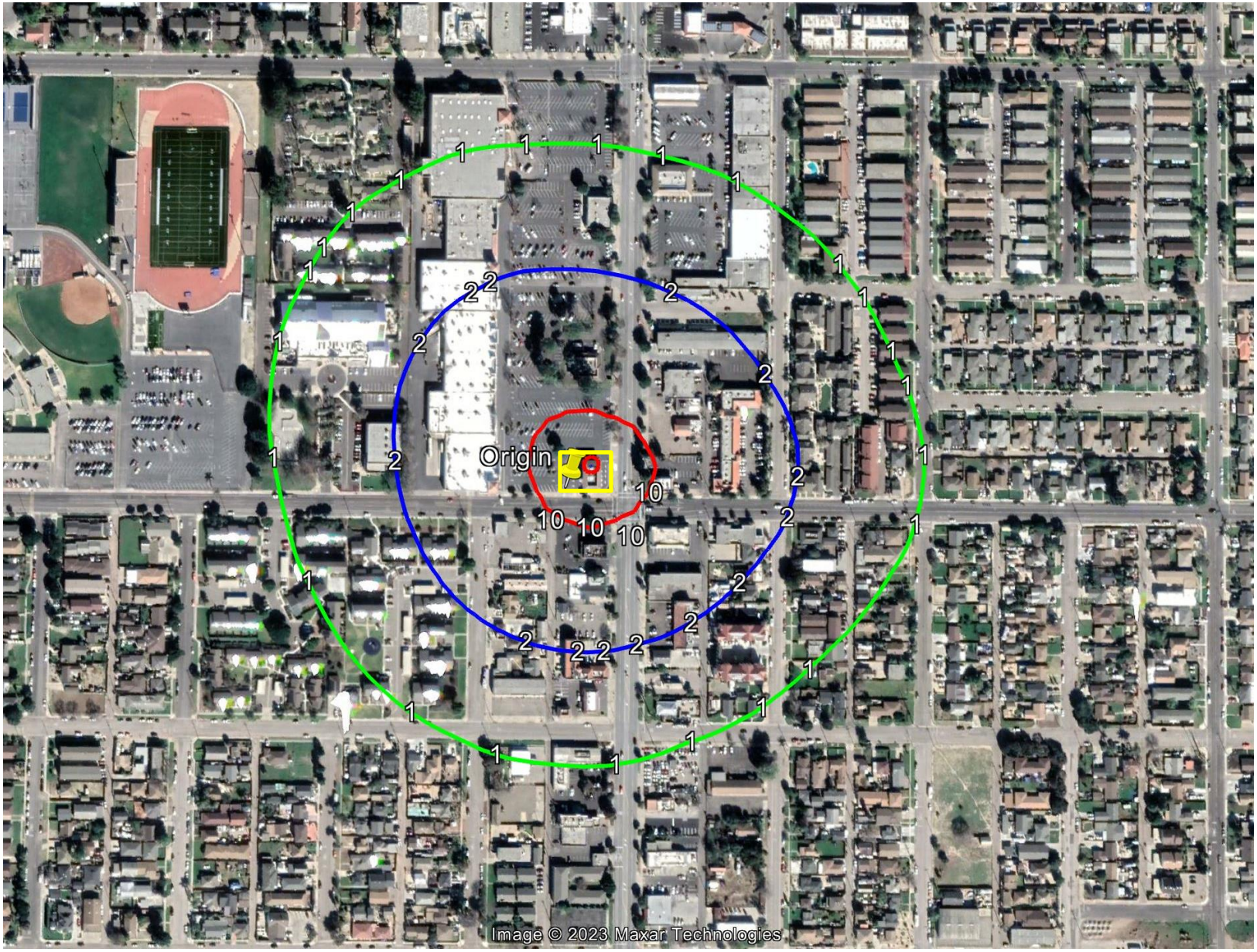
Also, the highest offsite PMI is 1.23 located at receptor #3087 (732937, 3836873, highlighted in the Table above), which is at the west boundary near the NW corner of the service station next to a driveway in a large common parking lot.

Isopleths of residential and commercial cancer risks and non-cancer health indices are shown in Figure 4 through Table 11. Since the maximum cancer risks and other non-cancer health indices are way below the regulatory thresholds of 10 and 1, respectively, the highest isopleths are shown within the maximum modeled results only.

6. Conclusions

The facility will be installed with Phase I and Phase II EVR vapor control systems which are considered as Best Available Control Technology for Toxics (T-BACT) for gasoline dispensing facilities. The results of the HARP2 modeling program indicated that the MICRs at the nearest residential and offsite worker receptors are less than ten in a million ($< 10 \times 10^{-6}$) and the non-cancer health indices are less than 1.0.

However, the maximum PMI for acute health index is 1.23 located at the west property boundary near the NW corner, which is a driveway in a common parking lot. Logically, it is believed that nobody would be staying on the driveway of a service station for a long period of time. Other than that, the health risks posed by the facility show compliance with SBCAPCD rules and regulations.



LEGEND: RESIDENTIAL CANCER RISKS

- 1.0 in a million
- 2.0 in a million
- 10.0 in a million

FIGURE 4. RESIDENTIAL CANCER RISKS (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

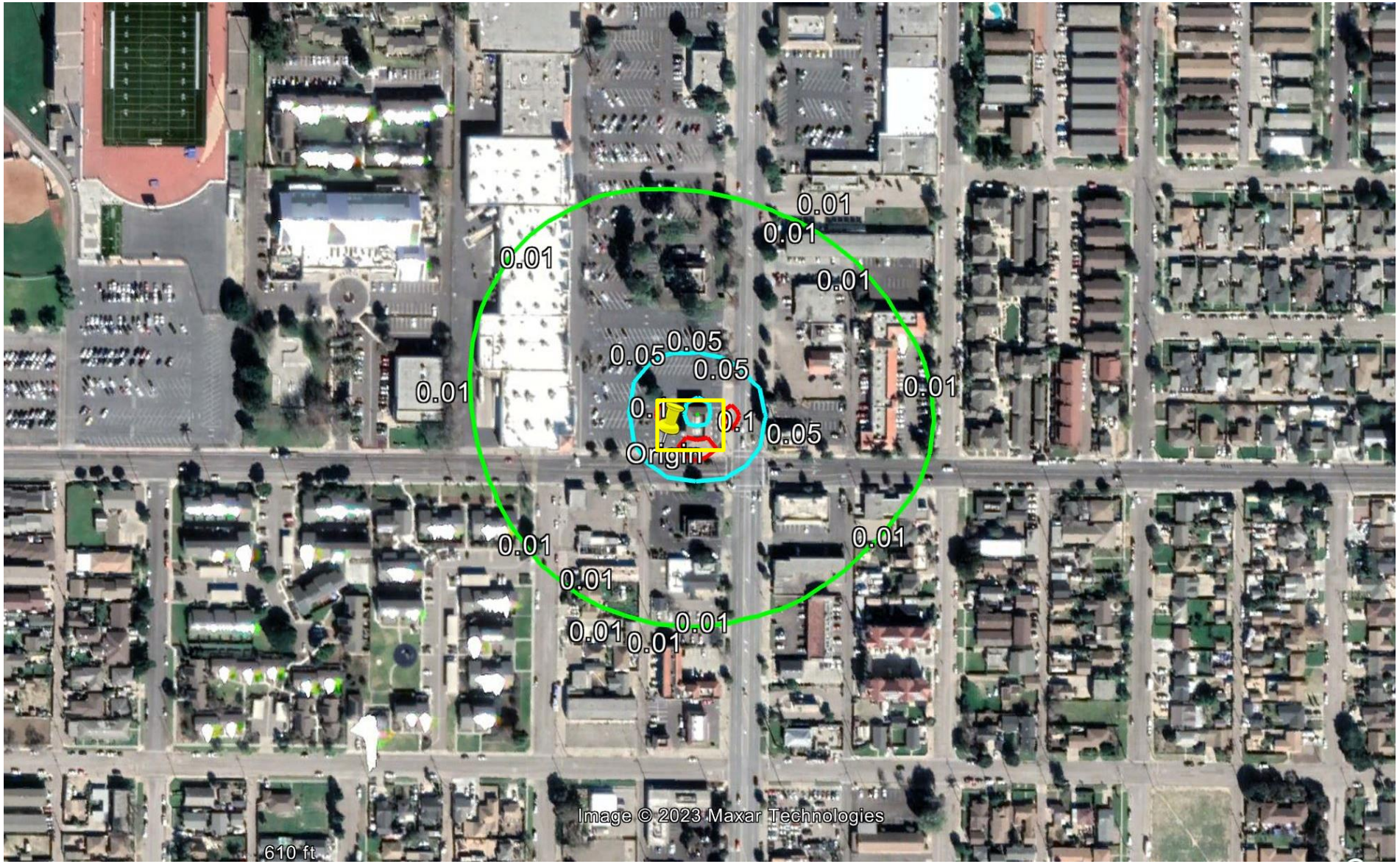
E-Tech Environmental | **FEB 2023**

LEGEND: COMMERCIAL CANCER RISKS

1.0 in a million
2.0 in a million

FIGURE 5. WORKER CANCER RISKS (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**

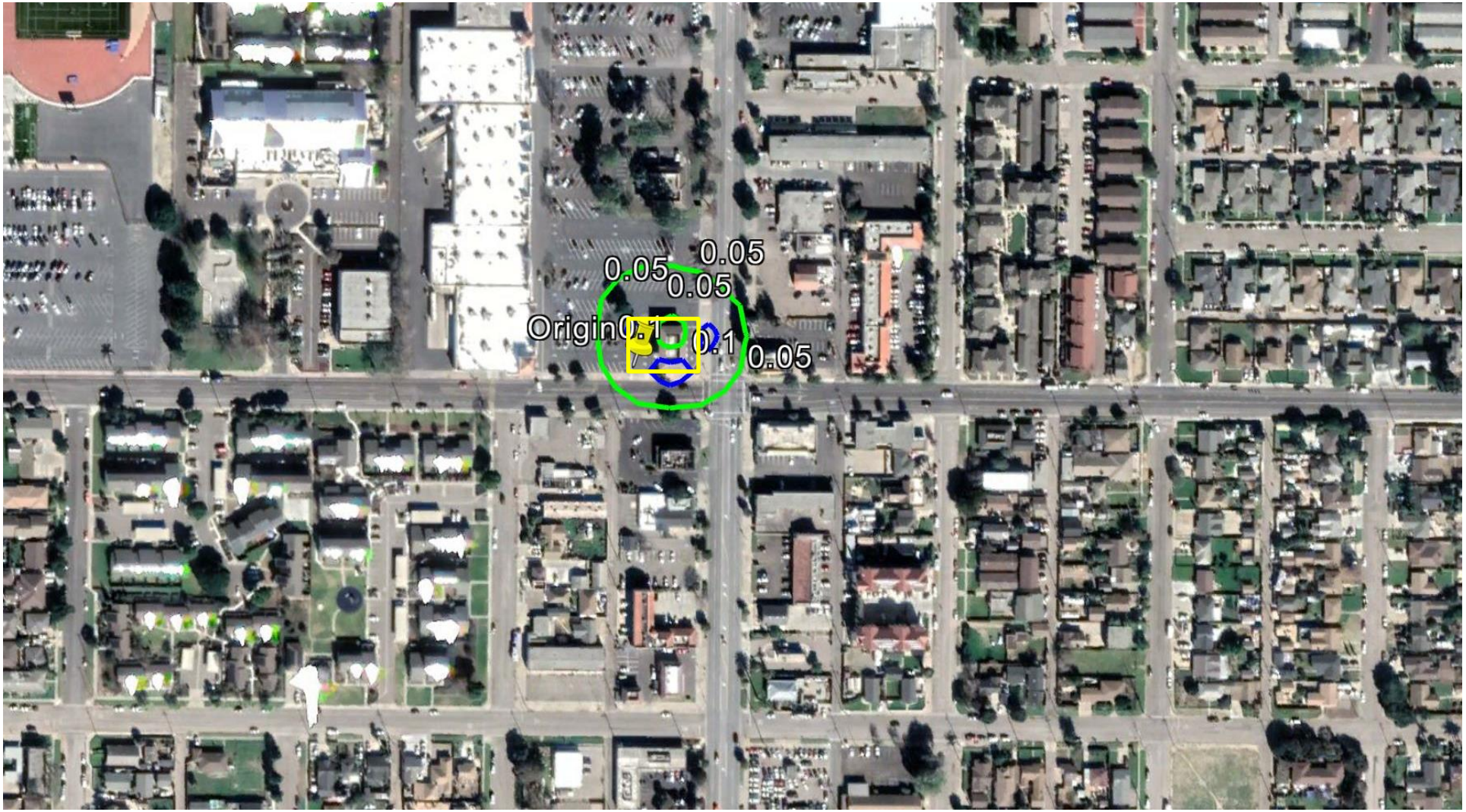


LEGEND: RESIDENTIAL CHRONIC HEALTH INDICES

- 0.01
- 0.05
- 0.1

FIGURE 6. RESIDENTIAL CHRONIC HEALTH INDICES (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**

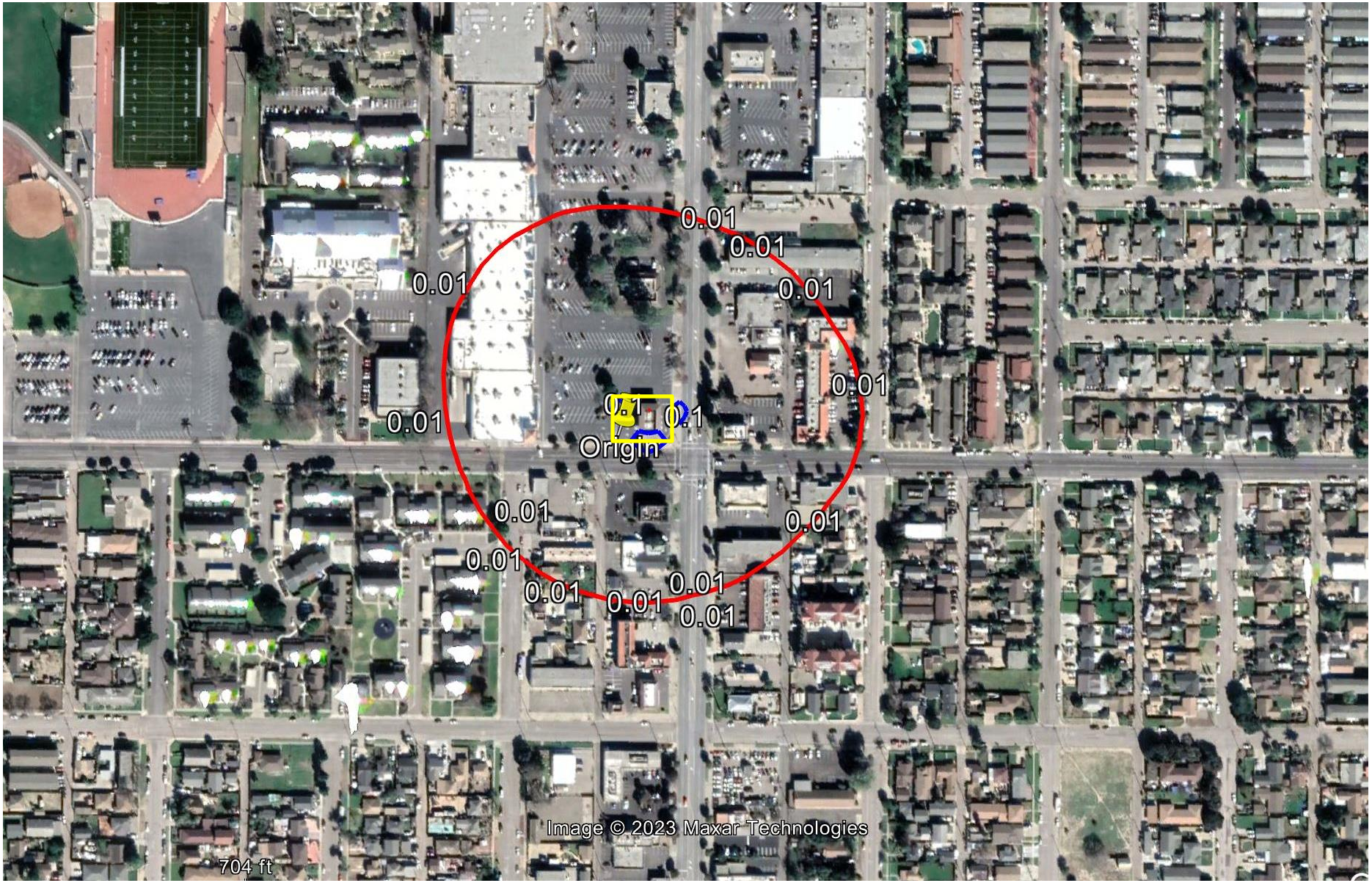


LEGEND: COMMERCIAL CHRONIC HEALTH INDIX

0.05
0.1

FIGURE 7. WORKER CHRONIC HEALTH INDICES (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**

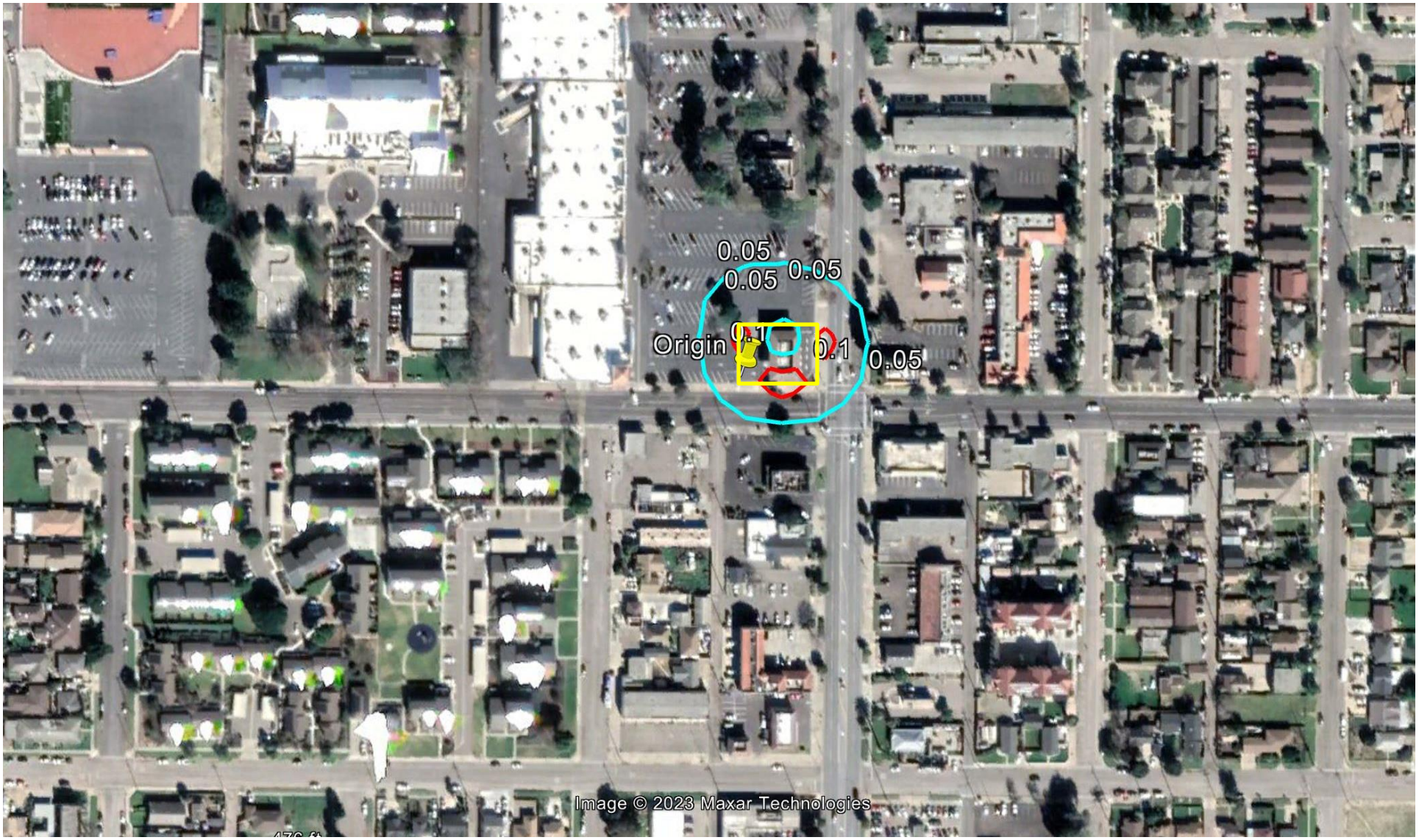


LEGEND: RESIDEDNTIAL 8 HR CHRONIC HI

0.01
0.1

FIGURE 8. RESIDENTIAL 8 HR CHRONIC HI (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**

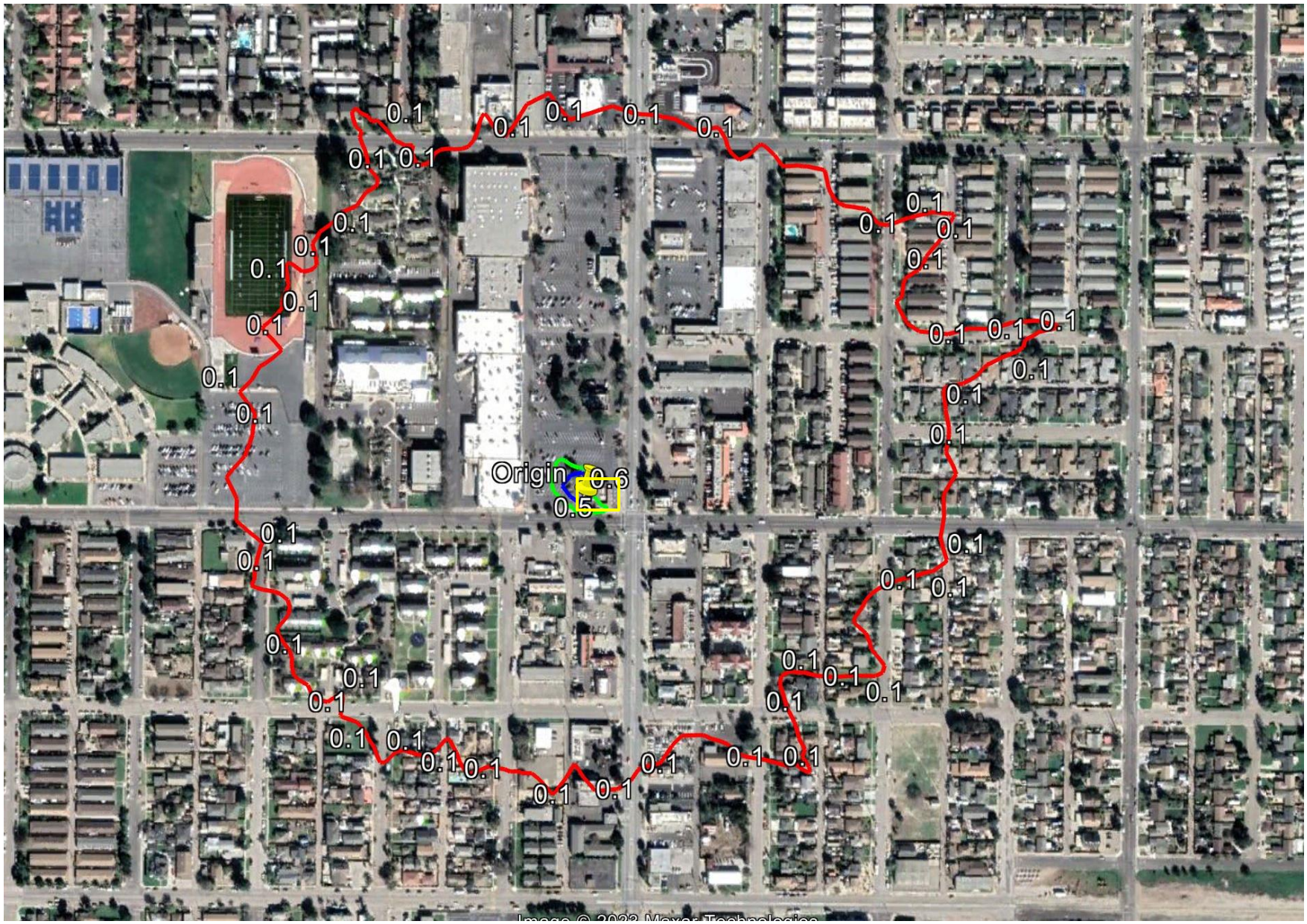


LEGEND: WORKER 8 HR CHRONIC HI

0.05
0.1

FIGURE 9. WORKER 8 HR CHRONIC HI (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**

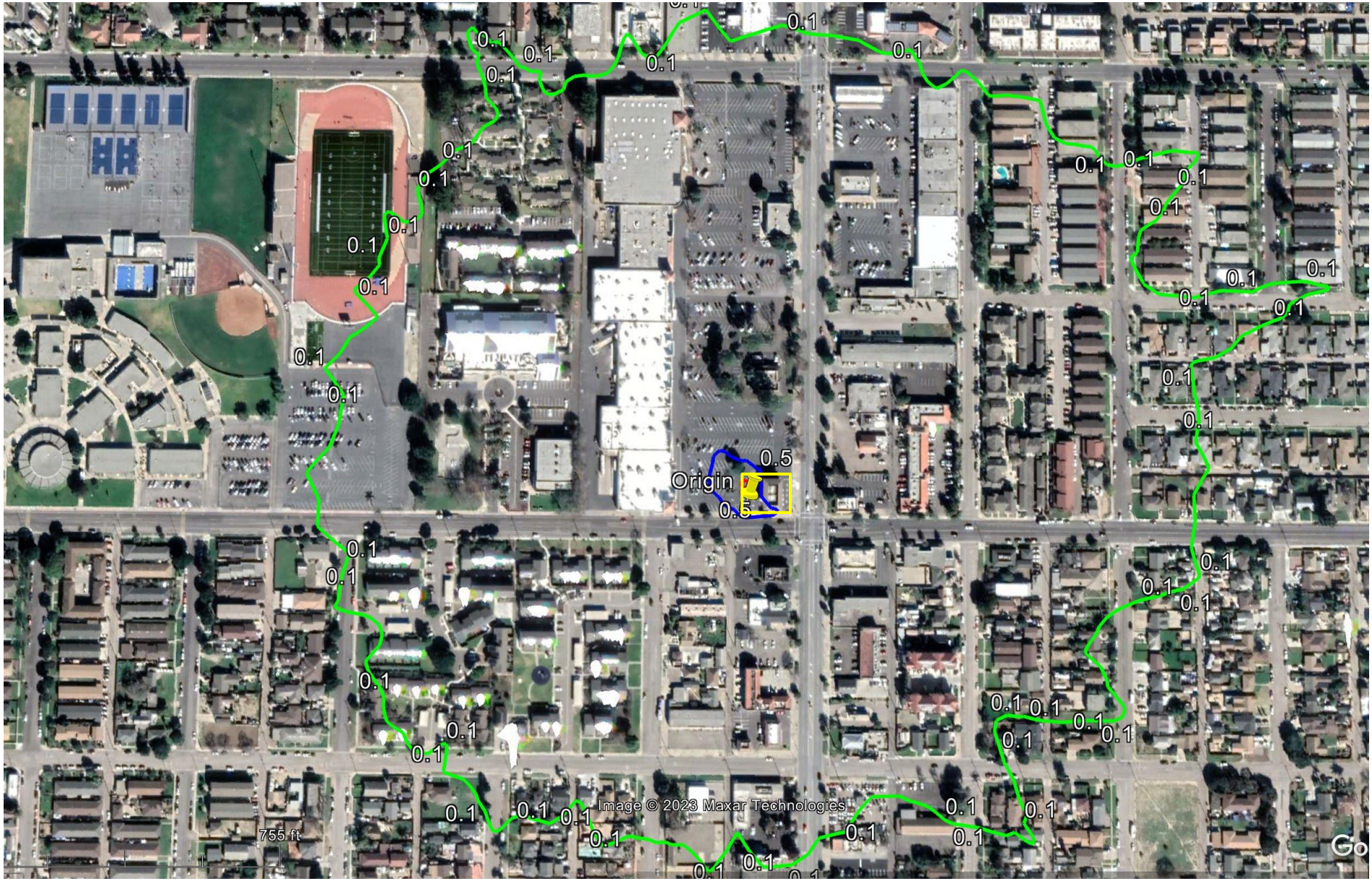


LEGEND: RESIDENTIAL ACUTE HEALTH INDICES

- 0.1
- 0.5
- 0.6

FIGURE 10. RESIDENTIAL ACUTE HEALTH INDIECS (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**



LEGEND: WORKER ACUTE HEALTH INDICES

0.1
0.5
0.8

FIGURE 11. WORKER ACUTE HEALTH INDIECS (R1.1)
603 NORTH H STREET
LOMPOC CALIFORNIA

E-Tech Environmental | **FEB 2023**