



Fw: Sewage Sludge - BofS March 12
Amber Wilson to: cr_board_clerk Clerk Recorder

02/28/2013 10:56 AM

Amber Wilson
Secretary/Board of Supervisors
San Luis Obispo County
805.781.4335
abwilson@co.slo.ca.us

----- Forwarded by Amber Wilson/BOS/COSLO on 02/28/2013 10:55 AM -----

From: Hannah Miller/BOS/COSLO
To: Amber Wilson/BOS/COSLO@Wings
Date: 02/28/2013 10:44 AM
Subject: Fw: Sewage Sludge - BofS March 12

Please send to the Clerk for the Record.

----- Forwarded by Hannah Miller/BOS/COSLO on 02/28/2013 10:44 AM -----

From: David Broadwater <csi@thegrid.net>
To: fmecham@co.slo.ca.us, bgibson@co.slo.ca.us, ahill@co.slo.ca.us, pteixeira@co.slo.ca.us, darnold@co.slo.ca.us
Date: 02/28/2013 09:57 AM
Subject: Sewage Sludge - BofS March 12

SLO Co. BofS

re: **Sewage Sludge Land Application Policy Direction - 3-12-13 Agenda**

Although it's 12 days prior to your hearing on this matter, I want to provide you with ample opportunity to examine the ramifications of your pending decision. For various reasons, CSI supports the Staff Recommendation to extend the current Interim Moratorium ordinance on sewage sludge land application.

Attached to this email, you'll find CSI's comments on the policy options presented. Please take the time to examine them well in advance of the March 12 hearing. I'm aware that you're required to read voluminous amounts of material prior to making decisions, and given precious little time to do so. This is why I'm submitting these comments well in advance of the hearing date. In five pages, it address the deficiencies of options other than #1. On page 6, it lists BofS direction regarding ordinance development, as yet unfulfilled.

Please give these comments due consideration.

For the purpose of including my comments in the record of the March 12 meeting, I will send these to you again when the agenda is posted for that meeting. They'll be identical to these, so you won't need to re-read them.

David Broadwater
Center for Sludge Information

ITEM # 9
MEETING DATE: March 12, 2013
PRESENTED BY: David Broadwater
RECEIVED PRIOR TO MEETING
POSTED ON: March 6, 2013



BofS Int-Perm Ord 3-12-13.pdf

CSI: Center for Sludge Information
Advocacy through Acquisition, Analysis and Articulation of Information re:
Land Application of Sewage Sludge
6604 Portola Rd., Atascadero, Calif. 93422. ph: (805) 466-0352, fx: (805) 462-0408, email:
csi@thegrid.net

to: SLO County Board of Supervisors

re: **3-12-13 Agenda / Sewage Sludge Land Application – Policy Options**

- Interim Ordinance Extension or Revision with a Permanent Ordinance?
- Staff Recommendation – Option #1: Extend Interim Ordinance Four Years

date: 3-12-13

CSI supports the recommendation of the Health Agency Director, Public Health Administrator and Director of the Environmental Health Division of the Public Health Department included in their Staff Report first dated 1-29-13:

OPTION 1

Extend the existing Land Application of Treated Sewage Sludge/Biosolids Interim Ordinance until March 2017.

Extending the current Interim Moratorium sewage sludge land application ordinance, which allows an historical amount of the activity, is more protective of agricultural, economic, environmental and financial viability than the two other options presented in the Staff Report.

This letter will only briefly highlight a few factors substantiating the above.

Should the BofS elect to pursue either other option, CSI is prepared to submit extensive data and recommendations, as it has on this issue since 1998. The processing of Options #2 and #3 (a permanent ordinance subject to a \$250,000 CEQA EIR) would be much more complex, problematic, time-consuming and expensive than extending the IM ordinance. Furthermore, options #2 and #3, making the IM ordinance permanent and processing a newly introduced (1-24-13) permanent ordinance, have serious flaws and would pose potentially negative consequences, significant enough to qualify them for rejection.

SLO County has convened two large multi-disciplinary task forces regarding sewage sludge land application policy. On 3-12-02, the BofS issued its directions for developing a permanent ordinance incorporating the 15 recommendations of the final task force report issued on 10-26-01. The first six of these are the “primary” directions. A one-page list of these directions is attached to this letter for reference.

The IM ordinance is based on **BofS primary direction #5:**

5. The County should establish a limitation on accepting or processing new land application projects for treated sludge beyond historical amounts of EQ treated sewage sludge until completion of the local ordinance to control and regulate land application of treated sludge. (EQ is “exceptional quality” material, as defined in the federal regulations 40 CFR 503.)

Unfortunately, this Staff Report repeats prior negligence of **the BofS primary direction #6** to examine means of sewage sludge management other than land application:

6. In developing an ordinance San Luis Obispo County should consider all feasible methods of treated sewage sludge/biosolids management and their relative impacts.

Technological developments in profitable/remunerative energy production and GHG reduction and utilization as applied to sewage sludge management have been proliferating worldwide for years. Both task forces were prohibited from considering alternatives to land application of sewage sludge as a means of disposal/use, and no organized effort has occurred to fulfill this obligation. Thus, the guidance the BofS receives omits, by design, relevant information about the full range of available policy options. It is imperative for the County to examine alternative means of sewage sludge management prior to adopting any permanent policy, including land application.

OPTION 2

Make the existing... interim ordinance the permanent biosolids ordinance.

The IM ordinance is neither designed to function as permanent policy, nor is it capable of adequately doing so. It lacks the numerous conditions placed on sewage sludge land application projects by all previous and the new draft permanent ordinances - conditions necessary to protect public health, agricultural and environmental viability. A brief comparison of the IM ordinance with the new draft permanent ordinance will demonstrate this.

The IM ordinance does not regulate compost containing sewage sludge, as has every prior and present draft version of the permanent ordinance, a material allowed to be as contaminated as sewage sludge. So, as a permanent ordinance, the IM ordinance would leave SLO County vulnerable to excessive, unregulated and potentially injurious loading of pollutants on its soils.

Finally, the IM ordinance allows land application of sewage sludge containing much higher levels of contaminants than exist in locally generated sewage sludge. A survey of laboratory analyses of sewage sludge generated by two representative local sewage plants over a five-year period demonstrated the degrees to which the so-called "EQ" limits on the ten regulated heavy metals exceed the concentrations found in local sewage sludge. The results of that survey were included in CSI's 1-31-04 comments on the draft permanent ordinance circulated at that time.

The table below shows limits which would allow 91.4% to 94.5% of locally generated sewage sludge to be land applied, and the multiples by which "EQ" limits exceed them. The "EQ" limit for Arsenic (41 ppm) is 7 times higher than the concentration in local sewage sludge (6.3 ppm). The "EQ" heavy-metal limits would allow sewage sludge with 8 times more Cadmium, 15 times more Chromium, 5 times more Copper and Nickel, 2 times more Lead, and 3 times more Mercury, Selenium & Zinc to be land applied.

Potential SLO County Heavy Metal Limits Compared to "EQ" Limits
(concentrations in mg/kg = ppm)

Calif. & U.S. limits	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn
503 Table 3 - EQ	41.0	39.0	1200	1500	300	17.0	18	420	36.0	2800
SLO Co. Concentration Mid Range										
91.4 - 94.5% ≤	6.3	4.9	78	950	160	5.8	19	85	12.2	952
EQ limit X SLO Co.	7	8	15	5	2	3	1	5	3	3

The use of the USEPA CFR 503 Table 3 "EQ" limits on heavy metals, in addition to allowing excessively contaminated sewage sludge to be spread on lands in the county, fails to comply with **BofS primary directions #1 and #2**:

1. ... Create a local ordinance establishing more stringent requirements for quality of acceptable biosolids material...
2. Local standards for sewage sludge quality shall be derived from but not limited to state and federal regulations.

The use of heavy metal limits identical to "EQ" limits does not establish "more stringent requirements" on sewage sludge contamination, and is contrary to BofS direction not to rely solely on state and federal limits.

OPTION 3

Move forward with the draft biosolids ordinance... permanently replacing the existing interim biosolids ordinance.

The new draft permanent ordinance includes a number of elements that comply with BofS direction and provide degrees of protection, which should be included in any future permanent ordinance. Should the BofS select this option, CSI will comment on them at the appropriate time. It also contains a number of significant deficiencies, reformation of which is necessary prior to CEQA and ordinance processing and adoption.

Perhaps the most important are those related to the ultimate, pervasive and long-term effects of sewage sludge land application, i.e., the accumulation of pollutants in soil. This ordinance fails to provide adequate mitigation of those impacts.

It must first be acknowledged that: While sewage sludge is a concentrate of tens of thousands of heavy metals, synthetic and petrochemicals, endocrine disrupting and pharmaceutical compounds, infectious organisms, etc.; Only the accumulation of nine heavy metals in soil is measured and regulated by the new draft permanent ordinance and, identically, by state and federal regulations. This fails to comply with **BofS primary direction #4**:

4. San Luis Obispo County should incorporate into an ordinance a comprehensive set of constituents including heavy metals, synthetic chemicals, pathogens and other pollutants not limited to those in current state and federal standards, for setting sewage sludge quality and land accumulation limits.

It's evident that the IM ordinance and new draft permanent ordinance fail to

expand the scope of regulated pollutants as directed by the BofS, leaving SLO county lands subject to unreasonably unmeasured and unregulated contamination.

Cumulative Soil Contamination

The new draft permanent ordinance would allow heavy metal soil concentrations to increase exponentially above background, pre-application levels. The USEPA 40 CFR 503 sewage sludge land application regulations set limits on the amounts of heavy metals allowed to accumulate in soil, in terms of kilograms per hectare. Those limits are included in Table 2 of the 503s. The new draft permanent ordinance, however, sets cumulative limits using Table 3, which applies to heavy metal limits in "EQ" sewage sludge. Communications with the Environmental Health Division have left some confusion and uncertainty as to whether it intends to substitute Table 2 with Table 3, so this letter will address the consequences of both.

The use of either table fails to comply with **BofS primary direction #3**:

3. San Luis Obispo County should adopt a sewage sludge land application ordinance using pollution accumulation limits, considering local soil pollutant levels.

The limits placed on soil accumulation of heavy metals fail to incorporate or reference any information regarding local background soil concentrations of any pollutant. The use of either Table 2 or Table 3 for this purpose would expose local soils to excessive contamination.

Table 2:

As the table below demonstrates, the use of Table 2 limits would permit 57 times more Cadmium, 13 times more Chromium, 27 times more Copper, 7 times more Lead, 32 times more Mercury, 5 times more Nickel, 863 times more Selenium, and 10 times more Zinc to exist in local soils than in average uncontaminated agricultural soils in California. The soil concentration of Cadmium, e.g., would be allowed to increase from 0.36 ppm to 20.36 ppm.

Increases in Heavy Metal Soil Concentrations
as Multiples of Average California Agricultural Background Levels
allowed by Table 2
(soil concs. in mg/kg = ppm)

Heavy Metal	Cd	Cr	Cu	Pb	Hg	Ni	Se	Zn
503 Limit (kg/ha)	39	3000	1500	300	17.0	420	100	2800
503 Limit (lbs/acre)	35	2673	1336	267	15	374	89	2494
Soil Conc. av. (2)	0.36	122	28.7	23.9	0.26	57	0.058	149
Added Soil Conc. *	20.00	1500	750.0	150.0	8.00	210	50.000	1400
Total Soil Conc.	20.36	1622	778.7	173.9	8.26	267	50.058	1549
Multiple Increase	56.6	13.3	27.1	7.3	31.8	4.7	863.1	10.4

* "Calculated from maximum cumulative pollutant loading limits without taking into account background concentration of the elements in soils." [2] "Resultant soil conc. when the cumulative load limit from Part 503 is mixed into the plow layer. Actual levels would be higher due to background level in soil." [9]

The data for these calculations is derived from the research on uncontaminated ITEM # 9

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PRESENTED BY: David Broadwater
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agricultural soil in the state used by the California Department of Food and Agriculture to set pollutant limits for commercial fertilizers (ref. #2).

Table 3:

As written, the new draft permanent ordinance uses 503 Table 3 to set limits on heavy metal soil accumulation:

8.13.040 General Requirements.

...

9. ... Pollutant levels in receiver site soils cannot exceed limits established in the 40 CFR Part 503 Table 3.

While using Table 2 to set these limits would lead to exponential increases in heavy metal soil contamination, using Table 3 would allow even higher concentrations in most cases. As the table below demonstrates, while Cadmium concentration could increase by 57 times under Table 2, it could increase by 108 times under Table 3. The concentration of Copper could be 52 times higher under Table 3, as opposed to 27 times under Table 2. The level of Lead could increase by 13 times, as opposed to 7 times under Table 2. The level of Mercury could increase by 65 times, as compared to 32 times under Table 2.

Increases in Heavy Metal Soil Concentrations
as Multiples of Average California Agricultural Background Levels
allowed by Table 3
(soil concs. in mg/kg = ppm)

Heavy Metal	Cd	Cr	Cu	Pb	Hg	Ni	Se	Zn
503 Limit Table 3	39	1200	1500	300	17	420	36	2800
Soil Conc. av. (2, 9)	0.36	122	28.7	23.9	0.26	57	0.058	149
Multiple Increase	108.3	9.8	52.3	12.6	65.4	7.4	620.7	18.8

Using Table 3 to set soil concentration limits would allow levels of soil contamination to reach the same levels as would be allowed in the sewage sludge, itself. Under this scenario, the soil would become as polluted as the most polluted sewage sludge permitted for land application in SLO County. As such, any movement of this soil from a permitted site to another would necessarily be regulated by this ordinance. The negative ramifications of using this standard could be catastrophic.

Using Table 3 to set heavy metal limits would also violate state and federal laws and regulations regarding sewage sludge land application. Those codes allow local jurisdictions to adopt regulations more restrictive than state and federal regulations, but prohibit adopting less protective regulations.

David Broadwater, Center for Sludge Information

References:

2. "Land application of sewage sludge: scientific perspectives of heavy metal loading limits in Europe & the U.S." S.P. Mc Grath, A.C. Chang, A.L. Page & E. Witter: Soil Science Dep'ts. @ Rothamstead Experimental Station, UK; UC Riverside, Calif; Swedish University of Agricultural Sciences, Sweden. [Environmental Review](#), vol 2, 1994. pgs 108-118.
9. "The Case For Caution: Recommendations for Land Application of Sewage Sludges & an Appraisal of the US EPA's Part 503 Sludge Rules" E.Z. Harrison: Cornell Waste Management Inst., M.B. McBride & D.R. Bouldin, Dep't of Soil, Crop & Atmospheric Sciences, C.U. N.Y. Working Paper 8-97.

SLO Co. BofS Directions & SSLATF Recommendations List *

Primary Recommendation = #s 1 – 6.

- * On 3-12-02 the SLO Co. BofS directed drafting of an ordinance based on San Luis Obispo County Treated Sewage Sludge / Biosolids Land Application Task Force Report & Recommendations to SLO Co. Board of Supervisors, 10-26-01.
1. Identify Option No. 2 as the primary recommendation of the Task Force. [Create a local ordinance establishing more stringent requirements for quality of acceptable biosolids material, as well as local control and oversight of how, when and where biosolids may be applied. A public education campaign as described [above] would be implemented concurrently.]
 2. Local standards for sewage sludge quality shall be derived from but not limited to state and federal regulations.
 3. San Luis Obispo County should adopt a sewage sludge land application ordinance using pollution accumulation limits, considering local soil pollutant levels.
 4. San Luis Obispo County should incorporate into an ordinance a comprehensive set of constituents including heavy metals, synthetic chemicals, pathogens and other pollutants not limited to those in current state and federal standards, for setting sewage sludge quality and land accumulation limits.
 5. The County should establish a limitation on accepting or processing new land application projects for treated sludge beyond historical amounts of EQ treated sewage sludge until completion of the local ordinance to control and regulate land application of treated sludge. (EQ is "exceptional quality" material, as defined in the federal regulations 40 CFR 503.)
 6. In developing an ordinance San Luis Obispo County should consider all feasible methods of treated sewage sludge/biosolids management and their relative impacts.

Notification and Public Information - San Luis Obispo County should incorporate into an ordinance:

7. specific procedures to ensure adequate public & community notification of project proposals, including opportunities to comment regarding them.
8. specific testing, written notification & reporting procedures to ensure consumers receive comprehensive information about treated sewage sludge/biosolids content, source, and usage guidelines.
9. specific procedures for delivering a notification to recipient landowners and users as to the potential problems and benefits associated with the use &/or misuse of treated sewage sludge/biosolids, and for obtaining formal & prior informed consent.
10. specific procedures to ensure property records document any land application activity and the availability of information regarding that activity, so prospective land purchasers and appraisers may be fully informed.

Fees and Financial Considerations - San Luis Obispo County should incorporate into an ordinance:

11. specific procedures to ensure that the fees imposed upon each project are sufficient to fund required assessment, monitoring & oversight activities.
12. provisions for the assessment of fines and/or penalties in case of violations to effectively and rapidly enforce its regulations.
13. requirements for project proponents to post performance bonds & obtain insurance coverage, including pollution liability, to recompense parties potentially impacted by related remediation and/or litigation.
14. General Use and Site Prohibitions - In preparing its ordinance, San Luis Obispo County should consider how, when, where, and whether treated sewage sludge/biosolids should be applied to:
 - a. Human Food-Chain Crops
 - b. Animal Feed Crops
 - c. Grazing, Pasture Land
 - d. Agricultural Soil Classifications
 - e. Home Gardens
 - f. Home Lawns
 - g. Public Parks
 - h. School Playgrounds
 - i. Sports Fields
 - j. Forests
 - k. Sensitive Ecological Areas & Species
15. Program and Project Requirements - In preparing its ordinance, San Luis Obispo County should consider provisions related but not limited to:
 - a. Transportation requirements
 - b. Buffer Zones / Set Back Distances
 - c. Water Supply Protection
 - d. Wind Speed Limits
 - e. Monitoring of heavy metals, pathogens, and other constituents.
 - f. Weather / Season
 - g. Incorporation into Soil
 - h. Runoff Protection
 - i. Erosion Control
 - j. Agronomic Rates
 - k. Crop Limitations
 - l. Type and frequency of application.

ITEM # 9
MEETING DATE: March 12, 2013
PRESENTED BY: David Broadwater
RECEIVED PRIOR TO MEETING
POSTED ON: March 6, 2013

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Fw: Item 9 Biosolid letter

Board of Supervisors to: BOS_Legislative Assistants

Sent by: **Amber Wilson**

Cc: cr_board_clerk Clerk Recorder

03/06/2013 09:11 AM

----- Forwarded by Amber Wilson/BOS/COSLO on 03/06/2013 09:10 AM -----

From: "Jackie Crabb" <jackie@slofarmbureau.org>
To: <BoardofSup@co.slo.ca.us>
Date: 03/06/2013 09:05 AM
Subject: Item 9 Biosolid letter

Hi Amber,

Attached is a letter for the Supervisors regarding Item 9 on the March 12 agenda.

Best,
Jackie

Jackie Crabb, Executive Director
San Luis Obispo County Farm Bureau
651 Tank Farm Road
San Luis Obispo, CA 93401-7096
805-543-3654 (work)
805-235-7513 (cell)



biosolids.docx

ITEM # 9
MEETING DATE: March 12, 2013
PRESENTED BY: Jackie Crabb
RECEIVED PRIOR TO MEETING
POSTED ON: March 6, 2013



SAN LUIS OBISPO COUNTY FARM BUREAU

651 TANK FARM ROAD ♦ SAN LUIS OBISPO, CA 93401-7062

PHONE (805) 543-3654 ♦ FAX (805) 543-3697 ♦ www.slofarmbureau.org

March 6, 201

Supervisor Paul Teixeira, Chairperson
Board of Supervisors
San Luis Obispo County
1055 Monterey, Rm. D430
San Luis Obispo, CA 93408

Re: Item 9. Land Application of Treated Sewage Sludge/Biosolids

Dear Supervisor Teixeira,

San Luis Obispo County Farm Bureau would like to go on record that we support Option 1 to extend the existing interim ordinance on biosolid applications. Our Legislative Analyst, Joy Fitzhugh, will be returning from a long needed vacation and will address the issue in more detail at the March 12th hearing.

Sincerely,

Jackie Crabb
Executive Director

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Sludge Ordinance comment - 3/12/13 meeting

Board of Supervisors to: Frank Mecham, Bruce Gibson, Adam Hill, Paul Teixeira, Debbie Arnold, Vicki Shelby, Cherie Aispuro, Hannah Miller,

03/04/2013 09:50 AM

Sent by: **Fran Zohns**

Cc: cr_board_clerk Clerk Recorder

----- Forwarded by Fran Zohns/BOS/COSLO on 03/04/2013 09:44 AM -----

From: "Santa Lucia Chapter of the Sierra Club" <sierraclub8@gmail.com>
To: <boardofsups@co.slo.ca.us>
Date: 03/01/2013 05:42 PM
Subject: Sludge Ordinance comment - 3/12/13 meeting



Santa Lucia Chapter
P.O. Box 15755
San Luis Obispo, CA 93406
(805) 543-8717
www.santalucia.sierraclub.org

March 1, 2013

To: SLO County Board of Supervisors

Re: Sewage Sludge Land Application

Dear Supervisors,

The agenda item for your March 12, 2013, board meeting pertaining to the interim ordinance for the Land Application of Treated Sewage Sludge presents you with several options: Extend the existing Land Application of Treated Sewage Sludge/Biosolids interim ordinance until March 2017; make the existing Land Application of Treated Sewage Sludge/Biosolids interim ordinance the permanent ordinance; or move forward with the draft ordinance with the intention of permanently replacing the interim ordinance.

On behalf of the Sierra Club's members in San Luis Obispo County, we urge you to accept the staff recommendation to amend the expiration date for Ordinance 3023: Moratorium on the Land Application of Treated Sewage Sludge/Biosolids from March 9, 2014 to March 9, 2017.

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PRESENTED BY: Greg McMillan
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We believe the options of making the interim ordinance permanent or processing a new permanent ordinance are premature, primarily for three reasons:

1. The interim ordinance does not regulate compost containing sewage sludge, and allows land application of sewage sludge containing significantly higher levels of contaminants than are found in locally generated sludge.
2. As we have noted previously, the County has yet to address or incorporate options for disposal/reuse as alternatives to the land application of sewage sludge, and should not adopt a permanent policy until it has examined these sludge management alternatives.
3. The new draft permanent ordinance addresses only nine of the thousands of pollutants and toxic compounds sewage sludge is known to contain. It would result in a significant increase in the concentration of heavy metals in soil and does not address this cumulative impact.

Thank you for your consideration in this matter,



Greg McMillan, Chapter Chair



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