



GAINESVILLE REGIONAL UTILITIES

2013 BIOSOLIDS SUMMARY REPORT

for

KANAPAHA WATER RECLAMATION FACILITY

FDEP Facility ID# FL 0112895

MAIN STREET WATER RECLAMATION FACILITY

FDEP Facility ID# FL 0027251

ROGER WILLIAMS BAF – WHISTLING PINES RANCH FARM

FDEP Biosolids Application Site Permit ID# FLA182796 – 001 - DWB



Prepared for:

***EPA, Region 7
ATTN: BIOSOLIDS CENTER
WWPD/WENF
11201 Renner Boulevard
Lenexa, Kansas 66219***

And

***FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Prepared by:

***GAINESVILLE REGIONAL UTILITIES
Water and Wastewater Engineering Department
P.O. Box 147117, Station A122
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February 12, 2014

Attn. Jeff Martin, P.E.
Professional Engineer Supervisor III
Water Resources Management / Wastewater
Florida Department of Environmental Protection
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, FL 32256-7590

Subject: Gainesville Regional Utilities (GRU)
2013 Biosolids Summary Report for
Knapaha Water Reclamation Facility (FL00112895)
Main Street Water Reclamation Facility (FL0027251)
Roger Williams BAF – Whistling Pines Ranch Farm (FLA182796-001-DWB)

Dear Mr. Martin:

Enclosed please find the 2013 Biosolids Summary Report for the Knapaha Water Reclamation Facility, Main Street Water Reclamation Facility and the Whistling Pines Ranch Farm biosolids land application site (exclusive GRU FDEP permit). This report is submitted in fulfillment of the annual reporting requirements of 40 CFR Part 503 and Chapter 62-640, F.A.C. Please note that the Treatment Facility Biosolids Annual Summary (FDEP Form 62-640.210(2)(b), F.A.C.) for KWRF & MSWRF and the Biosolids Application Site Annual Summary (FDEP Form 62-640.210(2)(c), F.A.C) for the GRU / Whistling Pines Ranch Farm are attached in Appendix A of this report.

If you have any questions or require further information, please do not hesitate to contact me at (352) 393-1636.

Sincerely,

Paul B. Davis, P.E.
Water/Wastewater Engineer IV

xc: Biosolids Center, EPA Region 7
Agustin Olmos, Alachua County Environmental Protection Department
ec: David Richardson Ronald Herget
Anthony Cunningham Richard Hutton
Rae Hafer Richard Smith
Thomas Mikell Roger Williams
Warren Thomas



February 12, 2014

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ATTN: BIOSOLIDS CENTER
WWPD/WENF
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: Gainesville Regional Utilities (GRU)
40 CFR Part 503 Biosolids Summary Report for 2013
Knapaha Water Reclamation Facility (FL00112895)
Main Street Water Reclamation Facility (FL0027251)
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Appendix B	Rule 62-640, F.A.C. (Effective Date: August 29, 2010)

Introduction

This report is prepared to satisfy the United States Environmental Protection Agency (USEPA) biosolids annual reporting requirements found in 40 CFR 503 as well as the Florida Department of Environmental Protection (FDEP) annual reporting requirements of Rule 62-640, F.A.C. The time period covered in this report extends from January 1, 2013 to December 31, 2013 and documents the biosolids land application program for the Gainesville Regional Utilities (GRU) Main Street Water Reclamation Facility (MSWRF) - FL0027251 and the Kanapaha Water Reclamation Facility (KWRF) - FL0112895 at the GRU exclusive Whistling Pines Ranch Farm FDEP permitted site (FLA182796-001-DWB). The Treatment Facility Biosolids Annual Summary (FDEP Form 62-640.210(2)(b), F.A.C.) - KWRF & MSWRF and Biosolids Application Site Annual Summary (FDEP Form 62-640.210(2)(c), F.A.C.) are included in Appendix A. The latest revision of 62-640, F.A.C is included in Appendix B.

Facilities

Gainesville Regional Utilities (GRU) is a publicly owned electric, water, wastewater, gas, and communications utility serving the City of Gainesville, Florida and surrounding portions of Alachua County. GRU owns and operates two water reclamation facilities, the Kanapaha Water Reclamation Facility (KWRF) and the Main Street Water Reclamation Facility (MSWRF).

The KWRF is permitted to treat 14.9 million gallon per day (MGD) annual average daily flow. The facility utilizes activated sludge treatment, biological nitrification/denitrification, filtration, and high level disinfection by chlorination to achieve drinking water standards for deep well aquifer recharge. The high quality reclaimed water also is utilized for public access reuse irrigation, aesthetic water features and infiltrating wetland demonstration projects.

The MSWRF is permitted for 7.5 MGD annual average daily flow. This facility utilizes activated sludge treatment, biological nitrification/denitrification, filtration, chlorination, and dechlorination and is discharged to a Class III surface water body, Sweetwater Branch. This high quality reclaimed water is also utilized for irrigation in the downtown area and at the Shands Hospital at the University of Florida, and for cooling at the GRU South Energy Center.

At both KWRF and MSWRF, waste activated sludge is generated by the secondary treatment systems and aerobically digested to produce biosolids. The biosolids are thickened by gravity belt thickeners, hauled to Whistling Pines Ranch Farm and beneficially utilized as a soil amendment and to offset inorganic fertilizer use. They are applied by surface spreading and are sometimes incorporated or subsurface injected. A unit flow schematic of KWRF and MSWRF is provided in Figure 1 and Figure 2 respectively.

GRU's mission is to provide outstanding service to its customers and maintain strong management to achieve regulatory compliance and a sustainable biosolids land application program.

Land Application Site

In 2013, all of GRU's biosolids were applied to Whistling Pines Ranch (WPR) Farm restricted access agricultural land application site fields. This site provides a number of advantages for both GRU and the farmer. First, the site is located near Gainesville close to both KWRF and MSWRF which reduces hauling time and costs. Second, a variety of crops are grown which works well with maximizing the beneficial use of biosolids as fertilizer/soil amendment. Another advantage of this site is that it is well drained with limited wet weather limitations. Lastly, Mr. Roger Williams, the owner/manager of Whistling Pines Ranch, has been in the GRU biosolids program for over 30 years and as a result, is very experienced with beneficially utilizing GRU biosolids and working with GRU staff. Figure 3 displays an aerial view of Whistling Pines Ranch with each land application field/zone delineated. See Table 1 for information on the GRU WPR Land Application Site Zones Utilized in 2013.

GRU has made substantial capital and labor investments at Whistling Pines Ranch. A storage tank was constructed, and biosolids are temporarily held there prior to being pumped into the land application equipment. Additional fencing has been added to provide more flexibility for harvesting and grazing fields. The land application equipment consists of a tractor pulling a 10,000 gallon tanker from which the biosolids are land applied on the fields. GRU has a lease agreement for a spare tractor and has a second 10,000 gallon tanker for redundancy.

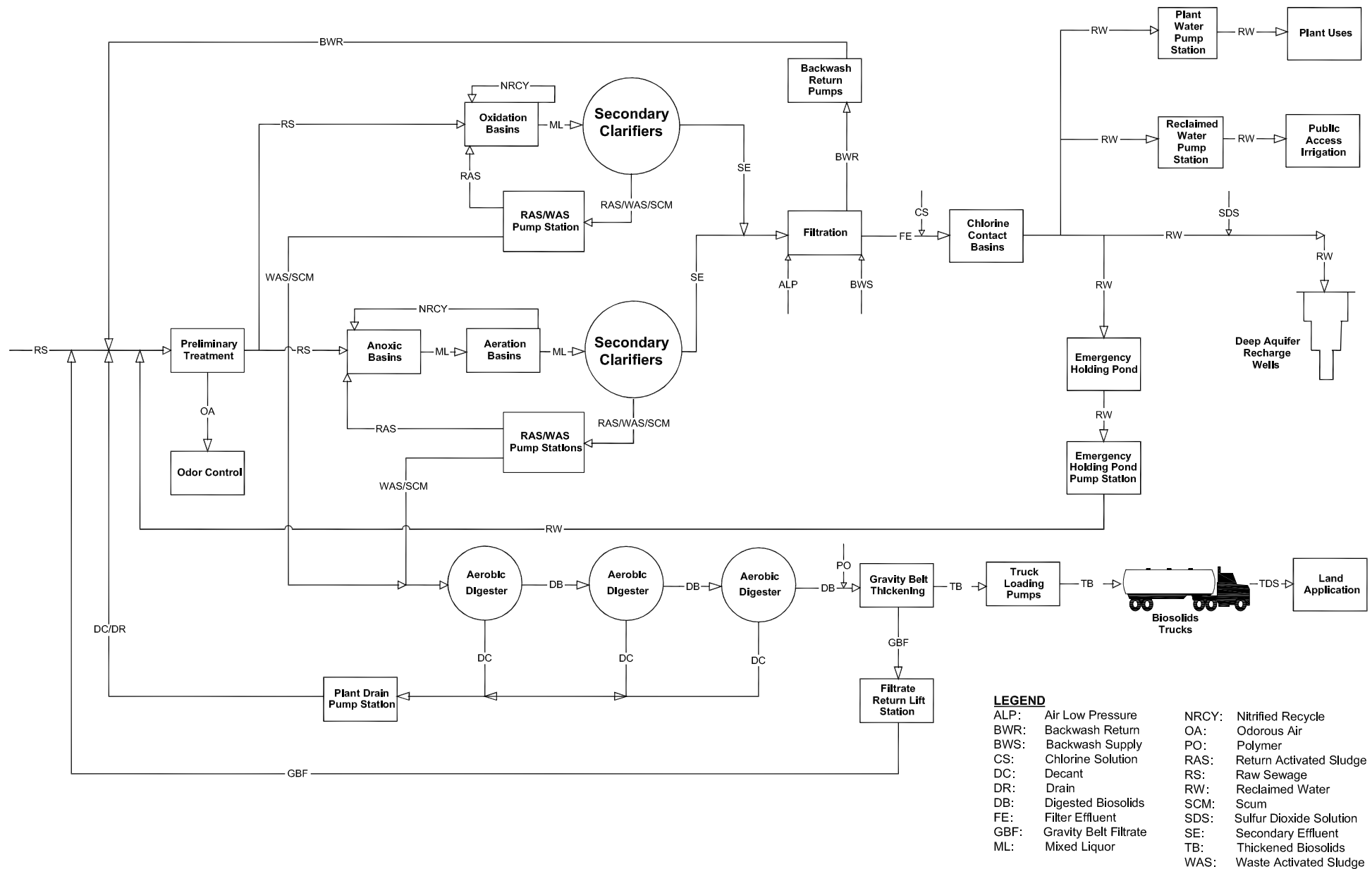


FIGURE 1

KANAPAHA WATER RECLAMATION FACILITY PROCESS FLOW DIAGRAM

FILE: D:\WW\Capacity\KANA_WRF.DWG
PLOTTED: 02\14\08 3:19pm by C.A.O.
REVISED: 02\14\2008

STRATEGIC PLANNING DEPARTMENT
GAINESVILLE REGIONAL UTILITIES
PO BOX 147117
GAINESVILLE, FL 32614-7117



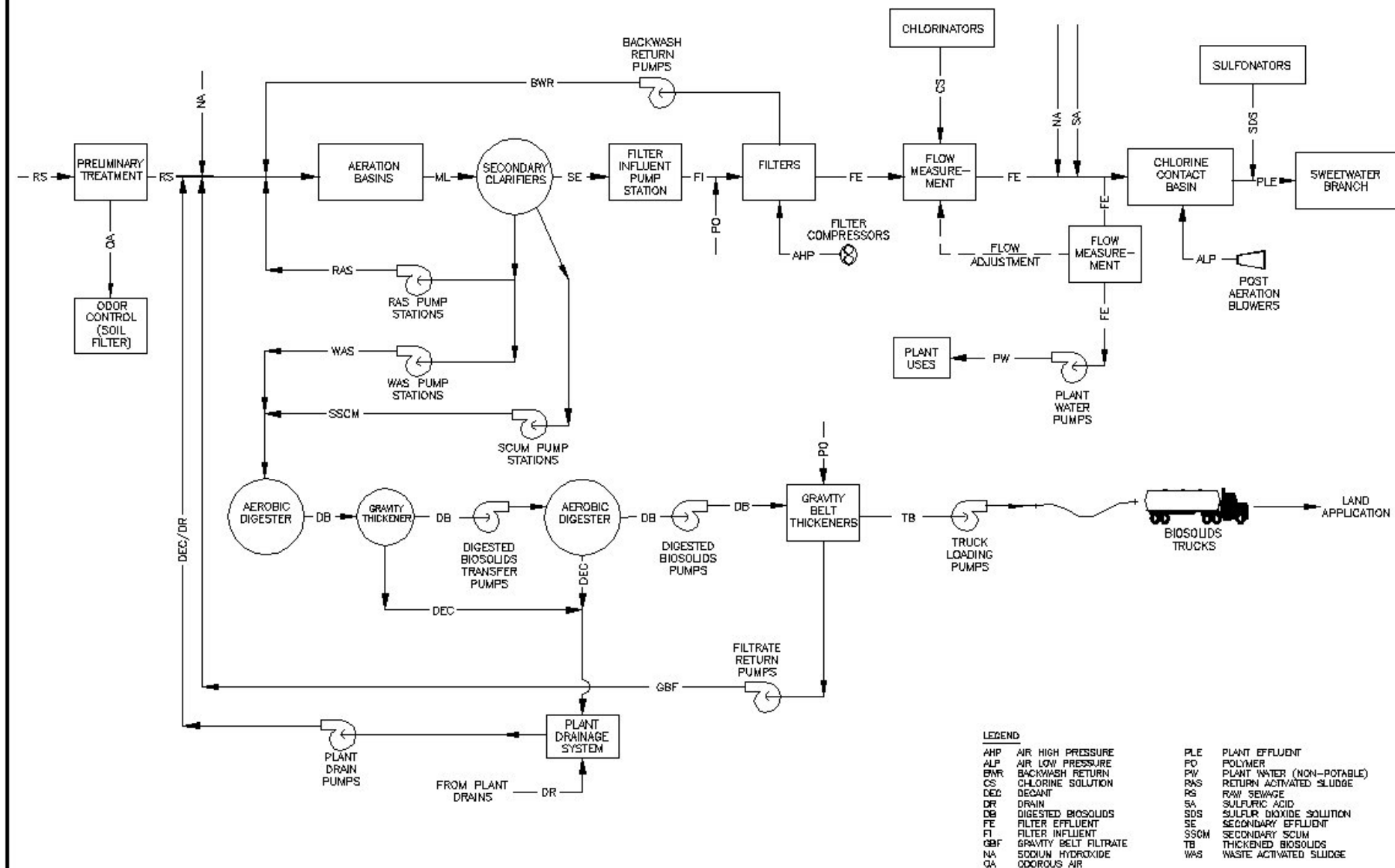


FIGURE 2

MAIN STREET WATER RECLAMATION FACILITY PROCESS FLOW DIAGRAM

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PLOTED: 02/14/08 3:07pm by C.A.O.
RMSB 02/14/2008

STRATEGIC PLANNING DEPARTMENT
GAINESVILLE REGIONAL UTILITIES
PO BOX 147117
GAINESVILLE, FL 32614-7117



TABLE 1
GRU LAND APPLICATION SITE ZONES
UTILIZED IN 2013

SITE OWNER	SITE LOCATION	OWNER ADDRESS	FIELD NAME	TOTAL ACREAGE	AVAILABLE ACREAGE
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD A-1	150	148
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD-B	118	114
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD C-2	146	141
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD D-3	145	142
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD E-4	149	145
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD F	46	39
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD G-5	146	142
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD H-6	147	140
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD I	74	62
ROGER WILLIAMS	19110 SW ARCHER ROAD ARCHER, FL	4306 SW ARCHER ROAD GAINESVILLE, FL 32608	FIELD Q*	146	57

*NOTE: FIELD Q IS USED TO DENOTE A COMPILATION OF GRASSED CORNERS FROM OTHER CROP FIELDS, NOT CAUGHT IN THE PIVOT AREA.

FIGURE 3. Whistling Pines Ranch Biosolids Land Application Site



2013 Biosolids Generation and Monitoring Frequency

In 2013, KWRF produced a total of 2,539 dry tons (2,308 dry metric tons) of biosolids and the MSWRF produced 1,033 dry tons (939 dry metric tons) of biosolids.

According to 40 CFR 503.16, the required monitoring frequency for metals, pathogen reduction, and vector attraction reduction for biosolids production of equal to or greater than 1,500 dry metric tons per year but less than 15,000 dry metric tons is once per 60 days (six times per year). Accordingly, the sampling frequency for the KWRF is once per 60 days. The MSWRF produces greater than 290 but less than 1,500 dry metric tons of biosolids per year which according to 40 CFR 503.16 requires a quarterly monitoring frequency.

The above monitoring frequencies will continue based on the current FDEP KWRF and MSWRF permits, and is consistent with monitoring schedules required by 40 CFR 503.16.

Pathogen Reduction

The KWRF and MSWRF biosolids meet the Pathogen Reduction (PR) requirements for Class B compliance. The methodology specified in 40 CFR 503.32(b)(2) is utilized to demonstrate Class B compliance. The geometric mean of the fecal coliform density must be less than 2,000,000 Most Probable Number (MPN) per gram of total solids (dry weight basis). Tables 2 and 3 provide the results of pathogen testing in 2013 for KWRF and MSWRF. Both facilities results were well below the required geometric mean of 2,000,000 MPN/g TS for Class B biosolids in all of the 2013 monitoring periods. Referring to Table 2, KWRF staff obtained 7 FC samples in the bi-monthly monitoring period #4, but lab errors resulted in two lost data points. As indicated by the geometric mean for the period from the data set, the 288,471 MPN/g TS compared to the required 2,000,000 MPN/g TS, documents the biosolids were well stabilized, further verified by the low SOUR average for the period at 0.86 mg O₂/hr/g total solids, which was well below even more stringent vector attraction requirements (1.5 mg O₂/hr/g total solids). To maintain a more robust data set, staff has been instructed to obtain and run more samples.

TABLE 2
KANAPAHA WATER RECLAMATION FACILITY
PATHOGEN REDUCTION AND VECTOR ATTRACTION REDUCTION (VAR) SUMMARY

2013 Bi-Monthly Monitoring Period	PATHOGEN REDUCTION		VARS	
	Fecal Coliforms		SOUR	
	No. of Samples	Geometric Mean MPN/g (Dry Weight)	No. of Samples	Average (mgO ₂ /hr.gTS)
1	9	39,081	10	0.74
2	7	188,142	5**	0.56
3	9	118,370	10	1.06
4	5*	288,471	10	0.86
5	13	205,278	10	0.83
6	10	88,840	9	0.93

* Period 4: 7 FC samples were taken, but lab errors resulted in loss of 2 data points

** Period 2: Additional SOUR data not taken or required - incorporation of biosolids was utilized to meet VAR reqmts.

TABLE 3
MAIN STREET WATER RECLAMATION FACILITY
PATHOGEN REDUCTION AND VECTOR ATTRACTION REDUCTION (VAR) SUMMARY

2013 QUARTER	PATHOGEN REDUCTION		VARS	
	Fecal Coliforms		SOUR	
	No. of Samples	Geometric Mean MPN/g (Dry Weight)	No. of Samples	Average (mgO ₂ /hr.gTS)
1	7	236,800	7	1.46
2	7	165,951	7	0.74
3	7	779,443	7	0.89
4	7	35,009	7	0.60

Vector Attraction Reduction

40 CFR 503.33 (b)(1) through (b)(10) provides options for meeting Vector Attraction Reduction (VAR) requirements for biosolids applied to agricultural lands. KWRP and MSWRF typically utilize option 40 CFR 503.33 (b)(4), though sometimes (9) or (10). Option 503.33(b)(4) specifies that the specific oxygen uptake rate (SOUR) for biosolids treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry

weight basis at a temperature of 20 degrees Celsius). Meeting the SOUR criteria of 1.5 milligrams of oxygen per hour per gram of total solids or less is the principle way GRU attains VAR compliance. Depending on the crop rotation on a particular field, there are times when biosolids are subsurface injected or incorporated. This practice is typically for the benefit of the farming operations and not for meeting the VAR requirements, but it was utilized in the KWRF bi-monthly monitoring period #2, so there were only 5 SOUR samples taken that period as noted in Table 2.

Biosolids Metals Evaluation

40 CFR 503.13(a)(2) specifies restrictions related to metal concentrations in biosolids that are applied to agricultural lands. Specifically, the metals of concern are arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. For biosolids to be land applied, metals must meet the ceiling limits specified in Table 1 of 503.13. If the biosolids are of higher quality and meets the stricter metals limits listed in Table 3 of 503.13, then the cumulative limits listed in Table 2 of 503.13 do not apply. Otherwise facilities must comply with the cumulative limits. Table 4 contains a summary of the limits contained in Tables 1 through 3 of 503.13. Quarterly and bi-monthly metals results for the KWRF and MSWRF are provided in Tables 5 and 6, respectively. Biosolids from both facilities meet the stricter limits listed in Table 3 of 503.13. Therefore, federal cumulative limits do not apply.

Rule 62-640.700(5)(a), F.A.C lists ceiling concentration limits for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in biosolids applied to land. 62-640.700(7)(b) lists land application site total cumulative application limits for these metals. Table 7 is a summary of these restrictions. Biosolids at both the KWRF and MSWRF are well below the maximum concentration limits as can be seen from the results provided in Tables 5 and 6. Table 8 provides annual metal loadings and cumulative totals for land application zones utilized in 2013. Review of this data indicates that each field is well below the allowable cumulative limit for metals.

TABLE 4
40 CFR 503 BIOSOLIDS METALS CRITERIA

METAL	CEILING CONCENTRATION¹ mg/kg dry weight	HIGHER QUALITY MONTHLY AVERAGE CONCENTRATIONS² mg/kg dry weight	CUMULATIVE POLLUTANT LOADING RATE³ kg/ha
Arsenic	75	41	41
Cadmium	85	39	39
Copper	4300	1500	1500
Lead	840	300	300
Mercury	57	17	17
Molybdenum	75	----	----
Nickel	420	420	420
Selenium	100	100	100
Zinc	7500	2800	2800

¹ 40 CFR 503.13 Table 1

² 40 CFR 503.13 Table 3

³ 40 CFR 503.13 Table 2

Biosolids Nutrient and Physical Parameters

In addition to metals, Rule 62-640.650(3)(a) F.A.C. requires biosolids to be analyzed for Total Nitrogen, Total Phosphorus, Total Potassium, pH, and Total Solids. Tables 5 and 6 contain the results of these analyses for the KWRf and MSWRF. As noted in Table 5 and 6, the total solids from KWRf and MSWRF are calculated based on the average of monthly thickened biosolids grab samples taken after gravity belt thickening.

TABLE 5
KANAPAHA WATER RECLAMATION FACILITY
2013 BIMONTHLY BIOSOLIDS PARAMETERS SUMMARY

PARAMETER	BIMONTHLY MONITORING PERIOD						AVERAGE**
	JAN/FEB	MAR/APRIL	MAY/JUNE	JULY/AUG	SEPT/OCT	NOV/DEC	
TOTAL N (% DRY WEIGHT)	6.5%	8.4%	8.4%	7.7%	7.4%	8.6%	7.8%
TOTAL P (% DRY WEIGHT)	4.2%	4.5%	3.6%	4.8%	4.9%	5.0%	4.5%
TOTAL K (% DRY WEIGHT)	4.2%	0.7%	0.7%	0.8%	0.9%	0.8%	1.3%
ARSENIC mg/KG (Max)	3.0	2.4	2.1	2.6	2.4	2.3	2.5
CADMIUM mg/KG	2.2	1.7	1.6	1.7	1.8	0.5	1.6
COPPER mg/KG	160	135	136	166	200	162	160
MERCURY mg/KG	1.1	0.7	0.7	0.6	0.6	0.6	0.7
MOLYBDENUM mg/KG	2.9	2.4	4.7	3.2	3.8	4.7	3.6
NICKEL mg/KG	12	12	9	12	17	13	12
LEAD mg/KG	19	17	13	22	19	16	18
SELENIUM mg/KG	3.0	2.4	2.1	2.6	2.4	2.3	2.5
ZINC mg/KG	583	490	495	634	822	630	609
PH	4.7	6.2	7.0	5.9	5.0	5.6	5.7
TOTAL SOLIDS %*	5.8%	5.8%	6.1%	5.8%	5.9%	5.9%	5.9%

* Average of thickened biosolids grab samples

** One-half of the MDL was used for calculations when the parameter concentration was less than the MDL

TABLE 6
MAIN STREET WATER RECLAMATION FACILITY
2013 QUARTERLY BIOSOLIDS PARAMETERS SUMMARY

PARAMETER	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER	AVERAGE **
TOTAL N (% DRY WEIGHT)	6.5%	10.1%	4.6%	3.9%	6.3%
TOTAL P (% DRY WEIGHT)	4.3%	4.6%	4.2%	3.7%	4.2%
TOTAL K (% DRY WEIGHT)	0.8%	0.8%	0.8%	0.7%	0.8%
ARSENIC mg/KG	2.7	2.5	2.8	2.4	2.6
CADMIUM mg/KG	3.0	2.1	3.0	3.3	2.8
COPPER mg/KG	318	274	296	255	286
MERCURY mg/KG	1.6	1.2	0.9	0.4	1.0
MOLYBDENUM mg/KG	5.4	5.6	5.4	6.9	5.8
NICKEL mg/KG	18	10	21	17	16
LEAD mg/KG	32	29	33	24	29
SELENIUM mg/KG	3	2	3	2	3
ZINC mg/KG	525	491	593	512	530
PH	6.3	6.6	5.6	5.6	6.0
TOTAL SOLIDS %*	6.0%	5.6%	5.5%	5.3%	5.6%

* Average of thickened biosolids grab samples

** One-half of the MDL was used for calculations when the parameter concentration was less than the MDL

TABLE 7
F.A.C. CHAPTER 62-640 BIOSOLIDS METAL CRITERIA

METAL	CEILING CONCENTRATIONS mg/kg dry weight	CUMULATIVE LOADING LIMIT lb/acre
Arsenic	75	36.6
Cadmium	85	34.8
Copper	4300	1340
Lead	840	268
Mercury	57	15.2
Molybdenum	75	Report Only
Nickel	420	375
Selenium	100	89.3
Zinc	7500	2500

TABLE 8
METAL LOADINGS SUMMARY
2013 GRU LAND APPLICATION SITE ZONES

FIELD NAME	LOADING (LB/ACRE)								
		As	Cd	Cu	Pb	Hg	Ni	Se	Zn
FIELD A-1	Annual	0.02	0.01	1.1	0.12	0.01	0.07	0.02	3.4
	Cumulative	0.28	0.28	25.1	3.14	0.09	1.70	0.48	65.8
FIELD B	Annual	0.02	0.01	1.1	0.13	0.00	0.08	0.02	3.5
	Cumulative	0.35	1.03	34.9	4.35	0.05	2.53	0.48	92.8
FIELD C-2	Annual	0.01	0.01	0.9	0.10	0.00	0.06	0.01	2.3
	Cumulative	0.43	0.83	28.0	3.77	0.07	2.02	0.51	73.9
FIELD D-3	Annual	0.03	0.02	1.9	0.20	0.01	0.14	0.03	5.6
	Cumulative	0.30	0.31	26.3	3.58	0.07	1.77	0.42	70.1
FIELD E-4	Annual	0.02	0.02	1.3	0.13	0.01	0.10	0.02	4.1
	Cumulative	0.22	0.21	19.5	2.54	0.07	1.34	0.44	55.0
FIELD F	Annual	0.02	0.02	1.3	0.13	0.00	0.11	0.02	4.4
	Cumulative	0.21	0.25	16.7	2.48	0.07	1.28	0.22	49.7
FIELD G-5	Annual	0.02	0.01	1.1	0.11	0.00	0.08	0.02	3.1
	Cumulative	0.28	0.21	18.6	2.38	0.06	1.16	0.45	51.2
FIELD H-6	Annual	0.02	0.02	1.6	0.19	0.01	0.11	0.02	4.6
	Cumulative	0.23	0.16	16.1	1.76	0.05	1.09	0.40	45.7
FIELD I	Annual	0.01	0.01	1.0	0.11	0.01	0.07	0.01	2.7
	Cumulative	0.45	0.45	28.6	3.37	0.09	2.26	0.74	78.9
FIELD Q	Annual	0.01	0.01	0.8	0.08	0.00	0.06	0.01	2.6
	Cumulative	0.07	0.06	4.1	0.52	0.01	0.32	0.09	12.1

CHAPTER	
62-640 F.A.C. KEY:	
	LB/ACRE
As = ARSENIC	36.6
Cd = CADMIUM	34.8
Cu = COPPER	1340
Pb = LEAD	268
Hg = MERCURY	15.2
Ni = NICKEL	375
Se = SELENIUM	89.3
Zn = ZINC	2500

Nitrogen Loadings

40 CFR 503.14(c) specifies that biosolids applied to agricultural lands must be applied at a rate equal to or less than the agronomic rate, although specific rates are not listed. Agronomic rates for WPR crops follow the FDEP approved WPR NMP and are used in calculating crop nitrogen demands. For this NMP, the nutrient loading and agronomic uptake calculations also utilize calculation methods presented in the Water Environmental Research Foundation's "Estimation of Plant Available Nitrogen in Biosolids."

Table 9 provides calculated 2013 nitrogen loadings for each field. Crop information and calculated agronomic rates are also provided in this table. Plant available nitrogen from the biosolids was taken as the sum of three sources from speciation: mineralized organic nitrogen, ammonia nitrogen, and nitrate nitrogen. For organic nitrogen, the past three years of biosolids application were taken into consideration due to time released mineralization. The most recent year (2013) was given a weighting of 0.4, the second year (2012) a weighting of 0.15, and the third and earliest year (2011) a weighting of 0.1. Additionally, the ammonia nitrogen was calculated using one of two weightings due to volatilization. For surface applied biosolids, it was assumed that 50% of the ammonia nitrogen was lost due to volatilization, and thus, a weighting of 0.5 was used to find the amount that was plant available. For subsurface or tilled application it was assumed that 100% of the ammonia nitrogen was plant available and none was lost due to volatilization. Finally, the nitrate nitrogen speciation value was added to the plant available organic and ammonia nitrogen to find the total contributions to plant available nitrogen from the biosolids. Additional sources of nitrogen were considered when calculating the plant available nitrogen including ammonium nitrate fertilizer added by the farmer.

For 2013, Table 9 shows the crops planted on each field, the total crop nitrogen demand, and the plant available nitrogen loading. Rye was planted on all six 6 pivots. As per correspondence and concurrence with Jeff Martin/FDEP and Herndon Sims/ FDEP (2009), the crop nitrogen demands for winter grasses can be distributed between reporting periods since the winter grasses have nitrogen uptake over the span of its fall/winter growing season. A similar methodology was used this year for those pivots planted with Rye grasses.

TABLE 9
GRU 2013 NITROGEN LOADING RATES

FIELD	CROP(S)	CROP NITROGEN DEMAND (LB N/AC/YR) ¹	2013 PLANT-AVAILABLE NITROGEN LOADING (LB N/AC) ²
FIELD A-1	Rye, Millet, Rye	490	502
FIELD B	Grass	275	270
FIELD C-2	Corn, Rye	380	368
FIELD D-3	Rye, Corn, Rye	550	463
FIELD E-4	Rye, Corn, Rye	470	458
FIELD F	Grass	200	181
FIELD G-5	Rye, Corn, Peas (for Seed Stock), Rye	550	498
FIELD H-6	Rye, Peas (for Seed Stock), Rye	400	331
FIELD I	Grass	325	299
FIELD Q ²	Grass	200	135

FOOTNOTES:

¹ BASED ON AGRONOMIC RATES AND CROP HARVEST

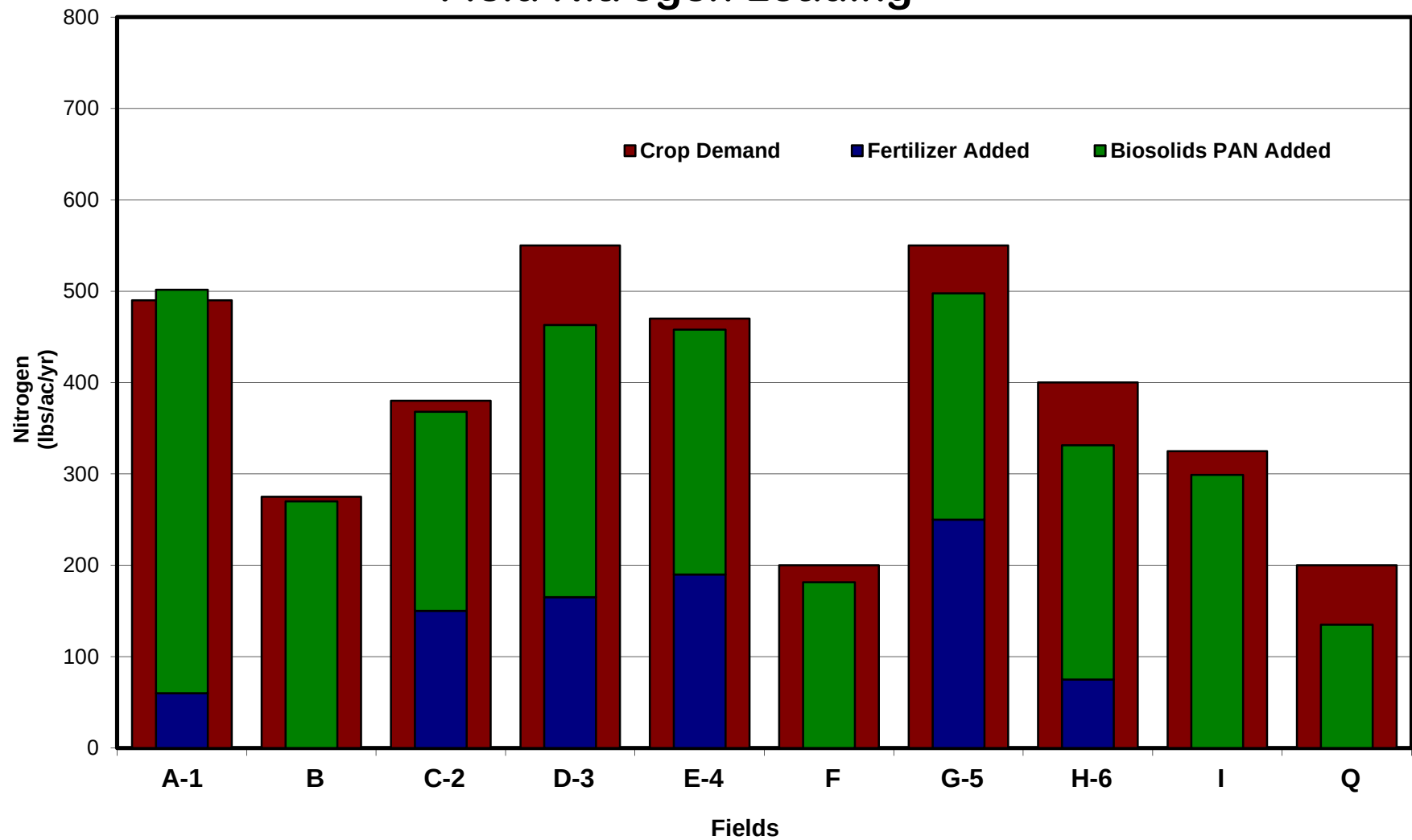
² FIELD Q IS A COMPILATION OF CORNERS FROM VARIOUS FIELDS THAT NOT ARE INCLUDED UNDER THE PIVOTS.

Referring to Figure 4, plant available nitrogen loading rates were less than crop nitrogen demands for all fields with the exception of Field A-1, which was overloaded. A Japanese Millet crop was grown for seed stock, but the seed utilized to grow the crop had a Texas Millet mixed in so was not pure enough (> 99%) to sell for Japanese Millet seed stock. As a result, the crop was not harvested because the seed could not be marketed. As soon as possible, cattle were moved in to graze the remainder of the crop biomass, but only partial crop N demand credit was used. Also, some N uptake credit was taken on some fields for summer growth and grasses that were grazed by cattle, as WPR is a ranch farm with many cattle repeatedly rotated through the fields [as per 62-640.700 (12)(h)], and removing available biomass with each grazing.

Biosolids tracking is managed for Whistling Pines Ranch by the following process: First, biosolids from the two WRFs are hauled to the site and mixed in a storage tank. The proportion of biosolids added from each plant changes on a day to day basis, and each plant's biosolids has different values for nitrogen, solids, and metals content. Additionally, water is added to facilitate unloading the tanker trucks that deliver biosolids to the site. Biosolids are unloaded from the storage tank at various times during the day and transferred to the land application equipment. In the past, attempts have been made to meter the water added at the tankers and recalculate nitrogen, solids, and metals content in the storage tank with each delivery and then match this with times that land application equipment is loaded. Often, there would be difficulties in reconciling tank volumes with biosolids delivery and water addition volumes.

From discussions with Mike Hom/USEPA and Jon Dinges/FDEP (1999), a better method of loadings calculation was decided upon. The total mass of nitrogen and metals in the biosolids delivered to the site is determined on a weekly basis based on the volume, percent nitrogen, percent solids, and metals content of the biosolids delivered from each plant. At the end of the week, the tank volume is zeroed. The nitrogen and metals loadings are then assigned to each field based on the percentage of biosolids that field received during the week. For example, if Field A received 25% of the total amount of biosolids applied with the land application equipment during a week, then Field A would be assigned 25% of the nitrogen and metals mass that was delivered to the site during that week.

Figure 4. 2013 Whistling Pines Ranch Estimated Field Nitrogen Loading



Field pH Summary

Table 10 provides the soil pH at each land application field as required by 62-640.700, F.A.C. All field soil pH values were in compliance, having values above 5.0. Field soil pH samples were collected for all full pivot fields on October 31, 2013. Due to farm staff oversight, the hay fields, Field B, F, I and Q, were taken in January 2014, as soon as it was discovered the hay field data was missing from the October data set.

Table 10
Land Application Field pH
Summary

FIELD NAME	pH¹
FIELD-A	5.8
FIELD-B	6.4
FIELD-C	5.9
FIELD-D	6.2
FIELD-E	6.1
FIELD-F	5.2
FIELD-G	6.2
FIELD-H	6.3
FIELD-I	5.6
FIELD-Q	6.6

FOOTNOTES:

¹ BASED ON FIELD MEASUREMENTS

TAKEN Oct 2013 - with the

Exception of Fields B, F, I, Q - Jan 2014

Summary

Field nitrogen loading, biosolids vector attraction, pathogen reduction, and metals analysis presented in this report, document a successful environmentally responsible 2013 GRU biosolids program. Updates to SOPs have been implemented to address sampling and testing requirements. GRU will continue to work with Mr. Williams in maintaining proper agronomic management of nitrogen loading and the safe, sustainable, beneficial use of biosolids at the Whistling Pines Ranch Farm.

Appendix A

Treatment Facility Biosolids Annual Summary
(FDEP Form 62-640.210(2)(b), F.A.C.)
KWRF and MSWRF

Biosolids Application Site Annual Summary
(FDEP Form 62-640.210(2)(c), F.A.C.)



Florida Department of Environmental Protection

Division of Water Resource Management

Biosolids Application Site Annual Summary

Part I – Application Site Information

SITE NAME:	Roger Williams BAF-Whisting Pines Ranch Farm	SITE ID:	FLA182796-001-DWB
MAILING ADDRESS:	Gainesville Regional Utilities 301 SE 4th Avenue, Station A122 Gainesville, FL 32601	MONITORING PERIOD – From: JAN 1 to DEC 31,	2013
SITE PERMITTEE:	Gainesville Regional Utilities		
SITE MANAGER:	Gainesville Regional Utilities Staff and Whistling Pines Ranch Owner and Staff		
SITE OWNER(S):	Roger Williams		
Total acres approved for land application	1130	acres	
Total acres applied during reporting period	1130	acres	
Total quantity of biosolids applied during reporting period:	3572	dry tons	
Total quantity of Total Nitrogen (TN) applied	607764	lbs	
Total quantity of Total Phosphorus (TP) applied	318580	lbs	

Documentation Checklist

Yes N/A

- ☐ ☒ Attach copies of any revisions made to the Nutrient Management Plan (NMP). [62-640.650(5)(d), F.A.C.]
- ☐ ☒ Attach the results of ground water monitoring, if applicable. [62-640.650(3)(c), F.A.C.]
- ☐ ☒ Attach example calculations for the nutrient and cumulative loadings to an application zones. [62-640.650(5)(d), F.A.C.]
- ☐ ☒ Attach copies of records, as applicable, demonstrating compliance with the demonstration submitted with the NMP for sites located within the Lake Okechobee, St. Lucie River, or Caloosahatchee River watersheds in accordance with subsection 62-640.500(8), F.A.C. [62-640.650(5)(d), F.A.C.]

Comments

Also see GRU 2013 WPR Biosolids Summary Report for qualifications of field loading, NMP N uptake and testing anomalies/exceptions

Certification

I certify:

- ☒ Copies of this report will be sent to the facilities whose biosolids were applied at this biosolids application site;
- ☒ The management and application of biosolids at the site during the reporting period were consistent with the NMP; and
- ☒ Annual soil pH testing has been conducted and the results documented in the site records.

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME OF SITE PERMITTEE OR AUTHORIZED AGENT (Type or Print) Gainesville Regional Utilities - Ronald G. Herget	TELEPHONE NO. (352) 393-1637
SIGNATURE OF SITE PERMITTEE OR AUTHORIZED AGENT 	DATE (YY/MM/DD) 14/02/05

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field A-1	Application Zone Acres	147.96
Crop(s) Grown	Rye, Millet, Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☐ Yes ☒ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	490	N/A	502	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	392	2.7	245	88.5	445	202.8
FL0027251 - MSWRF	120	0.8	90	31.3	163	71.6
TOTALS	512	3.5	334	119.4	6060	273.7

Comments: Millet crop not harvested - seed mix not pure and could not be sold. Cattle grazed millet residual but full N uptake credit not taken - so field overloaded 12 lb N /ac. N uptake credit taken was estimated from grazing of millet residual and summer grasses/growth.
(No revision of NMP -still consistent with general plan)

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field B	Application Zone Acres	114.03
Crop(s) Grown	Grass		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.		Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)		270	N/A	275

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	250	2.2	151	84.8	310	194.4
FL0027251 - MSWRF	96	0.8	52	31.9	107	73.1
TOTALS	346	3.0	203	116.8	418	267.5

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field C-2	Application Zone Acres	140.80
Crop(s) Grown	Corn, Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	368	N/A	380	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	194	1.4	93	53.4	191	122.4
FL0027251 - MSWRF	110	0.8	54	33.8	111	77.5
TOTALS	304	2.2	147	87.3	259	200.0

Comments: Some N uptake credit was taken for summer grass/growth grazing from cycles of cattle rotations on the field (no revision of NMP necessary - still consistent with general plan)

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field D-3	Application Zone Acres	142.13
Crop(s) Grown	Rye, Corn, Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.		Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)		463	N/A	550
				N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	427	3.01	189	122.0	390	279.6
FL0027251 - MSWRF	218	1.54	53	48.5	109	111.2
TOTALS	645	4.5	242	170.6	499	390.8

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field E-4	Application Zone Acres	145.1
Crop(s) Grown	Rye, Corn, Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	458	N/A	470	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	323	2.2	152	93.0	307	213.2
FL0027251 - MSWRF	116	0.8	46	31.1	93	71.2
TOTALS	439	3.0	197	124.1	400	284.4

Comments: Some N uptake credit was taken for summer grass/growth grazing from cycles of cattle rotations on the field (no revision of NMP necessary - still consistent with general plan)

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field F	Application Zone Acres	38.74
Crop(s) Grown	Grass		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	181	N/A	200	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	79	2.1	129	87.5	266	200.6
FL0027251 - MSWRF	40	1.0	24	26.6	49	60.9
TOTALS	120	3.1	153	114.1	314	261.4

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field G-5	Application Zone Acres	142.08
Crop(s) Grown	Rye, Corn, Peas (for Seed), Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	498	N/A	550	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	271	1.9	144	80.5	291	184.3
FL0027251 - MSWRF	113	0.8	53	34.8	106	79.7
TOTALS	385	2.7	198	115.2	397	264

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field H-6	Application Zone Acres	139.6
Crop(s) Grown	Rye, Peas (for Seed), Rye		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	331	N/A	400	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	382	2.74	166	107.1	341	245.5
FL0027251 - MSWRF	166	1.19	50	42.4	103	97.1
TOTALS	548	3.9	216	149.5	445	342.6

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field I	Application Zone Acres	62
Crop(s) Grown	Grass		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	299	N/A	325	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	126	2.0	146	80.4	300	184.3
FL0027251 - MSWRF	36	0.6	53	30.7	109	70.3
TOTALS	162	2.6	199	111.1	409	254.5

Comments:

Part III. Nutrient Management - Application Zone Summary

Complete a separate sheet for each application zone, and use additional sheets for each zone if necessary.

Application Zone ID	Field Q	Application Zone Acres	57
Crop(s) Grown	Grass		
☒ Yes ☐ No	The management, harvesting, and resulting crop yield on this zone was consistent with the NMP.		
☒ Yes ☐ No	The application of all sources of nutrients on this zone has been consistent with the NMP and total nutrient loadings did not exceed the loadings set by the NMP for this zone.		

Allowed Biosolids Nutrient Loading Information for this Zone for the Reporting Period (from the NMP)				
Basis for Application Zone Nutrient Budget (check one) Data from this table includes Field N loading from inorganic fertilizer, biosolids and residual biosolids as per the NMP with loading based on N. See Table 9 from the 2013 BSR and text, and below for more info.	Maximum Allowed Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	Maximum Allowed P₂O₅ from Biosolids (lbs/acre)	Maximum Allowed TN from Biosolids (lbs/acre)	Maximum Allowed TP from Biosolids (lbs/acre)
☒ Nitrogen (N) or ☐ Phosphorus (P)	135	N/A	200	N/A

Summary of Annual Facility Loadings to the Application Zone For the Reporting Period						
Facility ID(s)	Dry Tons of Biosolids Applied	Dry Tons of Biosolids Applied Per Acre	Plant Available Nitrogen (PAN) from Biosolids (lbs/acre)	P ₂ O ₅ from Biosolids (lbs/acre)	TN from Biosolids (lbs/acre)	TP from Biosolids (lbs/acre)
FL0112895 - KWRF	93	1.6	116	70.1	238	160.7
FL0027251 - MSWRF	26	0.5	17	15.9	34	36.4
TOTALS	119	2.1	132	86	273	197

Comments:

Appendix B

Rule 62-640, F.A.C. (Effective August 29, 2010)

CHAPTER 62-640 BIOSOLIDS

62-640.100	Scope, Intent, Purpose, and Applicability
62-640.200	Definitions
62-640.210	General Technical Guidance and Forms
62-640.300	General Requirements
62-640.400	Prohibitions
62-640.500	Nutrient Management Plan (NMP)
62-640.600	Pathogen Reduction and Vector Attraction Reduction
62-640.650	Monitoring, Record Keeping, Reporting, and Notification
62-640.700	Requirements for Land Application of Class AA, A, and B Biosolids
62-640.750	Agricultural Sites (Repealed)
62-640.800	Additional Requirements for Land Application at Reclamation Sites
62-640.850	Distribution and Marketing of – Class AA Biosolids
62-640.860	Other Solids
62-640.880	Additional Requirements Related to Biosolids Treatment Facilities

62-640.100 Scope, Intent, Purpose, and Applicability.

(1) All domestic wastewater treatment facilities which use biological treatment processes generate biosolids as a by-product of the treatment process. The Department finds that unregulated use, disposal, or land application of biosolids poses a threat to the environment and public health.

(a) It is the intent of the Department in this chapter to regulate the management, use, and land application of biosolids so as to ensure protection of the environment and public health.

(b) The Department encourages the highest levels of treatment, quality, and use for biosolids.

(c) The Department further encourages the beneficial use of biosolids in a manner which will foster public acceptance, as well as innovative and alternative uses for biosolids such as bioenergy-related uses.

(2) This chapter establishes minimum requirements for biosolids which are to be applied to land for agricultural purposes, distributed and marketed, or used for land reclamation. Included are biosolids which are composite with yard trash, wood chips, or similar bulking agents and ultimately applied to land or distributed and marketed.

(3) This chapter also establishes minimum requirements for septage which will be treated at facilities permitted by the Department and will be applied to land for agricultural purposes or land reclamation.

(4) The purpose of Chapter 62-640, F.A.C., is to provide minimum requirements for the treatment and management of biosolids and septage applied to land, or distributed and marketed; establish land application criteria; and define requirements for agricultural operations which have received or will receive biosolids or septage.

(5) Applicability.

(a) Requirements in this chapter shall apply to domestic wastewater treatment facilities and biosolids management facilities that generate, treat, or manage biosolids.

(b) Requirements in this chapter shall also apply to applicers or distributors of biosolids or biosolids products, and to owners or operators of application sites which receive biosolids.

(c) Unless specifically provided otherwise in this chapter, requirements in this chapter shall apply to all septage management facilities that treat more than 10,000 gallons per day monthly average daily flow or more than 20,000 gallons in a single day, and that apply septage to agricultural sites or reclamation sites. Requirements in this chapter shall also apply to applicers of septage, and to operators or owners of an agricultural site or reclamation site which receive septage from facilities permitted under this chapter.

(d) Unless specifically provided otherwise in this chapter, requirements in this chapter that apply to biosolids shall also apply to septage from facilities regulated by the Department; to products derived from such septage, biosolids, or combinations thereof; and to the products and treated material from biosolids treatment facilities and septage management facilities regulated by the Department.

(e) Unless specifically provided otherwise in this chapter, requirements in this chapter shall apply to composting facilities, as defined by this chapter, which use yard trash, wood chips, or similar bulking agents, and apply the resulting compost to land or distribute and market the resulting compost.

(f) Facilities which have submitted a complete wastewater permit application or which have received an initial permit before August 29, 2010, are considered to be existing facilities and shall meet the requirements of this chapter in accordance with paragraphs (g) and (h) below.

(g) Unless specifically provided otherwise in this chapter, existing facilities in Florida shall comply with the requirements of this chapter at the time of renewal of the wastewater permit. To facilitate the transition to land application site permits, for those wastewater facility permits renewed between August 29, 2010 and January 1, 2013, the Department shall include compliance schedules to achieve compliance with the land application site permitting requirements included in Rules 62-640.300, 62-640.500, 62-640.650, 62-640.700, F.A.C., by no later than January 1, 2013. Any such renewed permits shall contain conditions for the land application of biosolids based on the provisions of Chapter 62-640, F.A.C., as amended on 3-30-98, hereby adopted and incorporated by reference, during the period of the compliance schedule. A copy of Chapter 62-640, F.A.C., as amended on 3-30-98, is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

(h) Regardless of paragraph (g) above, no later than January 1, 2013, all facilities that land apply biosolids shall use permitted application sites.

(i) After an application site is permitted, management and application of biosolids at the site shall be in accordance with the application site permit, which supersedes the site management and application requirements of any existing facility permits.

(j) Biosolids or biosolids products which are generated outside of Florida but imported to Florida are subject to the provisions of this chapter beginning August 29, 2010.

(k) Requirements in this chapter do not apply to the treatment, management, or disposal of industrial sludges, septage, or residuals resulting from industrial wastewater treatment except as provided for in paragraphs 62-640.100(6)(f) and 62-640.880(2)(c), F.A.C.

(6) Other Applicable Rules.

(a) Septage management facilities that treat 10,000 gallons per day or less on a monthly average daily flow basis and no more than 20,000 gallons in a single day are regulated by the Department of Health in accordance with Chapter 64E-6, F.A.C. Land application of septage treated by these facilities is also regulated by the Department of Health in accordance with Chapter 64E-6, F.A.C.

(b) Disposal of biosolids, septage, and other solids in a solid waste landfill shall be in accordance with Chapter 62-701, F.A.C.

(c) Disposal of biosolids by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site shall be in accordance with Chapter 62-701, F.A.C.

(d) Incineration of biosolids is regulated under Chapters 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C., and the Resource Conservation and Recovery Act.

(e) Co-composting of biosolids with yard trash, wood chips or similar bulking agents shall be in accordance with Chapter 62-640, F.A.C. Co-composting of biosolids with other solid waste materials shall be in accordance with Chapter 62-709, F.A.C.

(f) Biosolids blended or mixed with other wastes shall meet the requirements of this chapter.

(g) Disposal of screenings and grit from the preliminary treatment components of wastewater treatment facilities, solids from sewer line cleaning operations, and solids from lift stations and pump stations shall be in accordance with Chapter 62-701, F.A.C.

(h) Transportation of biosolids is regulated by the Florida Department of Transportation in accordance with Chapter 316, F.S., and 49 Code of Federal Regulations (CFR).

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.100, Amended 3-30-98, 8-29-10.

62-640.200 Definitions.

Terms used in this chapter shall have the meaning specified below. The meaning of any term not defined below may be taken from definitions in other rules of the Department.

(1) "Aerosol" means suspension of ultramicroscopic solid or liquid particles in air.

(2) "Agricultural site" means a biosolids application site consisting of land on which a food crop, a feed crop, or a fiber crop is grown, forest land, or land on which turf or ornamental plants are grown. This includes range land and land used as pasture.

(3) "Application site" means a property (such as a farm, a ranch or a mining property) where biosolids or septage are applied to

land. Application sites are identified as either agricultural sites or reclamation sites.

(4) "Application zone" means a parcel of land (e.g., a field) within an application site to which biosolids are applied.

(5) "Average daily flow (ADF)" means the total volume of wastewater flowing into a wastewater facility during some defined period of time, divided by the number of days in that period of time, expressed in units of million gallons per day (mgd).

(6) "Biosolids" means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as "domestic wastewater residuals" or "residuals." Not included is the treated effluent or reclaimed water from a domestic wastewater treatment plant. Also not included are solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, other solids as defined in subsection 62-640.200(31), F.A.C., and ash generated during the incineration of biosolids. Biosolids include products and treated material from biosolids treatment facilities and septage management facilities regulated by the Department.

(7) "Biosolids management facility" means a biosolids treatment facility, a septage management facility regulated by the Department, or an application site.

(8) "Biosolids treatment facility" means a facility that treats biosolids from other facilities for the purpose of meeting the requirements of this chapter, before use or land application. Biosolids treatment facilities can also treat domestic septage and combinations of biosolids, domestic septage, food establishment sludges, wastes removed from portable toilets, and wastes removed from holding tanks associated with boats, marinas, and onsite sewage treatment and disposal systems, before use or land application.

(9) "Class A biosolids" means biosolids that meet the Class A pathogen reduction requirements of paragraph 62-640.600(1)(a), F.A.C., the vector attraction reduction requirements of paragraph 62-640.600(2)(a), F.A.C., and the parameter concentrations of paragraph 62-640.700(5)(a), F.A.C.

(10) "Class AA biosolids" means biosolids that meet the Class AA pathogen reduction requirements of paragraph 62-640.600(1)(a), F.A.C., the vector attraction reduction requirements of paragraph 62-640.600(2)(b), F.A.C., and the parameter concentrations of paragraphs 62-640.700(5)(a) and (b), F.A.C.

(11) "Class B biosolids" means biosolids that meet the Class B pathogen reduction requirements of paragraph 62-640.600(1)(b), F.A.C., the vector attraction reduction requirements of paragraph 62-640.600(2)(a), F.A.C., and the parameter concentrations of paragraph 62-640.700(5)(a), F.A.C.

(12) "Composting facility" means a facility, as defined in subsection 62-640.200(20), F.A.C., that uses composting technology for treatment of biosolids. Processing can include physical turning, windrowing, aeration, or other mechanical handling of biosolids.

(13) "Delegated local program" means any county, municipality, or combination thereof that has established and administers a pollution control program approved by the Department in compliance with Section 403.182, F.S.

(14) "Department" means the Florida Department of Environmental Protection.

(15) "Design capacity" shall be as defined in Chapter 62-600, F.A.C. The design capacity for biosolids treatment facilities shall be expressed in units of dry tons per day.

(16) "Distribution and Marketing" is the giveaway or sale of biosolids meeting the criteria of Rule 62-640.850, F.A.C., or a product derived from such biosolids, either packaged or in bulk form, by owners or operators of treatment works or by a person who receives biosolids or biosolids products from treatment works.

(17) "Dry weight basis" means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100 percent solids content).

(18) "Existing application site" means a site approved for land application or land reclamation in a wastewater facility permit active on August 29, 2010 or included in a complete permit application submitted before August 29, 2010.

(19) "Facility" means a domestic wastewater treatment facility, a biosolids management facility, or a septage management facility.

(20) "Feed crops" means crops produced primarily for consumption by animals.

(21) "Fertilizer" means a material regulated as a fertilizer under Chapter 576, F.S., and Chapter 5E-1, F.A.C.

(22) "Fiber crops" mean crops such as flax and cotton which are produced primarily for the manufacture of products and are not consumed by humans or animals.

(23) "Food crops" means crops consumed by humans.

(24) "Food establishment sludge" means oils, fats, greases, food scraps, and other grease interceptor contents generated by a food operation or institutional food preparation facility.

(25) “Incorporation” means the mixing of biosolids with topsoil by such means as discing, plowing, tilling, or equivalent means to reduce exposure to the biosolids.

(26) “Industrial sludges” means all sludges that are primarily composed of materials generated through an industrial process or from an industrial wastewater activity.

(27) “Injection” means the subsurface placement of liquid biosolids to reduce exposure to the biosolids.

(28) “Liquid biosolids” means any biosolids that are less than 12% solids by weight, or that are determined to contain free liquids as defined by Method 9095B (Paint Filter Liquids Test), November 2004, as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods” (EPA Pub. No. SW-846), January 3, 2008, 73 FR 486, which is hereby adopted and incorporated by reference and is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department’s District Offices.

(29) “Nutrient Management Plan” (NMP) means a site-specific plan, developed in accordance with Rule 62-640.500, F.A.C., establishing the rate at which all biosolids, soil amendments, and sources of nutrients can be applied to the land for crop production while minimizing the amount of pollutants and nutrients discharged to waters of the state.

(30) “Other solids” means material, primarily sand and inorganic matter, removed from domestic wastewater treatment processes during primary and secondary treatment. Not included are solids removed from pump stations and lift stations, solids from sewer line cleaning operations, and screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities.

(31) “Pathogens” or “pathogenic organisms” means disease-causing organisms. These include certain bacteria, protozoa, viruses, and viable helminth ova and any other organisms that cause disease.

(32) “Permitted capacity” shall be as defined in Chapter 62-600, F.A.C. The permitted capacity for biosolids treatment facilities shall be expressed in units of dry tons per day.

(33) “Person” is as defined in Section 403.031, F.S.

(34) “pH” means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25 degrees Centigrade (i.e. Celsius) or measured at another temperature and then converted to an equivalent value at 25 degrees Centigrade.

(35) “pH of biosolids-soil mixture” means the pH value obtained by taking a core sample of soil to at least the depth of six inches or to the depth of biosolids placement if deeper than six inches.

(36) “Private drinking water supply well” means a well serving a private or multifamily water system as defined in Rule 62-532.200, F.A.C.

(37) “Public drinking water supply well” means a well serving a public water system as defined in Rule 62-550.200, F.A.C.

(38) “Reclaimed water” shall be as defined in Chapter 62-610, F.A.C.

(39) “Reclamation site” means a biosolids application site consisting of drastically disturbed land that is reclaimed using biosolids, such as strip mines and construction sites.

(40) “Restricted public access” means that access to a land application site by the general public is both controlled and infrequent. Restricted public access application sites are accessible to persons authorized by the site owner, site manager, or facility permittee, such as farm personnel, wastewater facility operators, and biosolids or septage haulers provided the authorized persons are informed by the site owner, site manager, or facility permittee regarding the nature of the application site. For informational purposes, the NIOSH manual *Guidance for Controlling Potential Risks to Workers Exposed to Class B Biosolids*, paragraph 62-640.210(1)(j), F.A.C., provides guidance regarding potential risks.

(41) “Septage” means a mixture of sludge, fatty materials, human feces, and wastewater removed during pumping of an onsite sewage treatment and disposal system. Excluded from this definition are the contents of portable toilets, holding tanks, and grease interceptors.

(42) “Septage management facility” means a stationary facility that treats only domestic septage or combinations of domestic septage, food establishment sludges, wastes removed from portable toilets, and wastes removed from holding tanks associated with boats, marinas, and onsite sewage treatment and disposal systems, before use or land application. Septage management facilities that are regulated by the Department are as described in paragraph 62-640.100(5)(c), F.A.C.

(43) “Site manager” means the person who operates or manages the application site to ensure biosolids are applied in accordance with the requirements of this chapter.

(44) “Source facility” means a facility that sends biosolids to a biosolids treatment facility for treatment before use or land application.

- (45) “Ton” means a short ton (2,000 pounds or 0.90718 metric ton).
- (46) “Toxic substances” means either of the following:
- (a) Hazardous wastes as defined in Chapter 62-730, F.A.C.
 - (b) A substance which is present in sufficient concentration to pose a serious danger to the public health, safety, or welfare.
- (47) “Treatment” means the process of altering the character or physical or chemical condition of waste to prevent pollution of water, air, or soil, to safeguard the public health, or enable the waste to be beneficially used. Treatment includes blending, dewatering, and any process that alters the quality or quantity of the material for the purpose of meeting the requirements of this chapter. Treatment does not include storage of biosolids.
- (48) “Vector attraction” means the characteristic of biosolids that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.
- (49) “Water table” means the upper surface of the zone of saturation where groundwater pressures are equal to atmospheric pressure, except where that surface is formed by an impermeable stratum.
- (50) “Waters” means those waters defined in Section 403.031, F.S.
- (51) “Yard trash” means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees, and tree stumps.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.200, Amended 3-30-98, 8-29-10.

62-640.210 General Technical Guidance and Forms.

(1) Unless specifically referenced elsewhere in this chapter, the following publications are listed for informational purposes as technical guidance to assist facilities, applicators, distributors and marketers, site managers, and site owners in meeting the requirements of this chapter. Publications or portions of publications containing enforceable criteria are specifically referenced elsewhere in this chapter. Information in the publications listed below does not supersede the specific requirements of this chapter. Members of the public may request and obtain copies of the publications listed below by contacting the appropriate publisher at the address indicated. Copies of the publications are on file and available for review during normal business hours at the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and in the Department’s district and branch offices.

(a) U.S. Environmental Protection Agency, 1995, *Process Design Manual for Land Application of Sewage Sludge and Domestic Septage*, EPA Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(b) Title 40, Code of Federal Regulations, Protection of Environment, 1993, Part 503, “Standards for the Use and Disposal of Sewage Sludge,” revised as of April 9, 2007 and effective on April 25, 2007, www.gpoaccess.gov/cfr/index.html.

(c) U.S. Environmental Protection Agency, 1989, *POTW Sludge Sampling and Analysis Guidance Document*, EPA Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(d) U.S. Environmental Protection Agency, *Process Design Manual for Sludge Treatment and Disposal*, 1979, Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(e) *Recommended Standards for Wastewater Facilities*, 2004, Health Education Service, Inc., P. O. Box 7126, Albany, New York 12224, www.hes.org.

(f) U. S. Environmental Protection Agency, *Handbook, Septage Treatment and Disposal*, 1984, Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(g) U. S. Environmental Protection Agency, *Control of Pathogens and Vector Attraction in Sewage Sludge*, 2003, Center for Environmental Research Information, Cincinnati, Ohio 45268, www.epa.gov.

(h) U. S. Environmental Protection Agency, 1974, *Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability-MCD-05*. Environmental Quality Instructional Resources Center, The Ohio State University, 1200 Chambers Road, Room 310, Columbus, Ohio 43212, www.epa.gov.

(i) U.S. Environmental Protection Agency, 1994, *A Plain English Guide to the Part 503 Biosolids Regulations*, EPA Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(j) National Institute for Occupational Safety and Health, 2002, *Guidance for Controlling Potential Risks to Workers Exposed to Class B Biosolids*, NIOSH-Publications Dissemination, 4676 Columbia Parkway, Cincinnati, Ohio 45226-1998, www.cdc.gov/niosh/homepage.html.

(k) U.S. Environmental Protection Agency, 2000, *Guide to Field Storage of Biosolids*, EPA Center for Environmental Research Information, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, www.epa.gov.

(l) USDA Natural Resources Conservation Service, 1999, "General Manual, Title 190, Part 402 – Nutrient Management", USDA-NRCS, Washington, DC, www.nrcs.usda.gov/technical.

(m) USDA Natural Resources Conservation Service – Florida, 2007, "Field Office Technical Guide – Nutrient Management, Code 590", USDA-NRCS-FL, Gainesville, Florida, www.fl.nrcs.usda.gov/technical.

(n) USDA Natural Resources Conservation Service – Florida, 2004, "Field Office Technical Guide – Waste Utilization, Code 633", USDA-NRCS-FL, Gainesville, Florida, www.fl.nrcs.usda.gov/technical.

(o) Kidder, G. and R.D. Rhue, 2003, "Soil Testing", UF/IFAS Circular 239, <http://edis.ifas.ufl.edu/SS156>.

(p) Mylavarapu, R.S. and E.D. Kennelley, 2009, "Extension Soil Testing Laboratory (ESTL) Analytical Procedure and Training Manual", UF/IFAS Circular 1248, <http://edis.ifas.ufl.edu/SS312>.

(2) Forms. The forms and instructions used by the Department are listed in this rule. The rule numbers are the same as the form numbers. Copies of these forms and instructions may be obtained by writing to the Bureau of Wastewater Facilities, M.S. 3535, Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. In addition, these forms are available at the Department's District Offices and from the web site for the Department's Division of Water Resource Management at www.dep.state.fl.us/water. The monitoring information reported on the forms listed below may be submitted in another format, such as electronic, if requested by the permittee and if approved by the Department as being compatible with data entry into the Department's computer system. The Department adopts and incorporates by reference in this section the following forms and instructions:

(a) Treatment Facility Biosolids Plan, Form 62-640.210(2)(a), effective August 29, 2010.

(b) Treatment Facility Biosolids Annual Summary, Form 62-640.210(2)(b), effective August 29, 2010.

(c) Biosolids Application Site Annual Summary, Form 62-640.210(2)(c), effective August 29, 2010.

(d) Biosolids Site Permit Application, Form 62-640.210(2)(d), effective August 29, 2010.

(e) Biosolids Application Site Log, Form 62-640.210(2)(e), effective August 29, 2010.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.210, Amended 3-30-98, 8-29-10.

62-640.300 General Requirements.

(1) Facilities that receive or generate biosolids shall have a valid Department permit prior to treatment, land application, distribution and marketing, or disposal of biosolids. Facility permits shall specify the use or disposal of the facility's biosolids. Biosolids shall be managed in accordance with the facility permit and the requirements of this chapter.

(2) Treatment Facility Permit for Facilities that Land Apply Biosolids.

(a) The permit for a facility that provides final treatment of land applied biosolids shall identify each permitted biosolids application site where the facility's biosolids are to be land applied.

(b) The Treatment Facility Biosolids Plan, Form 62-640.210(2)(a), effective August 29, 2010, hereby adopted and incorporated by reference, shall be submitted with the permit application to identify sites where the facility's biosolids are permitted to be land applied. This form is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

(c) To use an alternate permitted application site not identified on the submitted Treatment Facility Biosolids Plan, Form 62-640.210(2)(a), the treatment facility shall notify the Department before beginning biosolids application at the application site and submit the applicable revised portions of the Treatment Facility Biosolids Plan, Form 62-640.210(2)(a), to the Department within 30 days. The revised portion of the Treatment Facility Biosolids Plan, Form 62-640.210(2)(a), shall become part of the treatment facility permit.

(3) Biosolids Application Site Permit.

(a) All biosolids application sites shall have a valid Department permit as a biosolids management facility. Alternatively, when an application site is used solely by a single facility, the applicant can choose to have the site permitted through the Department permit for the wastewater treatment facility, a biosolids treatment facility, or a septage management facility.

1. An individually permitted biosolids application site shall be permitted as a biosolids management facility in accordance with the applicable requirements of this chapter and Chapters 62-600 and 62-620, F.A.C. An individual biosolids application site permit shall cover only one site and shall not include multiple biosolids application sites.

2. The applicant of a wastewater treatment facility, biosolids treatment facility, or septage management facility permit can choose to include one or more biosolids land application sites used solely by the facility.

(b) A biosolids application site shall be permitted under one permit.

(c) Applicants for a permitted biosolids application site shall submit the Biosolids Site Permit Application, Form 62-640.210(2)(d), effective August 29, 2010, hereby adopted and incorporated by reference, the applicable fee, and supporting documentation to the appropriate District Office of the Department or delegated local program responsible for the geographic area in which the application site is located. This form is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

1. If permitted individually, the fee shall be the Type III biosolids management facility fee specified in sub-subparagraph 62-4.050(4)(b)2.c., F.A.C.

2. If permitted in a wastewater treatment facility, biosolids treatment facility, or septage management facility permit, the Biosolids Site Permit Application, Form 62-640.210(2)(d), shall be submitted with the facility's application for a new permit, permit renewal, or substantial modification to the permit. No additional fee will be charged beyond the fee required for the facility's application for a new permit, permit renewal, or substantial modification to the permit.

(d) The following shall require a minor permit modification through the procedures provided in subsection 62-620.325(2), F.A.C.:

1. Expansions or changes to the physical boundaries of the application areas of a permitted application site that encompass areas not addressed in the site permit and NMP; or

2. Changes to the agricultural operations at the application site, such as a change in crops or management practices, that will result in increased nutrient loading or application rates not addressed in the NMP. A revised NMP shall be submitted with the minor permit revision application.

(e) New application sites shall be permitted prior to use. Existing application sites shall be permitted prior to applying biosolids from facilities required to use a permitted site in accordance with subsection 62-640.300(2), F.A.C. All existing application sites shall be permitted no later than January 1, 2013.

(4) Biosolids Storage.

(a) The treatment facility permittee shall submit a biosolids storage plan with the facility permit application. The plan shall demonstrate that storage capacity is available to provide retention of biosolids under adverse weather conditions, harvesting conditions, or other conditions which preclude land application or the use or disposal of the facility's biosolids. The demonstration of storage capacity provided by the permittee can take into account alternative options and operational flexibility, such as the use of excess digester capacity.

(b) Biosolids storage facilities at the treatment facility shall be designed in accordance with sound engineering practice. General technical guidance is provided in the EPA document *Process Design Manual for Sludge Treatment and Disposal*, paragraph 62-640.210(1)(d), F.A.C.; the Health Education Service document *Recommended Standards for Wastewater Facilities*, paragraph 62-640.210(1)(e), F.A.C., and the EPA document *Guide to Field Storage of Biosolids*, paragraph 62-640.210(1)(k), F.A.C.

(c) Biosolids storage at the land application site shall be in accordance with paragraph 62-640.700(6)(e), F.A.C.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.300, Amended 3-30-98, 8-29-10.

62-640.400 Prohibitions.

(1) Ocean disposal of biosolids, or disposal of biosolids in any water, including direct discharge to ground water, is prohibited.

(2) Land application of biosolids shall not result in a violation of Florida surface water quality standards pursuant to Chapter 62-302, F.A.C., or ground water standards pursuant to Chapter 62-520, F.A.C.

- (3) Biosolids which are hazardous waste under Chapter 62-730, F.A.C., shall not be applied to land.
- (4) Biosolids shall not be discharged into a collection or transmission system without prior consent of the owner of that system.
- (5) Biosolids shall not be disposed, applied to land, or distributed and marketed except in accordance with the provisions of this chapter.
- (6) The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C.
- (7) Treatment of liquid biosolids or septage for the purpose of meeting the pathogen reduction or vector attraction reduction requirements set forth in Rule 62-640.600, F.A.C., shall not be conducted in the tank of a hauling vehicle. Treatment of biosolids or septage for the purpose of meeting pathogen reduction or vector attraction reduction requirements shall take place at the permitted facility.
- (8) Biosolids that do not meet the requirements of Rule 62-640.850, F.A.C., for distribution and marketing shall not be shipped into Florida unless shipped to a Department permitted biosolids treatment facility or domestic wastewater facility that has legally agreed in writing to accept responsibility for proper treatment, management, use and land application of the biosolids.
- (9) Class A or Class B biosolids shall not be spilled from or tracked off the treatment facility site or land application site by the hauling vehicle.
- (10) Land application of Class A and Class B biosolids is prohibited within the primary and secondary protection zones of the Wekiva Study Area in accordance with Rule 62-600.550, F.A.C. Application of Class AA biosolids that are distributed and marketed in accordance with Rule 62-640.850, F.A.C., is permissible.
- (11) The land application of biosolids will not be authorized in the Lake Okeechobee watershed as defined in Section 373.4595(2)(j), F.S., unless the applicant for a site permit affirmatively demonstrates that the phosphorus in the biosolids will not add to phosphorus loadings in Lake Okeechobee or its tributaries. This demonstration shall be based on achieving a net balance between phosphorus imports relative to exports on the permitted application site. Exports shall include only phosphorus removed from the Lake Okeechobee watershed through products generated on the permitted application site. This demonstration shall be submitted with the NMP for the site. No biosolids shall be applied to a site in the Lake Okeechobee watershed after December 31, 2012, unless the demonstration has been made. This prohibition does not apply to Class AA biosolids that are marketed and distributed as fertilizer products in accordance with Rule 62-640.850, F.A.C.
- (12) The land application of biosolids will not be authorized in the Caloosahatchee River and St. Lucie River watersheds as defined in Sections 373.4595(2)(b) and (p), F.S., unless the applicant for a site permit affirmatively demonstrates that the nitrogen and phosphorus in the biosolids will not add to nitrogen and phosphorus loadings in the watershed. This demonstration shall be based on achieving a net balance between nutrient imports relative to exports on the permitted application site. Exports shall include only nutrients removed from the St. Lucie River or Caloosahatchee River watersheds, as applicable, through products generated on the permitted application site. This demonstration shall be submitted with the NMP for the site. No biosolids shall be applied to a site in the Caloosahatchee River or St. Lucie River watersheds after December 31, 2012, unless the demonstration has been made. This prohibition does not apply to Class AA biosolids that are marketed and distributed as fertilizer products in accordance with Rule 62-640.850, F.A.C.
- (13) No person shall have more than one dry ton of unapplied Class AA biosolids or biosolids products distributed and marketed under Rule 62-640.850, F.A.C., on their property for more than seven days unless stored to prevent runoff of biosolids or stormwater that has been in contact with biosolids, violation of the odor prohibition in subsection 62-296.320(2), F.A.C., and vector attraction.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.400, Amended 3-30-98, 8-29-10.

62-640.500 Nutrient Management Plan (NMP).

- (1) A site-specific NMP shall be submitted to the Department with the permit application for an agricultural site. For sites enrolled and participating in a Florida Department of Agriculture and Consumer Services (FDACS) Best Management Practices (BMP) program, a conservation plan or NMP prepared for the purposes of the BMP can be submitted as the site-specific NMP if the plan meets the NMP requirements given in subsections (4) through (8) below.

(2) USDA-NRCS-Florida Field Office Technical Guide – Nutrient Management, Code 590, September 2007, listed in paragraph 62-640.210(1)(m), F.A.C., is available to provide technical guidance in the preparation of NMPs from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

(3) The NMP shall be prepared and signed by a person certified by the NRCS for nutrient management planning or prepared, signed and sealed by a professional engineer licensed in the State of Florida.

(4) The NMP shall identify each application zone to be used at the site as identified in the Biosolids Site Permit Application, Form 62-640.210(2)(d). Application zones shall be sized to facilitate accurate accounting of nutrient and pollutant loadings and shall be in accordance with Rule 62-640.700, F.A.C., as applicable for the class(es) of biosolids that will be applied to the site.

(5) The NMP shall meet the requirements of this chapter and shall:

(a) Include aerial site photograph(s) or map(s), and a soil survey map of the site;

(b) Include guidance for NMP implementation, site operation, maintenance, and recordkeeping;

(c) Include results of soil, water, plant tissue, and biosolids analyses, as applicable. The soil fertility testing used to develop the NMP shall be less than one year old;

(d) Identify the frequency interval for soil fertility testing. The interval shall be at least once every five years with consideration for more frequent testing if increases in soil phosphorus levels are expected;

(e) Establish specific rates of application and procedures to land apply biosolids and all other nutrient sources to each application zone. The NMP shall address application rates for a projected five-year period, at a minimum. As part of establishing the application rates, the NMP shall include:

1. A specific assessment of the potential for phosphorus movement from each application zone;

2. A listing and quantification of all nutrient sources for each application zone;

3. The availability of the nitrogen in the biosolids being applied, any nitrogen available from biosolids applications in previous years, and any nitrogen available in subsequent years covering the minimum five year period of the NMP;

4. The current and planned plant production sequence or crop rotation for each application zone for the next five years, at a minimum;

5. Realistic annual yield goals for each crop identified for each application zone;

6. The recommended nitrogen and phosphorus application rates (i.e. nutrient demand) for the crops to be grown on each application zone;

7. The calcium carbonate equivalency of any alkaline-treated biosolids and recommended lime application rates for each application zone;

8. The method of land application for each application zone; and

9. The methodology and calculations used to determine the application rates for each application zone.

(6) When considering the availability of nitrogen in biosolids, the following shall be accepted by the Department:

(a) The nitrogen calculation methods found in Chapter 7 of the U.S. Environmental Protection Agency *Process Design Manual for Land Application of Sewage Sludge and Domestic Septage*, which is hereby adopted and incorporated by reference. All calculations and values used in the calculations shall be fully documented and submitted with the NMP. These values shall include a complete nitrogen analysis (i.e. organic nitrogen (Org-N), ammonium (NH₄-N), and nitrate (NO₃-N)) for all facilities that will use the site; or

(b) In lieu of using the full calculation method for nitrogen in Chapter 7 of the U.S. Environmental Protection Agency *Process Design Manual for Land Application of Sewage Sludge and Domestic Septage*, once the amount of plant available nitrogen to be supplied by biosolids has been determined (i.e. the crop nitrogen demand has been adjusted to take other sources of nitrogen into account), this amount may be multiplied by a factor of 1.5 (i.e. a 50 percent increase) to determine the amount of total nitrogen that may be supplied by biosolids.

(7) For application sites located in geographic areas that have been identified by statute or rule of the Department as being subject to restrictions on phosphorus loadings (such as the Everglades Protection Area as set forth in Section 373.4592, F.S., the Lake Okeechobee watershed as set forth in Section 373.4595, F.S., Lake Apopka as set forth in Section 373.461, F.S., and the Green Swamp Area as set forth in Section 380.0551, F.S.), the NMP shall:

(a) Base application rates on the phosphorus needs of the crop; and

(b) Address measures that will be used to minimize or prevent water quality impacts that could result from biosolids application areas to surface waters.

(8) The NMP for a proposed site located within the Lake Okeechobee, St. Lucie River, or Caloosahatchee River watersheds, shall also include the demonstration required by subsections 62-640.400(11) and (12), F.A.C., as applicable. Any permit issued based on such a demonstration shall require monitoring and record keeping to ensure that the demonstration continues to be valid for the duration of the permit. Documentation of compliance with the demonstration shall be submitted as part of the site annual summary submitted under paragraph 62-640.650(5)(d), F.A.C.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.500, Amended 3-30-98, 8-29-10.

62-640.600 Pathogen Reduction and Vector Attraction Reduction.

All biosolids applied to the land or distributed and marketed shall be treated with a treatment process designed to reduce pathogens and achieve vector attraction reduction in accordance with the requirements of this section. The Department hereby adopts and incorporates by reference the pathogen and vector attraction reduction requirements of 40 CFR 503.32 and 503.33, revised as of April 9, 2007, and effective on April 25, 2007, except for the site restrictions in 40 CFR 503.32(b)(5), the septage requirements in 40 CFR 503.32(c), and the vector attraction reduction requirements in 40 CFR 503.33(b)(11) and 503.33(b)(12).

(1) Pathogen Reduction Requirements.

(a) Class AA and Class A Biosolids. Class AA and Class A biosolids shall meet one of the pathogen reduction requirements described in 40 CFR 503.32(a)(3), (4), (5), (7), and (8). For treatment processes permitted under 40 CFR 503.32(a)(5), a permittee shall not implement the provisions of 40 CFR 503.32(a)(5)(ii)(D) and 503.32(a)(5)(iii)(D) until:

1. The permittee demonstrates to the Department, based on monitoring data from the facility, that the documented pathogen treatment process operating parameters reduce enteric viruses and viable helminth ova to levels below the limits specified in 40 CFR 503.32(a)(5); and

2. The permit is revised to specifically allow the permittee to implement 40 CFR 503.32(a)(5)(ii)(D) and 503.32(a)(5)(iii)(D).

(b) Class B Biosolids. Class B Biosolids shall meet one of the pathogen reduction requirements described in 40 CFR 503.32(b).

(c) Septage management facilities that are regulated by the Department, and that do not treat any amount of biosolids, shall satisfy Class B pathogen reduction requirements if sufficient lime is added to produce a pH of 12 for a minimum of two hours, or a pH of 12.5 for a minimum of 30 minutes. Processes and design shall be in accordance with the guidance for lime stabilization of septage in Chapter 6, Process Design Manual for Sludge Treatment and Disposal, which the Department adopts and incorporates by reference. The pH shall be maintained at or above 11 until land application, but shall be less than 12.5 at the time of land application. Materials treated in accordance with this provision shall be managed as Class B biosolids.

(2) Vector Attraction Reduction Requirements.

(a) All Class A and Class B biosolids shall meet one of the vector attraction reduction requirements in 40 CFR 503.33(b)(1) through (10).

(b) Class AA biosolids shall meet one of the vector attraction reduction requirements in 40 CFR 503.33(b)(1) through (8).

(c) Septage management facilities that are regulated by the Department, and that do not treat any amount of biosolids satisfy vector attraction reduction requirements if the Class B pathogen reduction requirements of paragraph 62-640.600(1)(c), F.A.C. are met.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.600, Amended 3-30-98, 8-29-10.

62-640.650 Monitoring, Record Keeping, Reporting, and Notification.

(1) The minimum requirements in this chapter for monitoring, record keeping, or reporting by a permittee shall be increased or reduced by the Department considering any of the following site-specific requirements: the quality or quantity of wastewater or biosolids treated; historical variations in biosolids characteristics; industrial wastewater or sludge contributions to the facility; the use, land application, or disposal of the biosolids; the water quality of surface and ground water and the hydrogeology of the area; wastewater or biosolids treatment processes; and the compliance history of the facility or application site.

(2) An increase or reduction in a permittee’s monitoring or reporting requirements will require a minor permit revision under Rule 62-620.325, F.A.C. Revisions to decrease permit requirements for monitoring or reporting shall be subject to the public notice requirements of subsection 62-620.325(2), F.A.C.

(3) Monitoring Requirements.

(a) Biosolids Monitoring.

1. Biosolids sampling and analysis to monitor for the pathogen and vector attraction reduction requirements of Rule 62-640.600, F.A.C., and the parameters in subparagraph 62-640.650(3)(a)3., F.A.C., shall be conducted by the treatment facility in accordance with 40 CFR 503.8, and the *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, which the Department adopts and incorporates by reference. This document is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department’s District Offices. In cases where disagreements exist between 40 CFR 503.8 and the *POTW Sludge Sampling and Analysis Guidance Document*, the requirements in 40 CFR 503.8 will apply.

2. Permit applications for all treatment facilities that land apply or distribute and market biosolids shall identify the monitoring that will be conducted for all microbial and all operational and process parameters necessary to demonstrate compliance with the pathogen reduction and vector attraction reduction requirements of Rule 62-640.600, F.A.C. All operational and process parameters, such as time and temperature, number of windrow turnings, pH readings, etc., shall be monitored on a continual basis as applicable to the treatment process to demonstrate compliance with Rule 62-640.600, F.A.C.

3. All treatment facilities that land apply or distribute and market biosolids shall analyze biosolids for the following parameters, except as provided in paragraph 62-640.880(5)(a), F.A.C.:

Total Nitrogen	% dry weight basis
Total Phosphorus	% dry weight basis
Total Potassium	% dry weight basis
Arsenic	mg/kg dry weight basis
Cadmium	mg/kg dry weight basis
Copper	mg/kg dry weight basis
Lead	mg/kg dry weight basis
Mercury	mg/kg dry weight basis
Molybdenum	mg/kg dry weight basis
Nickel	mg/kg dry weight basis
Selenium	mg/kg dry weight basis
Zinc	mg/kg dry weight basis
pH	standard units
Total Solids	%
Calcium Carbonate Equivalent*	% dry weight basis

* Only required for biosolids treated by alkaline addition

4. Treatment facilities that land apply or distribute and market biosolids shall monitor microbial parameters and the parameters listed in subparagraph 62-540.650(3)(a)3., F.A.C., as follows:

a. For biosolids that are distributed and marketed under the provisions of Rule 62-640.850, F.A.C., the minimum frequency of monitoring shall be once per month.

b. For biosolids treatment facilities that land apply biosolids, the minimum frequency of monitoring shall be in accordance with sub-subparagraph 62-640.650(3)(a)4.c., F.A.C, but at least quarterly.

c. For all other biosolids that are land applied, the minimum frequency of monitoring shall be in accordance with the following table:

BIOSOLIDS GENERATED (DRY TONS PER YEAR)	MONITORING FREQUENCY
Greater than zero but less than 160.	Once per year.
Equal to or greater than	Once per quarter.

160 but less than 800.	
Equal to or greater than 800 but less than 8000.	Once per 60 days.
Equal to or greater than 8000.	Once per month.

5. Sampling locations, sampling frequency, and monitoring parameters shall be specified in the treatment facility's permit. All biosolids samples shall be representative of the biosolids used, land applied, or distributed and marketed, and shall be taken after final treatment of the biosolids but before use, land application, or distribution and marketing. If Class AA biosolids are to be stored by the treatment facility permittee for more than 45 days, then the permittee shall address the need to re-sample for fecal coliform or *salmonella sp.* in the facility biosolids storage plan submitted with the permit application.

6. Grab samples shall be used to monitor pathogens and determine percent volatile solids. Composite samples shall be used to monitor metals and nutrients.

7. Monthly averages of parameter concentrations shall be determined by taking the arithmetic mean of all sample results for the month.

(b) Soil Monitoring.

1. The site permittee shall ensure soil fertility testing is conducted in accordance with the NMP. Soil testing shall follow the procedures in the IFAS publications "Soil Testing", UF/IFAS Circular 239, September 2003, identified in paragraph 62-640.210(1)(o), F.A.C., and "Extension Soil Testing Laboratory (ESTL) Analytical Procedure and Training Manual", UF/IFAS Circular 1248, February 2009, identified in paragraph 62-640.210(1)(p), F.A.C., which are hereby incorporated by reference. These documents are available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices. Results of soil fertility tests shall be included in the application site records.

2. Representative soil monitoring for parameters in subsection 62-640.700(5), F.A.C., shall be conducted at application sites for each application zone prior to application site permitting, except for sites only permitted for Class AA biosolids. At a minimum, one soil sample shall be taken for each application zone or for every 50 acres of application area, whichever is smaller. Each sample shall be a composite of at least ten random samples to a depth of six inches and shall be completely mixed to form a minimum one-pound sample. Sampling and analysis shall be in accordance with 40 CFR 503.8(4), which is hereby incorporated by reference. Results of initial soil monitoring shall be reported on the Biosolids Site Permit Application, Form 62-640.210(2)(d).

(c) Ground Water Monitoring.

1. A ground water monitoring program shall be established by the site permittee, and approved by the Department for land application sites when the application rate in the NMP exceeds more than 400 lbs/acre/year of plant available nitrogen.

2. The ground water monitoring program shall be established in accordance with Rule 62-520.600, F.A.C., and submitted with the site permit application.

3. When a ground water monitoring program is required for a biosolids application site with multiple application zones, one or more of the zones shall be selected by the site permittee and approved by the Department as the model zone(s) for monitoring of the ground water. The model zone(s) shall be representative of each zone's hydrogeological characteristics, soil characteristics, vegetative cover, biosolids application method, and the characteristics of the biosolids to be applied.

4. A characterization of ground water quality shall be conducted for nitrate (as N), total nitrogen, total phosphorus, pH, fecal coliform, the metals listed in paragraph 62-640.650(3)(a), F.A.C. For new sites, this characterization shall be conducted prior to the application of biosolids. For existing sites, this characterization shall be conducted within 30 days of the date of permit issuance for the site by the Department.

5. Each groundwater monitoring well shall be sampled quarterly for nitrate (as N), total nitrogen, total phosphorus, pH, and fecal coliform.

(d) Any laboratory tests required by this chapter shall be performed by a laboratory certified in accordance with paragraph 62-620.610(18)(d), F.A.C. Sample collection required by this chapter shall be performed in accordance with paragraph 62-620.610(18)(e), F.A.C. The Specific Oxygen Uptake Rate (SOUR) test, as required by 40 CFR 503.33(b)(4), shall be conducted

within 15 minutes of sample collection and shall be performed by a certified laboratory or under the direction of an operator certified in accordance with Chapter 62-602, F.A.C.

(4) Record Keeping Requirements.

(a) Treatment facility permittees shall keep records of the quantities of biosolids generated, received from source facilities, treated, landfilled, incinerated, transferred to another facility, land applied, or distributed and marketed. These records shall be kept for a minimum of five years.

(b) Treatment facility permittees shall keep records of all biosolids monitoring required by paragraph 62-640.650(3)(a), F.A.C., for a minimum of five years.

(c) Treatment facility permittees shall retain the Biosolids Application Site Annual Summaries received in accordance with paragraph 62-640.650(5)(e), F.A.C., indefinitely.

(d) Treatment facility permittees that land apply biosolids and site permittees receiving biosolids shall maintain hauling records to track the transport of biosolids between the treatment facility and the application site. The hauling records for each party shall contain the following information:

TREATMENT FACILITY

PERMITTEE

1. Date and Time Shipped and Shipment ID
2. Amount of Biosolids Shipped
3. Concentration of Parameters in subparagraph 62-640.650(3)(a)3., F.A.C., and the Date of Analysis
4. Class of Biosolids Shipped
5. Name and ID Number of Permitted Application Site Where Biosolids are Shipped
6. Signature of Certified Operator at the Treatment Facility or Designee
7. Signature of Hauler and Name of Hauling Firm

SITE PERMITTEE

1. Date and Time Received and Shipment ID
2. Name and ID Number of Treatment Facility from which Biosolids are Received
3. Signature of Hauler
4. Signature of Site Manager at the Application Site or Designee

(e) The hauling records shall be kept by both the treatment facility permittee and the site permittee for a minimum of five years and shall be made available for inspection upon request by the Department.

(f) A copy of the treatment facility hauling records required by paragraph 62-640.650(4)(d), F.A.C., shall be provided upon delivery of the biosolids to the site manager.

(g) For each shipment of biosolids received, the site manager shall provide a receipt to the treatment facility within 30 calendar days of delivery of the biosolids. The receipt shall include information required to be maintained by the site permittee in accordance with paragraph 62-640.650(4)(d), F.A.C.

(h) The treatment facility shall maintain each receipt required by paragraph 62-640.650(4)(g), F.A.C., for a minimum of five years.

(i) The treatment facility permittee shall report to the appropriate District Office of the Department within 24 hours of discovery of any discrepancy in delivery of biosolids leaving the treatment facility and arriving at the permitted application site.

(j) Logs and records detailing biosolids applications to each application zone at an application site shall be maintained by the site permittee indefinitely and shall be available for inspection within seven days of request by the Department or the Delegated Local Program. At a minimum, the logs and records for the most recent six months of application shall be available for inspection at the land application site (i.e. maintained onsite). The logs and records shall include:

1. A copy of the approved NMP;

2. The cumulative loading for each zone in accordance with subsection 62-640.700(7), F.A.C.;

3. For each application zone, maintain Biosolids Application Site Log, Form 62-640.210(2)(e), F.A.C., effective August 29, 2010, hereby adopted and incorporated by reference, and available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices;

4. The results of all soil monitoring and ground water monitoring conducted in accordance with paragraphs 62-640.650(3)(b) and (c), F.A.C.;

5. Any records necessary for demonstrating compliance with the NMP such as crop planting records, harvesting dates, harvested yields, applications of other sources of nutrients, or other records identified in the NMP; and

6. Any records necessary for demonstrating compliance with the demonstration submitted with the NMP for sites located within the Lake Okeechobee, St. Lucie River, and Caloosahatchee River watersheds in accordance with subsection 62-640.500(8), F.A.C.

(5) Reporting Requirements.

(a) Treatment facility permittees shall report the following information on the facility's monthly Discharge Monitoring Report required by subsection 62-620.610(18), F.A.C.

1. The total quantities of biosolids received from source facilities, landfilled, incinerated, transferred to another facility, land applied, or distributed and marketed for the reporting period.

2. The results of all monitoring conducted under subparagraph 62-640.650(3)(a)3., F.A.C., for the month in which the sampling event occurs.

3. For facilities distributing and marketing biosolids in Florida, the information required in subsection 62-640.850(4), F.A.C.

(b) Distribution and Marketing Reporting. Any person who delivers biosolids to Florida for distribution and marketing shall submit a monthly Discharge Monitoring Report that includes the information required in subsection 62-640.850(4), F.A.C., on the appropriate form provided by the Department.

(c) Treatment Facility Biosolids Annual Summary. Permittees of wastewater treatment facilities or biosolids treatment facilities permitted for land application shall submit a summary of the shipment records required by paragraph 62-640.650(4)(d) and subsection 62-640.880(4), F.A.C., as applicable, to the appropriate District Office of the Department, or to the delegated local program, on an annual basis. The summary must be submitted on Department Form 62-640.210(2)(b), effective August 29, 2010, hereby adopted and incorporated by reference, and available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices. The summary shall include all biosolids shipped during the period January 1 through December 31. The summary for each year shall be submitted to the Department by February 19 of the following year.

(d) Biosolids Application Site Annual Summary. The site permittee shall submit a summary of land application activity to the appropriate District Office of the Department, or to the delegated local program, on an annual basis. The summary shall be submitted on Department Form 62-640.210(2)(c), effective August 29, 2010, hereby adopted and incorporated by reference, and available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices. The summary for each year, covering the period from January 1 through December 31, shall be submitted to the Department by February 19 of the following year. The summary shall include all of the following, as applicable:

1. The total quantities of biosolids, other solids, nitrogen, phosphorus, potassium, and heavy metals applied to each application zone identified in the site's NMP. Reporting of heavy metals applied is not required for sites where only Class AA biosolids are applied.

2. Except for sites where only Class AA biosolids are applied, the total cumulative loading for the parameters specified in paragraph 62-640.700(7)(b), F.A.C., applied to each application zone identified in the site's NMP. Cumulative loading shall be determined as described in subsection 62-640.700(7), F.A.C., and shall be calculated for all biosolids applications at a site beginning with the earlier of:

a. The date of the first application of biosolids at the site subject to regulation by Chapter 62-640, F.A.C.; or

b. The date of the first application of biosolids at the application site subject to regulation by 40 CFR 503.

3. A summary of the total quantities of biosolids applied from each treatment facility using the application site.

4. The results of any ground water monitoring required by paragraph 62-640.650(3)(c), F.A.C.

5. A copy of any revised sections of the NMP made in accordance with Rule 62-640.500, F.A.C.

6. Copies of records kept in accordance with subparagraph 62-640.650(4)(j)6., F.A.C., demonstrating compliance with the demonstration submitted with the NMP for sites located within the Lake Okeechobee, St. Lucie River, and Caloosahatchee River watersheds in accordance with subsection 62-640.500(8), F.A.C.

(e) The site permittee shall send copies of the Biosolids Application Site Annual Summary required by paragraph 62-640.650(5)(d), F.A.C., to each treatment facility permittee from which biosolids have been received at the time the Biosolids Application Site Annual Summary is submitted to the Department.

(6) Notification Requirements. Notifications required by paragraphs 62-640.650(6)(a) through (i), F.A.C., shall be provided orally to the appropriate District Office of the Department. A written submittal shall also be provided to the District Office within seven calendar days of the time when a person subject to this chapter becomes aware of the circumstances. The written submittal must include the time and date of the oral notification, and the name of the person to whom the oral notification was made.

(a) If an alternate application site is used under the provisions of subsection 62-640.300(2), F.A.C., the treatment facility permittee using the alternate site must notify the Department within 24 hours before beginning biosolids application at the alternate site.

(b) Surface or ground water quality violations that are discovered as a result of testing shall be reported to the Department within 24 hours of discovery.

(c) Any discrepancy that occurs in the inventory of biosolids leaving a source facility and arriving at a biosolids treatment facility must be reported to the Department and to the source facility by the biosolids treatment facility permittee within 24 hours of discovery under paragraph 62-640.880(4)(c), F.A.C.

(d) Any person intending to import Class AA biosolids from outside Florida for distribution and marketing or land application must notify the Department's Domestic Wastewater Section in Tallahassee, in writing, at least 30 days before beginning importation, in accordance with subsection 62-640.850(6), F.A.C.

(e) Biosolids treatment facility permittees must notify the Department and all affected parties in writing at least 60 days before ceasing operation, in accordance with paragraph 62-640.880(2)(j), F.A.C.

(f) Treatment facility permittees shall notify the Department, the site manager, and site permittee within 24 hours of discovery of sending biosolids that did not meet the requirements of Rule 62-640.600, F.A.C., or subsection 62-640.700(5), F.A.C., to a land application site.

(g) Treatment facility permittees and those persons who deliver Class AA biosolids for distribution and marketing in Florida shall notify the Department and all persons to whom they delivered or distributed and marketed the Class AA biosolids, within 24 hours of discovery of distributing and marketing biosolids that did not meet the requirements of paragraph 62-640.600(1)(a), F.A.C., subsection 62-640.600(2), F.A.C., or paragraph 62-640.700(5)(a) or (b), F.A.C.

(h) Site permittees shall notify the Department and facilities sending biosolids to the site in writing at least 60 days before ceasing operation of a permitted biosolids land application site.

(i) Permittees of sites where Class A or Class B biosolids are applied shall notify the site land owners and owners of animals that graze on the permitted site in writing within 30 days of discovering that the cumulative loading of molybdenum to the site has reached or exceeded 35.7 lbs per acre. Owners of grazing animals shall be specifically informed about the potential for molybdenosis to occur in the animals. A copy of the notification letter shall be provided to the Department.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 3-30-98, Amended 8-29-10.

62-640.700 Requirements for Land Application of Class AA, A, and B Biosolids.

(1) Except as provided in paragraph 62-640.100(5)(g), F.A.C., biosolids shall only be applied to land application sites that are permitted by the Department in accordance with Rule 62-640.300, F.A.C., and have a valid NMP.

(2) All biosolids applied to land application sites shall meet the requirements of Class AA, Class A, or Class B biosolids as defined in subsections 62-640.200(9), (10), and (11), F.A.C.

(3) Biosolids applied at agricultural sites shall be applied at rates established in accordance with the NMP.

(4) Biosolids applied at land reclamation sites shall also meet the additional requirements of Rule 62-640.800, F.A.C., and be applied at rates established in the approved Biosolids Site Permit Application, Form 62-640.210(2)(d), for the site.

(5) Parameter Concentrations.

(a) Biosolids may be applied to a land application site only if all parameter concentrations do not exceed the following ceiling concentrations in any sample, and the biosolids meet the pathogen and vector attraction reduction requirements set forth in Rule 62-640.600, F.A.C., for the intended site use.

CEILING CONCENTRATIONS

(mg/kg dry weight basis)

Parameter	Single Sample Concentration
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

(b) In addition to meeting the single sample requirements of paragraph 62-640.700(5)(a), F.A.C., Class A biosolids may be classified as Class AA biosolids only if the monthly average parameter concentrations do not exceed the following criteria:

CLASS AA PARAMETER CONCENTRATIONS

(mg/kg dry weight basis)

Parameter	Monthly Average Concentration
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

(c) If the biosolids must be blended with other materials to meet the Class AA criteria of paragraph 62-640.700(5)(b), F.A.C., the blending shall be conducted by a Department permitted domestic wastewater treatment facility or biosolids treatment facility before the biosolids are distributed or marketed. The blending methodology shall be specified in the facility's permit.

(6) General Application Site Requirements.

(a) Biosolids shall be applied with appropriate techniques and equipment to assure uniform application over the application zone.

(b) Beginning within one year of August 29, 2010, Class A and Class B biosolids treated by alkaline addition shall be applied by the best management practice of incorporation or injection unless the application area is located at a distance greater than one-quarter mile from the application site property line. This distance shall be decreased to the setback distance provided by subparagraph 62-640.700(8)(b)2., F.A.C., if the affected adjacent property owner provides written consent.

(c) Class A and Class B biosolids treated by alkaline addition shall be land applied within 24 hours of delivery to the site.

(d) The spraying of liquid domestic wastewater biosolids from an application vehicle shall be conducted so that the formation of aerosols is minimized. Unless specifically stated in the wastewater permit or site permit, spray guns shall not be used.

(e) Biosolids shall not be stored, stockpiled, or staged at a land application site for more than seven days unless approved by the Department pursuant to subparagraph 2. below.

1. All biosolids storage, stockpiling, or staging at land application sites shall:

- a. Meet the applicable setback requirements for biosolids application sites in subsection 62-640.700(8), F.A.C.;
- b. Not cause or contribute to runoff of biosolids, objectionable odors, or vector attraction; and
- c. For Class B biosolids, include fencing or other appropriate features to discourage the entry of animals and unauthorized persons.

2. The Department shall approve storage periods for longer than seven days if the following conditions are met:
 - a. The storage area and facilities are identified in the NMP and site permit application;
 - b. The applicable storage requirements of subparagraph 62-640.700(6)(e)1., F.A.C., are met;
 - c. All of the biosolids stored at the application site, up to the capacity of the onsite storage facilities, can be land applied without resulting in an exceedance of cumulative loading limits or the application rates established in the NMP;
 - d. The storage facilities are adequate for the rate of biosolids generated by permitted treatment facilities sending biosolids to the application site; and
 - e. A longer storage period is needed because of agricultural operations or climatic factors at the application site.
3. In no case shall storage of biosolids exceed two years.
4. EPA's *Guide to Field Storage of Biosolids*, paragraph 62-640.210(1)(k), F.A.C., provides guidance to assist permittees in the field storage, stockpiling, and staging of biosolids.

(f) Class B biosolids application sites shall be posted with appropriate advisory signs in English and Spanish which identify the nature of the project area and comply with the following requirements.

1. Signs shall be posted at all entrances to land application sites in such a position as to be clearly noticeable. The words "Class B Biosolids Site" (in Spanish "Sitio con Biosólidos"), "Public Access Prohibited" (in Spanish "Prohibido el Acceso al Público"), and the name and contact information of the site manager shall appear prominently on the signs.
2. For unfenced application sites, additional signs shall be posted at the corners and at a maximum of 500 feet intervals along the boundaries of the application site or zones, and in such a position as to be clearly noticeable from outside the boundary line of the application site. The words "Public Access Prohibited" (in Spanish "Prohibido el Acceso al Público") shall appear prominently on the signs.
3. Letters on the signs for all required statements shall not be less than two inches in height. Signs shall be maintained and legible.

(7) Cumulative Application Limits.

(a) For Class A and Class B biosolids the total cumulative loading of each parameter identified in paragraph 62-640.700(7)(b), F.A.C., which is applied to each application zone on an application site shall be determined and provided to the Department in the annual summary submitted on Department Form 62-640.210(2)(c). The beginning date for cumulative loading determination shall be as described in subparagraph 62-640.650(5)(d)2., F.A.C. The total cumulative loading shall be reported in pounds per acre (1 acre = 0.4047 hectare).

(b) The application of Class A and Class B biosolids to application zones which accept biosolids that meet the ceiling concentration limits in subsection 62-640.700(5), F.A.C., shall be restricted by the following cumulative application limits:

CUMULATIVE APPLICATION LIMITS
(pounds per acre)

Arsenic	36.6
Cadmium	34.8
Copper	1340
Lead	268
Mercury	15.2
Molybdenum	Report only
Nickel	375
Selenium	89.3
Zinc	2500

(c) If one or more zone(s) at an application site changes ownership or becomes part of a different application site, the cumulative loading determination for the affected zone(s) shall account for the prior applications of biosolids.

(d) If biosolids that are subject to the cumulative loading limitations of subsection 62-640.700(7), F.A.C., have been applied to an application zone, and the cumulative loading amount of one or more pollutants is not known, no further applications of biosolids shall be made to that application zone. To continue use of the zone, the permittee shall establish cumulative loadings below the application limits in paragraph 62-640.700(7)(b), F.A.C., by calculation methods and analysis or by conducting soil testing in accordance with subparagraph 62-640.650(3)(b)2., F.A.C.

(8) Setback Distances.

(a) The following setback distances shall apply to land application sites that accept either Class A or Class B biosolids.

1. The biosolids land application zone shall not be located closer than 1000 feet to any Class I water body, Outstanding Florida Water or Outstanding National Resource Water, or 200 feet from any other surface water of the state as defined in Section 403.031, F.S. This setback does not apply to waters owned entirely by one person other than the state, nor to canals or bodies of water used for irrigation or drainage, which are located completely within the application site and will not discharge from the application site. The setback area shall be vegetated. The 200 foot setback distance from surface waters shall be reduced to 100 feet if the biosolids are injected or incorporated into the soil.

2. The biosolids land application zone shall not be located closer than 300 feet from any private drinking water supply well or 500 feet from any public drinking water supply well.

3. The land application zone and an area 200 feet wide adjacent to the application zone shall contain no visible evidence of subsurface fractures, solution cavities, sink holes, excavation core holes, abandoned wells or any other natural or man-made conduits that could allow direct contamination of ground water.

4. Biosolids shall not be stored or stockpiled at a land application site within 1320 feet of a building occupied by the general public. This distance shall be decreased to the setback distance provided by subparagraph 62-640.700(8)(b)1., F.A.C., if the owner of the building provides written consent.

(b) The following additional setback distances shall apply to land application sites that accept Class B biosolids.

1. Class B biosolids shall not be applied within 300 feet of a building occupied by the general public. This distance shall be reduced to 100 feet if biosolids are injected into the soil or if written permission is obtained from the building owner.

2. Class B biosolids shall not be applied within 75 feet from property lines, unless applied to the medians or roadway shoulders of restricted public access roads.

(9) The pH of the biosolids soil mixture shall be 5.0 or greater at the time Class A or Class B biosolids are applied. At a minimum, soil pH testing shall be done annually.

(10) A minimum unsaturated soil depth of two feet is required between the depth of biosolids placement and the water table level at the time the Class A or Class B biosolids are applied to the soil. The permittee can indicate the seasonal high ground water level for the application site in the Biosolids Site Permit Application, Form 62-640.210(2)(d), by use of soil survey maps. If the seasonal high ground water level is within two feet of the depth of biosolids placement or cannot be determined at the time of permitting, the water table level shall be determined in one or more representative location(s) in the application zone before each application of biosolids, by measuring the water level in a water-table monitoring well or a piezometer.

(11) Runoff Prevention Requirements.

(a) Biosolids shall not be applied at an application zone during rain events that cause ponding or sheet flow, when ponding exists, or when surface soils are saturated.

(b) Topographic grades of the land application zone must be eight percent or less. If application site slopes exceed three percent in one or more application zones, biosolids shall be injected or incorporated, or documentation shall be provided with the NMP demonstrating that suitable soil infiltration rates and stormwater control measures exist at the application site to retain runoff generated by a 10-year recurrence interval 1-hour duration storm event. Berms shall be placed for this purpose if necessary.

(c) Biosolids shall not be land applied on soils having a flooding frequency class of "frequent" or "very frequent", or on soils having a flooding duration class of "long" or "very long", as given in soil surveys and as defined by the NRCS in Section 618.27 of the *National Soil Survey Handbook*, as of October 2009, hereby adopted and incorporated by reference and available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

(12) Additional Application Site Restrictions for Class B Biosolids. The following restrictions shall apply to the use of Class B biosolids:

(a) Class B biosolids shall only be applied to restricted public access areas. The public shall be restricted from the application zone for 12 months after the last application of biosolids.

(b) Plant nursery use of Class B biosolids is limited to plants which will not be sold to the public for 12 months after the last application of biosolids.

(c) Use of Class B biosolids on roadway shoulders and medians is limited to restricted public access roads.

(d) Food crops, feed crops, and fiber crops shall not be harvested for 30 days following the last application of Class B biosolids.

(e) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the last application of Class B biosolids.

(f) Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of Class B biosolids when the biosolids remain on the land surface for four months or longer before incorporation into the soil.

(g) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of Class B biosolids when the biosolids remain on the land surface for less than four months before incorporation into the soil.

(h) Animals shall not be grazed on land on which Class B biosolids have been applied for 30 days after the last application of Class B biosolids. Animals found grazing prior to the end of the 30-day restriction shall be reported by the site manager to the Florida Department of Agriculture and Consumer Services (FDOACS), Bureau of Animal Disease Control, within two weeks of discovery.

(i) Sod or soil which will be distributed or sold to the public or used on unrestricted public access areas shall not be harvested or removed from land on which Class B biosolids have been applied for 12 months after the last application of Class B biosolids.

(j) If ownership of a land application site changes prior to the expiration of a time period restriction established by paragraphs 62-640.700(12)(a)-(i), F.A.C., the existing owner shall disclose to the prospective owner the existence of the restriction(s) prior to transferring ownership.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.700, Amended 3-30-98, 8-29-10.

62-640.750 Agricultural Sites.

Rulemaking Authority 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 3-30-98, Repealed 8-29-10.

62-640.800 Additional Requirements for Land Application at Reclamation Sites.

(1) The maximum application quantity of biosolids for land reclamation projects shall be limited to 50 dry tons/acre with such one-time reclamation project to be accomplished within a one-year period on any acre of a land reclamation site. When composted biosolids or biosolids blended with other soil amendment materials are used, only the biosolids portion of the blended product shall count toward the 50 dry tons/acre limitation.

(2) Except for Class AA biosolids the applied material shall be incorporated into the soil within the same day as application.

(3) Seed, turf-forming grass or other vegetative cover approved by the Department, shall be planted as soon as possible but in no case later than three months after the application of biosolids.

(4) Topographical grading shall be completed before application begins.

(5) In addition to the above requirements, land reclamation projects at mining reclamation sites shall be in compliance with any other applicable Department rules concerning mining reclamation.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.800, Amended 3-30-98, 8-29-10.

62-640.850 Distribution and Marketing of Class AA Biosolids.

The distribution and marketing of biosolids or biosolids products shall meet the requirements of this section and this chapter, but are not required to meet subsections 62-640.300(2) and (3); Rule 62-640.500; paragraphs 62-640.650(3)(b) through (d); paragraphs 62-640.650(4)(c) through (j); paragraphs 62-640.650(5)(c) through (e); paragraphs 62-640.650(6)(a), (b), (f), and (g); subsections 62-640.700(1) through (4); subsections 62-640.700(6) through (12); and Rule 62-640.800, F.A.C.

(1) Distributed and marketed biosolids or biosolids products shall meet the requirements for Class AA biosolids as defined in subsection 62-640.200(10), F.A.C.

(2) Distributed and marketed biosolids or biosolids products shall be distributed and marketed as a fertilizer in accordance with Chapter 576, F.S., (2009), and Chapter 5E-1, F.A.C., 1-18-2010, both hereby adopted and incorporated by reference, or distributed and marketed to a person or entity that will sell or give-away the biosolids or biosolids products as a fertilizer or as a component of a

fertilizer subject to Chapter 576, F.S., and Chapter 5E-1, F.A.C. Copies of Chapter 576, F.S., and Chapter 5E-1, F.A.C., are available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices. For the purposes of this chapter, biosolids composts that are distributed and marketed outside of the Lake Okeechobee, St. Lucie River, and Caloosahatchee River watersheds, as defined in Section 373.4595, F.S., do not have to be distributed and marketed as a fertilizer if the biosolids compost product is enrolled and certified under the U.S. Composting Council's (USCC) Seal of Testing Assurance (STA) program in effect on 5-20-2010, hereby adopted and incorporated by reference. A copy of the USCC STA program document is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

(3) Any treatment facility which produces biosolids in Florida that will be distributed and marketed or any person who delivers biosolids to Florida to be distributed and marketed shall submit the information listed in paragraph 62-640.850(3)(b), F.A.C., to the Department.

(a) The information shall be submitted as follows:

1. Florida facilities shall submit the information with the treatment facility permit application. The information shall be updated and re-submitted with each permit renewal application.

2. Persons shipping biosolids into Florida for distribution and marketing shall submit the information with the notification required by subsection 62-640.850(6), F.A.C. The information shall be updated and re-submitted every five years.

(b) The information shall include:

1. The Florida fertilizer license number assigned in accordance with Florida's Commercial Fertilizer Law, Chapter 576, F.S., (2009), and Chapter 5E-1, F.A.C., 1-18-2010, both hereby adopted and incorporated by reference, under which the biosolids or biosolids products will be distributed and marketed (copies of Chapter 576, F.S., and Chapter 5E-1, F.A.C., are available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices) or documentation showing proof of certification for biosolids composts enrolled in the USCC STA program in effect on 5-20-2010, hereby adopted and incorporated by reference (a copy of the USCC STA program document is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices);

2. The quantity and characteristics of the biosolids or biosolids products to be distributed and marketed annually;

3. A description of the planned distribution and marketing operations, methods, and procedures;

4. Procedures for transportation, storage, and application for the biosolids or biosolids products by the facility or person shipping biosolids into Florida for distribution and marketing;

5. The label or information sheet to be provided at the time of distribution and marketing of the biosolids in accordance with subsection 62-640.850(5), F.A.C., Chapter 576, F.S., (2009), and Chapter 5E-1, F.A.C., 1-18-2010, both hereby adopted and incorporated by reference, as applicable (copies of Chapter 576, F.S., and Chapter 5E-1, F.A.C., are available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices) or equivalent information for biosolid composts certified and enrolled in the USCC STA program in effect on 5-20-2010, hereby adopted and incorporated by reference (a copy of the USCC STA program document is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices);

6. Management procedures for ensuring biosolids meet Class AA requirements prior to distribution and marketing, including procedures for notifying persons who received biosolids that failed to meet Class AA requirements; and

7. Contingency plans if the biosolids or biosolids products are not distributed or marketed as planned.

(4) Any treatment facility distributing and marketing biosolids in Florida or any person who delivers biosolids to Florida shall submit a monthly Discharge Monitoring Report with the following information:

(a) The total quantity of biosolids (dry tons) distributed and marketed in Florida. Treatment facility permittees in Florida also shall report the total quantity of biosolids (dry tons) distributed and marketed outside of Florida;

(b) The name and address of the treatment facility or person that produced the biosolids; and

(c) The results of monitoring performed in accordance with subparagraph 62-640.650(3)(a)3., F.A.C. For facilities located outside the state of Florida, a biosolids analysis report(s) from a laboratory certified in accordance with paragraph 62-

620.610(18)(d), F.A.C., to perform the analyses being reported, for each month the biosolids were distributed and marketed in Florida, shall be included with the Discharge Monitoring Report.

(5) In addition to any fertilizer labeling requirements of Chapter 576, F.S., and Chapter 5E-1, F.A.C., or the equivalent information for biosolids composts certified and enrolled in the USCC STA program in effect on 5-20-2010, hereby adopted and incorporated by reference (a copy of the USCC STA program document is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices), the following information must be made available to the users by the manufacturer by product labels or other means:

- (a) The name and address of the treatment facility or person that produced the biosolids;
- (b) A statement that the biosolids or biosolids product meets the criteria of subsection 62-640.700(5), F.A.C.;
- (c) Recommendations on proper storage of the biosolids or biosolids product prior to use and a recommendation that biosolids be applied at a rate that does not exceed crop or plant nutrient needs. For distributed quantities of biosolids or biosolids products greater than one dry ton, the recommendations on proper storage shall include the prohibition language from subsection 62-640.400(13), F.A.C.

(6) Any person who intends to begin shipping biosolids into Florida for distribution and marketing shall notify the Department in writing of their intent to distribute and market the biosolids in Florida and provide reasonable assurance that the biosolids meet the requirements for Class AA biosolids. The notification shall be sent to the Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, FL 32399-2400. The notification shall be submitted at least 30 days prior to initiating shipment of the biosolids into Florida. Any persons currently shipping biosolids into Florida for distribution and marketing shall have 90 days after August 29, 2010 to provide the notification. The notification shall include:

- (a) The name of the treatment facility producing the biosolids;
- (b) A copy of the treatment facility permit from the state permitting authority where the facility is located;
- (c) The treatment facility address and telephone number;
- (d) The name of the person or entity shipping the biosolids into Florida;
- (e) The name of the principal executive officer or authorized agent for the entity shipping the biosolids into Florida;
- (f) The contact information for the person or entity shipping the biosolids into Florida;
- (g) A description of how the biosolids meet the requirements of Rule 62-640.850, F.A.C., and documentation demonstrating the biosolids meet the pathogen reduction and vector attraction reduction requirements;
- (h) A copy of the latest analysis report from a laboratory certified in accordance with paragraph 62-620.610(18)(d), F.A.C.;
- (i) A copy of the most recent treatment facility annual report submitted to EPA in accordance with 40 CFR 503.18, hereby adopted and incorporated by reference;
- (j) The approximate date of the first shipment into Florida;
- (k) The brand name and product type of the biosolids; and
- (l) The information listed in subsection 62-640.850(3), F.A.C.

(7) By February 19 of each year, any person shipping biosolids to Florida for distribution and marketing shall submit a copy of the applicable EPA facility annual biosolids report required by 40 CFR 503.18, July 1, 2009, hereby adopted and incorporated by reference, to the Department's Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. A copy of 40 CFR 503.18 is available from the Department of Environmental Protection, Domestic Wastewater Section, M.S. 3540, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 or any of the Department's District Offices.

Rulemaking Authority 373.043, 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 373.4595, 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 8-12-90, Formerly 17-640.850, Amended 3-30-98, 8-29-10.

62-640.860 Other Solids.

(1) General Criteria. The disposal or use of other solids as defined in subsection 62-640.200(30), F.A.C., shall be authorized in a Department treatment facility permit and addressed in the NMP for the permitted application site.

(a) The beneficial use of other solids which meets the criteria of subsection 62-640.860(2), F.A.C., shall be authorized in a wastewater permit.

(b) The disposal of other solids which does not meet the criteria of subsection 62-640.860(2), F.A.C., shall be in accordance

with the design and operational criteria of Chapter 62-701, F.A.C.

(2) Beneficial Use of Other Solids. Other solids may be used in a way which is beneficial to the land if all of the following conditions are met.

(a) The permittee shall demonstrate how use of the other solids will be beneficial to the land, such as use as a soil amendment.

(b) The other solids shall be monitored and analyzed in accordance with Rule 62-640.650, F.A.C.

(c) The other solids shall meet the pathogen and vector attraction reduction requirements of Rule 62-640.600, F.A.C. The Department shall review and approve the design and operational parameters of the treatment method used to reduce pathogens and vector attraction during application for a wastewater permit.

(d) The land application of other solids shall meet all of the criteria provided in Rule 62-640.700, F.A.C., for land application of biosolids.

(e) The application rate of other solids to land shall be consistent with the NMP.

(3) Other solids which are combined with biosolids prior to final treatment of the biosolids are subject to all of the requirements of this chapter that apply to biosolids.

Rulemaking Authority 403.051, 403.061, 403.062, 403.087, 403.088, 403.704, 403.707 FS. Law Implemented 403.021, 403.051, 403.061, 403.087, 403.088, 403.0881, 403.702, 403.704, 403.707, 403.708 FS. History—New 3-30-98, Amended 8-29-10.

62-640.880 Additional Requirements Related to Biosolids Treatment Facilities.

The requirements of this section shall apply to any facility that treats biosolids from other facilities prior to use, land application, or disposal. These requirements also apply to septage management facilities that treat domestic septage and combinations of food establishment sludges, wastes removed from portable toilets, and wastes removed from holding tanks associated with boats, marina pumpout, or other onsite systems prior to use, land application, or disposal.

(1) General Criteria.

(a) The biosolids treatment management facility permittee shall be responsible for proper treatment, management, use, land application, and disposal of the biosolids it accepts from a source facility, according to the requirements of this chapter.

1. The biosolids applied to land or distributed and marketed shall meet the pathogen reduction and vector attraction reduction requirements of Rule 62-640.600, F.A.C.

2. The biosolids treatment facility shall meet the monitoring, record keeping, reporting and notification requirements of Rule 62-640.650, F.A.C., and the additional requirements of this section.

3. The biosolids shall be applied to land or distributed and marketed in accordance with the applicable requirements of Rules 62-640.700, 62-640.800, 62-640.850, F.A.C., and the additional requirements of this section.

(b) The source facility permittee shall not be held responsible for treatment, management, use, land application, or disposal violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility permittee has an agreement in accordance with paragraph 62-640.880(1)(c), F.A.C., for further treatment, management, use, land application, or disposal.

(c) The source facility and the biosolids treatment facility shall enter into a written agreement addressing the quality and quantity of the biosolids accepted by the biosolids treatment facility. The agreement shall include a statement, signed by the biosolids treatment facility permittee, as to the availability of sufficient permitted capacity to receive the biosolids from the source facility, and indicating that the biosolids treatment facility will continue to operate in compliance with the requirements of its permit. The agreement shall also address responsibility during transport of biosolids between the facilities. The biosolids treatment facility permittee shall submit a copy of this agreement to the appropriate District Office of the Department, or to the delegated Local Program, at least 30 days before transporting biosolids from the source facility to the biosolids treatment facility.

(2) Permitting.

(a) Fees. For the purpose of determining applicable permit fees, the biosolids treatment facility shall be classified as Type I, II, or III based on the design capacity established by the permittee as follows:

TYPE	DESIGN CAPACITY (DRY TONS PER YEAR)	DESIGN CAPACITY (DRY TONS PER DAY)
I	>1653	>4.5
II	320-1653	0.88-4.5
III	<320	<0.88

(b) All applications for biosolids treatment facility permits shall be submitted on Department Form 62-620.910(2), Application Form 2A, Permit for Domestic Wastewater Treatment and Reuse or Disposal Facility.

(c) Under the requirements of this chapter and the applicable requirements of Chapters 62-600 and 62-620, F.A.C., the biosolids treatment facility shall be permitted to treat either biosolids or combinations of biosolids, domestic septage, food establishment sludges, wastes removed from portable toilets, and wastes removed from holding tanks associated with boats, marina pumpout, and other onsite systems. A biosolids treatment facility shall not accept industrial sludges unless specific approval is granted in the biosolids treatment facility permit. A separate approval shall be obtained for each source of industrial sludge that will be accepted by the biosolids treatment facility. Approval shall be granted only if it is determined that the industrial sludge will not interfere with the beneficial use of the biosolids treated by the biosolids treatment facility. This determination shall be based on an evaluation of all parameters in the industrial sludge.

(d) A domestic wastewater treatment facility that intends to accept biosolids from other facilities and that already holds a valid wastewater permit shall not be required to obtain a separate permit as a biosolids treatment facility, but shall obtain a permit revision based on the requirements of this section.

(e) An applicant for a wastewater permit for a new biosolids treatment facility or substantial modifications to an existing facility shall submit a preliminary design report or other information as specified for domestic wastewater facilities in Rule 62-620.412, F.A.C., for review by the Department as part of the application for permit. As appropriate, the preliminary design report shall include the following:

1. Types, quantities and characteristics of all materials to be treated at the facility. If the facility will treat wastes removed from portable toilets, or wastes removed from holding tanks associated with boats, marina pumpout, and other onsite systems, the preliminary design report shall also address the organic loading from those wastes, and chemical additives that may be present in such wastes;

2. The design capacity, which shall address the contribution of all materials that will be treated at the facility (i.e., biosolids, domestic septage, food establishment sludge, wastes removed from portable toilets, and wastes removed from holding tanks associated with boats, marina pumpout, and other onsite systems);

3. The design ratios of domestic septage, food establishment sludges, and wastes removed from portable toilets, or wastes removed from holding tanks associated with boats, marina pumpout, and other onsite systems;

4. A site plan showing operations and unit processes; 100-year and 25-year flood elevations; approximate finish elevations for all major treatment units, mixing tanks; storage tanks; and equipment;

5. An assessment of environmental effects of the project, including odor, dust and noise control, public accessibility, proximity to existing and proposed residential areas, flood protection, and lighting;

6. Class of pathogen reduction and vector attraction reduction that will be achieved in accordance with subsections 62-640.600(1) and (2), F.A.C., and a description of treatment processes and equipment that will be used;

7. Technical information and design criteria for treatment facilities, including:

- a. Hydraulic and organic loading rates – minimum, average, and maximum quantities for the treatment processes,

- b. Metering and sampling provision,

- c. Solids retention time,

- d. All treatment process parameters to be monitored,

- e. Chemical addition facilities, if applicable,

- f. Removals or concentrations with separate tabulation for each unit handling solid fractions with supporting data including design calculations,

- g. Mode of operation (batch or continuous),

- h. Corrosion control measures, and

- i. Onsite storage of treated and untreated biosolids, storage of chemicals, and alternate disposal methods;

8. Process diagrams, including:

- a. Expected dimensions of unit operations and processes, capacities and volumes,

- b. Process configuration,

- c. Hydraulic profile,

- d. Organic loading profile,

- e. Solids profile,

- f. Solids control system, and
 - g. Flow diagram with capacities;
 - 9. Operation and control strategies included for prevention of upsets, spill prevention and control, leachate collection if applicable, alternate disposal methods, and reliability classification and features; and
 - 10. Composting facilities shall identify the bulking agent, recommended mixing ratios and moisture content, aeration methods, retention times for curing and drying, precipitation and runoff control measures, and provisions to reduce particle size of larger yard trash items such as limbs, trees and tree stumps to promote composting.
- (f) All biosolids treatment facilities permitted as Type I or Type II biosolids management facilities shall provide reliability features, such as redundancy of equipment, to provide for the continued and timely treatment of all biosolids the facility has the responsibility to treat.
- (g) Operation and maintenance performance reports shall be required of all permittees in accordance with subsection 62-600.735(1), F.A.C., and shall address all process components, such as digesters, holding tanks, pumps, mixers, chemical feed equipment, and safety requirements.
- (h) Biosolids treatment facilities shall be exempt from the capacity analysis report requirement of Rule 62-600.405, F.A.C.
- (i) An operation and maintenance manual shall be prepared for all biosolids treatment facilities, in accordance with Rule 62-600.720 and Chapter 62-620, F.A.C. In addition to the requirements specified in Chapters 62-620 and 62-600, F.A.C., the operation and maintenance manual shall provide the operator with procedures for:
1. Controlling and verifying the type of waste received at the facility;
 2. Vehicle traffic control and unloading;
 3. Measures to avoid mixing incoming untreated biosolids with treated biosolids;
 4. Maintaining hauling records in accordance with subsection 62-640.880(4), F.A.C.; and
 5. Storage of biosolids and other materials at the site.
- (j) Staffing. The level of operator staffing at a biosolids treatment facility shall be as follows:

	TYPE I*	TYPE II*	TYPE III*
A/AA**	Class A Operator	Class B Operator	Class B Operator
	8 hours/day	4 hours/day	2 hours/day
	5 days/week	5 days/week	5 days/week
B**	Class A Operator	Class B Operator	Class C Operator
	2 hours/day	1 hour/day	1 hour/day
	5 days/week	5 days/week	3 days/week
B***	Class A Operator	Class B Operator	Class C Operator
	1 hour/day	1 hour/day	1 hour/week
	5 days/week	3 days/week	

*Classification of Type of facility as determined by paragraph 62-640.880(2)(a), F.A.C.

**These letters correspond to the Class of pathogen reduction that is achieved by the biosolids treatment facility in accordance with subsection 62-640.600(1), F.A.C.

***This category is for Class B liquid alkaline stabilization only.

1. The operator classification requirements shall be in accordance with Chapter 62-699, F.A.C.
2. Operator staffing requirements for facilities addressed in paragraph 62-640.880(2)(d), F.A.C., shall be established as the more stringent of either the requirements in Chapter 62-699, F.A.C., or the requirements in paragraph 62-640.880(2)(j), F.A.C.
3. In addition to the above staffing requirements, other personnel that are trained in the treatment process and equipment being used, working under the direction of a certified operator, shall be present at the biosolids treatment facility during loading and unloading operations and during other operating hours as recommended in the preliminary design report.
4. If justified by the complexity of the treatment process, the Department shall require a higher classification, more frequent visits, or more hours per day. Requests to alter or decrease staffing requirements shall be made through a minor permit revision under Rule 62-620.325, F.A.C., and shall be based upon site-specific requirements, facility operation, risk to public health and the environment, and the presence of other trained personnel.

- (k) The biosolids treatment facility permittee shall be responsible for making the facilities safe in terms of public health and