California Compost Coalition
Integrated Waste Management Consulting, LLC
Association of Compost Producers
California Organics Recycling Council
US Composting Council

February 23, 2012

Mr. Roger Mitchell, P.G.
Engineering Geologist
Division of Water Quality
State Water Resources Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Re: Draft Concepts for a Proposed Statewide Order for Composting Facilities

Dear Roger:

The entities listed above are an informal coalition that represents operators of permitted composting facilities within California. On behalf of these organizations, we respectfully submit the following comments regarding the development of the State Water Resources Control Board's (SWRCB) Proposed Statewide Order for Composting Facilities (Statewide Order).

We appreciate the opportunity to comment on the proposed Statewide Order as well as the lengths your staff has gone to involve stakeholders through the rule development process. Unfortunately, we cannot support the potential regulations described in your initial draft of the Statewide Order. The members of our coalition have deep concerns over this proposed regulatory package and its impacts on compost facilities in the state, whose ability to enhance sustainable landfill diversion programs may be hampered without workable solutions that address both the concerns of the SWRCB and our industry.

In consultation with other stakeholders, we have developed the below proposed concepts that will inform this regulatory process and help to result in an improved approach to the previously-drafted, tiered structure, while still helping the SWRCB meet its water quality objectives. For starters, our group strongly supports the inclusion of a Tier IV, as discussed in a number of the working group meetings and suggests including additional material types, such as food waste, in limited quantities, to be consistent CalRecycle's Notification Tier parameters that are currently being discussed as part of the Title 14 and Title 27 workshops on compostable materials.

Additionally, we have also discussed concepts to develop a waiver that includes the original SWRCB "Concepts" but also includes alternative compliance measures that address some regional issues (such as annual rainfall or soil type) as well as alternative water quality protection measures (WQPMs), and may be dependent upon site-specific characteristics. In some cases, this would essentially provide the ability for facilities to qualify for an alternative tier rather than the default tier and/or alternative measures rather than the default measures within a given tier. The attachments outline such a proposal: Attachment A is a list of WQPMs currently employed at composting facilities, or at other industrial sites, that can be applicable in this rulemaking; Attachment B describes the proposed alternative measures. This proposal provides a structure that continues to protect water quality while allowing alternative tier designations

based on naturally occurring, site specific characteristics, and/or WQPMs that are as equally protective of groundwater as the default requirements under each tier. It will also allow for WQPM's to be used within each tier to augment a site specific characteristic to meet the default requirements of that tier.

In closing, this coalition is pleased to continue our involvement in the development of the Statewide Order and hopes to assist in any way feasible towards a positive outcome for all stakeholders. If you have any questions please do not hesitate to contact any of the undersigned parties.

Sincerely,

Neil S.R. Edgar
Executive Director
California Compost Coalition

Matthew Cotton
Principal
Integrated Waste Management Consulting, LLC

Dan Noble
Executive Director
Association of Compost Producers

Michele Young
Chair
California Organics Recycling Council

Michael Virga
Executive Director
US Composting Council

WQPMs for Commercial Composting

The Water Quality Protection Measures (WQPMs) listed below have been developed to provide SWRCB staff insight into how compost facilities are currently protecting waters of the state. Each WQPM is accompanied by a reference number for what type of benefit is provided and the key explaining the numbers is provided at the end of this document.

A. Feedstock Receiving, Storage, and Processing Area

- Prompt processing of incoming material into a windrow. [1]
- Construct a berm to prevent stormwater run-on. [1, 2]
- Tarp unprocessed feedstocks before storm events. [1, 3, 4]
- Conduct feedstock tipping, sorting and/or storage in dedicated space with leachate collection or under roof. [1, 3, 4]
- Load-checking – Ensure that the compost feedstocks do not contain dangerous or hazardous wastes, or solid wastes that are not beneficial to the composting process. Train employees to screen these materials in incoming wastes. [3]
- Provide educational communication and feedback to feedstock providers to exclude prohibited non-compostable materials. [1, 3]

B. Active Composting Area

- Use wattles or finished compost berms alongside windrow toes to contain windrow leakage; then reincorporate compost into piles. [3]
- Construct a berm to minimize stormwater run-on [1, 3]
- Conduct composting in covered, aerated static piles. [1, 3]
- Conduct composting in uncovered, extended aerated static piles. [1, 3]
- Increase airflow in uncovered, aerated static piles during high-moisture periods. [1, 3, 4]
- Modify and coordinate watering of compost piles with impending storm events to prevent saturation. [1]
- Use leachate for moisture maintenance in early stages of the composting process. (Leachate may not be used for compost wetting once pathogen reduction is underway.) [2, 3]
- Leachate from non-pathogen reduced material must flow away from pathogen reduced materials and finished product. [3]
- When available and necessary, use leachate for dust control. [2, 3, 4]

C. Screening and/or Blending Area

- Store amendments or additives under roof or tarps during the rainy season. [3, 4]
- Limit storage times of residues to prevent degradation and generation of leachate. [1, 3, 4]
- Remove residues in a timely manner and before storm events. [1, 3, 4]
- Locate stored residues in areas designed to collect leachate. [4]
- Reincorporate oversized materials into windrows to increase porosity, or use oversized materials as pseudo-biofilter cap on new materials. [1, 3]

D. Finished Product Storage Area

- Store finished compost under roof; gutter roof to divert stormwater to an appropriate discharge point. [3, 4]
- Tarp piles of finished compost during summer to reduce need for watering pile, and during rainy season to prevent saturation. [3, 4]

E. Other / General Operations and Design Considerations

- Use of in-vessel technologies, including anaerobic digestion, to handle highly putrescible wastes. [1, 3, 4]
- Elimination of standing surface water. [4]
- Housekeeping - Regular inspection of the site by a manager. [1, 2, 3, 4]
    - Maintenance of a clean and orderly facility.
    - Regular scraping or sweeping of the facility.
    - Regular litter removal and removal of windblown litter.
- Minimize unnecessary handling; limit screening/grinding during active rain periods. [3]
- Wet Weather preparations - Prior to the rainy season, undertake a comprehensive review of the facility to identify and maintain all structural and non-structural components of the facility. These include:
    - Cleaning and maintenance of any below grade sumps, retention basins, etc. (using vacuum trucks) [2, 3, 4]
    - Cleaning and maintenance of berms, ditches and retention basins. [2, 3, 4]
    - Cleaning and maintenance of bioswales and other stormwater treatment devices. [3]
- Use drainage ditches for higher-volume flow instead of berms to convey/redirect stormwater or wastewater quickly to a pond. [2, 4]
- Drainage ditch design options
    - Concrete or asphalt concrete
    - Soil concrete
    - Compacted Imported clay/bentonite
    - Compacted native soil
- Curb or berm for all operational area pads to prevent stormwater run-on and leachate runoff. [1, 2, 3, 4]
- Provide one or more sumps or catch basins capable of collecting leachate and conveying it to the leachate holding structure for all compost pads. [4]
- Design site so that new material is delivered and processed down grade of post-PFRP and screened finished compost. [3]
- Grading all facility areas to .5% or greater. [2, 4]
- Graveling or paving of access roads. [4]
- Dedicated truck and equipment wash zone with liquid capture. [2, 4]
- Construct berms to decrease run-on from paved roads. [1, 2, 3]
- Use an erosion control mix on any bare areas to reduce run-on and minimize/slow/adsorb run-off. Inspect and re-seed during rainy season. [2, 4]
- Conduct all equipment maintenance and fueling either off-site or under roof. [3]

- Comply with all applicable requirements for secondary containment of diesel fuel. [3]
- Switch to electric powered equipment. [3, 4]
- Develop site flow maintenance plan: include weed removal and compaction of ditches or chisels, re-compaction or armoring of berms, pre-storm activities, grade assessment and correction, pond-size assessment. [1, 2, 3, 4]

F. Pad Design and Maintenance

- Develop pad maintenance plan: re-compact certain portions or percentages of the pad annually, perhaps 100% re-compaction every 10 years for native soil pads. This helps the operator avoid shutting down completely for pad work. Re-compaction not necessary on concrete, asphalt concrete, or geo-lined pads. [4]
- Pad design options – with or without geotextile liner. [4]
    - Concrete or asphalt concrete
    - Soil concrete
    - Compacted Imported clay/bentonite
    - Engineered Inert Pad – compacted soil/inert debris
    - Compacted native soil
- Orient windrows parallel to stormwater flow. [4]
- Maintain site surface, fill any low spots where water isn't flowing towards retention pond or other treatment area, use wood chips or other dry materials to absorb puddles and re-incorporate into piles. [1, 3, 4]
- Slope all compost pads sufficiently to direct leachate to collection devices. [4]

G. Pond Design and Maintenance

- Use aerators to speed evaporation of pond. [4]
- Develop pond maintenance plan: include a re-compaction plan for compacted clay or native soil ponds with 100% re-compaction every 10 years. The plan would also include weed and debris removal, annual scraping and re-composting or disposal of pond solids Re-compaction is not required for geo-membrane ponds. [4]
- Add a bioswale downstream of retention pond to minimize impact of discharge. [3]
- Place wattles or compost berms upstream (in front of) control structures (weirs, culverts, berms, retention ponds, etc. [3]
- Pump pond water to holding tank for recirculation to new piles. [4]
- Emergency pond pumping plan and infrastructure/equipment. [4]
- Add a solids separator upstream of the retention pond. [3]
- Pond design options – with or without geotextile liner. [4]
    - Concrete
    - Compacted Imported clay/bentonite
    - Compacted native soil

H. Additional Measures

Wet Climate

- In areas of the state with wet climates, limit unnecessary turning of windrows and handling of stockpiles. [1, 3]

Dry Climate

- Make windrows larger in the winter; maximize absorption, limit runoff. [1, 3]
- Changing the shape (or notching) top of a compost pile to adsorb greater quantities of water windrows (Caution: too much rainfall can affect biology and temperature of pile – notching is probably best used in areas of light rainfall.) [1, 3]

Treatment BMPs:

- Convey all leachate from composting operations to a sanitary sewer, holding tank, or on-site treatment systems designed to treat the leachate and TSS. [3, 4]

WQPM Benefits Key

1. ***Reduce runoff/production of leachate***
2. ***Minimize or eliminate water flow on/off site***
3. ***Reduce stormwater contamination***
4. ***Minimize or eliminate potential for percolation under site***

Attachment B

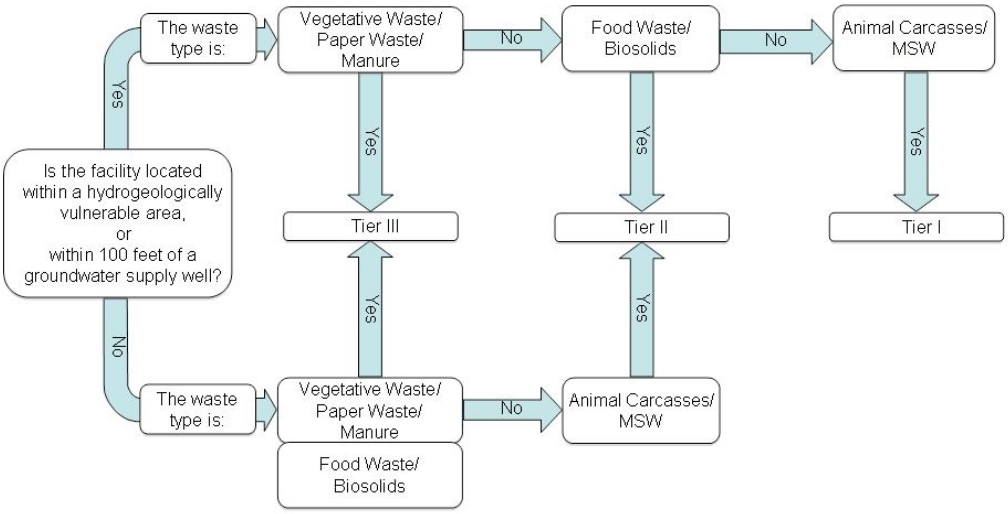
Proposal for "Draft Concepts for a Proposed Statewide Order for Composting Facilities"

This 3-step proposal was written to allow additional options in the Draft Waiver Concept while maintaining the original requirements as written by SWRCB staff. The concepts below were developed using the Water Board's existing tiers as a foundation and builds additional predetermined options and proportional requirements based on the potential risks to groundwater.

STEP 1 – "Default Tier"

The SWRCB's draft Concept, as written, contains "Default Tier" designations (currently tiers 1 thru 3 with a potential 4th tier) based on a facility's feedstock and geographic location (aka HVA Zones). Once a default tier is established (see Figure 2 below) and if a facility can demonstrate equivalent water quality protection standards through alternative considerations, they might qualify for a lower tier by meeting specific criteria in step 2.

Figure 2. Determination of Appropriate Water Quality Protection Measures



STEP 2 – "Tier Adjustment"

Once the default tier is determined in Step 1, facilities could qualify for a tier adjustment by accounting for naturally occurring site characteristics and incorporation of WQPMs (see attached list) that:

- Commensurate with the potential risk to groundwater quality yet still protective of groundwater;
- Account for varying conditions throughout California, including but not limited to:
    a. Depth to ground water
    b. Annual Rainfall
    c. Hydraulic conductivity of soil/soil type
    d. Current basin water quality
- Doesn't increase Regional Board staff workload by requiring a site-by-site review; all testing protocols and documentation will be predetermined, and provided by a compost facility as applicable.

- The table below contains "Eligible Combinations" which will be predetermined by SWRCB staff and stakeholders (working group)
- If all "Eligible Combinations" are met in a particular "possible scenario" column, then a compost facility could qualify for a tier adjustment into an alternative tier;
- In order to qualify for a tier adjustment, a facility must be able to meet all identified requirements in at least one of the possible scenario columns;
- Whether or not a facility qualifies for a tier adjustment, they may still qualify for alternative WQPMs* within the default tier as outlined in Step 3

[Note: Alternative WQPMs could include a pre-specified selection of WQPMs from the menu list in the attached document. All values in the table will be predetermined and fixed by the working group before the General Order is adopted by the Water Board. Also, not all possible scenarios in the table below have been completed as examples, but it is expected that other combinations exist and can be added by the working group that are equally protective of groundwater]

Tier Adjustment*

	Qualifies for Tier Adjustment from Default Tier 2 to Alternative Tier 3		**Qualifies for Tier Adjustment from Default Tier 1 to Alternative Tier 2**	
Eligible Combinations (pre-determined scenario)	Possible Scenario 1	Possible Scenario 2	Possible Scenario 1	Possible Scenario 2
Depth to groundwater				
≥ 50 feet				
≥ 100 feet		X		X
≥ 200 feet	X		X	
Annual Rainfall				
≤ 15 inches				
≤ 10 inches (semi-desert)		X		X
≤ 5 inches (desert)	X		X	
Native Hydraulic Conductivity of Soil				
≤ $5.5X10^{-4}$		X		X
≤ $1.0X10^{-4}$ (Approx minimum road base standard)	X		X	
Soil Type				
Clay loam		X		X
Clay (Lowest H.C. soil type)	X		X	
Quality of Groundwater Basin				
Moderate		X		X
Poor	X		X	

* Please note that this is only the framework and final values and configuration are still TBD.

STEP 3 – "Alternative WQPMs"

Once the appropriate tier is determined for a facility using step 1 and step 2 (if applicable), the facility would be in compliance by meeting the prescribed performance requirements or through specified alternative protection measures such as site slope modifications (see table below) or the use of a specified selection of WQPMs (see attached document). A selection of WQPM's from the menu list in the attached document could potentially be used as equivalents that are also as protective of groundwater as an increased slope of the pad.

Site Slope Modifications

(NOTE: The greater the slope of the pad, the less potential compost leachate has to infiltrate into the pads working surface due to "rutting" or "ponding" which decreases the vertical flow of leachate.)

Pad Slope	Option	Tier 4		Tier 3		Tier 2		Tier 1	
		HC	Thickness	HC	Thickness	HC	Thickness	HC	Thickness
0.5 thru <1.0%	#1	$1.0X10^{-4}$ *	Min 1 foot	$1.0X10^{-5}$	Min 1 foot	$1.0X10^{-6}$	Min 2 foot	$1.0X10^{-6}$**	Min 2 foot
1.0 thru <1.5%	#1	$1.4X10^{-4}$ *	Min 1 foot	$5.5X10^{-5}$	Min 1 foot	$1.0X10^{-5}$	Min 2 foot		
	#2	$1.0X10^{-4}$ *	Min 6 inches	$1.0X10^{-4}$	Min 1 foot	$1.0X10^{-6}$	Min 1.5 foot		
≥ 1.5%	#1	$1.0X10^{-4}$ *	Min 6 inches	$5.5X10^{-4}$	Min 1 foot	$5.5X10^{-5}$	Min 2 foot		
	#2	N/A	N/A	N/A	N/A	$1.0X10^{-5}$	Min 1.5 foot		

HC = Hydraulic Conductivity

** = This value should be adjusted to Caltrans or similar spec for an unpaved road that will protect the pad from heavy equipment to ensure that rutting of the surface will not occur.*

*** = A pan lysimeter with monitoring & reporting are required; or an individual WDR; or a pad at $1.0X10^{-7}$HC.*

Drainage ditches must meet same requirements as pad for slope and HC