SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

DUST CONTROL PLAN

Agromin – Commercial Organics Processing Operation
Santa Paula, California 93060

February 2017

Prepared for: Agromin
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County of Ventura
Notice of Preparation of an EIR
PL17-0154
Attachment 5 - Dust Control Plan

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1.0 INTRODUCTION

This Dust Control Plan provides a toolbox for Agromin field personnel to properly recognize dust sources and aid in the proper implementation of dust suppression best management practices (BMP's) at the Agromin- Commercial Organics Processing Operation facility located in Santa Paula, Ventura County, California. The control measures and operational protocols specified in this handbook were chosen to reduce and/or prevent wind transport of fugitive dust particles from disturbed soil surfaces, roadways, and drainage areas as well as transport of fine organic particles from the chipping, grinding, screening, compost storage, and vehicle operations.

In general, this handbook should be used to accomplish the following objectives:

1) Identify potential sources and migration pathways of fugitive dust emissions.
2) Eliminate potential origins of dust from the facility, as feasible.
3) Monitor dust generating activities and assess the extent of resulting dust impacts.
4) Implement corrective actions as required to mitigate significant dust impacts.

1.1 Site Description

The Agromin- Commercial Organics Processing Operation is a proposed commercial composting facility that will process and compost green material and food material collected in Ventura County (Project). The Project will expand a current 15-acre agricultural composting operation into a 70-acre Commercial Organics Processing Operation, located in an unincorporated area of Ventura County, near the City of Santa Paula (APN: 090-0-180-085). Composting processes employed at the proposed facility include the following:

- Open Windrows
- Covered Aerated Static Piles (CASP)
- Anaerobic Digestion (AD)

Nearby receptors potentially effected by fugitive dust emissions generated at the facility include the following (Figure 1, Attachment A):

- North: Avocado orchards
- South: Limoneira Farm Worker Residence
- East: Avocado orchards & residence(s)
- West: Limoneira Farm Worker Residence(s)

The primary structural and operational components of the proposed facility include the following (Figure 2, Attachment A):

- Two (2) organic material recovery buildings for unloading, processing, screening, and sorting incoming green and food material. The green material building will have open sides while the food material building will be fully enclosed and subject to negative pressure, with air ventilated through biofilters to control emissions.
- A Covered Aerated Static Pile (CASP) system to process a mixture of green and food material in aerated bunkers. Emissions from the CASP bunkers are controlled using biofilters or a multi-layer laminate cover (GORE™ Cover).
- An anaerobic digestion (AD) system to decompose green and food organic materials into useable compost within an oxygen-free environment. The AD system is fully enclosed and therefore has limited potential to generate dust emissions.
- Open windrow composting of green material only, consisting of active composting of organics through aerobic composting in long, narrow uncovered piles. Windrows will be oriented west to east to minimize the potential for fugitive dust generation resulting from prevailing winds.
- Two (2) feedstock storage grinding & mixing pad areas to store incoming green and feedstock materials in open stockpiles prior to being blended with compost.
- Mixing and blending additives such as gypsum, peat moss, and perlite with finished composted material inside a Packaging Building to produce soil amendment products. The building will be fully enclosed.
- Finished compost will be stockpile in finished compost storage areas on the western portion of the facility.

The Project also includes transferring Agromin's existing composting operations from their Shoreline facility, located at 6859 Arnold Road in Oxnard, to the Project site. The Shoreline facility's composting operations are scheduled to be shut down by 2019, at which time all equipment and processes will be transferred and integrated into the new Biogenic Energy Park facility.

1.2 Local Meteorological Data

The facility is located within the Mediterranean or subtropical dry summer climate zone, experiencing mild winters and warm, dry summers. The short "wet" season and typically long, hot "dry" season allows the soils to thoroughly dry out, which increases the chance of particulates becoming airborne. Onshore breezes from the west are typical at the facility. Strong, dry Santa Ana winds can also originate from the east, typically during the fall and winter months. The annual average mean temperature in the area is 61.2°F. The annual average minimum temperature is 47.5°F and the annual average maximum temperature is 75.0°F. Summer daytime temperatures often exceed 100°F. The average annual precipitation is 17.93 inches, and the primary months of precipitation are November through March. (*Western Regional Climate Center, 2016*)

Compiling historical wind data from nearby Oxnard and Camarillo airports from 2009 to 2014, average wind speeds in the area are estimated at 2.6 to 3.1 m/s (≈ 5.8 to 6.9 mph) and generally blow from the west/southwest (onshore). As such, sensitive receptors to the east of the Project site have a greater

potential to be impacted by fugitive dust emissions originating from the facility. See the Wind Rose (Figure 3, Attachment A) for more detail. (*California Air Resources Board (CARB) Meteorological Files*)

2.0 REGULATORY SETTING

Dust control requirements for composting operations are governed by the following state and local agencies, and the regulations adopted by those agencies. These requirements form the basis of this Dust Control Plan.

California Department of Resources Recycling and Recovery (CalRecycle):

California Code of Regulations (CCR), Title 14, Division 7, Chapter 3 (Minimum Standards for Solid Waste Handling and Disposal), Section 17407.4 (Dust Control) of Article 6.2 (Operating Standards) states the following:

> *(a) The operator shall take adequate measures to minimize the creation, emission, or accumulation of excessive dust and particulates, and prevent other safety hazards to the public caused by obscured visibility. The operator shall minimize the unnecessary handling of wastes during processing to prevent the creation of excessive dust. Measures to control dust include, but are not limited to: reduced processing, periodic sweeping and cleaning, misting systems or ventilation control. One or more of the following may be an indication that dust is excessive:*
>
> *(1) safety hazards due to obscured visibility; or*
> *(2) irritation of the eyes; or*
> *(3) hampered breathing:*
> *(4) migration of dust off-site.*

Ventura County Air Pollution Control District (VCAPCD):

Rule 55 (Fugitive Dust) of the VCAPCD Rules and Regulations outlines general requirements related to fugitive dust generation and required mitigation measures. The applicable portions of this rule are addressed within this handbook, specifically those governing visible dust beyond the property line, track-out, earth-moving/bulk material handling, and truck hauling.

California Stormwater Quality Association (CASQA):

CASQA publishes a Best Management Practices (BMP) Handbooks for managing stormwater and other related impacts resulting from construction projects and industrial facility operations. The handbook outlines various BMP's related to soil stabilization and fugitive dust control. The applicable portions of this handbook are referenced throughout this document.

2.1 Airborne Dust Fundamentals

The California Air Resources Control Board (CARB) defines "dust" as particulate matter (PM), specifically solid particles which come primarily from the soil or other organic materials. "Fugitive" dust is PM suspended in the air by wind action and human activities. Fugitive dust particles are composed mainly of soil minerals (e.g. oxides of silicon, aluminum, calcium, and iron), but can also contain other particles (sea salt, pollen, spores, etc.). Dust can be carried off-site, increasing the likelihood of sedimentation and pollution of waterbodies, and damage to adjacent agricultural operations (*CARB, 2010*).

About half of fugitive dust particles (by weight) are big particles, larger than 10 microns in diameter.

These larger particles settle out more quickly, on the ground and in the upper airways of human lungs. However, the other half are particles 10 microns or smaller, known as PM10, can remain airborne for weeks. When inhaled PM10 particles can travel easily to the deep parts of the lungs and may remain there, causing respiratory illness, lung damage, and even premature death in sensitive individuals.

Additionally dust particles smaller than 2.5 microns, known as PM2.5, may contribute to an inhospitable working environment and create risk factors that may impair respiratory health. Airborne particles smaller than 2.5 microns pose an even greater threat to human health than PM10, and PM2.5 emissions are generally regulated by local air pollution control districts.

3.0 DUST SOURCES & BMP'S

The best method of controlling dust is to prevent dust production at the source. This can be best accomplished by limiting the amount of bare soil exposed at any one time and limiting dust generating activities to periods with minimal wind velocities or when wind directions would not substantially impact nearby sensitive receptors.

3.1 Potential Sources of Dust

The following facility operations have the potential to generate fugitive dust emissions:

- Driving vehicles and mobile equipment on unpaved roads and operational areas.
- Moving vehicles offsite with the potential to create sediment tracking onto paved roads (track-out).
- Constructing and maintaining material storage piles.
- Exposing soils, including vegetation removal and grading activities.
- Final grading and site stabilization.
- Batch dropping from front-end loaders.
- Transferring feedstock materials via conveyor systems.
- Tipping, grinding, screening, mixing, and other operational activities with the potential to create dust and debris that could become airborne.

3.2 Dust Control BMP's

Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles:

- For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel and/or asphalt surfacing, temporary gravel entrances, equipment wash-out areas, and haul truck/equipment covers can be employed as dust control applications. Water used for dust suppression should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.

- At least one mobile unit (water truck) should be available at all times to apply water to the exposed roadways and working surfaces as needed.

- Permanent or temporary vegetation and mulching can be employed for areas of occasional and/or no construction traffic.

- Preventive measures would include minimizing surface areas to be disturbed, limiting on-site vehicle traffic to 5 mph, and controlling the number and activity of vehicles on site at any given time.

- Remove dust deposited by vehicles and equipment on paved surfaces as soon as possible, through the use of vacuum trucks, street sweepers, and brooms. Provide rapid clean-up of sediments deposited on paved roads.

Additional preventative operational measures include but are not limited to the following:

- Preventative measures can also be employed on pieces of equipment (such as chippers, grinders, screens, etc.) capable of producing airborne particulates, which would include covered conveyor belts, use of integrated misting systems, and maximizing the physical separation of dust generating activities from sensitive receptors.

- Schedule dust generating activities during periods of light winds and minimize exposed materials and process areas. Wind conditions should be monitored daily by onsite personnel.

- Quickly stabilize exposed soils using vegetation, mulching, and stone/gravel layering as appropriate and feasible.

- Direct feedstock delivery traffic to stabilized roadways within the facility. Signs should be installed onsite to direct vendor and customer vehicles while onsite.

- All distribution equipment shall be equipped with a positive means of shutoff.

- Construct natural or artificial windbreaks or windscreens. These may be designed as enclosures for small dust sources (chippers, grinders, mixers, etc.). Major grinding and size reductions should be conducted within one of the Organic Waste Recovery Buildings.

- Furnish stabilized construction road entrances and vehicle wash-down areas to prevent track-out.

The following table shows control practices that can be generally applied to the site conditions that create fugitive dust.

SITE CONDITION	Dust Control Practices						
	Speed Limits	Vegetation	Mulching	Wet/Chemical Suppression (Watering)	Entrance/Exit Stabilization	Equipment Covers	Truck Covers
Disturbed Areas with NO Traffic		X	X	X	X		
Disturbed Areas Subject to Traffic				X	X		
Material Stock Pile Stabilization				X		X	
Clearing & Excavation			X	X			X
Truck Traffic on Facility Roads	X			X			X
Mud/Dirt Carry Out				X	X		
Pre-Processing Areas				X		X	
Finishing/Mixing Areas				X		X	
Product Shipping				X			X

3.2.1 Vegetation Preservation

This BMP involves preserving existing vegetation and planting new vegetation at the facility. Vegetation preservation is an effective method for minimizing dust generation and preventing fugitive dust particles from leaving the site, as roots naturally secure surface material. Vegetation along the perimeters of the facility, specifically the existing line of windbreak trees, should be protected and preserved during construction and site operations.

The following specific measures related to vegetation preservation are recommended:

1) Prior to construction activities, including clearing, grubbing, grading, or other soil disturbing operations, vegetated areas to be protected should be clearly delineated. This can be accomplished through temporary fencing and proper signage. Prior to construction, temporary fencing and appropriate signs shall be placed along the eastern perimeter of the site to prevent disturbances to the existing line of windbreak trees (see Figure 1).

2) Instruct all employees and subcontractors onsite of the location of protected vegetation and ensure onsite personnel honor these protection areas.

3) Minimize disturbances to vegetation by placing temporary roadways, storage facilities, and parking areas as far away as feasibly possible from the protected areas.

4) Keep mobile and stationary equipment as far away as feasibly possible from preserved trees to prevent root and trunk damage. Trenching should be done as far away from tree trunks as possible, typically outside the drip line. Trenches should be filled in as soon as possible to avoid root drying and soil should be tamped down to fill in air pockets. Never expose roots to the air whenever feasibly possible.

3.2.2 Wood Mulch

This BMP consists of applying a mixture of shredded wood mulch, bark, or compost to bare soil to reduce runoff, increase infiltration, and reduce erosion due to wind or rainfall impact. Wood mulch provides temporary or short-term soil stabilization but is not a long-term mitigation option. This material should be applied to exposed soil beneath the existing tree canopy along the eastern edge of the facility. Please note that mulch should not be used for dust suppression during periods of high winds, as there is a risk that smaller particles within the mulch may dry out and also become airborne.

The following specific measures related to wood mulch application are recommended:

1) Select wood mulch appropriate for the application and site conditions. After existing vegetation has been removed, roughen soil surface before application if feasible.

2) Mulch depth depends on the product selected. Distribute shredded wood mulch evenly across the soil to a depth of 50 mm (2 in) to 75 mm (3 in). Mulch composed of recycled green material should be applied to a maximum depth of 50 mm (2 in).

3) Inspect and maintain mulch to ensure that it lasts long enough to achieve the erosion control objective desired.

3.2.3 Wet/Chemical Suppression

This BMP consists of applying water or other dust palliatives (chemical binders) to minimizing dust generation and preventing fugitive dust particles from leaving the site. Although effective for dust control, watering prevents dust only for a short period (generally less than a few hours) and should be applied daily (or more often) to be maximally effective. Water trucks and mobile mist systems will be maintained onsite and available for use if onsite employees notice dust becoming airborne and/or leaving the site in disturbed areas. If water is deemed ineffective, chemical dust suppressants which are mulch or fiber based (e.g. paper mulch with gypsum binder) may be utilized. Wet and chemical suppression techniques are highly effective for temporary dust suppression during infrequent high wind events while chemical suppression is more appropriate for long-term dust suppression in specific problem areas.

The following specific measures related to wet and chemical suppression are recommended:

1) Care should be taken when applying water or palliatives to unpaved roads to prevent the washing of sediment into storm drains or nearby receiving waters. Do not apply so much water to an area that runoff occurs. If runoff is observed, immediate cease application of suppressants.
2) When utilizing a mist system or building mounted system, the mist system shall be located as close as possible to the primary dust source to reduce the offsite transport of organic fines generated during the grinding and screening processes. Depending upon the height at which dust is generated, the equipment may need to be placed on the roof of an adjacent building to ensure maximum dust suppression.
3) Where feasible, cover small stockpiles or disturbed soil areas as an alternative to watering. This can be accomplished with mulch or plastic tarps if feasible.
4) When applying palliatives or binders for wind erosion control, refer to the manufacturer's recommendations for guidance.
    - Chemical dust suppression agents selected for use at the facility should be environmentally benign and non-hazardous.
    - Chemical dust suppressants should not be used within 100 feet of wetlands or other nearby receiving waters. Additionally, care should be taken when using chemical suppressants adjacent to the drainage ponds (see Figure 2).

3.2.4 Stabilized Entrance/Exit and Roadways

This BMP consists of stabilizing the defined entrance/exit point as well as internal roadways at the facility to reduce exposed sediment becoming airborne and prevent track-out onto public roads by vehicles. Stabilized entrances/exits and vehicle roadways are an effective method for reducing dust and erosion.

Stabilized Entrance/Exit: Stabilized entrances are generally effective in removing sediment from equipment leaving a construction site. The entrance should be built on level ground. Advantages of the stabilized construction entrance/exit is that it does remove some sediment from equipment and serves to channel construction traffic in and out of the site at specified locations. Entrance/Exit Design and Layout Considerations:

1) Design a stabilized entrance/exit to support the heaviest vehicles and equipment that will use it. The access point should be at least 35 feet in length or four times the circumference of the largest construction vehicle tire (whichever is greater). Designate access points and require all employees, subcontractors, and others to use them. Rumble racks constructed of steel panels with ridges and installed in the stabilized entrance/exit will help remove additional sediment and to keep adjacent streets clean.
2) Construct on level ground where possible.
3) During construction activities limit the points of entrance/exit to the site, preferably to a single designated location.
4) Grade entrance/exit points to prevent runoff from leaving the site. Route runoff from the entrance/exits through a sediment-trapping device, such as a silt fence or sandbag check dams, before discharge.
5) Stabilize the roadway with aggregate, AC, or PCC, depending on expected usage and site conditions. When access points are constructed from aggregate, aggregate should be 3-6 inches diameter and at least 1 foot in depth. Where feasible, aggregate should be placed over geotextile fabric.
6) Inspect and maintain stabilized entrance/exit points. Routinely check for damage and effectiveness. Remove accumulated sediment and or replace stabilization material as needed.

Stabilized Roadways: The facility design includes paving access roads, facility roads and transportation routes and parking areas. Limiting the speed of vehicles to 5 mph while onsite and use of wet suppression techniques will be used to control dust generation.

3.2.5 Equipment Covers/Dust Barriers

This BMP consist of covering dust generating equipment on-site or establishing a non-natural barrier to prevent dust contamination. Equipment coverings can range from covering individual components of processing equipment (such as covered conveyor belts, hoppers, etc.) to constructing a screen or fence barrier to limit off-site transport.

The following specific measures related to equipment covers and dust barriers are recommended:

1) In addition to covering the on-site conveyors, and/or feedstock hoppers on the grinders and screens, a mist system at the material outfall should also be considered to further reduce the chance of fugitive dust transport during equipment usage.
2) Any dust barrier should be regularly inspected for effectiveness, holes, etc. The barrier should be fully anchored into the ground surface to prevent destruction during high wind events. The barrier should not be placed adjacent to large trees or similar objects capable of generating debris that could damage the barrier. The height of said barrier shall not exceed the height of existing buildings, unless specifically allowed by the Local Enforcement Agency (LEA).

3.2.6 Buffer for Pre-Processing & Finished Compost Storage Areas

This BMP consists of locating dust generating activities, such as feedstock pre-processing, screening, grinding, and finish product storage areas, as far upwind as possible to reduce the potential impact of dust transport on sensitive receptors.

The following specific measures related to processing/storage area buffers are recommended:

1) All feedstock delivery, pre-processing, grinding, screening and finished product storage shall be sufficiently separated from nearby sensitive receptors.
2) To the extent feasible, finished product storage shall be located upwind (i.e. west) of the pre-processing/grinding/screening operation (see Figure 2). This will allow fugitive dust originating from finished product storage areas to potentially settle out over other process areas.

3.2.7 Suspension of Facility Activities

This BMP consists if ceasing or temporarily suspending facility activities and processes during high wind events in order to minimize the creation of dust. High wind events are defined as wind of such velocity as to cause fugitive dust from within the site to blow offsite.

The following specific measures related to suspension of facility activities and/or processes are recommended:

1) If fugitive dust is observed blowing offsite, the source should be investigated. Once determined, additional dust prevention measures shall be initiated. This may include:
    - The use of additional wet suppression;
    - The dust generating activities (e.g. use of equipment and processing activities) shall be immediately curtailed until the conditions abate.
2) If facility is experience extreme high wind event, all facility activities shall cease until the extreme wind event has subsided and/or no fugitive dust is observed leaving the site.

ATTACHMENT A

FIGURES

Google Maps 2016

Approximate Site Boundaries

- Windbreak Trees (should be delineated and preserved)

R - Residence(s)

N

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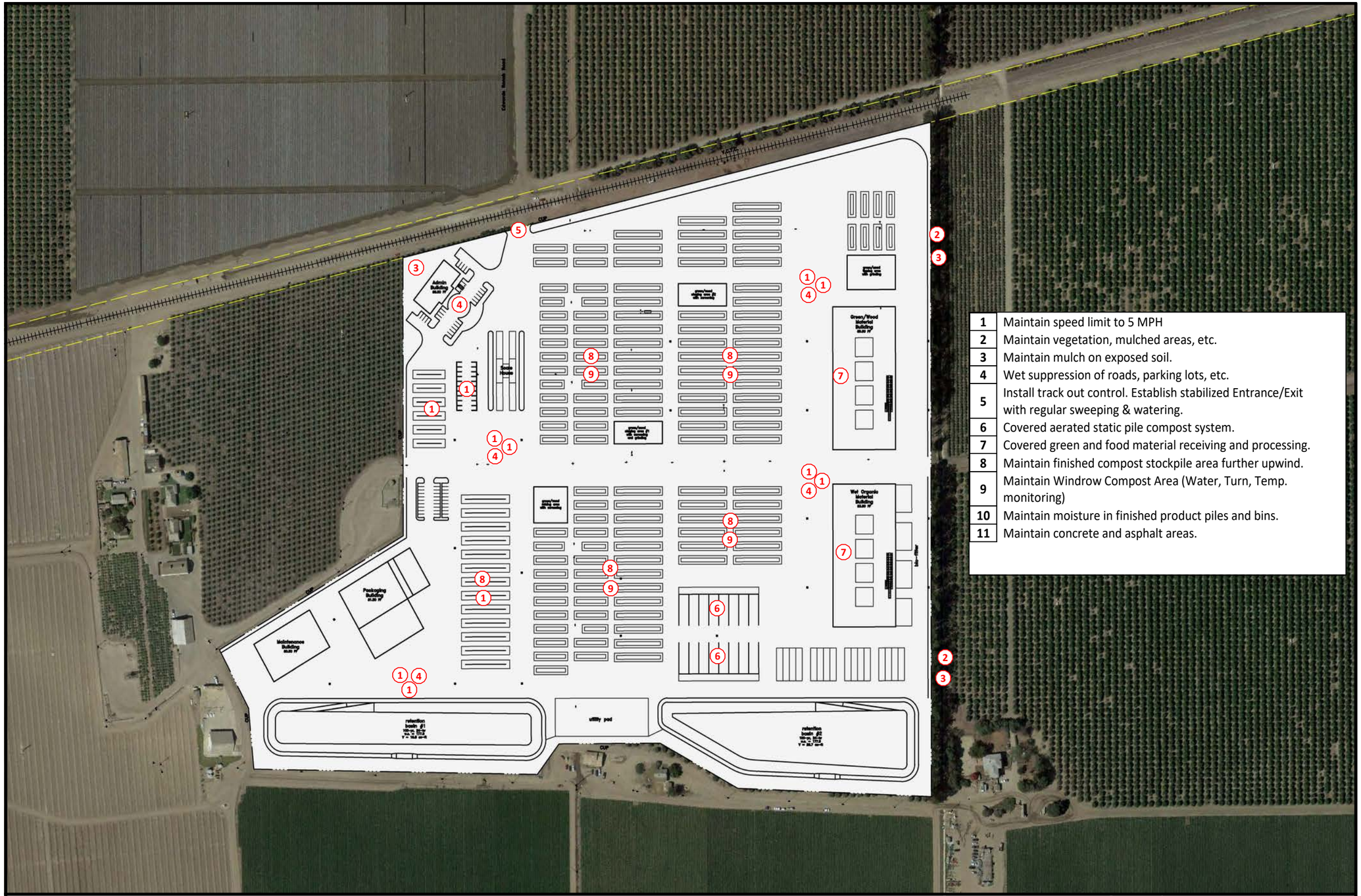
FIGURE 1	SITE LOCATION & NEARBY Agromin - Biogenic Energy Park Santa Paula, California 93060		
PROJECT #:	AG01.11.02	DATE:	11/4/16
SCALE:	as shown	DRAWN BY:	GPS



1	Maintain speed limit to 5 MPH
2	Maintain vegetation, mulched areas, etc.
3	Maintain mulch on exposed soil.
4	Wet suppression of roads, parking lots, etc.
5	Install track out control. Establish stabilized Entrance/Exit with regular sweeping & watering.
6	Covered aerated static pile compost system.
7	Covered green and food material receiving and processing.
8	Maintain finished compost stockpile area further upwind.
9	Maintain Windrow Compost Area (Water, Turn, Temp. monitoring)
10	Maintain moisture in finished product piles and bins.
11	Maintain concrete and asphalt areas.

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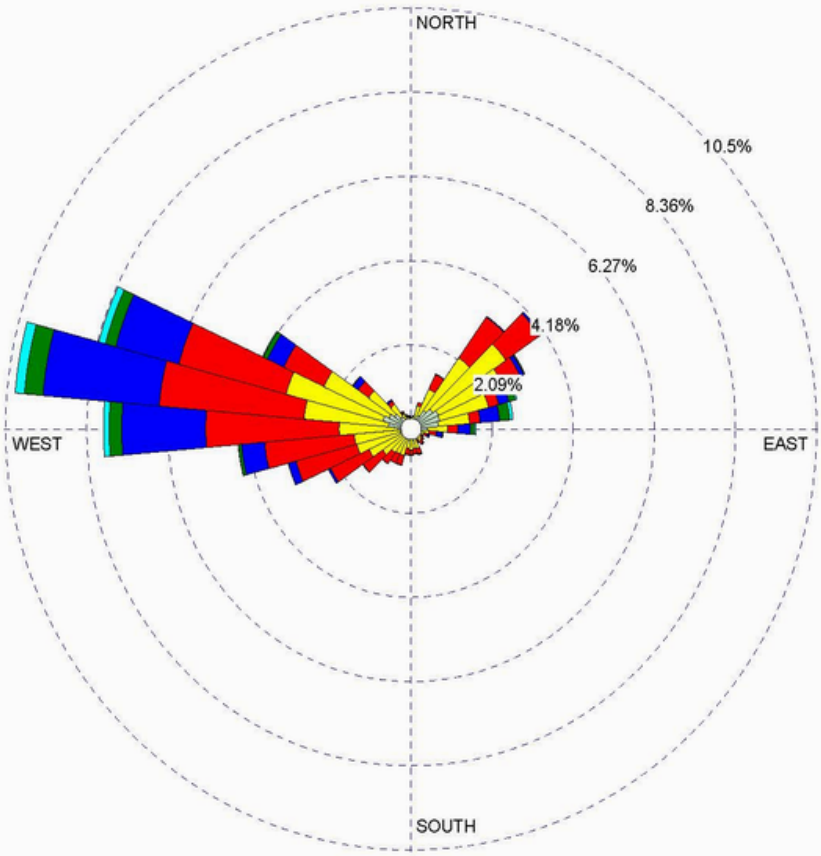
FIGURE	FACILITY SITE PLAN		
2	Agromin - Biogenic Energy Park Santa Paula, California 93060		
PROJECT #:	AG01.11.02	DATE:	11/4/16
SCALE:	as shown	DRAWN BY:	GPS

WIND ROSE PLOT:
Oxnard Airport

DISPLAY:
Wind Speed
Direction (blowing from)



WIND SPEED
(m/s)
- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 22.31%

COMMENTS: Data taken from CARB - https://www.arb.ca.gov/toxics/harp/metfiles2.htm	DATA PERIOD: **Start Date: 1/1/2009 - 00:00** **End Date: 1/2/2014 - 23:59**	COMPANY NAME: **Sespe Consulting**	
		MODELER: **RDF**	
	CALM WINDS: **22.31%**	TOTAL COUNT: **42809 hrs.**	
	AVG. WIND SPEED: **3.08 m/s**	DATE: **2/28/2017**	PROJECT NO.: **Agromin Santa Paula**

Windrose create using WRPLOT View program (Lakes Environmental Saftware).

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FIGURE	WINDROSE
3	Agromin - Biogenic Energy Park Santa Paula, California

PROJECT #:	AG01.11.02	DATE:	4/25/16
SCALE:	as shown	DRAWN BY:	GPS