



Response to Public Comments

Bio Recycling – North Ranch

10/24/2017

Bio Recycling currently operates with provisional coverage under the General Biosolids Permit. As a requirement to maintain coverage under the most recent permit, effective September 2015, they submitted an updated application. Per WAC 173-308-310 (19), Ecology may add additional conditions via a Final Coverage Letter wherever it felt portion(s) of the Biosolids Rule (WAC 173-308 Biosolids Management), the Biosolids General Permit, or the submitted documents, was not adequately addressed by the applicant. Ecology received comments on the application and draft final coverage letter from February 2nd 2017 to March 16th 2017. This document contains the comments received and Ecology's response. Each comment is broken up by topic and are addressed individually.

Oral Comment From: Pat Vandehey

I-3-1

I believe this was an ill-conceived idea from the very beginning with applying toxic things into the ground. Also, that they never thought about what happens when it's reached a saturation point and they're not going to be able to put it on anymore. Something has to be done at that point, but nobody seems to look ahead to the future. It's always what is in the present right now, and I think they figure "well, I'm not going to be around when all this comes to fruition and there's going to be a big problem". And I think it's not just for this, it's for so many things. But this particularly I just can't understand how we can keep on doing this without causing a lot of problems, maybe things we don't even realize at the present time but that will come up eventually. There is just so much land, and there are so many people, and there is so much garbage and things to get rid of that I just think the EPA should have done a much better job in coming up with this, and by calling something "bio" or "eco" does not make it safe. That's just a euphemism. The real definition and legal term for it is sludge, and that has never been changed and I think it's always going to be that way, and it's going to be a very very bad problem further on for those that are still around, and I just hope that it's not going to destroy the country. That's all I have to say.

Response To: Pat Vandehey

I-3-1

Years of research studies have shown that biosolids contain many different chemicals, but at very low concentrations. Most of the trace chemicals found in biosolids result from personal use of products containing these chemicals. This is not surprising since we buy, use, and consume thousands of chemicals in our everyday lives. These products include shampoos, laundry detergents, plastics, hand sanitizers, toothpastes, clothing, soaps, furniture, medications, etc. Further, if a chemical ends up in biosolids, we know that the chemical has properties that bind it to the solids (otherwise it would have remained with the liquids, i.e. wastewater). This tells us it is not readily water-soluble and therefore, unlikely to leach after land application. The application of biosolids to soils allows physical and chemical processes occurring within the soil to break down the chemicals. Additionally, The U.S. Environmental Protection Agency, other federal agencies, and universities have, and continue to conduct research on the potential risks of trace chemicals in biosolids. Given the information currently available, Ecology believes Washington's regulations protect human and environmental health while still allowing for the beneficial use of biosolids.

Oral Comment From: Ed Kenney

I-4-1

I have to admit that I'm really disturbed by the fact that sludge was spread today (I'm sorry, biosolids or septage) because the amount of water I'm came through driving here was really amazing and I just looked at this statement called the Guidance on Land Treatment of

Nutrients in Wastewater with Emphasis on Nitrogen from Department of Ecology and last paragraph seems to indicate that such a practice would only happen on a really superior site, not one that actually had active, you know, documentation of groundwater contamination above the federal drinking water levels. So here is what it says: it says Ecology concludes that applying wastewater to crops and soil systems for the purpose of land treatment of nutrients and wastewater during the non-growing season does not reliably predict ground water quality, and therefore it does not meet the requirement for permit issuance according to the groundwater quality standards. So I just really wonder at you know, the application under these conditions I just can't see that's really bioremediation or safe, you know, or anything positive. It just seems to me like to me like one of the persons earlier said it was just spreading or dumping. It just doesn't seem like the right way to go.

I-4-2

Next I'm looking at a letter from Kelsey and Tom Culhane (who I have not met) to Peter that's here, and I would like to read just parts of two paragraphs. This is dated August 20, 2015. It says after many years of the application of biosolids (and residents here have indicated that's probably 30 years including inputs from Seattle metro and the City of Tacoma), I mean there's millions of gallons of nitrate, millions of gallons of septage and sewage we're talking about, after many years of the application of biosolids, recent data indicate that Bio Recycling can no longer meet its regulatory obligations for the agronomic management of biosolids at the North Ranch site. Despite significant steps to reduce nitrogen loading (and we've heard about those from Roger and his son), including most recently reducing site application to biosolids filtrate only, two key indicators of adequate management still exceed proper thresholds. The desired nitrogen loading goal for each field at North Ranch should be about 60 pounds or less of nitrogen at the top two feet of soil. The fact that some North Ranch data sites consistently exceed both these threshold points to a major buildup and reserve of organic soil nitrogen likely indicates a tremendous amount of root mass. And this is the final part: the best way to reduce the North Ranch soil nitrogen excess is to stop contributing to this and to allow time for the soil and the plants to use much of this up.

Response To: Ed Kenney

I-4-1

Ecology agrees that applying biosolids during times of high precipitation unacceptably increases the risk of leaching and surface runoff of nitrates. As a result, the final coverage letter includes a condition limiting the seasons within which application can occur to maximize crop uptake and minimize leaching. Within the season of application, when under restrictive status, Bio Recycling will be required to land apply based on the irrigation and agronomic needs of the crop. Under normal status, Bio Recycling will determine the risk of runoff based on anticipated precipitation, and provide Ecology a record demonstrating that land application had occurred when the risk of runoff was low.

I-4-2

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

Oral Comment From: Terri Thompson

I-5-1

I will go over too, so mine will be handed in writing because I'm going to be doing some reading. I've been studying this for years, and I happen to agree with a...I'm going to say a 5 year moratorium, it will give Ecology plenty of time to continue monitoring

I-5-2

What I would like to have in addition to that is there to be a EIS done. The original EIS was done 32 years ago and there was a lot of not correct statements in there, and the things like... I'll just...it says "is there any surface water bodies or in the immediate vicinity of the site including wetlands?" marked "no". So I mean that's just one example, there's a list of things that the site wasn't inspected correctly to do it, it needs a checklist and it also then needs to have a final EIS with public involvement.

I-5-3

My last thing I would like to have done is for there to be a group put together to help a citizen group of uninterested...like business...not interested business partners, but a group of scientists and people to get together to do brainstorming about this problem, because it is a problem.

I-5-4

I wrote a letter five years ago and my big thing was that our state laws aren't following the federal laws. These are supposed to be more stringent rules the EPA federal laws than what our state laws are, I mean you're supposed to follow the more stringent one which is the federal one and then the state can be stricter. So I have a whole pile that I'm going to be handing in, but example of grease traps for example, I brought that up earlier, but it says the part 503 definition of domestic septage excludes grease trap pumpings and commercial or industrial waste. Anyway, I have a bunch of them and so I hope that you do read the comments all of you. It's in here septage that contains industrial or commercial septage including grease trap pumping. Ok so grease traps it's a whole bunch of different things, but that's just one different thing.

I-5-5

The wetland aspect is 30 feet away from any body of water, so if you have these seasonal ponds that are in the middle of it, you've got to go out 30 feet on each direction. I don't believe that's happening in the middle. The ones at the side, they also have to be 30 feet. I have just really really a lot of concern about the whole thing and know this our opportunity to have input, so I'm hoping that all of you that didn't get up here today will please do some research on this and send it in. Thank you.

Response To: Terri Thompson

I-5-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

I-5-2

This comment is regarding the content of the State Environmental Policy Act (SEPA) checklist, or on the Mitigated Determination of Non Significance (MDNS). The comment period for the SEPA related to the operation of Bio Recycling was issued October 12, 2016, with a comment period ending October 27, 2016. Because the deadline to comment on the SEPA has already passed, this comment is outside the scope of the current comment period, and goes beyond Ecology's regulatory authority to address in this process.

I-5-3

Ecology supports the idea that Mason county residents organize and participate in a community discussion about how best to manage local septage production. Ecology is also happy to provide technical assistance as this conversation progresses. In fact, local interest groups in Island, Kittitas, and Yakima counties have successfully created and operated county owned septage management facilities.

I-5-4

The Washington State biosolids program is tasked with the implementation of the State Biosolids Law, Chapter 70.95J, and the applicable rules there under, Chapter 173-308 WAC. The state program is not delegated through the federal biosolids program which operates independently of the state program. Additionally, instead of treating to septage land application standards, Bio Recycling treats to biosolids quality land application standards.

I-5-5

The Statewide General Permit for Biosolids Management, section 9.7.3, Table 7 "Additional Site Management Conditions for Biosolids Management" requires a minimum buffer of 100 feet from surface waters. Further, it prohibits applications to wetlands. Biosolids may not be applied directly to surface water, including wetlands. Biosolids are also not allowed to drain into seasonal ponds or standing water that is hydraulically connected to groundwater or other surface waterbodies. The intent is to not let biosolids impact infiltrate into the groundwater.

Written Comment From: Jack Johnson

I-2-1

The advertisement in the Mason County Journal is ambiguous. First paragraph speaks of seeking public comment on Bio Recycling's application to continue operations at its Union location and the eighth paragraph sounds like Ecology is taking public comments to decide if any conditions need to be added or amended in the final coverage letter and the continued operations is a fore gone conclusion. Please clarify.

I-2-2

I believe if Ecology can rule to close the Webb Hill Bio Recycling facility they should. Bio Recycling is bringing in millions of gallons of Bio Waste every year from surrounding Counties and dumping it on us.

I-2-3

Please respond back to me on how they are treating contaminants from the urban environment such as Bisphenol-A, Dioxins, Microplastics, Pharmacesuticals, Personal Care Products and Perfluoroalkyls? Are these just going to accumulate?

I-2-4

What toxin are they using to disinfect and deodorize the waste with and what are the residuals?

Response To: Jack Johnson

I-2-1

Every five years when a new General Permit is issued, every facility is required to submit an updated application for coverage. At that point Ecology evaluates the application, and if necessary, additional conditions are placed on the facility in a Final Coverage letter. In this particular case, Ecology determined that Bio Recycling's 2015 application did not adequately address all of the issues, and unless placed under additional conditions for operation, they could not operate without further impacts.

I-2-2

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

I-2-3

Years of research studies have shown that biosolids contain many different chemicals, but at very low concentrations. Most of the trace chemicals found in biosolids result from personal use of products containing these chemicals. This is not surprising since we buy, use, and consume thousands of chemicals in our everyday lives. These products include shampoos, laundry detergents, plastics, hand sanitizers, toothpastes, clothing, soaps, furniture, medications, etc. Further, if a chemical ends up in biosolids, we know that the chemical has properties that bind it to the solids (otherwise it would have remained with the liquids, i.e. wastewater). This tells us it is not readily water-soluble and therefore, unlikely to leach after land application. The application of biosolids to soils allows physical and chemical processes occurring within the soil to break down the chemicals. Additionally, The U.S. Environmental Protection Agency, other federal agencies, and universities have, and continue to conduct research on the potential risks of trace chemicals in biosolids. Given the information currently available, Ecology believes Washington's regulations protect human and environmental health while still allowing for the beneficial use of biosolids.

I-2-4

The treatment process Bio Recycling uses to ensure the biosolids are of a suitable quality for land application is lime stabilization and pH adjustment. This is accomplished by adding enough "Quicklime" (Calcium Oxide) to raise the pH to 12 or higher, which must remain above 11.5 after 24 hours. After meeting the requirement of pathogen reduction and vector attraction reduction, the biosolids may be land applied.

Written Comment From: Patricia Grover

I-6-1

This letter and comments are in response to BioRecycling Corporation's application for coverage under the General Biosolids Permit for their Webb Hill Septage Disposal facility, officially called the Mason County North Ranch. Our well is one of three private water wells currently being tested by Pacific Groundwater Group. Quarterly monitoring of our well began in Q2 2016 to evaluate if seasonality in groundwater nitrate concentrations is present. I have not seen the results of Q4 testing, but nitrate levels in our samples are consistently higher than other private water wells. The direction of groundwater flow, as shown in page 70 of the Bio Recycling Corporation - SSLAP 2/22/2016 version indicates a southwesterly

direction. Ecology's recent Mitigated Determination of Non-significance (MDNS) (October 12, 2016) states that residual nitrates in the soil continue to be above 60 lbs per acre, and that nitrate in groundwater below the site remains elevated above standards. Although measures have been taken to decrease the nitrate loading, i.e. pasturing cattle, haying, filtering of biosolids, etc., acceptable levels have not yet been attained. Thus, this plume of elevated nitrate, and possibly other pollutants, continues on a path towards our drinking water. I am unaware of any baseline data to evaluate changes in the water chemistry at our well since the operation began. Complete testing of our water, including heavy metals, pharmaceuticals, organic chemicals, steroids and hormones would go a long way in convincing us that our water is unaffected by the estimated 14.5 million gallons of biosolids delivered to the site yearly. If permitted, can the Department of Ecology provide assurances that nitrates will decrease to below standards and that other unknown contaminants will not affect our drinking water?

I-6-2

In Ecology's amended MDNS, 11/12/2016, the applicant lists "10. Installation of a surface impoundment" under Processing features and equipment that may be added in the future. This capacity to store 7 million gallons of biosolids would reduce application during the cool, wet months of October-March as a means to meet Ecology's MDNS established conditions for coverage that require filtrate application rates no greater than agronomic uptake and not to exceed evapotranspiration rates. This would be a significant investment by the applicant. What actions would be taken by the Department of Ecology if these new practices do not result in the desired decrease in nitrates? Would coverage be revoked?

I-6-3

According to the SEPA checklist, nearly 5,000 gallons/day of ground water is extracted daily from a 180 foot well on the site, with an estimated additional 5,000 gallons/day for livestock use during peak summer months. Is water use metered at the site to ensure compliance with the State's water use regulations in the fish critical basins of Hood Canal and Oakland Bay? What are the potential impacts to residential wells?

I-6-4

Odors have not been identified as an issue. We likely experience 10-20 days/year, typically during high pressure events with prevailing winds from the north that we do detect odors coming from North Ranch.

I-6-5

Already we have seen an increased incidence of corvids in the vicinity. Is this related to activities at the site? What impacts do they have on resident songbirds and other birds in the area?

I-6-6

In regards to a surface impoundment facility. What would a 7 million gallon lagoon of biosolids look like? Would it be screened, treated, and filtered? What would happen if the monitoring devices detected a leak in the liner? What is that plan?

I-6-7

The Webb Hill road is a single lane road serving primarily local residents. With a reported average of 30 commercial truck loads/day in addition to other services to the site, this is a significant burden to the infrastructure. Engine noise, diesel exhaust and often odors associated with the material being transported are a daily occurrence passing our home. This was very definitely NOT the rural residential character of the area in which we chose to live.

Response To: Patricia Grover

I-6-1

It is not uncommon to see natural variability in groundwater constituent data from different wells, even in wells that are in close proximity. Ecology evaluates water chemistry from these wells not only on concentration, but also parameter stability. Ecology has not observed an increasing trend in the data from the domestic wells, nor in the sentry wells between the facility and the domestic wells. Groundwater will continue to be monitored and evaluated for any changes in water chemistry from the domestic and sentry wells. Monitoring well (MW-3) is the background well for the Bio Recycling facility. The groundwater chemistry data from MW-3 indicates the conditions and concentrations of normal groundwater for the area. Testing of Grover's domestic well also show background concentrations similar to normal groundwater for the area. Currently, there is no state or federal requirement to evaluate emerging contaminants of concern such as pharmaceuticals in groundwater. University research indicates that these compounds, if present, are very unlikely to reach deep groundwater and travel long distances in concentrations that would be of concern to human health. Ecology will continue to monitor developments in this field of research and implement the findings as necessary.

I-6-2

Per the Biosolids Application Management Matrix included in the final coverage letter, the soil nitrate concentration of each field will determine the required action on a field by field basis. If the fall soil nitrate concentrations remain greater than target range, Bio Recycling will be required to take one of two courses of action depending on how far above target the soil nitrate concentrations are. The first level of required action is to further reduce the application rate, and submit proposed further mitigating actions to Ecology for evaluation. The second level response would require that they cease application on that particular field and submit a report from a professional consultant for Ecology's evaluation.

I-6-3

This comment is regarding the content of the State Environmental Policy Act (SEPA) checklist, or on the Mitigated Determination of Non Significance (MDNS). The comment period for the

SEPA related to the operation of Bio Recycling was issued October 12, 2016, with a comment period ending October 27, 2016. Because the deadline to comment on the SEPA has already passed, this comment is outside the scope of the current comment period, and goes beyond Ecology's regulatory authority to address in this process.

I-6-4

Odors are an unfortunate side effect of many agricultural activities, and can understandably be a cause of concern for neighbors adjacent to a biosolids land application site. According to the U.S. EPA, "most odors associated with land application are a greater nuisance than threat to human health or the environment." The odor is caused primarily by compounds containing sulfur and ammonia, both of which are plant nutrients. Although there is no existing scientific evidence to directly link odors from biosolids land application with serious health effects, Ecology is concerned about the impact experiencing odors can have on public perception and the comfort of nearby neighbors. Odor complaints often trigger a site inspection by Ecology to verify proper site management is taking place. These inspections pay particular attention to the management aspects that could impact the degree of offsite odors including, buffer distances, application rates, and storage practices.

I-6-5

Ecology contacted Bio Recycling regarding this question. The facility manager stated that he has observed crows/corvids onsite to pick through the dumpster, primarily containing inert objects screened from the incoming septage, and while they are harvesting the hay to collect rodents. Bio Recycling indicated that they would make an effort to keep the lid to the dumpster closed whenever practical to minimize attracting birds. According to the Washington State Department of Fish and Wildlife website (<http://wdfw.wa.gov/living/crows.html>), crows help control insects, and clean up dead animals, and garbage that can be scattered by humans or other animals. Crows can prey on songbirds, but research suggests that they do not have a significant impact on songbird populations.

I-6-6

At the time of the publication of this document, Ecology has yet to receive actual design drawings for the proposed surface impoundment. However, in the event that a surface impoundment designed to treat or store biosolids is constructed at the site, among the requirements it would have to meet include those found in Chapter 173-308-280 "Requirements for Facilities Storing Biosolids or Sewage Sludge" WAC and Chapter 173-350-330 "Surface Impoundments and Tanks". Other permits may be required as well (e.g. Mason County fill and grade permit, Department of Ecology Dam Safety permits, etc.).

I-6-7

Comment noted. No change in the permit resulted from this comment.

Written Comment From: Andrea Love

I-7-1

My personal response to the comment by Brian Hickey at the March 9 public meeting that groundwater flowing southwest from the site does not impact my property to the northwest: If nitrates, etc., reach Hood Canal, they reach my tidelands in the northwest. If nitrates, etc., have reached the regional aquifer, they are in my well to the northwest.

Response To: Andrea Love

I-7-1

Nitrate is highly soluble and mobile, and is a good indicator of any possible impacts to groundwater. Ecology has not observed an increasing trend in the groundwater data from the domestic wells or the sentry wells used as indicators of whether the groundwater with elevated nitrates is possibly migrating offsite. Groundwater will continue to be monitored and evaluated for any changes in water chemistry from the domestic and sentry wells. Currently, there is no state or federal requirement to evaluate chemicals such as flame retardants and petroleum in biosolids. University research indicates that these compounds, if present, are unlikely to reach deep groundwater and travel long distances in concentrations that would be of concern to human health. Ecology will continue to monitor developments in this field of research and implement the findings as necessary. Ecology has requested a copy of the fire retardant/pharmaceutical report referenced in the question, but was not provided a copy for review at the time of this posting.

Written Comment From: Terri Thompson

I-9-1

I, Terri Thompson, am requesting, a 3-5 year moratorium on the permitting of Webb Hill North Ranch. This period of time would be to see if the Hickey's could meet the pollution standards of the Agreed Order plus any current or new Federal, and or WA State biosolids guidelines are this met. During the moratorium, Webb Hill North Ranch would complete a new checklist and EIS on site. ... It has been 11 years since the DOE issued an Agreed Order for this site. 2008 (You have your own copy of the Order). We have been carefully monitoring what is going on since that Agreed Order. In eleven years, they have been allowed to stay in business, were asked to make changes but has never tested in compliance ... and for some reason we are expecting that more time is going to be the answer. ... Many people drink this water and need to know more that nitrates and nitrites are being tested since our health depends on it. They have taken an aquifer that was clean enough for drinking water and continue to contaminate the area. People's property values are being jeopardized by this possible unhealthy water situation. Some people will never be able to sell their property. We the people are the ones that are paying the consequences for this business. There is not even payments for the heavy use of the roads and repairs for the

heavy usage. Some of us are already dealing with properties that are not selling. For these reasons I believe that there needs to be a three to five year moratorium period so that they can show that the soil is actually still able to work properly that it isn't spent. ... We are requesting that the Dept of Ecology deny the current permitting of Webb Hill North Ranch, begin a 5 year moratorium, and create a study group to brainstorm solutions to the biosolid debacle and see if Webb Hill North Ranch can reach compliance numbers. Obviously things have not been working . I am attaching my letter and pages from the EPA guidebook that supports what we have been stating. In the meantime ... it has been 5 years since I wrote this letter and they are still not meeting federal standards and I blame the Dept. of Ecology at this point for allowing such noncompliance to federal standards to be met. Simply ... moratorium, with new EIS checklist and FEIS, demonstration that the land is still workable and a study group to discuss issues with biosolid applications in the State of Washington.

I-9-2

a non interest panel or board tries to find new solutions for our local and or state biosolid issues and examining of Federal and state regulations. It is a conversation that needs to be held to find solutions to our biosolids/sludge issues since the issue is not going away anytime soon.

I-9-3

We are convinced that this site needs a new checklist and EIS since many things were not correct on the original checklist. ... During this period the checklist and EIS should be completed ... The original checklists make statements like- "Is there any surface water body on or in the immediate vicinity of the site , including wetlands? The response ... No." There are more in my letter that I send out ... attached in 2012. There are many other issues in this letter that was simply just blown off. I am attaching some of the EPA pages that refer to the issues that I bring up in the letter including the growing of crops and cattle, groundwater and public access. The last EIS checklist was completed in 1985 ... 32 years ago. There has been many changes since this checklist and there needs to be one without incorrect answers ... which is the basis of the FEIS.

I-9-4

It was allowed to be sited atop an aquifer listed as drinking water. We believe that the aquifer that Webb Hill North Ranch is sited is connected to the aquifer that feeds not only the people in Union, Enchantment Ridge, other local wells surrounding the site, and possibly Alderbrook

I-9-5

In all cases, users, and disposers of biosolids must comply with all applicable requirements of the Federal Regulations (40 CFR Part 503)." "All applicable facilities in the state and federal programs must meet requirements set forth by both state and federal programs; satisfaction of state programs, requirements does not necessarily satisfy federal obligations."" In all cases, users and disposers of biosolids must comply with all applicable requirements of the Federal Regulations (40 CFR Part 503). In sites that have rules governing the use and disposal

of biosolids, but have not adopted the Federal Regulation, the owner/operator must follow the most restrictive portion of both the Federal regulations and state regulations."

I-9-6

Speaking of closure plans ... Is there a closure plan? Who will be responsible, the property owner or the business operator? What does it include?

I-9-7

Talk about the old maps with wetlands noted ... now they are called seasonal ponds. a large wetland abuts the site.

I-9-8

The issue of grease traps. WA law allows 25% grease traps and commercial/industrial waste to be mixed with domestic seepage and then surface applied. (Read grease trap pages.) Federal regulations states correct "if biosolids are mixed with non hazardous solid waste, the mixture and land onto with the mixture is places are subject to solid waste regulation 40 CFR Part 257 instead of Part 503." This would include criteria for placement, closure and post closure and wellhead protection program in accordance to the Safe Drinking Water Act. It would also include ground water monitoring and corrective actions and listing of hazardous inorganic and organic constituents. Is this part of the plan since they have been allowing grease traps fro so many years now.

I-9-9

We want more attention to the safety of the water ... in the new permit the focus is on the soil and not the groundwater. The groundwater is what is effecting the neighbors and our investments. Health is everything ... if we have that ... we have nothing.

I-9-10

I have seen with my own eyes water pouring out of a drainage pipe coming off the property flowing full force shooting through the air straight towards the lake. I am not the only witness of this. I have also seen old maps of the site that shows all the wetlands and in the current maps they simply refer to them as seasonal ponds. There are laws protecting not only the wetlands off site that are near but also those onsite.

Response To: Terri Thompson

I-9-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application

Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

I-9-2

Ecology supports the idea that Mason county residents organize and participate in a community discussion about how best to manage local septage production. Ecology is also happy to provide technical assistance as this conversation progresses. In fact, local interest groups in Island, Kittitas, and Yakima counties have successfully created and operated county owned septage management facilities.

I-9-3

This comment is regarding the content of the State Environmental Policy Act (SEPA) checklist, or on the Mitigated Determination of Non Significance (MDNS). The comment period for the SEPA related to the operation of Bio Recycling was issued October 12, 2016, with a comment period ending October 27, 2016. Because the deadline to comment on the SEPA has already passed, this comment is outside the scope of the current comment period, and goes beyond Ecology's regulatory authority to address in this process.

I-9-4

Ecology has evaluated all surface water and groundwater data from the Bio Recycling facility. The data indicates that surface and groundwater contamination has not traveled beyond the facility's boundaries at concentrations that violate state or federal water quality standards. Additionally, based on the available hydro-geologic data for the area, groundwater at Alderbrook Ridge is not likely to be impacted due to the fact that it is located up gradient of the land application site. Groundwater information indicates Enchantment Ridge Estates to be down gradient and mostly cross gradient of groundwater leaving the facility; any groundwater impacts, if present, would likely be well below state and federal groundwater quality standards.

I-9-5

Washington State has its own authority for managing biosolids. The State's biosolids program is tasked with the implementation of the State Biosolids Law, Chapter 70.95J, and the applicable rules there under, Chapter 173-308 WAC. The state program is not a federally delegated program. The federal biosolids program operates independently of the state program.

I-9-6

A Closure Plan is a written plan developed by an owner or operator of a facility detailing how a facility is to close at the end of its active life. Bio Recycling would be required to submit, as a part of a proposal for lagoon construction and operation, a closure plan explaining the method of how the biosolids will be removed from the lagoon before decommissioning. Closure Plans must meet the requirements specified in Chapter 173-350 WAC and 173-308 WAC (as per section 5.2 of General Permit for Biosolids Management).

I-9-7

As defined by the Biosolids Management Regulation, WAC 173-308-080, - "Wetlands" means those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Other regulations have similar yet, differing definitions, making the precise definition ambiguous and confusing at times. Additionally, over time these definitions or our understanding of the wetland features change, which can lead to further confusion. However, wetland classification is usually based on duration of standing water, type of soil, and types of plants. The Statewide General Permit for Biosolids does not allow for application of biosolids in a wetland.

I-9-8

The Washington State biosolids program is tasked with the implementation of the State Biosolids Law, Chapter 70.95J, and the applicable rules there under, Chapter 173-308 WAC. The state program is not delegated through the federal biosolids program which operates independently of the state program. Additionally, instead of treating to septage land application standards, Bio Recycling treats to biosolids quality land application standards.

I-9-9

Historic groundwater quality monitoring data and current monitoring results is the driver for all of Ecology's new permit conditions at the Bio Recycling facility. These new permit conditions require Bio Recycling to apply biosolids (and nitrates) at variable agronomic rates, or not at all, based on nitrate soil data results as well as other permit conditions during the allowable application window. This new permit has been precisely designed and developed to be conservative and protective of groundwater quality around the facility and beyond. Previous biosolids land surface application rates by Bio Recycling had exceeded the ability of plants in the application areas to use all the nitrates provided in the biosolids. As a result, the unused soil nitrates had infiltrated into the groundwater under the facility and impacted groundwater quality. The groundwater analytical data indicated groundwater quality standards for nitrates had been violated at some of the monitoring wells on the facility property. Bio Recycling has since installed a sentry monitoring well network at locations between the facility and down gradient domestic water supply wells to identify the potential for groundwater violations off the property. To date, no nitrate groundwater violations have been documented beyond the facility property. By applying biosolids under the new permit operating criteria, Ecology has determined Bio Recycling can continue to operate at this site without causing further impacts to groundwater. The on-property nitrate concentrations should decrease over time and the potential off-property impacts to groundwater should significantly decrease over time. The rate of those reductions and time to achieve groundwater quality standards is not precisely known, so Ecology will continue to evaluate groundwater data to identify any changes or trends in the groundwater chemistry and will adjust the permit conditions as needed to protect human and environmental health.

I-9-10

State and County watershed maps indicate that approximately one-quarter of the site's surface water flows west from the site into the Skokomish-Dosewallips Watershed. Approximately three-quarters of the site's surface water flows east and south from the site into the Kennedy-Goldsborough Watershed. Ecology identified two main discharge channels flowing from the site into the two watersheds. After examination of the available data, Ecology identified and recommended two surface locations for surface water sampling. In 2017, Bio Recycling collected surface water samples from the southwest corner of the Site (Field 11), and along the southern border of the Site (Field 4B) in known ephemeral surface water channels. Ecology will base future surface water sample collection events, and other types of evaluations on the results from the 2017 first quarter sampling.

Written Comment From: Herb Gerhardt

I-10-1

1. I am highly concerned about this bio recycling operation polluting the drinking water wells in the spray area surrounding their facility on Web Hill Rd. I consider that includes all the wells within a three mile radius of this bio recycling spray lands on Web Hill Rd. I believe that once this sewage effluent trickles into the ground, it can travel miles in all directions in the underground aquifer. In order to keep operating, I would like to see Bio Recycling at their expense have all the drinking water wells tested for both coliform and heavy metals on at least an annual basis to assure the affected homes that their drinking water is safe for human consumption. If any of the tests determine that their well exceeds any of the local, state or federal requirements, then Bio Recycling must provide water to those homes until the problems are resolved and the affected well test at safe levels again.

I-10-2

2. My real concern is that there is a possibility of long term pollution to the land and drinking water wells. If that occurs, and the pollution problem is big enough where the cleanup costs could bankrupt Bio Recycling and they would just walk away from it. If that happened, who would pay for the cleanup costs? Knowing how things work, I believe that cost will passed on the tax payers of Mason County although the sewage besides coming from Mason County, was also trucked here from our surrounding counties. To ease my concern about this long term pollution possibility, I would like you to add to their operating permit that they must purchase long term clean up insurance so that if they go out of business, the residents in Mason County will not be stuck with the cleanup costs.

I-10-3

3. I would like to see the disposal of sewage limited to only what is generated inside Mason County and not allow trucking in sewage from other counties.

I-10-4

4. I also would like them restricted from spraying any effluent on the ground until after their newly required retention pond is built and ready to accept effluent.

I-10-5

5. If any violations are reported and proven valid, Bio Recycling should be immediately shut down until WA Ecology has assessed the situation and all of their remedial actions have been completed. This is the reason why they must complete the retention pond before they make any further discharges.

Response To: Herb Gerhardt

I-10-1

Nitrate is highly soluble and mobile, and is a good indicator of any possible impacts to groundwater. Ecology has not observed an increasing trend in the groundwater data from the domestic wells or the sentry wells used as indicators of whether the groundwater with elevated nitrates is possibly migrating offsite. Groundwater will continue to be monitored and evaluated for any changes in water chemistry from the domestic and sentry wells. Currently, there is no state or federal requirement to evaluate chemicals such as flame retardants and petroleum in biosolids. University research indicates that these compounds, if present, are unlikely to reach deep groundwater and travel long distances in concentrations that would be of concern to human health. Ecology will continue to monitor developments in this field of research and implement the findings as necessary. Ecology has requested a copy of the fire retardant/pharmaceutical report referenced in the question, but was not provided a copy for review at the time of this posting.

I-10-2

Under the authority of the Model Toxics Control Act, where there has been a release or threatened release of a hazardous substance that may pose a threat to human health or the environment, Ecology may require or take those actions necessary to investigate and remedy these releases. This includes identifying a Potential Liable Person, under RCW 70.105D.040. There is presently no requirement for any type of financial assurance mechanism in Chapter 173-308 "Biosolids Management" WAC.

I-10-3

The term sewage sludge indicates a material that does not meet land application standards. Therefore, sewage sludge is not applied at the Bio Recycling facility. All incoming material is treated to biosolids standards (as per Chapter WAC 173-308) prior to land application. However, Ecology does not feel that limiting incoming material by source will address the present or potential issues at this facility.

I-10-4

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment

throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

I-10-5

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

Written Comment From: Ed Kenney

I-11-1

I attended the public hearing in Shelton on March 9 regarding your decision to grant "Final Coverage" to the Hickey family's North Ranch "bio-recycling site," and urge you to issue a revised General Permit AFTER a four year moratorium. Now that I have read through the extensive background information you provided on the Ecology website, I can better appreciate your efforts and those of the SW Regional Biosolids Coordinator, Kelsey Dunne, to apply additional restrictions to the North Ranch permit, and to require a two year restriction when no septage, biosolids or filtrate can be applied to the site from October through March. These are important steps in the right direction! What I encourage you to do at this point, however, is to declare a moratorium on the use of the North Ranch site for spreading and spraying septage, biosolids and filtrate BEFORE you issue a General Permit. Based on my understanding 1) of the site's three decade history of continuous application of sludge, septage, biosolids and filtrate and resulting contamination of groundwater 2) Bio Recycling's failure to identify and keep records of all septage trucks entering the property 3) Bio Recycling's bad judgement and risky spreading and spraying practices 4) and what seems to be Ecology's inconsistent oversight, I don't think the limitations imposed by the 2015 General Permit will be adequate at this time to prevent further contamination of groundwater, or appreciably reduce the existing contamination. I would instead suggest a FOUR YEAR MORATORIUM for any such bio-recycling or disposal of septage, biosolids or filtrate. Aspect Consulting and Pacific Groundwater Group have provided us with records of groundwater contamination deep below the site, not only above background levels, but above state and federal drinking water standards established to protect drinking water and public health. This groundwater contamination is not likely to cease until the levels of nitrogen in the soil are reduced considerably. "The best way to reduce the North Ranch soil nitrogen excess is to stop contributing to this, and to allow time for the soil and plants to use much of this up. As such, Ecology believes it is prudent to require Bio Recycling to give the North Ranch fields a

rest until conditions improve." (Culhane and Dunne 2015) Nitrate contamination of the regional aquifer has been found every time that groundwater wells have been sampled below this site, possibly beginning in the year 2000 according to testimony at the public meeting, but with certainty in 2007. In addition, some nitrate contamination above background levels seems to be occurring at the Grover home's well more than 3000 feet away from the NorthRanch site boundary. Roger Hickey said that after his company discovered nitrate contamination in the groundwater under the North Ranch site in 2007, he reduced land application by 50%, but reading the groundwater monitoring results below the site, it is clear that the levels of contamination have not shown much more than temporary improvements, and no consistent pattern of improvement, from the application of this strategy, "One somewhat surprising aspect of the site data involves the persistence of elevated concentrations in several of the wells and lysimeters despite significant reductions in the amount of nitrogen being land applied." (Culhane and Dunne p5 8/20/2015) and over the last decade have gotten worse at two of the monitoring stations. (Swope, 6/2017) The other strategies that Mr. Hickey explained at the public meeting such as removing some of the nitrogen from the site through haying, grazing or mechanical dewatering have also failed to be effective at preventing further groundwater degradation. The reason I suggest a moratorium of four years is because 1) Pacific Groundwater Group representative, Glenn Mutti-Driscoll, estimates that it takes nitrate and contaminants in the septage, biosolids and filtrate at North Ranch four years to reach the regional aquifer where a pattern of contamination has been monitored over 120 feet below the site. 2) None of the strategies used by the Bio Recycling corporation over the last decade since the groundwater contamination was verified have led to a clear pattern of improvement in groundwater nitrate contamination. Reading and re-reading the documents which contain the specific data, it appears likely to me that the current restrictions in the General Permit are NOT enough to decisively end the contamination of the regional aquifer under North Ranch from Bio Recycling's practices. A moratorium of four years or longer would allow Ecology officials to see if the recent change from spreading solids to spreading filtrate has had any marked effect on the groundwater contamination beneath the North Ranch site. After a moratorium, four years from now, Ecology could take another close look at the groundwater sites to see if the regional aquifer is free of groundwater pollution, THEN reconsider another five year general permit. Roger Hickey himself said at the meeting that if five years ago he'd known what he knows now, "things would be different." A four year moratorium might allow the North Ranch site enough time to clean itself. If not, a longer moratorium could be considered. Then Roger and his son, Brian, could try out what he has learned on the newly remediated site. The Bio Recycling corporation's history of spreading waste in excess of recommended agronomic rates: "failing to meet its regulatory obligations for agronomic management," (Culhane and Dunne, 2015) "indicating nitrogen supply greater than crop demand . . . excessive fall soil nitrogen is indicative of application in excess of the agronomic rate" (Philip Small, 2015) we were "understating the nitrogen fertilization rates by 65%" (Hickey, 3/2017) further strengthens my request for a four year moratorium. I'm astonished that their current permit from Ecology allows them to apply biosolids filtrate during the periods of heavy rainfall we've experienced this week. There are no groundwater monitoring records from the late 1980's that I can locate, but it seems likely that the North Ranch site's

groundwater was already affected by the high applications rates of Seattle and Tacoma sludges by the Solganics corporation even before Roger Hickey leased the site. If it is true, as Mr. Hickey told us at the public meeting, that Ecology failed to adequately guide the Hickey family's applications of septage and biosolids before 2008 and he failed to follow Ecology's 2008 changes in guidance, then an unacceptable situation has been created that will not be remediated until the North Ranch site receives the much-needed rest provided by a moratorium. Brian Hickey explained that his Bio Recycling corporation is now using a "75% decrease in nitrogen fertilization rates" through a switch in 2015 to dewatering and spray application of liquid filtrates. This strategy could be tested out on a, hopefully, no-longer-polluted site after a four year or longer moratorium.

I-11-2

An example of the combined failure of Ecology and the Hickey family to adequately manage the North Ranch site occurred on the day I attended your public hearing, which was recorded and played later by MasonWebTv. On March 9th, I drove across standing water on the road to the meeting. Over an inch of rain fell in both Shelton and Belfair that day near the site. It was no ordinary storm. Snoqualmie Pass closed, Stevens Pass closed and the roads heading up to Mt. Baker and Mt. Rainier closed as well. This extreme weather had been predicted by NOAA and local news media. No responsible company would be spreading septage or biosolids on such a day, or so I thought. If you remember, I asked Ecology's representative, Kelsey Dunne, when the last time was that septage, biosolids or filtrate had been land-applied and she said "They're land applying at this time of year at this point but they SHOULDN'T (my emphasis) be land applying in this type of weather, though." We soon found out that the Hickey family WAS applying "in this type of weather." Mr. Hickey's son said that he had in fact applied biosolids "today." When I asked him to clarify, Brian confirmed that he HAD sprayed "today." Later on during the course of the public meeting Brian admitted "Not a good day to apply. I agree." Ms. Dunne explained that land application in such conditions was "part of what we're addressing with the plan. . . they have provisional coverage until we issue a final permit." One would think that with more than two decades of septage, biosolids and filtrate application on this site, and two consulting companies verifying the resulting groundwater contamination, Ecology and the Hickey family would have agreed on such basic principles! As far as I can tell, nothing in the General Permit prevents Bio Recycling from spreading septage, biosolids or filtrate again . . . and again . . . in such rainy conditions likely to cause run-off and nitrate transport to groundwater. Downpours may occur during May, June and even late August and early September of the two year "Restrictive Status," if previous years are any indication, and such downpours are certain to occur once that two year restrictive status is lifted. At the risk of being redundant, I see nothing in the permit that prevents Bio Recycling from returning to its spreading and spraying of septage, biosolids and filtrate during times of excessive rain AFTER this two year restrictive period. As you stated at the public meeting, "there is not a specific provision in the permit that does NOT allow them to apply during the rain." Such a restriction needs to be added to the permit.

I-11-3

I must admit that I am disappointed to see how little of the general permit addresses groundwater. I only see "#12. Bio Recycling must submit surface and groundwater data into Ecology's Environmental Information Management System (EIM) (per WAC 173-308-190 (6))." Please add to this General Permit some information on what would happen if specific levels of contamination are again reached. For example, "if two of the groundwater monitoring wells MW1, 4, 5 or 6 show aquifer contamination at or above the state drinking water standard in 2017," or "if another groundwater monitoring well shows a rising trend of contamination above background levels, 'X' levels of further restriction and/or enforcement actions will take place." The presentations at the public meeting by soil and groundwater consultants seemed designed to give the public some level of assurance that conditions at the North Ranch site were gradually improving, but the most recent groundwater monitoring results from 2016 found on Ecology's website advertising last week's public meeting are notable more for their caution and use of terms like "variability . . . complexity . . . elevated trends . . . unusual . . . statistically significant increasing trends . . . anomaly." Take a look at one excerpt: "Historical nitrate + nitrite concentrations from the site show significant temporal variability, with no consistent sitewide trend observed. Concentrations in wells MW-5, MW-6, and MW-7 appear to have some seasonality, with peak annual concentrations observed in either the third or fourth quarters for the past four to five years. However, the elevated concentration observed at MW-5 is unusual in the first quarter and does not follow recent seasonal trends. Further water quality monitoring will indicate if this high concentration is an anomaly or represents a new trend at the well. Nitrate + nitrite concentrations from upgradient or offsite monitoring wells and domestic wells are plotted in Figure 3, and all display relatively low (1 mg/L) concentrations. Seasonal trends are also apparent at MW-9, with concentration peaks occurring in the fourth quarter. Statistically significant increasing trends in nitrate + nitrite concentrations are calculated at L-1 and WS-2 . . ." (Swope, 6/2016) The data provided in this most recent groundwater investigation show three wells over 100 feet below the site and one lysimeter still testing significantly above state and federal limits established to provide the public with water that is safe to drink. In addition, to adequately determine the background levels of nitrates flowing into the groundwater below the site, wouldn't it be wise to drill a well east of MW #3 in the upper NE corner of the North Ranch property, as Aspect Consulting recommended a decade ago? That well would most likely better reveal the true background conditions of the regional aquifer up-gradient of the North Ranch site, putting the contamination of the Grover household well down-gradient from the North Ranch site in better perspective.

I-11-4

A local resident who lives near the North Ranch site told me that she sees no plans to sample any of the groundwater wells for other contaminants of concern, especially those that are commonly introduced to a land-spreading site by septage, biosolids and filtrate. Evidence of flame retardants and petroleum compounds that have the potential to endanger public health were found below the North Ranch site by the USGS in 2007, but I see no plans in the General Permit to learn if any of these concentrations have increased to levels of concern.

During the meeting, the soils consultant Philip Small from Land Profile, Inc. said that he was more worried about the raising pH levels at the site and the build-up of salt and chlodate than he was about the nitrate contamination, but I am not certain if Ecology's intent in the General Permit is to regularly test for those concerns. Please make sure such testing is required by your Final Permit #BT 9901.

I-11-5

Mr. Lyon, you said at the public meeting that Bio Recycling was "NOT allowed to apply biosolids when the groundwater is within 36 inches of the surface," but when I asked Brian Hickey if he knew "what depth the water is right now at the site, just under the surface . . . with all this rain," he said "I can't tell you." When I then asked him whether "it is possible that you are applying in places where the water is within three feet of the surface," Brian replied "It is possible." My guess is that there would in fact be some such areas on the North Ranch property on a day like the Wednesday of the public meeting that WOULD have groundwater within 36 inches of the surface. Water levels beneath the surface of the soils in this geographical area often reach their highest annual levels in March, and this has been a rainy winter, with cities near the site experiencing over an inch of rain on two days this week alone. Ecology's previous guidance explicitly states that such spreading cannot be done. Roger Hickey told the public meeting attendees that 60,000 gallons of septage was being delivered on average each day and Brian confirmed that his company is obligated to meet their septage customers' needs. I am concerned that unless further restrictions on spreading or spraying septage, biosolids or filtrate are added to Ecology's General Permit, such risky practices as the Hickey family is currently pursuing will continue after the Restrictive Status or moratorium is lifted.

I-11-6

Lastly, neighbors of the North Ranch site brought up the issue of incoming septage hauling truck signage at the public meeting, and they notified me yesterday morning that un-signed trucks were seen entering the property late that night. When questioned at the meeting, neither Roger nor Brian Hickey seemed to know which trucks were entering the property on any given night. Because of the potential for "midnight dumpers" of toxic materials, this issue needs to be addressed. Such unregulated dumping has polluted other sites and led to at least one catastrophic treatment failure at a local sewage treatment plant, when all the bacteria used for treatment were killed off by an unregistered dumping of septage waste. Please attend to this issue as soon as possible. I do not know which strategy Ecology has found to be most effective, but neighbors have suggested gates, key cards, company truck signage, and even motion-triggered cameras to prevent the dumping of undesirable and possibly toxic materials for disposal at the North Ranch site.

Response To: Ed Kenney

I-11-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

I-11-2

Ecology agrees that applying biosolids during times of high precipitation unacceptably increases the risk of leaching and surface runoff of nitrates. As a result, the final coverage letter includes a condition limiting the seasons within which application can occur to maximize crop uptake and minimize leaching. Within the season of application, when under restrictive status, Bio Recycling will be required to land apply based on the irrigation and agronomic need of the crop. Under normal status, Bio Recycling will determine the risk of runoff based on anticipated precipitation, and provide Ecology a record demonstrating that land application had occurred when the risk of runoff was low.

I-11-3

The new permit conditions are very conservative and are designed to limit the input of nitrates present in biosolids to just what can be beneficially used by the crop, leaving little to no excess remaining in the soil surface to later impact the groundwater. Ecology does look at concentration trends and seasonal variation because that information provides valuable knowledge of overall groundwater conditions. However, Ecology also looks at specific points of compliance. These points of compliance are monitored and if water quality standards are violated, additional requirements or suspension of activities will be imposed if it is felt that further impacts are occurring. Currently, no water quality standards have been violated at the sentry monitoring well locations. Groundwater concentrations will eventually decrease as the remaining excess groundwater contaminants naturally attenuate, disperse, and dilute. Groundwater concentrations will eventually return to normal background levels when the deep subsurface formation has no more nitrate availability. Based on the available hydro-geologic data, Ecology has determined that MW-3 was installed at a location and surface elevation that is up gradient of the biosolid application area and the hydro-geologic and groundwater data is sufficient to provide the needed up-gradient (natural) groundwater control data. Any monitoring well that would be installed to the east of that location would be at the same elevation and have similar hydro-geologic characteristics as MW-3 and would likely provide similar data.

I-11-4

Nitrate is highly soluble and mobile, and is a good indicator of any possible impacts to groundwater. Ecology has not observed an increasing trend in the groundwater data from the domestic wells or the sentry wells used as indicators of whether the groundwater with elevated nitrates is possibly migrating offsite. Groundwater will continue to be monitored and evaluated for any changes in water chemistry from the domestic and sentry wells.

Currently, there is no state or federal requirement to evaluate chemicals such as flame retardants and petroleum in biosolids. University research indicates that these compounds, if present, are unlikely to reach deep groundwater and travel long distances in concentrations that would be of concern to human health. Ecology will continue to monitor developments in this field of research and implement the findings as necessary. Ecology has requested a copy of the fire retardant/pharmaceutical report referenced in the question, but was not provided a copy for review at the time of this posting.

I-11-5

Ecology agrees that this is a significant concern. This is why prior to the submission of the updated application and public meeting, Ecology clarified that this issue must be addressed. Consequently, in the updated application, Bio Recycling proposed a process for evaluating the depth to the high water table at the site, and using this information to determine when and where it is not appropriate to land apply. After evaluation of the proposed language (page 10, Part 11 of the Site Specific Land Application Plan) Ecology determined the proposed process, once implemented, would address this issue.

I-11-6

Ecology does not see a need to further restrict access to this site beyond what is currently present. The rule and permit require informational signs at entrances and 1/2 mile around the site. Also access to Bio Recycling's North Ranch site is currently restricted outside of business hours by a locking gate. Additionally the business owners maintain onsite surveillance equipment.

Written Comment From: Thad Bamford

B-1-1

I am writing to comment on Ecology's Draft Final Conditions for Bio Recycling's North Ranch facility. I am a licensed Operations and Maintenance Specialist for OSS in Mason County. Given that Mason County is located in a State designated, Marine Recovery Area. This makes regular maintenance of our counties' septic systems crucial to the health of our waters and shellfish harvests. Bio Recycling's North Ranch facility that operates in Mason County provides a service to our community by providing a place for local septic pumpers to safely dump the septage that is generated from pumping Mason' County's septic tanks on a routine basis. Mason County requires that Conventional Gravity systems be inspected every three years, more sophisticated systems are to be inspected annually and these are usually the systems that drain into Hood Canal and Oakland Bay watersheds. I am concerned that if the North Ranch facility cannot land apply from October to March, while a storage lagoon is being constructed, they will not be able to service local septic pumpers for six months, and this will lead to the County's septic systems NOT being pumped and inspected regularly. I deal with customers everyday who struggle with the cost of maintaining their septic systems through regular pumping and maintenance. Without the North Ranch as an option for local pumpers to economically dispose of septage, I fear the costs to our local pumpers will

become so great that passing along those costs to the customer will result in people choosing to not have their septic systems pumped as a part of routine maintenance. If local septic pumpers must travel an additional an hour to offload, pay more per gallon and pay for the additional cost of labor, the price of pumping a typical 1200-gallon tank would likely increase by 50%. I believe this would set Mason County's management of OSS back years. It was estimated in January of 2014 that Mason County has 26,000 OSS, of that number 25,768 are known and recorded as of December 2015. I would hate to see the progress that has been made in our county come to a halt. The success of this program has been in large part due to the homeowners, O & M providers, septic pumpers and county employees working together to protect the environmental health of our waters through the regular maintenance & pumping of our septic systems. Without the ability to provide this service cost effectively to the property owners of Mason County, premature failures and downgraded water quality will become an issue. Please consider Mason County's need for the service the North Ranch provides, and allow Bio Recycling to continue land application beyond September 30, 2017, as they move forward with constructing a storage lagoon.

Response To: Bamford Septic Repair, LLC

B-1-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

Written Comment From: Roger Hickey

B-2-1

1. Conditional Temporary Expansion of Max Application Window (Matrix). Bio- Recycling has started the process to construct a permitted storage lagoon to accommodate the volume of material that would be accepted by customer deliveries during the winter season from October 16 to February 28, or October 1 through March 30, as applicable. Bio Recycling has retained Parametrix for this lagoon project. If the lagoon is not completed by October 1 of 2017, Bio Recycling would be compelled under the conditions to shut down treatment plant operation and to stop accepting material at the North Ranch. This would unnecessarily burden Bio- Recycling's customers and some of their employees. The results of this shutdown on customers would likely mean that septic tank companies in Mason County and the surrounding counties that haul to the North Ranch would be forced to haul farther away. This will increase their costs which will then be passed to their customers. This would likely lead to their customers unnecessarily putting off having their tanks pumped. This would have

a negative impact on groundwater. Additionally, some of Bio Recycling employees may face the possibility of layoff, until we are able to resume application. Further, Bio Recycling has made significant capital improvements (associated with dewatering and installation of the DAF system) which it has financed. This could be detrimental to Bio Recycling and have unintended adverse environmental impacts. Past evidence indicates that this short-term allowance will not have any detrimental impact onsite or off, while the suspension of operations would. To address this situation, Bio Recycling proposes a conditional temporary expansion of the applicable Max Application Window for 2017-2018 set forth in the proposed Biosolids Application Management Matrix (the Matrix). For 2017-2018, Bio Recycling requests the ability to continue to apply past the September 30 or October 15 season, if they are actively working on lagoon construction and meeting benchmarks as agreed on by the company and Ecology. Application would be restricted to fields where the most recent fall soil sampling data confirms fall soil nitrate within the target range. No application would be applied to fields that are either Above Target or Excessively Above Target. Bio-Recycling would agree to cease all application as per the Matrix once the lagoon is constructed. In support of this comment and proposal, Bio Recycling has demonstrated over the past two years, even with winter application, that the fall soil nitrate numbers have been reduced to within the Target Range based on a site-wide average (i.e. 2016 top two feet average for all fields-18.7ppm). All fields except for Fields 1 and 2 are within the Target Range. Fields 1 and 2 are under 40ppm, but remain above the Target Range under the proposed Matrix. Winter application has not shown adverse impacts. Additionally, Bio Recycling's fourth quarter water sampling numbers at the lysimeters show data below the 10ppm maximum. This would suggest, with the decreased soil concentrations, that the shallow groundwater is not being adversely impacted.

B-2-2

2. Ecology Acceptance of 2016 Fall Soil Samples (Matrix and Condition 7(a)). Bio Recycling requests Ecology accept the 2016 fall soil samples towards the requirement for consecutive years of fall soil samples at the Target Level. Bio Recycling requests a modification to Condition 7(a) to address this issue, requesting it be revised to provide: a) At the time of issuance of this letter, all fields must be managed under the restrictive status and remain in the status for a minimum of two years. The fall soil sampling procedures undertaken in 2016 had been approved by Ecology, and should be considered in establishing the baseline and application of the Matrix.

B-2-3

Moratorium. For the reasons stated above, and in response to comments at the public meeting on March 9, 2017, Bio Recycling comments that a moratorium would not be beneficial and would not increase or benefit site conditions over rigorous crop and grazing practices and management. Bio Recycling's 2016 fall soil sampling results support this conclusion.

B-2-4

3. Modest Expansion of Max Application Window (Matrix). Bio Recycling requests Ecology provide for a Max Application Window that permits application beginning March 1. The April 1 commencement date under the Restrictive Status does not provide soil benefit, and would preclude positive and beneficial application for crop utilization in March--March being an optimum time period for spring fertilization. T-sum 2003 is typically met in mid-February, and conditioned application in March will provide for optimum crop utilizations, support further production and cuttings, and promote site utilization. Delaying fertilization until April lowers the yield, and could lead to heavier application in less time and during a less optimum season.

Response To: Bio Recycling Corporation

B-2-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

B-2-2

Ecology agrees that the purpose of the spring soil sampling is to monitor mineralization in order to validate assumptions. Ecology encourages Bio Recycling to submit proposals for spring sampling protocol for approval. Ecology has decided that condition 7(a) and matrix will remain unchanged. This final coverage condition was drafted with the intent of being issued, and taking effect in the fall of 2017. Research studies to identify if the concentration of a constituent is getting smaller with time, are typically performed for multiple (typically three) consecutive seasons to validate the results. The reason Ecology put a requirement of two year "restrictive status" condition instead of three years was because the previous year's soil results (2016) showed a trend of decreasing soil nitrate values. Ecology believes that a minimum of two consecutive years of data are needed to identify continued downward trend of nitrate results before moving to "normal status".

B-2-3

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

B-2-4

Ecology thinks that applying biosolids during times of high precipitation unacceptably increases the risk of leaching and surface runoff of nitrates. The final coverage letter includes a condition limiting the seasons within which application can occur to maximize crop uptake and minimize leaching. Within the season of application, when under restrictive Status, Bio Recycling must land apply based on the irrigation and nutrient needs of the crop. Under normal status, Bio Recycling must determine the risk of runoff based on anticipated precipitation, and provide Ecology a record demonstrating that land application had occurred when the risk of runoff was low. Bio recycling must comply with all applicable requirements of the General Permit for Biosolids Management, Chapter 173-308 WAC and all the conditions of the Final coverage letter.

Written Comment From: Dana & Debra Lovely

B-3-1

I am writing in regard to the Department of Ecology's Draft Final Condition for the Bio Recycling North Ranch. This proposal does not allow land application from October 1st through March 31st. As a business providing septic service in Mason County for over 23 years, this request is concerning. Not being able to land apply during the fall and winter months will cause Bio Recycling to need a large storage lagoon or to close from October through March. The construction plans for a storage lagoon are being drafted, but construction is not guaranteed to be completed by the fall. A closure until the lagoon is complete would put a strain on our business operations, as well as affect our customers. Without the ability to use the North Ranch facilities, we are forced to take septage to another county. This is a round trip of over two hours. In addition to the time, fuel cost, and wages for such a trip, we also have to block out large amounts of time in our schedule, giving us less time to service our customers and causing the wait for an appointment to be longer. In our business, time is generally of the essence. In the case of a septic system back-up, we need to respond quickly and try to provide same day service in emergency cases. We already have many customers who push back their septic maintenance and pumping, due to cost. If we need to raise our prices, due to the cost associated with dumping septage in another county, this will cause even more financial hardship on our customers. Recently, education has been done, through direct mailings and informational meetings, to share the appropriate maintenance information with homeowners. We would hate to see this improved education be set back by a closure at North Ranch and raising pumping costs. If the majority of residents have to put off septic maintenance due to cost this will cause a higher likelihood of septic failures in our county and put our community and environmental health at risk. Our area is home to many local shellfish harvesting companies, as well as a thriving fishing community. Mason County has many bodies of water that are used for boating, fishing, swimming, and other recreational activities year round. Failing septic systems can damage our county's water quality and cause many of our community's pastimes to be unsafe. Please consider the need for a local bio-solid treatment facility in Mason County to protect our county's water quality. Give Bio Recycling the time they need to construct a storage lagoon.

Response To: AAA Septic LLC

B-3-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

Written Comment From: Philip Small

B-4-1

The approach to timing of fall sampling supported by the letter is based strictly on 3" total precipitation. I advise replacing 3" total with either 3" net or 5" total precipitation. Item 4 of the Draft Final Coverage Letter addresses fall soil sample timing by referring to the Soil Sampling and Analysis Plan. Our plan prepared January 12, 2017 reads: For guidance on collecting soil samples and evaluating results, BIO will use the most recent version of the following documents: Oregon State University Extension Service's document, Post-harvest Soil Nitrate Testing for Manured Cropping Systems West of the Cascades (EM 8832-E). This document can be found at: <http://extension.oregonstate.edu/catalog/pdf/em/em8832-e.pdf>. 1 And Sampling at the North Ranch site will take place as soon as possible after the fall crop harvest but before 3" of post-September 1st rainfall has occurred; we will include any postSeptember 1st irrigation water applied in calculating the cumulative rainfall. Samples must be taken before heavy fall rains move nitrate below the 12-inch depth. Because the timing of fall rainfall is unpredictable, the best strategy is to sample fields before October 1 whenever possible. As a general rule we expect to collect samples around October 1st . I would like to refine the above stated position based on examination of the climate data (see data table, next page). Precipitation data indicates that to avoid sampling after 3.0 inches of accumulation from September 1st, on average, sampling at North Ranch should be scheduled to occur prior to October 10th. North Ranch has been sampled mostly in the last week of September and first week in October. This tendency to premature sampling overstates critical soil nitrate status, a concern for managing the site to accurate data being used as compliance criteria. Using October 10th as our target date, revising that date per actual September precipitation, accommodates the concerns around premature sampling to a degree. Date, 3.0 inches precipitation accumulated post-9/01 Shelton Montesano Sampled
1998 10/12 1999 10/24 9/30 2000 10/10 10/4 2001 10/22 9/20 2002 11/12 9/26 2003 10/13 9/25 2004 9/18 10/7 2005 10/3 9/28 2006 10/20 9/26 2007 10/2 9/25 2008 10/7 10/21 10/8 2009 10/15 10/14 9/24 2010 9/19 9/20 9/20 2011 9/27 9/25 10/8 9/20 2012 10/16 10/18 10/20 9/12 2013 9/23 9/27 9/22 9/28 9/25 2014 10/11 10/12 10/10 10/13 9/24 2015 10/8 10/12 10/26 10/25 9/24 2016 10/2 10/10 10/6 10/5 10/12 Average 10/9 10/7 10/10 10/9

9/26 Median 10/10 10/12 10/9 10/8 9/25 Tumwater SW Poulsbo South As indicated in the Soil Sampling Plan (1/12/17) the 3" total accumulated precipitation approach is based on sampling "...before heavy fall rains move nitrate below the 12-inch depth." Consistent with the 24-inch sample depth, I advise replacing the 3" total accumulated precipitation criteria with either 5" total accumulated precipitation, or 3" net precipitation. To calculate net precipitation, North Ranch would use Crop Irrigation Requirement (CIR) for Shelton² from the Washington Irrigation Guide³ (WIG). The 3" net and 5" total approaches are consistent with the position I presented at the hearing in Shelton on March 9th, 2017, which is that because we sample soil at a time of peak crop growth and nitrogen uptake, we need to time our sampling based on the precipitation wetting front relative to the sample depth. The 24-inch sample depth is specified in the Draft Final Coverage Letter. We would sample before heavy fall rains move nitrate below the 24-inch depth.

Response To: Land Profile, Inc.

B-4-1

As per Appendix 4 (soil sampling plan) of Bio Recycling's application of coverage for general permit, "Sampling at the North Ranch site will take place as soon as possible after the fall crop harvest, but before 3" of post-September 1st rainfall has occurred". Bio recycling must comply with their soil sampling plan when collecting soil samples. If Bio Recycling wants to propose a larger window of soil sampling, they need to provide enough data to show that the delayed sampling will not allow nitrates to move past the 24" depth. Nitrate data comparing two separate soil sampling events before 3" rain and before 5" rain has occurred may be sufficient to demonstrate the degree of nitrate movement down the soil profile.

Written Comment From: Philip Small (Land Profile Inc.)

B-5-1

Item 7 of the letter addresses spring soil sampling in that this is required in the Biosolids Application Management Matrix for fields operating under restrictive status. Sample timing is at T-sum 2001, which typically would be in the 3rd week of February. Sample density is not specified in the matrix. The sampling density indicated in the Draft Final Coverage Letter is 25 sample pits, as would be consistent with guidance for sampling with soil probes. As covered in a previous comment letter (March 7, 2017), hand sampling 25 backhoe pits per field density is in excess of data needs. For 8 fields, 200 pits, and the 10' disturbance radius Brian Hickey and I observe, this 25 /field density amounts to 0.5% of the surface area being disturbed. Another 0.5% is affected by traffic compaction. February traffic ruts and compacts wet soil, decreasing treatment capacity. Avoiding compaction by equipment is a central tenet of agricultural soil husbandry. Disturbance bumps mineralization up and the excavated rocks brought to the surface impair management. The purpose of the spring soil sampling should guide sample density. Published guidance for this locale does not support a fertilizer management response to spring sampling data. I understand the purpose of the

spring soil sampling is to monitor mineralization in order to validate assumptions. I advise repeat sampling over several weeks timed around T-sum 200, using a single sample point per selected field. Sampling in the same area from year to year will result in data from multiple comparable sites to consider against site history. North Ranch seeks to avoid excavation and to avoid undue compaction. We hope to accomplish this by sampling with a quad or truck mounted auger or probe. North Ranch will sample hand-dug pits in the spring if augers and probes are unworkable.

Response To: Land Profile, Inc.

B-5-1

Ecology agrees that the purpose of the spring soil sampling is to monitor mineralization in order to validate assumptions. Ecology encourages Bio Recycling to submit proposals for spring sampling protocol for approval. Ecology amended the condition for spring sampling and the matrix to include that Ecology "may" require spring sampling. This final coverage condition was drafted with the intent of being issued, and taking effect in the fall of 2017. Research studies to identify if the concentration of a constituent is getting smaller with time, are typically performed for multiple (typically three) consecutive seasons to validate the results. The reason Ecology put a requirement of two year "restrictive status" condition instead of three years was because the previous year's soil results (2016) showed a trend of decreasing soil nitrate values. Ecology believes that a minimum of two consecutive years of data are needed to identify continued downward trend of nitrate results before moving to "normal status".

Written Comment From: Philip Small (Land Profile Inc.)

B-6-1

My concern is with Item 6c, which increases sampling from the current 15 pits per field to 25 pits per field. In the soil sample plan I submitted previously I had proposed using 25 samples per field, but intended that in regards to using soil auger sampling equipment. A sample density of 25 sample points per 25-50 acres is recommended in published guidance for hand shovel, probe, and auger sampling. My opinion is that a sample density of 15 properly taken pit samples per field provides quality superior to that intended with 25 probe samples. Sampling across the pit face captures short-distance variability that probesampling misses. Even at 15 pits, the time needed to sample pits is greater than the time needed to sample 25 soil auger points. In 2015 and 2016, North Ranch required 3 sample days, whereas auger sampling 25 points per field would be expected to take just over 1 day. In hayed fields, pit sampling is undesirable due to the rocks brought to the surface. Larger rocks interfere with hay cutting. Particularly with an eye to more cost efficient sampling, North Ranch plans to explore alternative approaches to auger sampling this spring and summer. If auger and probe sampling does not prove feasible, I would hope that 15 sample pits per field would be acceptable under the permit. Sampling 25 pits and 5 replicates per field will require 6 sample

days. To a soil scientist familiar with standard practices in production agricultural, this is an unusual level of added field effort applied to sampling soil with no clearly identifiable benefit in terms of protecting groundwater quality.

Response To: Land Profile, Inc.

B-6-1

As per Appendix 4 (soil sampling plan) of Bio Recycling's application of coverage under the general permit, the number of soil samples to be collected depends on the acreage of each field. Ecology expects facilities to follow the number of samples per field based on University of Idaho's extension document. Bio Recycling must comply with their soil sampling plan when collecting soil samples. If the soil sampling encounters refusal, Bio Recycling may submit a request to Ecology for reduction in number of samples.

Written Comment From: Phyllis Farrell

O-1-1

Please note that we use the term sewage sludge for treated sewage solids rather than "biosolids," a public relation term. The Sierra Club opposes the continuation of land spreading on the North Ranch Webb Hill site in Union WA. Based on years of careful study and scientific evidence, the Sierra Club adopted the following language in its most recent Food and Agriculture policy: The Sierra Club opposes the use of contaminated toxics-containing or pathogen-containing waste as a compost ingredient and the application of municipal sewage sludge as a fertilizer. <http://sierraclub.org/policy/agriculture/food>

From what we know is being hauled to the Webb Hill site, toxic chemicals and pathogens are likely contained in the proposed sewage sludge to be spread and would be in the onsite treated septage. Both the solids and liquids can contain many thousands of contaminants and a range of pathogens, including MRSA. Treatment plants are not designed to treat much of what is in their contents. Treatment plants can create synergistic contaminants and antibiotic resistant bacteria and genes. We are concerned that the dumped material will adversely impact workers, humans who live nearby, surface water and groundwater, and wildlife. Life downstream of runoff, or humans downwind, can suffer health impacts.

O-1-2

While we oppose the continuation of activity at Webb Hill, we submit the following comments, questions and concerns. We feel this site needs a full environmental impact study rather than a mitigated DNS. Roger Hickey, claiming not to "catch" Ecology's volatilization of nitrogen limit regulation change, from 10% to 55% for a period of years, yet being allowed to continue operation...land spreading sewage sludge during the rain, an open gate policy where unidentified trucks are dumping, and USGS findings of serious chemicals in

the ground water, tells us the concerns are well beyond just the nitrate and heavy metal levels in groundwater and soil.

O-1-3

2015 APPLICATION FOR COVERAGE UNDER THE GENERAL PERMIT FOR BIOSOLIDS

MANAGEMENT Box 2: Is less than 1 mgd and serving a population of <10,000 the correct box? Totaling all the trucked materials from several communities and elsewhere would add up to wastes beyond a population of 10,000. Box 5: The facility is not just for septage management. Referring to the Ecology Amended Mitigated Determination of Nonsignificance (MDNS), it details that the waste is "from septage tanks, small wastewater treatment plants, sewage pump station vaults, vault toilets, cesspools, holding tanks, RV dump stations, portable toilets, marine sanitation units and limited restaurant grease waste" that "typically" pump from those sources. ... P. 5: Beneficial Use Facilities. No boxes were checked, and yet the site is used as a BUF for alfalfa, hay and in the future other crops.

O-1-4

P. 4-5, 9, box 9: Biosolids/Soil Sampling & Analysis Plan (SAP). Treated sewage sludge, septage, etc. contains a host of contaminants of concern (CEC). Ecology alluded to this at the 3/9/17 public meeting. Thus the wastes could contain antibiotic bacteria and genes, pharmaceuticals, radioactive wastes and viruses that thought to be dead but spring to life in wet soils. These can be absorbed by crops and grazing animals. Therefore, much more analytical data should be required in the ground and surface waters, and in the crops and the grazing animals. Too, when the crops are sold, they should be labeled that they were grown in sewage sludge and when the meat of the grazing animals are sold, the meat should be labeled that the animals grazed on fields of sewage sludge.

The State's General Permit for Biosolids Management (August 3, 2015) states that Although the state program does not regulate surface disposal or incineration, the transfer of biosolids from a wastewater treatment plant to an incineration facility or surface disposal site is an activity covered under this permit. Thus it is not clear where Bio Recycling is getting its wastes. Other haulers dump on Webb Hill. What is in that sewage/septic? Is industrial waste part of the waste? The USGS found six chemicals -- Cresol, DEET, Tris (2- chloroethyl phosphate) phenol, tributyl phosphate and triphenol phosphate at levels of concern and possible concern. Some are petroleum based, several are used in plastics for a variety of products, and some are flame retardants. These have serious health consequences.

O-1-5

AMENDED MITIGATED DETERMINATION OF NONSIGNIFICANCE (MDNS) P. 1. Future plans call for pasteurizing both the dewatered solids and the liquid fraction to meet Class A exceptional quality criteria. Class A, or Class A EQ, or EQ is nothing more than a production of more contaminated solids. The liquid is cleaner but the solids take up the extra contaminants. Further, once a Class A permit is given, the company is free from further oversight or permit applications. Given the problematic history at the Webb Hill site, a Class A permit should not be considered.

O-1-6

As Dr. Snyder pointed out in her PA comments (P. 4), in the absence of microbial competition, [pathogens] multiply and thrive, especially in cool and moist climates. Some of the treatment methods prescribed to reduce the level of indicators are not working, so Class A sludge is often Class B sludge or turns into Class B sludge after it is spread or stockpiled. Further processing also appears to encourage the growth of superbugs which explains why many neighbors exposed to sludge contract MRSA infections. Under the current rules, Class A is virtually unregulated. As long as it contains some nitrogen, it can be spread anywhere, including on home vegetable gardens-during any weather, at any time during the year, in any amounts, and does not require public notices, public hearings, or the expense of getting a permit.

O-1-7

Surface Water Runoff. We strongly recommend tracking surface water runoff from the site and to its end point. Place surface water monitoring apparatus just outside the field perimeters where surface water is known to run off. Some of that water should be contained, sampled and analyzed for contaminants. Perhaps use a dye in the water so its route can be traced to its end point, or use other methods to trace the runoff water to its end point.

O-1-8

Air Emissions. Spraying the solids/effluents on the fields results in a certain amount of particulates being carried in the air to unintended sites. The range of the drift should be monitored. Air sampling equipment should be stationed in areas around the site to catch application drift, and wind, rain and fog drift even when application is not being done. The company should arrange this with oversight by the regional air quality authority. This should be monitored and reported to Ecology, as well.

O-1-9

Neighbors say the gate is always open and that there is not someone on site 24/7. If this is so, could anyone be dumping? On the flip side, could some contents be carried off? How is it known that just the allowed dumpers dump at the Webb Hill site? Security needs to be mandated to prevent further contamination and potential theft. If hauling to this site continues for any length of time, fencing should be locked. Someone should be on site at all times to unlock and lock the gate and record who is dumping when and how much and from where they hauled their contents.

O-1-10

we would like to see that any requirement includes and enforceable schedule and penalties when the schedules are not met

O-1-11

P. 2. 5.c. Please explain the benefits and drawbacks of not "composting" samples and the benefits and drawbacks of "composting" samples. By composting 25 samples into five, are you losing significant data from individual samples? We would like to see split sampling and have one of the analysis done by an independent lab of Ecology's choice to verify that the results concur or do not concur with the labs that received Pacific Groundwater samples. This is not an unusual request.

O-1-12

P. 2. 7.a. & Matrix. Restrictive Status. Max Application Window April 1 September 30. We strongly recommend it be changed to May 1 September 30. There is still much rain in April, which can cause off site flows to neighboring streams.

O-1-13

P. 3. 9. Under what scenarios would Ecology approve additional fertilizers?

O-1-14

Are adjacent landowners made fully aware of the health impacts of sludge? Educational information should be provided to the workers and to the neighbors.

O-1-15

11. Water Budget v. Lagoon. Please explain why the lagoon, advocated by Bio Recycling, would cancel out Ecology's recommendation of a water budget. Bio Recycling has an end-2020 date for lagoon construction. Even then the company's plan to build it is vague. (Water Budget for SSLAP. Brian Hickey to Ecology, 1-16-17.) Mr. Hickey's third point, Eliminate all winter deliveries (Nov.1st and March 1st) if the lagoon cannot be constructed by Nov. 1st 2018. But if the lagoon were built, a double liner only lasts so long. PCBs have been known to leach through these plastics. The Hickeys mentioned that an electronic apparatus would alert them to leakage. Would it be foolproof? What guarantees are there to capture 100% of it? What provision would there be to catch leaking fluids? Would the leaking fluid be recycled into the load that is spread? Would the lagoon be covered to keep particulates from moving out of the lagoon and to contain the odor? (See: http://www.tpomag.com/online_exclusives/2016/09/wwtp_covers_its_grit_tanks_to_address_odor_concerns_SC_001B0?utm_source=StreamSend&utm_medium=email&utm_content=newsletter&utm_campaign=TPO_170313.) When will all contents stored off site -- not stored in the lagoon or elsewhere on site -- be brought to the site? The Hickey's said the lagoon would hold 5-6 months of contents -- ~60K gal/day; lagoon capacity 7M gallons. Actually, this equates to 116.6 days; closer to 4 months, even with their extra tank storage area. Why allow winter loading after two years, even the "lightest loading?"

Response To: Sierra Club

O-1-1

Years of research studies have shown that biosolids contain many different chemicals, but at very low concentrations. Most of the trace chemicals found in biosolids result from personal use of products containing these chemicals. This is not surprising since we buy, use, and consume thousands of chemicals in our everyday lives. These products include shampoos, laundry detergents, plastics, hand sanitizers, toothpastes, clothing, soaps, furniture, medications, etc. Further, if a chemical ends up in biosolids, we know that the chemical has properties that bind it to the solids (otherwise it would have remained with the liquids, i.e. wastewater). This tells us it is not readily water-soluble and therefore, unlikely to leach after land application. The application of biosolids to soils allows physical and chemical processes occurring within the soil to break down the chemicals. Additionally, The U.S. Environmental Protection Agency, other federal agencies, and universities have, and continue to conduct research on the potential risks of trace chemicals in biosolids. Given the information currently available, Ecology believes Washington's regulations protect human and environmental health while still allowing for the beneficial use of biosolids.

O-1-2

This comment is regarding the content of the State Environmental Policy Act (SEPA) checklist, or on the Mitigated Determination of Non Significance (MDNS). The comment period for the SEPA related to the operation of Bio Recycling was issued October 12, 2016, with a comment period ending October 27, 2016. Because the deadline to comment on the SEPA has already passed, this comment is outside the scope of the current comment period, and goes beyond Ecology's regulatory authority to address in this process.

O-1-3

Box 2: The intent of this designation is for wastewater treatment plants. It is meant to designate how many homes have physical connections to the facility. Box 5: The sources listed fall within the definition, as stated in the biosolids rule (Ch. 173-308-080 WAC) of septage. P. 5: Not every biosolids land application site is considered a Beneficial Use Facility, even though they are conducting beneficial use activities. Only facilities which receive biosolids which have already met the standard for land application are considered "Beneficial Use Facilities," whereas Bio Recycling receives septage and sewage sludge for further treatment prior to land application.

O-1-4

See O-1-1

O-1-5

See O-1-2

O-1-6

See O-1-1

O-1-7

State and County watershed maps indicate that approximately one-quarter of the site's surface water flows west from the site into the Skokomish-Dosewallips Watershed. Approximately three-quarters of the site's surface water flows east and south from the site into the Kennedy-Goldsborough Watershed. Ecology identified two main discharge channels flowing from the site into the two watersheds. After examination of the available data, Ecology identified and recommended two surface locations for surface water sampling. In 2017, Bio Recycling collected surface water samples from the southwest corner of the Site (Field 11), and along the southern border of the Site (Field 4B) in known ephemeral surface water channels. Ecology will base future surface water sample collection events, and other types of evaluations on the results from the 2017 first quarter sampling.

O-1-8

According to a Washington State University publication, Guide to Biosolids Quality, aerosols from biosolids land application can travel through the air, but not significant distances. It is Ecology's opinion that there is no significant need to monitor air emissions at this site. Link to publication: <http://cru.cahe.wsu.edu/CEPublications/FS192E/FS192E.pdf>

O-1-9

Ecology does not see a need to further restrict access to this site beyond what is currently present. The rule and permit require informational signs at entrances and 1/2 mile around the site. Also access to Bio Recycling's North Ranch site is currently restricted outside of business hours by a locking gate. Additionally the business owners maintain onsite surveillance equipment.

O-1-10

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

O-1-11

The objective of a soil sampling plan is to obtain a representative sample from the site where biosolids are being applied. A soil sampling protocol must be developed in order to obtain a representative sample in both space and time. There are two types of samples: Point (or grab) samples and composite samples. Point samples consist of single location samples that are typically small volume from a larger area. This type of sample is used to quantify variability or problem areas. Composite sampling consists of a single sample that is derived

from multiple sub-samples taken from various locations in a sampling area. Composite sampling is used to reflect average value representing the whole sampling area. Ecology recommends sampling the soil in such a way that it produces representative samples. Point samples are useful to identify problems in small areas but the results are hard to use in order to predict a value for bigger areas. Whereas, composite samples represent a big area accurately. Years of research work by Washington State University and University of Idaho have led to the production of guidance documents for soil sampling. These guidance documents were utilized by Ecology when approving number of required samples in Bio Recycling's soil sampling plan. Regarding the comment about independent laboratory analysis, Bio Recycling uses two laboratories for soil and groundwater analysis and both labs are accredited by Ecology. Accreditation of environmental laboratories ensures a lab is capable of providing accurate and defensible analytical data. Ecology requires notification prior to the soil sampling events and always reserves the right to observe and take split samples.

O-1-12

Ecology thinks that applying biosolids during times of high precipitation unacceptably increases the risk of leaching and surface runoff of nitrates. The final coverage letter includes a condition limiting the seasons within which application can occur to maximize crop uptake and minimize leaching. Within the season of application, when under restrictive Status, Bio Recycling must land apply based on the irrigation and nutrient needs of the crop. Under normal status, Bio Recycling must determine the risk of runoff based on anticipated precipitation, and provide Ecology a record demonstrating that land application had occurred when the risk of runoff was low. It is Ecology's opinion that a further reduction in the season of application would not beneficially protect against nitrate leaching.

O-1-13

In general, Ecology would approve the use of alternative or additional fertilizers when there is a crop requirement of a nutrient which is not adequately provided by the application of biosolids. Under current conditions, in specific reference to Bio Recycling's North Ranch site, Ecology would likely only approve the addition of non-nitrogen containing fertilizers, such as a fertilizer meant to increase the concentration of potassium and adjust soil pH.

O-1-14

The biosolids permitting process requires facilities to provide public notification in a locally distributed newspaper, and on signs surrounding the site when initially applying for permit coverage, re-applying, or when a significant change in operations is to occur. Additionally, the permitting process requires a comment period, and the option for anyone interested in the particular activities of a facility to opt-in to be notified directly.

O-1-15

The construction of a lagoon will not "cancel out Ecology's recommendation of a water budget." Bio Recycling has indicated that building a lagoon will allow them to meet the additional conditions imposed within the Final Coverage letter. Regarding the lagoon,

Ecology has not received any detailed construction or operations plans of the lagoons as of yet, but the proposal must meet the requirements for design, construction and operation of surface impoundments specified in Chapter 173-350 WAC and 173-308 WAC (per section 5.2 of General Permit for Biosolids Management).

Written Comment From: Andrea Love

O-2-1

the Executive Committee of the Hood Canal Improvement Club has identified what we feel are three options for this site: (Option 1) Formal closure (preferred); (Option 2) Suspension of all operations for five years with increased soil, ground and surface water monitoring;

O-2-2

Develop a closure plan and post closure plan.

O-2-3

Apply only filtrate from domestic household septic systems. No Sewage sludge.

O-2-4

Identify with Ecology and USGS additional off site domestic wells to monitor quarterly.

O-2-5

Add multiple additional surface water monitoring sites around the entire perimeter of site.

O-2-6

Restrict filtrate application to May 1 thru Sept 30...these five months only.

O-2-7

Record daily precipitation from Sanderson Field (ncdc.noaa.gov) and submit with quarterly report to Ecology.

O-2-8

Adhere to 8 a.m. to 6 p.m. employee-attended hours of operation.

O-2-9

Secure gate to ensure no after hours offloading/dumping.

O-2-10

Ensure that Bio Recycling staff have received and fully comprehend all messaging from Ecology; Bio Recycling staff is to report in person to Ecology to receive updates in regulations and guidelines to ensure full compliance.

O-2-11

Provide comprehensive educational materials on risk of excess nitrates to human health and the environment--not just blue baby syndrome--to operator, consultants and citizens in the area.

O-2-12

Inventory existing domestic wells in the area and implement a plan to promote and encourage these well owners to test for nitrogen.

O-2-13

Post signage alerting hunters that deer may have grazed in this area.

O-2-14

Alert the general public and post on Ecology website soil and water monitoring results in addition to any changes to operating permit/practices as available.

O-2-15

Increase oversight and supervision for this site to include unannounced site visits. Ecology will take and process independent water and soil samples. Require the quarterly submission of the log documenting haulers, contact information, source and volume offloaded. This will enable reconciliation with other recorded observations and records.

O-2-16

Provide and implement a manure management plan approved by the USDA.

O-2-17

Develop a Financial Assurance Plan for site operations, closure, cleanup and remediation.

O-2-18

Place camera(s) for 24-hour continual real time monitoring of site operations available for Ecology and the public to review.

O-2-19

Label cattle as having consumed grass and hay as having been grown on land treated with sewage sludge and septage before sale.

Response To: Hood Canal Improvement Club

O-2-1

In addition to the capital improvements and the operating changes that Bio Recycling has implemented at this site, Ecology is issuing a final coverage letter to Bio Recycling. The letter will not only address the environmental concerns, but will also protect the environment throughout the entire service area of pumpers who rely on this facility to treat and land apply their septage. A critical element of the final coverage is the Biosolids Application

Management Matrix that precisely describes what standards Bio Recycling will be held to and what the consequences will be if they fail to do so.

O-2-2

A Closure Plan is a written plan developed by an owner or operator of a facility detailing how a facility is to close at the end of its active life. Bio Recycling would be required to submit, as a part of a proposal for lagoon construction and operation, a closure plan explaining the method of how the biosolids will be removed from the lagoon before decommissioning. Closure Plans must meet the requirements specified in Chapter 173-350 WAC and 173-308 WAC (as per section 5.2 of General Permit for Biosolids Management).

O-2-3

The term sewage sludge indicates a material that does not meet land application standards. Therefore, sewage sludge is not applied at the Bio Recycling facility. All incoming material is treated to biosolids standards (as per Chapter WAC 173-308) prior to land application. However, Ecology does not feel that limiting incoming material by source will address the present or potential issues at this facility.

O-2-4

The domestic wells currently being monitored are the wells closest to the Bio Recycling Facility and would be the most vulnerable wells. Current and historical groundwater chemistry results indicates that there are no verifiable impacts to the most vulnerable domestic wells. The results also do not indicate any appreciable difference between the water from up-gradient background groundwater sources and that of the down-gradient domestic wells. Consequently, at this time, Ecology does not recommend any additional domestic water supply wells be included in the Bio Recycling monitoring schedule. Ecology also monitors down-gradient sentry wells that are located between the Bio Recycling Facility and those nearby domestic water wells. Ecology will continue to monitor these wells for any changes to the water quality and act accordingly to protect human health and the environment.

O-2-5

State and County watershed maps indicate that approximately one-quarter of the site's surface water flows west from the site into the Skokomish-Dosewallips Watershed. Approximately three-quarters of the site's surface water flows east and south from the site into the Kennedy-Goldsborough Watershed. Ecology identified two main discharge channels flowing from the site into the two watersheds. After examination of the available data, Ecology identified and recommended two surface locations for surface water sampling. In 2017, Bio Recycling collected surface water samples from the southwest corner of the Site (Field 11), and along the southern border of the Site (Field 4B) in known ephemeral surface water channels. Ecology will base future surface water sample collection events, and other types of evaluations on the results from the 2017 first quarter sampling.

O-2-6

The biosolids permitting process requires facilities to provide public notification in a locally distributed newspaper, and on signs surrounding the site when initially applying for permit coverage, re-applying, or when a significant change in operations is to occur. Additionally, the permitting process requires a comment period, and the option for anyone interested in the particular activities of a facility to opt-in to be notified directly.

O-2-7

Records of daily precipitation from the Sanderson Field weather stations are already recorded and available through the National Oceanic and Atmospheric Administration's website. Here is a link to where that information can be accessed:
<https://www.ncdc.noaa.gov/cdo-web/search>.

O-2-8

According to Brian Hickey, Bio Recycling's General Manager, the typical hours of operation for this location are 7:00 AM to 3:30 PM Monday through Friday with occasional exceptions, and no material is received unless an employee is present. Ecology does not feel that limiting the hours of operation at this site is necessary in order to better protect human health or the environment.

O-2-9

Ecology does not see a need to further restrict access to this site beyond what is currently present. The rule and permit require informational signs at entrances and 1/2 mile around the site. Also access to Bio Recycling's North Ranch site is currently restricted outside of business hours by a locking gate. Additionally the business owners maintain onsite surveillance equipment.

O-2-10

Bio Recycling is legally obligated to ensure that they and their employees adhere to the requirements of the biosolids rule (Ch. 173-308) and general permit. Additionally, on occasions when the rule or general permit are updated, Ecology is required to provide notice to all permittees and the general public.

O-2-11

We appreciate this suggestion as Ecology is always wanting to improve the availability of information we provide on our website. For further information please see this website from the Washington State Department of Health:
<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/Contaminants/Nitrate>.

O-2-12

Nitrate is highly soluble and mobile, and is a good indicator of any possible impacts to groundwater. Ecology has not observed an increasing trend in the groundwater data from the domestic wells or the sentry wells used as indicators of whether the groundwater with elevated nitrates is possibly migrating offsite. Groundwater will continue to be monitored

and evaluated for any changes in water chemistry from the domestic and sentry wells. Currently, there is no state or federal requirement to evaluate chemicals such as flame retardants and petroleum in biosolids. University research indicates that these compounds, if present, are unlikely to reach deep groundwater and travel long distances in concentrations that would be of concern to human health. Ecology will continue to monitor developments in this field of research and implement the findings as necessary. Ecology has requested a copy of the fire retardant/pharmaceutical report referenced in the question, but was not provided a copy for review at the time of this posting.

O-2-13

These comments are based on concerns about the safety of beneficial reuse of biosolids in general, an activity that is authorized and encouraged by state law under RCW 70.95J.005. Because the proposals are not based on site-specific concerns pertaining to matters within the scope of the state biosolids law (such as pathogens, addressed through treatment standards and other mechanisms in WAC 173-308, or metals, addressed through testing and concentration limits in those same rules), they go beyond Ecology's regulatory authority.

O-2-14

Ecology agrees that website accessibility of this information would be ideal, however our current filing system is not set up to accommodate this option. Alternatively, Washington State law RCW 42.56 requires all agencies to respond to requests for public records in a timely manner, consequently, any interested citizen may request a copy of the documents they are interested in. The biosolids permitting process requires facilities to provide public notification in a locally distributed newspaper, and on signs surrounding the site when initially applying for permit coverage, re-applying, or when a significant change in operations is to occur. Additionally, the permitting process requires a comment period, and the option for anyone interested in the particular activities of a facility to opt-in to be notified directly.

O-2-15

It is currently Ecology's practice to make announced and unannounced facility visits. We have recently been able to increase our staffing within the Southwest Regional Office, and anticipate this will allow for greater oversight and technical assistance to all facilities within our region. One of the final conditions in the draft final coverage letter requires Bio Recycling to notify Ecology at least 72 hours prior to soil sampling, so Ecology staff have the opportunity to be onsite and observe sampling. Soil and groundwater sampling have been conducted by third party contractors who submit samples for analysis to laboratories that are accredited by Ecology. Accreditation of environmental laboratories ensures a lab is capable of providing accurate and defensible analytical data. Therefore, Ecology does not see a need for an independent analysis by Ecology. Ecology has participated in multiple sampling events at the North Ranch facility. It has been Bio Recycling's practice to notify Ecology in advance of sampling events so Ecology may attend. Additionally, as part of the final coverage letter, Ecology has placed a condition requiring 72 hours advance notice of sampling events. With regards to record keeping, Bio Recycling is currently required to keep records of "hauler, contact information, source and volume offloaded", per Chapter 173-308-290 (4) (j). Per

section 3.5 and 3.6 of the general permit, Bio Recycling is required to, upon request, provide copies of records, or onsite access to records for review. For these reasons Ecology does not feel quarterly submission is necessary or beneficial in this case.

O-2-16

Ecology does not have control of which facilities the USDA has jurisdiction or determines to expend its resources. However, the biosolids permitting process should be largely similar in the issues that would be addressed by a manure management plan. Further, as part of their application, Bio Recycling needs to account for all forms of nutrients added to the site, which includes manure from any livestock.

O-2-17

This comment period was based on Bio Recycling's updated application and the draft final coverage concerns. Whereas this comment concerns biosolids facilities in general. Because the proposals are not based on site-specific concerns pertaining to matters within the scope of the state biosolids law (such as pathogens, addressed through treatment standards and other mechanisms in WAC 173-308, or metals, addressed through testing and concentration limits in those same rules), they go beyond Ecology's regulatory authority.

O-2-18

Access to Bio Recycling's North Ranch site is currently restricted outside of business hours by a locking gate. Also according to Brian Hickey, Bio Recycling's Facility Manager, Bio Recycling already maintains an onsite surveillance system. Currently the biosolids rule and permit require informational signs at entrances and every half mile around the site. Ecology does not see a need for further requirements in this regard.

O-2-19

See O-2-13