

Office of Chief Clerk, ATTN: Agenda Docket Clerk, Mail Code 105, TCEQ, P. O. Box 13087, Austin, Texas  
78711-3087 Bridget Bohac

September 20, 2016

Reply/Response to The Office of Public Interest Council Response and The Executive Director's Response  
to Hearing Requests

RE: 633-4S Ranch Ltd, and Stahl Lane Ltd.

TPDES Permit No. WQ0015095001

Dear Sir/Madam,

My name is Cheryl Watson. I listed my mailing address in my comments as that is where I receive my mail. I reside, with my two children, at 30722 Onion Creek, Bulverde Texas 78163. Also, my comments, handwritten and submitted at the Public Hearing on November 19, 2015 are missing from the website. Please add these for consideration. My electronically submitted comments are there.

I would also like to clarify my comments and respond/reply to the ED and OPIC report:

In regards to air contamination or pollution by odors, I am concerned not only with the area of the 4SWWTP itself, but also with odors along the proposed discharge route of the sewage effluent. As one example the amount of Hydrogen Sulfide gas, mercaptans, or amines that may be produced by this 4SWWTP. The aforementioned substances are proven dangerous safety hazards. Hydrogen Sulfide gas has been described as acutely toxic and is reported as a leading cause of death among workers in sanitary sewer systems. Even though it smells foul at first, it quickly deadens the sense of smell so that a person may not be aware that it is there. Even at low concentrations in the air, exposure to hydrogen sulfide has been linked to fatigue, headaches, eye irritation, sore throats, and numerous other health problems. I believe my proximity to the 4SWWTP as well as the proposed discharge route, raises this as a concern, and my children await and exit the school bus on Olympus Street, which is mere feet from Lewis Creek and the proposed discharge route. These detrimental effects may be exacerbated in the young, elderly, and those with a compromised respiratory or immune system. Chlorine and Hydrogen Sulfide are also highly corrosive to the piping and other materials used in wastewater treatment plants so with piping, among others, going across the Creek that would in all probability corrode and become susceptible to leaking sewage directly into the creek, highly sophisticated monitoring techniques would be called for. Air-stripping is another pollution concern. Chemicals from Wastewater Treatment Plants can become airborne, as can organisms and particles. When these chemicals, organisms and particles get into the air through splashing or moving water, they can be inhaled. This can occur through the aeration and dewatering processes or through discharge, which puts droplets and particles into the air. Coliform bacteria and total organisms are highest when it's windy or the humidity is above 35%. Bulverde's average humidity is in the upper 40's and higher, year round, meaning we will be at risk of inhaling high amounts of these organisms and bacteria, which, if inhaled, go through the bronchial tubes and lungs, are cleared from the lungs, then swallowed. This can cause respiratory and gastrointestinal exposure, and some organisms pass directly into the bloodstream. Health effects from these inhaled organisms and bacteria vary from upper respiratory irritation accompanied by eye irritation to depression, central nervous system damage and severe systemic poisoning. Harmful algal blooms occur

when normally occurring cyanobacteria in the water multiply quickly to form visible colonies or blooms. These blooms sometimes produce potent cyanotoxins that pose serious health risks to humans and animals. The conditions that lead to harmful algal blooms (HABs) include high nutrient levels, particularly phosphorus, abundant sunlight, warm water temperatures, and stagnant or slow-moving waters. Toxicity is hard to predict in part because a single species of algae can have both toxic and non-toxic strains, and a bloom that tests nontoxic one day can be toxic the next. Discharges from wastewater treatment plants and stormwater runoff can carry nitrogen and phosphorus into waterways and promote the growth of cyanobacteria.

My and my children's drinking water will also be affected if the recharge features either current or that may be uncovered during construction are not protected. This gives rise to the question of whether the plant is properly situated as regards the flood plain. The increased flood events that are occurring involving the Lewis Creek watershed and the likelihood of significant reoccurrence of this event should preclude building the wastewater treatment plant on or in close proximity to any floodplain.

Due to the nature of Lewis Creek, which has many rocks, some quite large boulders, and due to other topographical features it contains, the discharge of sewage effluent would provide numerous pockets of stagnant water that would not only emit foul odors, but would provide numerous breeding grounds for mosquitos and other pests and vermin, which would endanger the public health and safety and severely curtail the surrounding residents' enjoyment of the outdoors, including those of us with children and grandchildren who take walks in the surrounding area, including on streets that cross over Lewis Creek. West Nile virus was reported in San Antonio the week of September 15, requiring first responders to go door to door to inform residents of the danger. This is only one of the rapidly spreading diseases these insects carry, which include the life threatening Zikas virus, Dengue Fever, (which has reemerged in Texas since 2013) and chikungunya virus, confirmed in Texas since 2014. As Lewis Creek is normally a dry creek, this constant flow of sewage water would provide a new and significant health hazard to the public. Houseflies, as well as other pests such as cockroaches, also present a health hazard for those living near wastewater treatment facilities. Flies land on the food they eat and raw sewage attracts houseflies. The hairs on a single housefly can carry millions of pathogens, which are transferred to whatever the fly next lands on. **National Small Flows Clearinghouse (funded by the U.S. Environmental Protection Agency) relates in its newsletter "Pipeline" that transferring these pathogens through flies and other pests is nowhere near as common as through drinking water or eating food that's been contaminated by sewage.**

Moth flies -- also known as filter flies, drain flies or sewage flies prefer standing and stale water, sewage, garbage and decomposing organic matter, which can collect in drains. They also lay eggs, which can hatch after all the adults, seem to have been eradicated. Often, chlorine and fogging sprays fail to kill them fast enough. They have a life cycle of about 21 days and prefer long warm springs with temperatures in the 70's -80's, just the time when many people are outdoors enjoying the weather. They also breed in standing water and there is a constant influx of them in immature states of development. These could well be an expected problem we will see.

There is difficulty in even spraying insecticide for these insects when they appear, in that it would call for injecting yet another poison into the air, polluting plant, human and animal populations, and quite possibly kill off needed and beneficial insects in the area such as honey bees. Spraying (which presents its own set of problems) is a temporary solution to a permanent problem.

Rats and their assorted problems and disease carrying abilities can also be expected due to the sewage effluent.

The contamination of the drinking water, wells, and surrounding soil would not be limited to bacteria and impurities in the sewage, but would also be impacted by the silt, dirt and caliche carried along the discharge route during periods of flooding as well. I note that on the 4S amended application, there appears to be a significant error in the above referenced plan. On page 46, which is attachment "L" BMP's (Best Management Practices) For Surface Streams, it reads, and I quote: "There are no surface streams on or immediately adjacent to the site." And there is no plan laid out on the page for dealing with them. However, if you reference the map on page 30, you will see a surface stream clearly entering from the left of the site, flowing through it and the flow direction marked with red arrows as it exits the right side. Additionally, there appears to be another stream below the site that more precise topography seems to support as being adjacent, and possibly on, the site also. Considering the geographical area of the site, there are quite probably more. These appear to require Best Management Practices Plans to be put in place so that no damage occurs. Additionally, while the plan references the Cibolo Creek Watershed, no mention of the Lewis Creek Watershed is mentioned in this plan and I see no plan for the protection it may need to have put in place. This is especially troubling when you consider the plugging of the filters on the wells in Lewis Creek due to an apparent influx of caliche and silt that occurred on or about May 31, 2016, resulting in a complete loss of water for some residents and diminished water pressure and quality for others.

The treatment of the wastewater, if using Sulphur dioxide and chlorine gas, poses a significant risk to human and animal populations in proximity to the plant. Chlorine residual, even at low concentrations, is toxic to aquatic life and may require dechlorinating. All forms of chlorine are highly toxic and corrosive, calling for special handling in any shipping, storage and handling. Chlorine oxidizes certain types of organic matter in sewage water, creating more hazardous compounds, such as trihalomethanes, also, the level of dissolved solids is increased in the treated sewage effluent. The chlorine content of the wastewater is increased, and chlorine residual is unstable in the presence of high concentrations of chlorine demanding material, which will require higher amounts to reach the necessary level of disinfection. Certain parasitic species have shown resistance to low doses of chlorine, such as oocysts of *Cryptosporidium Parvum*, cysts of *Endamoeba histolytica* and *Giardia lamblia*, and the eggs of parasitic worms. The long term effects of discharging dechlorinated compounds into the environment are unknown. In a case of the sewage plant's failure or if the chlorine use is not correctly, constantly, and stringently monitored some may survive, leading to diseases unleashed on an unsuspecting public. Specific water-borne diseases include typhoid and paratyphoid fever, cholera, bacillary dysentery, Giardiasis, Cryptosporidiosis, Amoebic dysentery, Poliomyelitis, Infectious Hepatitis, Aseptic meningitis, Encephalitis, Gastroenteritis, and chronic anemia. All of these diseases are transmitted by the fecal-oral route.

One failure of the waste water treatment plant's equipment, pipe breakage, or a period of inadequate treatment of the sewage effluent could destroy the health of hundreds of residents who rely on the water from the wells for drinking, bathing, and untold other activities. There are not adequate monitoring equipment safeguards or notification procedures available or in place to notify of such an event as it is largely dependent upon human inspection to be discovered. If spillage, breakage, or inadequate treatment occurred unnoticed, as many do, permanent damage would result. Additionally, in the event of flooding, the sewage water would be carried into buildings, lawns, and the Oak Village North's only park and playground, rendering cleanup nearly impossible and expensive. The treatment plant sewage water, if carried into the property of residences either through flooding or by equipment failure, would contaminate the soil of lawns, posing a severe health hazard to pets, children and adults, and would contaminate plants, the fruit of trees, and gardens. . Many people and their children also have livestock, particularly for 4H or FFA projects, that would be affected. Many people and their children also have livestock, particularly for 4H or FFA projects, that would be affected. This contamination would also preclude enjoyment of their property in that they could not have guests over with the smell and possibility of exposure to sewage effluent. The increasing flood events that are occurring involving the Lewis Creek watershed and the likelihood of significant reoccurrence of this event should preclude building the wastewater treatment plant on or in close proximity to any floodplain.

This is especially concerning in view of the close proximity of the waste water treatment plant and the proposed discharge route to us. A clear and comprehensive plan including but not limited to, notification to an agency with emergency contact capability such as Comal Emergency Alert notification, and all residents provided with the information to sign up for such notification. Treatment standards should be raised and also include denitrification and UV disinfection, high levels of monitoring and testing. The applicant/permit holder should be responsible for the charges incurred for testing and for posting the results in a communal public venue easily accessible to people, or published, including when the spillage has been cleaned and the drinking water safe for consumption and other uses.

Extra caution must be employed when issuing a permit in such a sensitive watershed area; especially so considering the record of failures and incidents of nearby sewage plants and the other current and proposed waste water treatment plants in the area. There is a real potential danger of abnormal operation in the waste-water treatment plant, such as controller malfunction, influent disturbance and instrument trouble.

For the safety of our children, our community and ourselves, I beg you to act as good stewards of the air, land, and water we have all been entrusted with and protect our environment and ourselves from the effects of this sewage.

Sincere Regards,

Cheryl Watson  
30722 Onion Creek  
Bulverde Texas 78163

CC: Executive Director, the Public Interest Counsel, the Applicant and the requesters at their addresses