

**FACT SHEET AND STATEMENT OF BASIS
LOGAN CITY LAGOONS
PERMIT MODIFICATION
UPDES PERMIT NUMBER: UT0021920
MAJOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Issa Hamud
Position: Environmental Director
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Person Name: Madeline Tennant
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Facility Name: Logan City Environmental
Organization Mailing Address: 153 N 1400 W
Logan, UT 84321
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Actual Address: 2300 West 200 North
Logan, UT 84321

DESCRIPTION OF FACILITY

Logan City is currently upgrading its existing lagoons to a mechanical wastewater treatment facility. This new facility will discharge to the same irrigation ditch were the existing lagoons discharge. The new plant will also create biosolids. Logan City will be testing their new facility in early 2022 and this modification gives them the ability to discharge treated wastewater from the new facility.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The facility is in the process of constructing a mechanical wastewater treatment facility. This modification adds a new discharge location for the facility. Additionally, the previous lagoon permit did not have provisions for biosolids. These modifications will allow for the operation of the mechanical treatment plant.

DESCRIPTION OF DISCHARGE

A new outfall from the mechanical wastewater treatment plant is being added. The outfall location is listed below.

Outfall

Description of Discharge Point

003

Discharge from the new mechanical Wastewater Treatment plant to an open ditch that conveys the water from Outfall 001. The discharge is initially conveyed by means of an open ditch to Benson Road. During the irrigation season it is used as irrigation water on fields to the west of the facility. Latitude: 41° 44' 23" Longitude: - 111° 53' 42"

Compliance Schedule

The existing compliance schedule will be updated with the following language.

January 1, 2023: If Logan city decides to move its compliance point to Outfall 003, then the final phosphorus limits from that outfall shall be a combined total of 11,487 kg from May through October and 12,901 kg from November through April. All other permit limits would be effective at that location (Outfall 002) and Outfalls 001A, 001B, and 002 would be abandoned.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids until treatment or testing shows that the solids are safe and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

DESCRIPTION OF TREATMENT AND DISPOSAL

Logan City is a newly constructed mechanical facility that is replacing the old lagoon system. Sludge is separated from wastewater in the Secondary Clarifiers and is pumped to the Solids Holding Tank (SHT) using Waste Activated Sludge (WAS) pumps. The sludge runs through a grinder to grind solids prior to entering the SHT, The SHT provides 7 days of storage, and is mixed and aerated by a jet aeration system.

The Solids Feed Pumps convey the sludge to the Rotary Fan Presses for dewatering. From the Rotary Fan Press, the sludge is discharged to a haul truck. The biosolids are then hauled to the offsite compost facility where the biosolids are mixed with yard waste, ground up, and placed in aerated static piles for aeration and curing. Once the 12-week aeration and curing is completed, the compost is screened and sold to the public.

The City also owns a regional landfill and will use landfill disposal as a backup option to composting. Additionally, the biosolids will also be used for daily landfill cover. There may be a split flow of biosolids to both composting and the landfill initially. Once composting is established, it is intended that most if not all biosolids be composted. The landfill may receive some or all the biosolids if composting isn't operable.

Being as this a new facility and biosolids permit, there have not been any production of biosolids yet.

SELF-MONITORING REQUIREMENTS

Under 40 CFR 503.16(a)(1), the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

The Logan City mechanical plant is new and has not produced any biosolids yet. It is estimated that the facility will generate 2500 DMT of biosolids. Therefore, they will plan to sample the biosolids bi-monthly or 6 times a year.

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to a reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without a deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements with Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 3 below. If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements with Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation

site it must meet at all times:

The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or
 The maximum heavy metals in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits ¹ , (mg/kg)	CPLR ² , (mg/ha)	Pollutant Conc. Limits ³ , (mg/kg)	APLR ⁴ , (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when the do meet Table 3, but do meet Table 1.				

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit. If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN ¹ per four (4) grams total solids (DWB) ² or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU ³ per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB), And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB) And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	
1 - MPN – Most Probable Number	
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. Logan City has chosen to achieve PFRP through a method of Composting.

1. Static Aerated Pile Method - composting using the static aerated pile method, the temperature of the biosolids is maintained at 55° C (131°F) or higher for at least 3 days).

This composting method is found under (40 CFR 503.32(a)(8)(ii)).

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). Logan City intends to meet PSRP through the following methods:

1. Under 40 CFR 503.32 (b)(2), TSSD may test the biosolids and must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.

2. Under *40 CFR 503.32 (b)(3)* the PSRP may be accomplished through composting. To achieve this, the temperature must be above 40° C (104° F) or higher, and remain at 40° C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to exceed 55° C (113° F).

Vector Attraction Reduction (VAR)

If the biosolids are land applied Logan City will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. Logan City intends to meet the vector attraction reduction requirements through one of the methods listed below.

1. Under *40 CFR 503.33(b)(5)* the solids need treated through composting with a temperature of 40° C (104° F) or higher for at least 14 days with an average temperature of over 45° C (113° F).

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

Record Keeping

The record keeping requirements from *40 CFR 503.17* are included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting

Logan City must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

PERMIT DURATION

It is recommended that this permit be effective until the original expiration date of September 30, 2025.

Drafted by
Lonnie Shull, Discharge
Dan Griffin, Biosolids

PUBLIC NOTICE

Original Began:
Ended:

Comments will be received at: 195 North 1950 West
 PO Box 144870
 Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published on the Division of Water Quality's website.

During the public comment period provided under *R317-8-6.5*, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in *R317-8-6.12*.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

RESPONSIVENESS SUMMARY

DWQ-2021-033744