



November 29, 2021  
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## Project Description

The proposed project is to provide an agricultural research facility to study agricultural pests to develop organic methods of pest control. The site will be for research with agricultural crops and greenhouses to support the research and harvest for sale. The Apex Bait site is generally located at the southeast corner of Burnett Ave and Vista De Lomas Ave, Morgan Hill (APN 728-38-001). The 10.65 acre site is currently located outside the Urban Service Area, has a general plan designation of Large Scale Agriculture, with zoning of A-40AC-SR. The use is allowed due to the facility being Agricultural Research which is allowed in the general plan and zoning with a Use Permit. The site layout took great care create agriculture portion of the property and provide privacy to the neighbors.

The site will not be open to the public will consist of the following:

- A 4000 SF(+/-) Research Building plus a future 4,000 sf expansion. Used by the 5 employees for research and trials (not intended for public use).
- A commercial fire suppression tank and fire hydrant
- Parking lot for 33 parking spaces, including 2 ADA stall as required by code
- Storm water will be treated on site to meet the RWQCB post construction standards

The project will also include the following buildings that are allowed by right:

- Two 5,000 sf Barn for agricultural use for equipment to maintain the crops and storage of harvest crop.
- Main house and ADU, to be processed with the Use Permit

Operational Characteristics / Activities:

Employees. A maximum 10 employees (may vary depending on work load). Employees will not always be present during hours of operation.

Hours of Operation. The business will typically operate 5 days a week, from 8:00 AM to 6:00 PM. During peak event seasons, Harvest season April – September, the business may operate 7 days a week, 24 hours a day.

Average Daily Trips. The average number of vehicle trips for the project is estimated to be forty (20) trips per day; (10 to the site from ~ 7:00 to 8:00 AM; 10 from the site at ~4:00 to 6:00 PM);

Delivery vehicles. No delivery vehicles except for typically delivery service (ie UPS, FedEx) are anticipated.

Noise. No outside noise will be generated from the project.

#### Septic/Water

- Use of the proposed on-site well for fire and domestic. A water tank will be provided for the fire flow. Water will be used for fire flow, research, residence, and landscaping.
- The site will provide percolation tests and profiles to provide an on-site drainfield to service the 5,000 SF Research building;

#### Landscaping/Screening

- Exterior landscaping plantings and chain link fencing with climbing vine plantings is proposed in order to provide neighborhood visual buffering and security;

#### Signage

- A 50 SF commercial business advertising sign (Maximum 8 FT high)

**Agricultural Research** –The scope of the research is to develop new and better methods for control of insect pests in agriculture. Our primary focus is on baits, attractants, and traps. If successful methods can be found, they are typically safe and ecologically and environmentally sound because they always significantly reduce the use of insecticide and restore the balance of nature. The type of crops and pests will change over time depends on availability and feasibility. One area we want to explore is the control of pests in organic farms. Both bait and trap are well suited for pest control in organic farms. This applies to pests on both annual vegetables and perennial fruit crops we will grow in our organic farm.

The expected customers are Agrochemical companies who are interested in licensing our insect bait formulas to incorporate their insecticide to come up with an effective bait product. We license our bait formulas to our customers. They use their insecticides to make the products, register them with EPA, and sell them to farmers, pest management professionals, home owners either directly or through distributors.

**Agricultural Use** –Most of the land will be used for organic farming with high value specialty vegetables and fruit trees. We will have a garden area where vegetable will be grown. There will be different kinds of fruit trees. Currently, our thinking will be high value specialty fruit varieties including Yang Mei, a Chinese fruit that is recently introduced into the US and currently demands \$50/lb. For this one, we have to sign an exclusive agreement with the supplier so that they own the rights to all trees and fruits. The same equipment and employees should be used for both vegetable garden and fruit orchards, The equipment and employees used for the farm will be different from that used in research. However, scientists may need the help of farm employees to help out in maintaining the crops.

The 6.2 acres of designated agriculture cultivation will be planted within a year of approval of the ASA application. The fields and orchard will remain in production for the next five years.

**Residential Use** –The property owners who also own the business will eventually reside in the proposed house. It is possible that we will provide housing for a farm worker so that they can work on the farm. Company employees are not expected to live on the farm.

**Research Building** –There will be lab space and office space in the building. We will rear different kinds of insects we need for research. We will also bring pests from outside on the vegetables or trees into the lab to do studies in controlled environment. Currently, we spend 70% of our research effort on attractant study to find out what kinds of plant, flowers, and food materials are attractive to insects, and then what kinds of chemical attractants are responsible for the activities. This way we can develop attractant formulations that are highly attractive to the pests. Then the second most active research area is the bait formulation, We try to identify what food ingredients are highly palatable to our target pests and what are the phagostimulants to them. Then we develop bait formulations that are high palatable to the pests and then add the attractants to it so that we can have a highly attractive and highly feeding stimulative bait for the insects. The other activities include efficacy study, low toxicity insecticide such as boric acid and silica gel, insect repellents, and contract research for agrichemical companies,

**Barn** – Will be used to storage of all the farm equipment and harvest. It will be used for packaging the harvest.

#### **Hazardous Materials**

No production of pesticides will be done onsite. Small amounts of hazardous materials will be needed for the ag research. The commonly used chemicals are organic solvents such as hexane, acetone, methanol, and ethanol. They are mostly used for dissolving attractants and cleaning glassware. The amount used is typically very small, usually less than 500 ml in a year. The only one used more than this is ethanol or isopropyl alcohol that we purchase from grocery stores. It is used for washing glassware. We collect all hazardous materials in a hazardous material waste container and send it to an authorized collector according to EPA hazardous materials guidelines.

The research will not involve novel unknown chemicals. It may involve novel formulas because we keep improving our bait formulas. Once we are happy with a final formula, we may incorporate an insecticide into the bait formula to see how effective the bait is in an efficacy study. The % of insecticides used in the formula usually is from 0.001%-0.5% for a typical insecticide. The amount of bait used in an experiment is usually a few grams.

The bait is usually discard the bait containing the insects in the hazardous container and send it out to an authorized hazardous material collector if it is made by Apex Bait at other facilities. However, if we purchase the products from a store like Home Depot, we will dispose of them according to the labelled instruction, usually throwing the bait with the bait stations into the trash bin.

Only in the final stage of a product development cycle that we need to do efficacy studies that require formulated products containing insecticides. In this case, usually we compare to existing products on the market. We purchase them from grocery or hardware stores, or Amazon. They are delivered by a regular shipping method. On rare occasions, other companies we work with may send their formulated products containing insecticide for use to test. In this case, they usually use FedEx or DHL for delivery.

