

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**  
MISSOURI CLEAN WATER COMMISSION



## MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0130460

Owner: Royale Palms Vista Condominium Unit Owners Association, Inc.  
Address: P. O. Box 568, Sunrise Beach, MO 65079

Continuing Authority: same as above  
Address: same as above

Facility Name: Royale Palms WWTF  
Facility Address: 184 Plaza Gardens Court, Camdenton MO 65020

Legal Description: SW¼, NW¼, SW¼, Sec. 16, T39N, R17W, Camden County  
UTMs (x/y): 0517274 / 4219128

Receiving Stream: Lake of the Ozarks (L2) 303 (d)  
First Classified Stream and ID: Lake of the Ozarks (L2) (07205) 303 (d)  
USGS Basin & Sub-watershed No.: (10290109-080001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

### **FACILITY DESCRIPTION**

Outfall #001 – Condominiums / Sewerage Works - SIC #8641 / 4952

Flow equalization / extended aeration / secondary clarification / chlorination / reaeration / dechlorination / sludge disposal by contract hauler

Design organic population equivalent is 592.  
Design average daily flow is 44,400 gallons per day. Adjusted Design Flow for fee purposes is 10,999 gallons per day.  
Design sludge production is 10.656 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

August 16, 2010                      August 21, 2013  
Effective Date                      Revised Date

Sara Parker Pauley, Director, Department of Natural Resources

August 15, 2015  
Expiration Date

John Madros, Director, Water Protection Program

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 8	
					PERMIT NUMBER MO-0130460	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/month**	24 hr. total
Biochemical Oxygen Demand <sub>5</sub>	mg/L	40		20	once/month**	***
Total Suspended Solids	mg/L	40		20	once/month**	***
pH – Units	SU	****		****	once/month**	grab
Fecal Coliform (Note 1)	#/100 ml	1,000		400 (Note 2)	once/month**	grab
Total Residual Chlorine as Cl <sub>2</sub>	mg/L	0.019 (Note 3) (0.13 ML)		0.0095 (Note 3) (0.13ML)	once/month**	grab
Ammonia as N	mg/L	12.1		4.6	once/month**	grab
Temperature	°C	*		*	once/month**	grab
Total Nitrogen as N	mg/L	*		*	once/month**	grab
Total Phosphorus as P	mg/L	*		*	once/month**	grab
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Dissolved Oxygen	mg/L	5.0		6.3	once/month**	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE <b>OCTOBER 28, 2010</b> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET Test)	% Survival	See Special Conditions #8			once/permit cycle	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <b>ONCE/ PERMIT CYCLE</b> ; THE FIRST REPORT IS DUE <b>JANUARY 28, 2015</b> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* Sample once per month. Reports shall be submitted by the 28<sup>th</sup> day of the month following the reporting period, e.g. Reporting period is the month of March (sample collected in March), report due by April 28<sup>th</sup>.
- \*\*\* A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample. A person may physically collect the four grab samples or a composite sampler may be set up to collect the four grab samples.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

\*\*\*\* pH is measured in pH units and is not to be averaged. The pH for all facilities except lagoons is limited to the range of 6.0-9.0 pH units.

Note 1 - Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.

Note 2 - Monthly average limit for Fecal Coliform is expressed as a geometric mean. Geometric mean for n samples =  $[a_1 \times a_2 \times a_3 \dots \times a_n]^{1/n}$

Note 3 - This permit contains a Total Residual Chlorine (TRC) limit.

(a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit

limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

(b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.

(c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit**.

(d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:

(a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(2) controls any pollutant not limited in the permit.

(b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.

(c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri’s list of waters of the state not fully achieving the state’s water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

C. SPECIAL CONDITIONS (continued)

4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 µg/L);
  - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

8. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	Once / Permit cycle	24 hour composite	August 2014

Dilution Series						
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

$AEC\% = 0.069 / (0 + 0.069) \times 100 = 100\%$

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
  - a. For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.
  - b. Samples submitted for analysis of stormwater discharges shall be collected as a grab.
  - c. For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
  - d. A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
  - e. Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
  - f. Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
  - g. Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
  - h. Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
  - i. All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.

C. SPECIAL CONDITIONS (continued)

- j. Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
  - k. Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
  - l. Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
  - m. All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
- (2) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (3) If the effluent fails the test, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met:
- (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
  - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (4) Failure of at least two multiple-dilution tests during any period of accelerated monitoring violates the permit narrative requirement for aquatic life protection.
- (5) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (6) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (7) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (8) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (9) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (10) Submit a concise summary in tabular format of all WET test results with the annual report.
- (b) PASS/FAIL procedure and effluent limitations:
- (1) To pass a multiple-dilution test:
    - (i) For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC<sub>50</sub> concentration for the most sensitive of the test organisms; **OR**,
    - (ii) For facilities with an AEC greater than 30%, the LC<sub>50</sub> concentration must be greater than 100%; **AND**,
    - (iii) all effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required. Failure of one multiple-dilution test may be considered an effluent limit violation.

C. SPECIAL CONDITIONS (continued)

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below.
- (3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Multiple-dilution tests will be run with:
  - (i) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
  - (ii) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (iii) reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

C. SPECIAL CONDITIONS (continued)

**SUMMARY OF TEST METHODOLOGY FOR ACUTE WHOLE-EFFLUENT TOXICITY TESTS**

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$ )
Test acceptability criterion:	90% or greater survival in controls

Test conditions for Pimephales promelas:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$ )
Test Acceptability criterion:	90% or greater survival in controls

**Missouri Department of Natural Resources**  
**Statement of Basis**  
**#MO-0130460**  
**Royale Palms Wastewater Treatment Facility**

This Statement of Basis (Statement) gives pertinent information regarding minor/simple modification(s) to the above listed operating permit without the need for a public comment process.

A Statement is not an enforceable part of a Missouri State Operating Permit.

**Part I – Facility Information**

Facility Type: Sewerage Works  
Facility SIC Code(s): #4952

Outfall #001

Flow equalization / extended aeration / secondary clarification / disinfection by chlorination / reaeration / dechlorination / sludge disposal by contract hauler

Design population equivalent is 592.  
Design flow is 44,400 gallons per day. Adjusted Design Flow for fee purposes is 10,999 gallons per day.  
Design sludge production is 10.7 dry tons/year

**Part II – Modification Rationale**

This operating permit is hereby modified to reflect a change in ownership, and add an adjusted design flow. The Department has determined this facility qualifies for an ADF of 10,999 gallons per day. The sewage flow to the facility is not expected to increase to more than 60 percent of its' permitted design flow over the remaining term of the permit; and the facility has a good compliance history

No other changes were made at this time.

**Part III – Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit.

**Date of Statement of Basis:** August 13, 2013

Submitted by

Angela Falls, Environmental Specialist  
Domestic Wastewater Unit  
Operating Permits Section  
Water Protection Program  
(573) 751-1419  
angela.falls@dnr.mo.gov

**Missouri Department of Natural Resources  
Statement of Basis  
Royale Palms WWTF  
NPDES #: MO-0130460  
Camden County**

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rational for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

A Statement is not an enforceable part of an operating permit.

**Facility Information**

Facility Type: Sewerage Works  
Facility SIC Code(s): 4952

Facility Description: Flow equalization / extended aeration / secondary clarification / disinfection by chlorination / reaeration / dechlorination / sludge disposal by contract hauler

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.06882	Secondary	Domestic, New	0

Water Quality History: N/A

Comments: New Facility. The facility has been under enforcement due to discharging without a permit, the facility was leaking in different areas. The facility has been pumping and hauling. A recent inspection was conducted and showed all of the leaks repaired. An application was received on August 2, 2010. Total Phosphorus and Total Nitrogen monitoring was added to the permit. The WET test was updated as per Department's procedures. No other additions were made.

**Receiving Stream Information**

Please mark the correct designated waters of the state categories of the receiving stream.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]: Yes ; No
- Lake or Reservoir [10 CSR 20-7.015(3)]: Yes ; No
- Lossing [10 CSR 20-7.015(4)]: Yes ; No
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]: Yes ; No
- Special Stream [10 CSR 20-7.015(6)]: Yes ; No
- Subsurface Water [10 CSR 20-7.015(7)]: Yes ; No
- All Other Waters [10 CSR 20-7.015(8)]: Yes ; No

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses."

The receiving stream and/or 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Lake of the Ozarks	L2	07205	AQL, LWW, WBC, SCR	10290109	Ozark Osage

\* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND).

\*\* - Ecological Drainage Unit

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Lake of the Ozarks	289	423	444

**MIXING CONSIDERATIONS TABLE:**

MIXING ZONE (CFS) [10 CSR 20-7.031(4)(A)4.B.(II)(a)]		
1Q10	7Q10	30Q10
72.25	105.75	111

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

**Rationale and Derivation of Effluent Limitations & Permit Conditions**

**ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

**ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); CFR §122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- New facility.

**ANTIDegradation:**

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters.

Antidegradation requirements are consistent with 40 CFR 131.12 that outlines methods used to assess activities that may impact the integrity of a water and protect existing uses. This policy may compel the state to maintain a level of water quality above those mandated by criteria.

Applicable, but deferred ;

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which is tentatively scheduled for August 2008.

**APPLICABLE PERMIT PARAMETERS:**

Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, water quality based effluent limits, and from appropriate sections of the renewal application.

**COMPLIANCE AND ENFORCEMENT:**

Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Not Applicable ;

The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

**PRETREATMENT PROGRAM:**

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR §403.3(q)].

Not Applicable ;

At this time, the permittee is not required to implement and enforce a Pretreatment Program.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

Not Applicable ;

A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

Removal efficiency is one method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for domestic wastewater sources.

Not Applicable ;

This facility is not required to meet a removal efficiency because it is a non-POTW.

**SANITARY SEWER OVERFLOWS (SSOs), AND INFLOW & INFILTRATION (I&I):**

Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.

Not Applicable ;

This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

**SCHEDULE OF COMPLIANCE (SOC):**

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable ;

This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Not Applicable ;

At this time, the permittee is not required to develop and implement a SWPPP.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

**WLA MODELING:**

Not Applicable ;

A WLA study was either not submitted or determined not applicable by department staff.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR §122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Applicable ;

- Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing are also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following RSMo apply: §644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and §644.051.5 is the basic authority to require testing conditions. WET test will be required by all facilities meeting the following criteria:
- All major discharge facilities ;
- Facilities that are exceeding or routinely exceed their design flow ;
- Most municipals, domestic sewage dischargers ;
- Industrial dischargers or other dischargers that may alter their production processes throughout the year ;
- Facilities that may handle large quantities of toxic substances, or substances that are toxic in large amounts ; and
- Facilities that have been granted seasonal relief of numeric limitations ;
- Facilities with discharges greater than 22,500 gpd .

**303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):**

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable ;

Currently the Lake of the Ozarks is not on the 2008 303(d) list. However it is proposed for the 2010 303(d) list for nutrients.

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*	--	*	N/A	N/A
BOD <sub>5</sub> **	MG/L	1	40	--	20	N/A	N/A
TSS **	MG/L	1	40	--	20	N/A	N/A
PH (S.U.)	SU	1	6.0-9.0	--	6.0-9.0	N/A	N/A
TOTAL AMMONIA AS N	MG/L	5	12.1	--	4.6	N/A	N/A
FECAL COLIFORM	***	1	1000	--	400	N/A	N/A

CHLORINE, TOTAL RESIDUAL (MG/L)	MG/L	1	0.019	--	0.0095	N/A	N/A
TEMPERATURE	°C	1	*	--	*	N/A	N/A
DISSOLVED OXYGEN	MG/L	11	5.0	--	6.3	N/A	N/A
TOTAL PHOSPHORUS AS P	MG/L	8	*		*	N/A	N/A
TOTAL NITROGEN AS N	MG/L	8	*		*	N/A	N/A
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

**\* - Monitoring requirement only**

\*\*\* - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

\*\*\*\* - Parameter not previously established in previous state operating permit.

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- |  |                                   |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law       | 6. Antidegradation Policy         |
| 2. Water Quality Standard (includes RPA) | 7. Water Quality Model            |
| 3. Water Quality Based Effluent Limits   | 8. Best Professional Judgement    |
| 4. Lagoon Policy                         | 9. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 10. WET test Policy               |
|  | 11. DO policy                     |

**OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:**

**Biochemical Oxygen Demand (BOD<sub>5</sub>).**

– 40 mg/L Daily Maximum and 20 mg/L Monthly Average effluent limitations, as per [10 CSR 20-7.015]. The daily maximum is calculated by  $(20 \times 3.114) / 1.5524 = 40$  mg/L daily maximum.

**Total Suspended Solids (TSS).**

– 40 mg/L Daily Maximum and 20 mg/L Monthly Average effluent limitations, as per [10 CSR 20-7.015]. The daily maximum is calculated by  $(20 \times 3.114) / 1.5524 = 40$  mg/L daily maximum.

**pH.** Effluent limitations are 6.0-9.0 as per [10 CSR 20-7.015].

**Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.

**Ammonia as N:** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg N/L)	Total Ammonia Nitrogen CMC (mg N/L)
Mar 1 – May 31	16	7.8	2.8	12.1
Jun 1 – Aug 31	28	7.8	1.3	12.1
Sept 1 – Nov 30	16	7.8	2.8	12.1
Dec 1 – Feb 29	6	7.8	3.1	12.1

Spring: Mar 1 – May 31, Summer: Jun 1 – Aug 31, Fall: Sep 1 – Nov 30, Winter: Dec 1 – Feb 29

**Summer** – Zone of Initial Dilution is not allowed. Mixing Zone is allowed = 32.25 cfs

Acute

$$((Q_e + Q_s) \cdot C - (Q_s \cdot C_s)) / Q_e$$

$$((0.06882 + 0) \cdot 12.1 - (0 \cdot 0.037)) / 0.06882 = 12.1$$

$$LTA_a = 12.1 \text{ mg/L } (0.321) = 3.9 \text{ mg N/L}$$

[CV = 0.6, 99<sup>th</sup> Percentile]

Chronic

$$((0.06882+72.25)*1.3-(72.25*0.037))/0.06882=1,327$$

$$LTA_c = 1,327 \text{ mg/L (0.780)} = 1,035 \text{ mg N/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile, 30 day average}]$$

Acute is more protective

$$MDL = 3.9 \text{ mg/L} * 3.11 = 12.1 \text{ mg N/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 3.9 \text{ mg/L} * 1.19 = 4.6 \text{ mg N/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile, n} = 30]$$

Because the chronic summer number is the smallest compared to fall, spring, and winter and the summer chronic was higher than the acute, the other seasons for chronic were not calculated because it would have shown that the acute value would be more protective.

Maximum Daily Limit (mg N/L)	Average Monthly Limit (mg N/L)
12.1	4.6

### **Fecal Coliform**

$$((Q_e + Q_s)*C - (Q_s*C_s))/Q_e$$

$$\text{Chronic: } C_c = ((0.06882+105.8)*200-(105.8*0)) / 0.06882 = 307,669$$

$$WLA_c = 307,669/100 \text{ mL}$$

$$LTA_c = 307,669 (0.5274) = 162,264/100 \text{ mL} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 162,264 (3.114) = 505,290/100 \text{ mL} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 162,264 (1.55) = 251,509/100 \text{ mL} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile, n} = 4]$$

**The technology based limits are more protective as per 10 CFS 20-7.015, 1,000 / 100 mL daily maximum and 400 / 100 mL monthly average.**

**Total Residual Chlorine (TRC)**. Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L. Due the fact the flows through the lakes are large, Acute criteria will be used only.

$$((Q_e + Q_s)*C - (Q_s*C_s))/Q_e$$

$$\text{Acute: } C_c = ((0.06882+0)*0.019-(0*0)) / 0.06882 = 0.019$$

$$WLA_a = 0.019 \text{ mg/L}$$

$$LTA_a = 0.019 (0.321) = 0.0061 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 0.0061(3.114) = 0.019 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 0.0061(1.55) = 0.0095 \text{ mg/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile, n} = 4]$$

**Total Phosphorus**. New nutrient criteria will be coming out in the near future for Lakes. Monitoring only to gather information about facilities and to determine the impacts if any to the lake for this parameter.

**Total Nitrogen**. New nutrient criteria will be coming out in the near future for Lakes. Monitoring only to gather information about facilities and to determine the impacts if any to the lake for this parameter.

**Dissolved Oxygen**: Oxygen Saturation 660' msl, 0.230 g/L chloride, 28°C = 7.6293  
Minimum Daily Limit = 5.0 mg/L from Water Quality Standard in Chapter 7 Table A

$$C^* - C \text{ MDL} = 7.6293 - 5.0 = 2.6293$$

$$C^* - C \text{ LTA}_c = 2.6293 / 3.114 = 0.8443$$

$$C^* - C \text{ AML} = 0.8443 * 1.5524 = 1.3107$$

AML C = 7.6293 – 1.3107 = 6.3186 or 6.3

Minimum daily limit = 5.0 mg/L

Minimum monthly limit = 6.3 mg/L

• **Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	MONTHLY	MONTHLY
BOD <sub>5</sub>	MONTHLY	MONTHLY
TSS	MONTHLY	MONTHLY
PH (S.U.)	MONTHLY	MONTHLY
TEMPERATURE (°C)	MONTHLY	MONTHLY
TOTAL AMMONIA AS N	MONTHLY	MONTHLY
TOTAL RESIDUAL CHLORINE	MONTHLY	MONTHLY
DISSOLVED OXYGEN	MONTHLY	MONTHLY
FECAL COLIFORM (NOTE 1)	MONTHLY	MONTHLY
TOTAL PHOSPHORUS AS P	MONTHLY	MONTHLY
TOTAL NITROGEN AS N	MONTHLY	MONTHLY

**WET Test.** WET Testing schedules and intervals are established in accordance with the department’s Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.

- Chronic
- Acute
- No less than ONCE/PERMIT CYCLE:**
  - Municipality or domestic facility with a design flow ≥ 22,500 gpd, but less than 1.0 MGD.
  - Other, please justify.

Allowable Effluent Concentration (AEC) calculations determine if the facility is to conduct single dilution or multiple dilution WET testing. Facilities that discharge to unclassified or Class C receiving streams, the AEC% is 100%. Facilities with less than 100% for an AEC% will have multiple dilution WET testing. Facilities that discharge to Lakes and have Acute WET testing, the AEC% is 100% due to [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] ZID not allowed for Lakes.

Acute AEC% =  $((0.069 + 0) / 0.69^{-1}) \times 100 = 100\%$

**Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

**Date of Factsheet:** January 7, 2008

Megan L. Hart, E.I.  
 WP Engineering Unit  
 (417) 891-4300  
 megan.hart@dnr.mo.gov

**Revised on** August 5, 2010 by Kristen Pattinson  
 kristen.pattinson@dnr.mo.gov



JUL 16 2013

Office: 573-964-6956

Cell: 573-692-0507

Fax: 866-365-8422

PO Box 2325  
Lake Ozark, MO 65049

July 16, 2013

Mr. Kevin Hess, Chief  
Missouri Department of Natural Resources-SWRO  
2040 W. Woodland  
Springfield, MO 65807-5912



Re: Royal Palms WWTF  
MSOP # MO-0130460

Dear Mr. Hess:

The purpose of this correspondence is to request an adjusted flow for fee purposes on the above referenced State Operating Permit and provide permit transfer application. The facility was originally designed and built with anticipated development in mind.

Determining Adjusted Design Flow and the Applicable Fee per 10 CSR 20-6.011(B)1 . In order for the facility to qualify for adjusted flow its average flow must be sixty percent (60%) or less of its design flow. The Design flow for this facility is 44,400 gallons per day (gpd). Sixty percent (60%) of the design flow is 26,640 gallons per day. Currently there are seventy-four units connected to the facility. New units are not anticipated within the term of the permit. Method 1: Drinking Water Meter Readings shall be used for determination of Adjusted Design flow and is as follows:

Permitted Design Flow = 44,400 gpd

Annual Operating Permit Invoiced Fee = \$3,000

Targeted Actual Flow for Reduced Fee = 44,400 gpd x 60% = 26,640 gpd

Metered Water Usage for One Year = 2,936,900 gallons (July 2012 through June 2013)

Average Water Usage = 2,936,900 gallons per year/365 days per year = 8,046 gpd x 1.3 = 10,460 gpd

Eligible for Reduction: Since the target flow of 26,640 gpd is greater than the actual flow of 10,460 gpd.

Adjusted Annual Operating Permit Fee = \$375

Since the average well flow is well below the requested adjusted flow and is well below the 60% of design flow, the facility would be eligible for a reduced fee. Adjusted Annual Operating Permit Fee = \$375.

On behalf of the Royale Palms WWTF, we request that a new Operating Permit be issued and an adjusted design flow of less than 10,999 gallons per day be used for fee purposes. Annual fee due would be \$375.00. Based on information provided in the previous paragraph we believe this flow to be reasonable. Considering the current economy, the Royal Palms WWTF Owners do not anticipate any increase in flows during the permit cycle. It is understood that at such time new units are built and flow increases so would the annual fees.

Included with this letter is the Permit Modification Application along with the modification fee of 25% of the proposed annual fee.

The owners of Royale Palms WWTF look forward to a quick response to this request so they can budget for next year. Should you have any questions or require additional information please call me at 573-692-0507.

Cordially,  
**LO Environmental, LLC**

Shelly Hall, PE





MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**FORM B: APPLICATION FOR AN OPERATING PERMIT FOR DOMESTIC OR MUNICIPAL WASTEWATER (≤100,000 gallons per day)**

**FOR AGENCY USE ONLY**

CHECK NUMBER 000850

DATE RECEIVED 7/22/13 FEE SUBMITTED 93.75

7/26/13



**PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM**

**1. THIS APPLICATION IS FOR:**

An operating permit for a new (including antidegradation review) or unpermitted facility. Construction Permit # \_\_\_\_\_

An operating permit renewal: Permit #MO- \_\_\_\_\_ Expiration Date \_\_\_\_\_

An operating permit modification: Permit #MO- MO-0130460 Reason: Adjusted Flow

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)?  YES  NO

1.2 Is a facility description included with this application (see 7.1)?  YES  NO

**2. FACILITY**

NAME: Royale Palms WWTF TELEPHONE NUMBER WITH AREA CODE: (573) 836-3342

ADDRESS (PHYSICAL): 184 Plaza Gardens Court CITY: Camdenton STATE: MO ZIP CODE: 65020

OUTFALL NUMBER: For multiple outfalls, this is number 1 of 1

Estimated (actual) flow: 13,324 gpd, Design Average Flow: 44,400 gpd, Design Peak Hourly Flow: 7,289 gph

2.1 Legal description: sw ¼, nw ¼, sw ¼, Sec. 16, T 39N, R 17W County Camden

2.2 UTM Coordinates Easting (X): 051727 Northing (Y): 421912  
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Lake of the Ozarks

**3. OWNER**

NAME: Royale Palms Vista Condominium Unit Owners Association, Inc. E-MAIL ADDRESS: sunwest@ronduggan.com TELEPHONE NUMBER WITH AREA CODE: (573) 374-3040

ADDRESS: c/o SunWest Property Management, LLC P.O. Box 568 CITY: Sunrise Beach STATE: MO ZIP CODE: 65079

3.1 Request review of draft permit prior to public notice?  YES  NO

**4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility.**

NAME: Royale Palms Vista Condominium Unit Owners Association, Inc. E-MAIL ADDRESS: sunwest@ronduggan.com TELEPHONE NUMBER WITH AREA CODE: (573) 374-3040

ADDRESS: c/o SunWest Property Management, LLC P.O. Box 568 CITY: Sunrise Beach STATE: MO ZIP CODE: 65079

**5. OPERATOR**

NAME: LO Environmental, LLC - Attn: Shelly Hall, PE CERTIFICATE NUMBER: \_\_\_\_\_

E-MAIL ADDRESS: shelly@loenvironmental.com TELEPHONE NUMBER WITH AREA CODE: 573-692-0507

**6. FACILITY CONTACT**

NAME: Gary Brelsford TITLE: Board Director

E-MAIL ADDRESS: mail@osborn-brelsford.com TELEPHONE NUMBER WITH AREA CODE: 573-836-3342

**7. DESCRIPTION OF FACILITY**

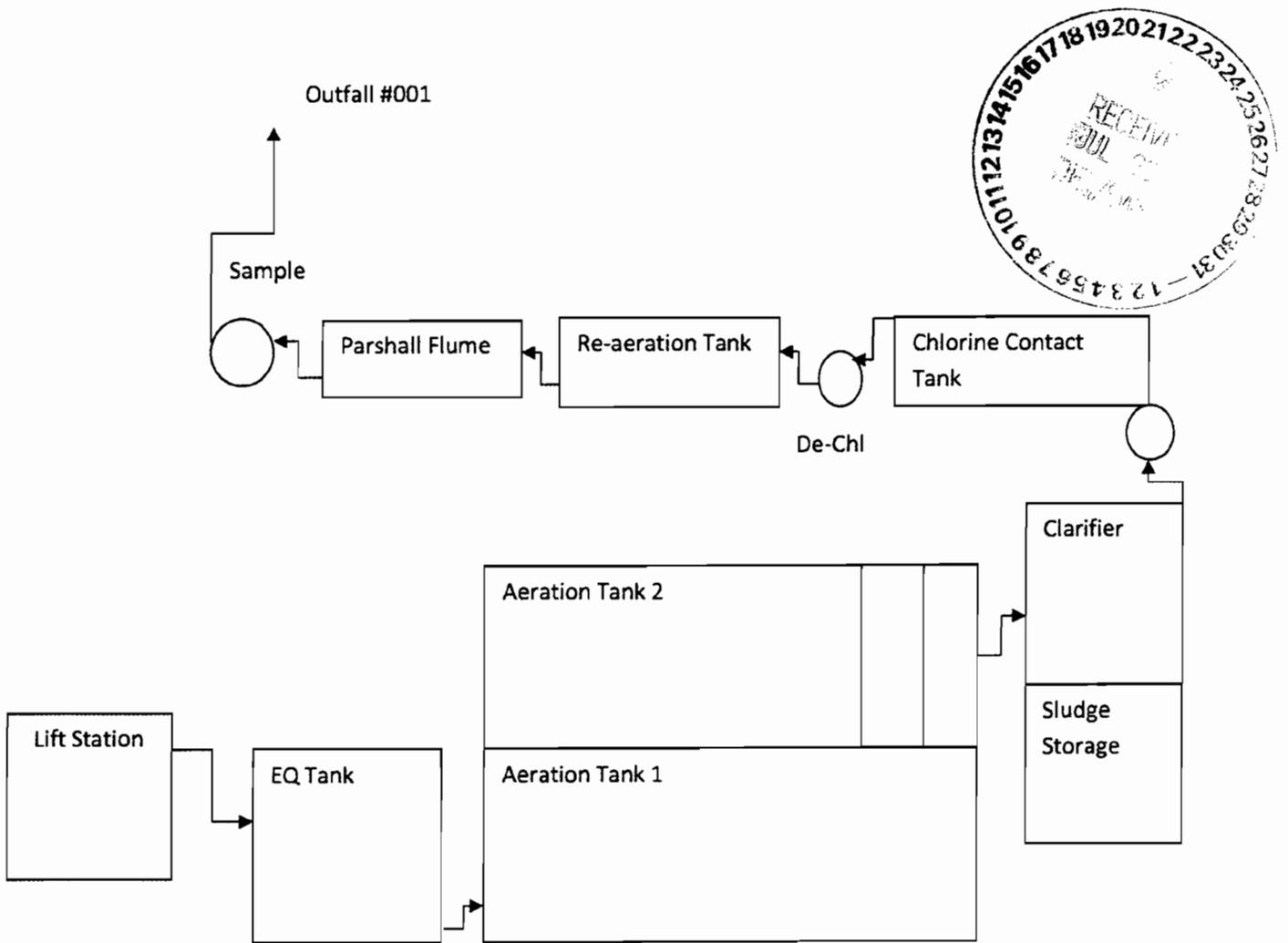
7.1 Describe the facility (attach additional sheet if required) and attach a flow chart showing the influents, treatment facilities and outfalls.  
FLOW EQUALIZATION/EXTENDED AERATION/SECONDARY CLARIFICATION/CHL/DECHL/REAERATION/SLUDGE DISPOSAL BY CONTRACT HAULER

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

7.3 Design flow for this outfall: 44,400 Total design flow for the facility: 44,400 Actual flow for this outfall: 10,460

7.4 Number of people presently connected or population equivalent (P.E.): 222 Design P.E.: 592

7.5 Does the facility accept or process leachate from landfills?  Yes  No



**Flow Diagram**

**Facility consist of flow equalization, extented aeration, secondary clarification, chlorination, re-aeration, declorination and sludge removal by a contract hauler.**

Royale Palms WWTF  
MSOP # MO-0130460

**8. ADDITIONAL FACILITY INFORMATION**

8.1 Facility SIC code: 8641; Discharge SIC code: 4952

8.2 Milestone dates:

Date of completion of construction of facility: n/a

Dates of any construction modifications to the facility (along with description of modification): N/A

8.3 Connections to the facility:

Number of units presently connected: Homes 0 Trailers 0 Apartments 74

Other (including industrial) 0 (If industrial, see instructions 8.1)

Number of commercial establishments: 0

Daily number of employees working (total estimate): \_\_\_\_\_ Daily number of customers/guests (total estimate): \_\_\_\_\_

8.4 Length of pipe in the sewer collection system? \_\_\_\_\_ feet or .23 miles (either unit is appropriate.)

8.5 Does any bypassing occur in the collection system or at the treatment facility?  Yes  No (If yes, explain.)

8.6 Does significant infiltration occur in the collection system?  Yes  No (If yes, explain and attach proposed repair.)

**9. DISCHARGE INFORMATION**

9.1 Will the discharge be continuous throughout the year?  Yes  No

9.2 Discharge will occur during the following months: \_\_\_\_\_

9.3 How many days of the week will the discharge occur? \_\_\_\_\_

9.4 Is wastewater land-applied?  Yes  No (If yes, attach Form I.)

9.5 Will chlorine be added to the effluent?  Yes  No

If chlorine is added, what is the resulting residual? 9.5 µg/l (micrograms per liter)

9.6 Does this facility discharge to a losing stream or sinkhole?  Yes  No

9.7 Has a waste load allocation study been completed for this facility?  Yes  No

**10. List all permit violations, including effluent limit exceedances, in the last five years. Attach a separate sheet if necessary. If none, write none.**

AUG 2012 & MAY 2013 EXCEEDED LIMIT FOR AMMONIA AS N, MECHANICAL FAILURE AND ORGANICS WERE CONTRIBUTING FACTORS BOTH HAVE BEEN CORRECTED.



**11. SLUDGE HANDLING, USE AND DISPOSAL**

11.1 Is the sludge a hazardous waste as defined by 10 CSR 25?  Yes  No  
 Sludge production, including sludge received from others: 10.6 Design Dry Tons/Year 2.5 Actual Dry Tons/Year

11.3 Capacity of sludge holding structures:  
 Sludge storage provided: 2650 cubic feet; \_\_\_\_\_ days of storage; \_\_\_\_\_ average percent solids of sludge;  
 No sludge storage is provided.

- Type of Storage:  Holding tank  Building  
 Basin  Other (Please describe) \_\_\_\_\_  
 Concrete Pad
- Sludge Treatment  
 Anaerobic Digester  Lagoon  Composting  
 Storage Tank  Aerobic Digester  Other (Attach description)  
 Lime Stabilization  Air or Heat Drying

- Sludge Use or Disposal:  
 Land Application  Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)  
 Contract Hauler  Incineration  
 Hauled to Another  Sludge Retained in Wastewater treatment lagoon  
 Solid Waste Landfill  Other \_\_\_\_\_ Attach explanation sheet.

Person responsible for hauling sludge to disposal facility  
 By Applicant  By Others (complete below)

NAME CONTRACT HAULER		E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-

Sludge use or disposal facility  
 By applicant  By others (Please complete below.)

NAME CONTRACT HAULER		E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-

Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?  
 Yes  No (Please explain)

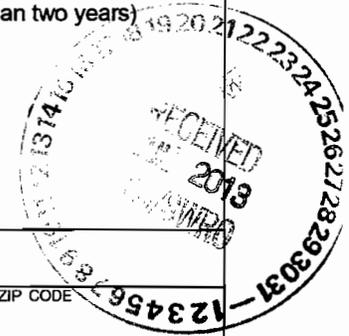
**12. DOWNSTREAM LANDOWNERS - ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.**

NAME Ameren Missouri			
ADDRESS 1028 Bagnell Dam Blvd.	CITY Lake Ozark	STATE MO	ZIP CODE 65049

**13. CERTIFICATION**

I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Gary Brelsford, Director - Royale Palms Vista Condominium Unit Owners Association, Inc.		TELEPHONE NUMBER WITH AREA CODE (573) 836-3342
SIGNATURE <i>Gary Brelsford</i>		DATE SIGNED 07/19/2013



Royale Palms Condominium Unit Owners Association, Inc.  
c/o SunWest Property Management  
P.O. Box 568  
Sunrise Beach MO 65079

First National Bank  
P.O Box 138, 117 North State  
Highway 5  
Camdenton MO 65020-0138

000850

Date : 07/19/2013

Pay \*\* Ninety-three and 75/100 Dollars

\$ 93.75

To the Missouri Department of Natural Resources  
order of PO Box 477  
Jefferson City MO 65102

Royale Palms Vista Condominium Unit Owners Association, Inc.

By: Brenda Harmon

Note: modification of permitting flow application

SECURITY FEATURES INCLUDED. DETAILS ON BACK

⑈000850⑈ ⑆081507425⑆ 1074285⑈

Royale Palms Vista Condominium Unit Owners Association, Inc.

Missouri Department of Natural Resources

Note: modification of permitting flow application

Invoices paid

Reference :

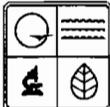
Date : 07/19/2013

Number : 000850

Amount \$ 93.75

Invoice	Date	Original Amount	Payment	Discount
2013-03 - Missouri Department of Natural Resources-modification o	07/19/2013	93.75	93.75	0.00





MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH  
 (SEE MAP FOR APPROPRIATE REGIONAL OFFICE)  
**APPLICATION FOR TRANSFER OF OPERATING PERMIT**

FOR AGENCY USE ONLY	
CHECK NO.	000851 Returned 7/30/13
DATE RECEIVED	7/22/13
FEE SUBMITTED	93.75

7/30/13  
 PEJ  
 SFB

**NOTE** PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM. 7/26/13

1.00 - 4.00 TO BE COMPLETED BY CURRENT PERMITTEE (PRESENT OWNER/SELLER). THE FOLLOWING ITEMS PRESENTLY APPLY TO THIS FACILITY: (SEE INSTRUCTIONS FOR APPROPRIATE FEE TO BE SUBMITTED WITH APPLICATION.)

**1.00 FACILITY**

NAME Royale Palms WWTF		TELEPHONE NUMBER 573-374-3040	
ADDRESS 184 Plaza Gardens Court	CITY Camdenton	STATE MO	ZIP 65020

**2.00 CURRENT OWNER**

NAME Sundown Investments, Inc.		PHONE 641-777-0000	
		E-MAIL jlynch@netins.net	
ADDRESS 17416 Highway 2	CITY Bloomfield	STATE IA	ZIP 52537

**3.00 CONTINUING AUTHORITY:** (If same as owner, write same.)

NAME Royale Palms Owners Master Association, Inc.		TELEPHONE NUMBER 641-777-0000	
ADDRESS 17416 Highway 2	CITY Bloomfield	STATE IA	ZIP 52537

**4.00 SIGNATURE**

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION GIVEN ABOVE, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE, AND UNTIL TRANSFER APPROVAL, I AGREE TO CONTINUE TO ABIDE BY THE MISSOURI CLEAN WATER LAW AND ALL RULES, REGULATIONS, ORDERS AND DECISIONS, SUBJECT TO ANY LEGITIMATE APPEAL AVAILABLE UNDER THE MISSOURI CLEAN WATER LAW, OF THE MISSOURI CLEAN WATER COMMISSION.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) John D. Lynch, President - Sundown Investments, Inc.	PHONE NO. (AREA CODE & NO.) 641-777-0000
SIGNATURE <i>John D. Lynch - President</i>	DATE SIGNED 7/1/13



THE FOLLOWING ITEMS (5.00-10-00) WILL APPLY AFTER COMPLETION OF TRANSFER (SALE) AND ARE TO BE COMPLETED BY THE APPLICANT FOR TRANSFER OF OPERATING PERMIT (BUYER) OR AUTHORIZED AGENT.

**5.00 FACILITY**

NAME Royale Palms WWTF		NPDES NUMBER MO-0130460	TELEPHONE NUMBER 573-374-3040	
ADDRESS 184 Plaza Gardens Court	CITY Camdenton	STATE MO	ZIP 65020	

**6.00 FUTURE OWNER**

NAME Royale Palms Vista Condominium Unit Owners Association, Inc.		TELEPHONE NUMBER 573-374-3040		
ADDRESS c/o SunWest Property Management, LLC P.O. Box 568	CITY Sunrise Beach	STATE MO	ZIP 65079	

**7.00 CONTINUING AUTHORITY: (if same as owner, write same)**

NAME SAME		TELEPHONE NUMBER		
ADDRESS	CITY	STATE	ZIP	

**8.00 FACILITY CONTACT**

NAME Gary Brelsford		TELEPHONE NUMBER 573-836-3342		
TITLE Director, Board of Directors, Royale Palms Vista Condominium Unit Owners Association, Inc.				

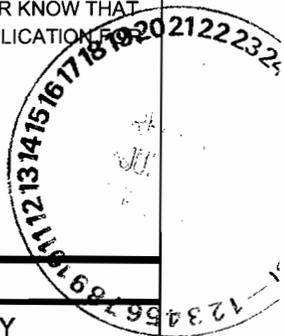
**9.00 ADDITIONAL INFORMATION**

ANTICIPATED EFFECTIVE DATE OF TRANSFER IN OWNERSHIP  
July 1, 2013

ARE ANY CHANGES IN PRODUCTION, RAW MATERIALS OR IN THE QUANTITY OR QUALITY OF THE DISCHARGES FROM THIS FACILITY PLANNED OR ANTICIPATED?

YES  NO IF YES EXPLAIN (IF ADDITIONAL SPACE IS REQUIRED, ATTACH SHEET)

THERE HAVE NOT BEEN ANY CHANGES IN PRODUCTION QUANTITIES, AND NONE ARE ANTICIPATED; HOWEVER KNOW THAT THE FACILITY HAS BEEN AND IS OPERATING BELOW 60% OF DESIGN FLOW. PLEASE SEE ACCOMPANYING APPLICATION FOR PERMIT MODIFICATION.



**10.00 SIGNATURE**

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION GIVEN ABOVE, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE, AND UPON TRANSFER APPROVAL, I AGREE TO ABIDE BY THE MISSOURI CLEAN WATER LAW AND ALL RULES, REGULATIONS, ORDERS AND DECISIONS, SUBJECT TO ANY LEGITIMATE APPEAL AVAILABLE UNDER THE MISSOURI CLEAN WATER LAW, OF THE MISSOURI CLEAN WATER COMMISSION.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Jon Broce, President - Royale Palms Vista Condominium Unit Owners Association, Inc.		PHONE NO. (AREA CODE & NO.) 573-374-3040
SIGNATURE <i>Jon Broce - President</i>		DATE SIGNED 7-19-2013

Royale Palms Condominium Unit Owners Association, Inc.  
c/o SunWest Property Management  
P.O. Box 568  
Sunrise Beach MO 65079

First National Bank  
P.O. Box 138, 117 North State  
Highway 5  
Camdenton MO 65020-0138

000851

Date : 07/19/2013

Pay \*\* Ninety-three and 75/100 Dollars

\$ 93.75

To the Missouri Department of Natural Resources  
order of PO Box 477  
Jefferson City MO 65102

Royale Palms Vista Condominium Unit Owners Association, Inc.

By: Brenda Harman

Note: transfer of permit

SECURITY FEATURES INCLUDED. DETAILS ON BACK

⑈000851⑈ ⑆081507425⑆ 1074285⑈

Royale Palms Vista Condominium Unit Owners Association, Inc.  
Missouri Department of Natural Resources

Note: transfer of permit

Invoices paid

Reference :  
Date : 07/19/2013  
Number : 000851  
Amount : \$ 93.75

Invoice	Date	Original Amount	Payment	Discount
2013-04 - Missouri Department of Natural Resources - Transfer of P	07/19/2013	93.75	93.75	0.00

Returned  
7/30/13



2 checks not needed for modification fee. ~~80~~ 83