

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-0137561

Owner: David & Ethel I. Irvine  
Address: P.O. Box 451214, Grove, OK 74345

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Irvine Housing Development  
Facility Address: 438 Hilltop Road, Noel, MO 64854

Legal Description: See Page 2  
UTM Coordinates: See Page 2

Receiving Stream: See Page 2  
First Classified Stream and ID: See Page 2  
USGS Basin & Sub-watershed No.: See Page 2

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

**FACILITY DESCRIPTION**

See Page 2

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.

June 1, 2014  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

May 31, 2019  
Expiration Date

  
John Madros, Director, Water Protection Program

**FACILITY DESCRIPTION** (continued)

Permitted Feature #001 – Residential Housing Development – Multiple Family – SIC 6513

Each of the four buildings utilize two 1,250 gallon septic tanks in series, one pump tank with Orenco Biotube Easypak Effluent Pumping System or equivalent per two buildings, two low pressure pipe (LPP), subsurface land application areas of 24,000 square feet each (two buildings per dosing field).

Design population equivalent is 64.

Design flow is 4,800 gallons per day.

Average design flow is 4,800 gallons per day (dry weather flows).

Actual flow is estimated to be 4,800 gallons per day.

Design sludge production is 1.79 dry tons per year.

Legal Description: SW¼, NW¼, Sec. 21, T21N, R33W, McDonald County  
UTM Coordinates: X=364332, Y=4045042  
Receiving Stream: non-discharging, nearest stream is an unnamed tributary to Yarnell Branch (U)  
First Classified Stream and ID: Elk River (P) (3246)  
USGS Basin & Sub-watershed No.: 11070208-0504

**Receiving Stream Watershed:**

The nearest stream to this non-discharging facility is an unnamed tributary (gaining) that flows into the Yarnell Branch (losing) that flows into the Elk River (gaining).

**Facility Type:**

Non-discharging system consisting of two septic tanks in series per building (total of eight), two storage/pump tanks, and two 24,000 square feet subsurface land application systems in the Elk River basin.

**Design Basis:**

	<b><u>Avg. Annual</u></b>
Design dry weather flows	1.75 million gallons
Design with 1-in-10 year flows	1.75 million gallons (no lagoons)
Design PE of 64	

**Storage in Dosing Tank:**

Freeboard for dosing tank: 2.25 feet  
Storage volume (minimum to maximum water levels) 5,000 gallons

**Land Application:**

Land Application Volume/year: 1,750,000 gallons at design loading  
Land Application areas: 1.1 acres at design loading (2.2 acres total available)  
Application rates: 0.0067 inch/hour; 0.16 inch/day; 1.13 inches/week; 58.5 inches/year  
Field slopes: less than 3 percent  
Equipment type: low pressure PVC piping (1½ inch manifold, 1¼ inch laterals), subsurface application (8 inch trenches with lateral placed in screened rock or gravel)  
Vegetation: grass  
Application rate is based on: hydraulic loading rate of 0.1 gallon per square foot per day

Five groundwater monitoring wells, MW1 through MW5, located at the Land Application area

Legal Description: NW ¼, SW ¼, NW ¼, Sec. 21, T21N, R33W, McDonald County  
UTM Coordinates: X= 364332, Y= 4045042

EFFLUENT PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<b>Outfall #001</b> Groundwater Monitoring Wells						
<b>TABLE A</b> <b>LAND APPLICATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS</b>						
The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective upon issuance and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:						
Land Application Operational Monitoring (Note 1)						
Volume Land Applied	gallons	4,800			Monthly*	total
Application Area	acres	1.1				
MONITORING REPORTS SHALL BE SUBMITTED SEMI-ANNUALLY; THE FIRST REPORT IS DUE <u>January 28, 2015</u> .						
Monitoring Wells MW1-MW5 (Notes 2 & 3)						
Nitrate Nitrogen as N (Note 3)	mg/L	10			twice/year	grab
MONITORING REPORTS SHALL BE SUBMITTED SEMI-ANNUALLY; THE FIRST REPORT IS DUE <u>January 28, 2015</u> .						

\* The volume of wastewater land applied may be determined from water use information at the facility. Water use records must be retained and be available for inspection by MDNR representatives.

Note 1 - **No-discharge facility requirements.** Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the storage tanks(s) or land application site.

Note 2 - Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The summarized annual report is in addition to the reporting requirements listed in Table A. The summarized annual report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the wastewater treatment facility has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the water use at the facility, the monthly and annual precipitation received at the facility, and a summary of testing results for monitoring wells samples collected in accordance with Table A above.

Note 3 - Monitor each monitoring well twice annually, once during the months of April through June and once during the months of October through December.

**C. STANDARD CONDITIONS**

In addition to specified conditions stated herein, this permit is subject to the attached Parts I & III standard conditions dated November 1, 2013 and August 15, 1994, and hereby incorporated as though fully set forth herein.

**D. SPECIAL CONDITIONS**

1. **Emergency Discharge.** Discharge for any reason shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b. Monitoring shall take place once per day while discharging. Test results are due on the 28<sup>th</sup> day of the month after the cessation of the discharge. Permittee shall monitor for the following constituents:

<b>Constituent</b>	<b>Units</b>
Flow	MGD
Biochemical Oxygen Demand <sub>5</sub>	mg/L
Total Suspended Solids	mg/l
Ammonia as N	mg/L
pH – Units	SU
Oil & Grease	mg/L
E. coli	#/100mL

2. 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
  - (b) (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.
  - (c) 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.
  - (d) 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.
  - (e) Incorporate the requirement to develop a pretreatment program pursuant to 40 CFR 403.8(a) when the Director of the Water Protection Program determines that a pretreatment program is necessary due to any new introduction of pollutants into the Publicly Owned Treatment Works or any substantial change in the volume or character of pollutants being introduced.

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

3. All permitted features must be clearly marked in the field. The permitted features and land application fields shall also be marked on the aerial or topographic site map included with the Operation and Maintenance manual.
4. Permittee will cease land application by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
5. **Water Quality Standards**
- (a) To the extent required by law, 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.

D. SPECIAL CONDITIONS (Continued)

6. 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 by the Director in accordance with 40 CFR 122.44(f).
- (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.

7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

8. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Southwest Regional Office.

9. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

10. A least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.

11. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence or other suitable locations.

12. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and buffer zones marked, and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator. A copy of the O&M Manual shall be submitted to the Southwest Regional Office for review by (issue date + 60 days). Copies of subsequent revisions shall be submitted to the Southwest Regional Office within 30 days of revision. The O&M Manual shall be reviewed and updated at least every five years.

13. An all-weather access road shall be provided to the treatment facility.

14. The land application area shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the subsurface land application system.

15. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage tank(s) and to divert stormwater runoff around the land application area and protect the area from erosion.

D. SPECIAL CONDITIONS (Continued)

16. Wastewater Land Application System.

- (a) Discharge Reporting. Any unauthorized discharge from the land application area shall be reported to the department as soon as possible but always within 24 hours.
- (b) General Land Application Requirements. The wastewater land application system shall be operated so as to provide uniform distribution of applied wastewater over the entire land application site. A complete ground cover of vegetation shall be maintained on the land application site.
- (c) Buffer Zones. There shall be no land application within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 25 feet of dwelling or public use areas; or 10 feet of the property line. Septic tanks shall be 5 feet from on-site building foundations and 15 feet from on-site basements.
- (d) Public Access Restrictions. Public access shall not be allowed to public use area land application sites when application is occurring.
- (e) Treatment System Checks During Operation. The treatment system and application site shall be visually inspected at least once/day during wastewater application to check for equipment malfunctions and runoff from the land application site.

17. Land Application Sites. To add additional land application sites or convert any of the land to public use areas, a construction permit and permit modification may be required. The facility shall contact the Department for a written determination. Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Southwest Regional Office in accordance with Special Condition #12.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**FACT SHEET**  
**FOR THE PURPOSE OF ESTABLISHING A NEW FACILITY**  
**FOR**  
**MO-0137561**  
**IRVINE HOUSING DEVELOPMENT**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

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

This Factsheet is for a Major , Minor , Variance ; and/or permit with widespread public interest .

**Part I – Facility Information**

Facility Type: NON-POTW – Residential Housing Development – Multiple Family – SIC #6513

Facility Description:

Each of the four buildings utilize two 1,250 gallon septic tanks in series, one pump tank with Orenco Biotube Easypak Effluent Pumping System or equivalent per two buildings, two low pressure pipe (LPP) subsurface land application areas of 24,000 square feet each (two buildings per dosing field).

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

- Yes; (please provide simple description or reference appropriate location in the Fact Sheet.)

- No.

Application Date: 09/03/2013

Expiration Date: new facility

**PERMITTED FEATURE(S) TABLE:**

PERMITTED FEATURE	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.007	Land Application	Domestic Wastewater
MW1	N.A.	Land Application	Groundwater monitoring
MW2	N.A.	Land Application	Groundwater monitoring
MW3	N.A.	Land Application	Groundwater monitoring
MW4	N.A.	Land Application	Groundwater monitoring
MW5	N.A.	Land Application	Groundwater monitoring

Facility Performance History:

This is a new facility, no facility performance history exists.

Comments:

The proposed wastewater treatment facility is a non-discharging facility. The subsurface soil absorption system application rate selected for the facility was based on data presented in *Geotechnical Engineering Report, Irvine Housing Development, Noel, Missouri* by Palmerton & Parrish, Inc. of Springfield, Missouri.

**Part II – Operator Certification Requirements**

Not Applicable ; This facility is not required to have a certified operator.

**Part III– Operational Monitoring**

As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

**Part IV – Receiving Stream Information**

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: PERMITTED FEATURE #001 – NON-DISCHARGING**

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Yarnell Branch	U	----	General Criteria	110702080504	0.75 to losing stream 1.3 to classified stream
Elk River	P	3246	AQL,CLF, IRR, LWW, SCR, WBC A, GEN		

\* - 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), Groundwater (GRW), General Criteria (GEN).

**RECEIVING STREAM MONITORING REQUIREMENTS:**

No receiving water monitoring requirements recommended at this time.

**GROUNDWATER MONITORING REQUIREMENTS:**

Monitoring Wells MW1-MW5 (all are downgradient)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE
Nitrate as N	twice/year	Grab

Monitoring required due to high rate subsurface absorption system. If monitoring wells demonstrate noncompliance with water quality standards, upgrades to this facility will be required. Due to the facility location, no upgradient impacts from nitrate are anticipated. Water quality standards for groundwater (10 mg/L Nitrate) apply 10' below the surface. See water quality standards at 10 CSR 20-7.031.

## **Part V – 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); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- New facility, backsliding does not apply.

### **ANTIDegradation:**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

### **AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

### **BIOSOLIDS & SEWAGE SLUDGE:**

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler.

### **COMPLIANCE AND ENFORCEMENT:**

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ; The permittee/facility is not currently under Water Protection Program enforcement action.

### **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 Part 403.3(q)].

Not Applicable ; The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

Not Applicable ; A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

Removal efficiency is a 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 Publicly Owned Treatment Works (POTWs)/municipals.

Not Applicable ; Influent monitoring is not required. Also as the facility has no discharge, percent removal is not applicable.

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

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release and are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

- 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):**

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes 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. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(10), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOC's, and attain a greater level of consistency, on October 25, 2012 the department issued a policy on development of SOC's. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as an affordability analysis.

Not Applicable ; This permit does not contain a SOC.

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

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when:  
(1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

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

**VARIANCE:**

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ; This operating permit is not drafted under premises of a petition for variance.

**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 total amount of pollutant that may be discharged into that stream without endangering its water quality.

Not Applicable ; Wasteload allocations were not calculated, non-discharging facility.

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ; A WLA study was determined not applicable by Department staff.

**WATER QUALITY STANDARDS:**

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

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

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Not Applicable ; At this time, the permittee is not required to conduct WET test for this facility.

**40 CFR 122.41(M) - BYPASSES:**

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

Not Applicable ; This facility does not anticipate bypassing.

**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 ; This facility does not discharge to a 303(d) listed stream.

**Part VI – Permit Limits Determination**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each permitted feature’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

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

**Permitted Feature #001 –Discharge**

There are no effluent limits associated with Permitted Feature #001 for the no-discharge facility. However, the following is required for a discharge.

**EMERGENCY DISCHARGE TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	*	*			NO	*
Biochemical Oxygen Demand <sub>5</sub>	mg/L	*	*			NO	*
Total Suspended Solids	mg/L	*	*			NO	*
Ammonia as N	mg/L	*	*			NO	*
pH	SU	*	*			NO	*
E.coli	**	*	*			NO	*
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.

Monitoring for these parameters is necessary to assess impacts to water quality in the event of a discharge. Such discharges of untreated or partially treated wastewater pose a threat to public health and the environment.

**Part VII – Finding of Affordability**

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

Not Applicable; The Department is not required to determine findings of affordability because the permit contains no new conditions or requirements that convey a new cost to the facility.

## **Part VIII – 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.

### **PERMIT SYNCHRONIZATION:**

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future.

### **PUBLIC NOTICE:**

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- The Public Notice period for this operating permit began on October 11, 2013 and ended November 12, 2013.

One comment letter was received during the public notice period. A copy of the letter is attached as Appendix A. Public Comment.

**DATE OF FACT SHEET:** NOVEMBER 19, 2013

**COMPLETED BY:** STEPHEN P. BUSCH

**STEPHEN P. BUSCH, ENVIRONMENTAL ENGINEER  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
ENGINEERING SECTION  
(573) 526-7558  
[steve.busch@dnr.mo.gov](mailto:steve.busch@dnr.mo.gov)**

## Appendix A – Public Comment

### APPENDIX A Public Comment

Irvine Housing Development  
MO0137561, McDonald County



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

[www.dnr.mo.gov](http://www.dnr.mo.gov)

NOV 25 2013

Mr. Luther M. Reagan  
26205 High Banks Drive  
Salisbury, MD 21801

RE: Missouri State Operating Permit - Irvine Housing Development, MO-0137561

Dear Mr. Reagan:

Thank you for your recent comment letter to the Missouri Department of Natural Resources (Department) received November 15, 2013, concerning the issuance of the above reference Missouri State Operating Permit. We appreciate you taking the time to review and comment on the proposed permit during the public comment period. Please find responses to your comments below:

1. *"It is impossible to confine comments to the issues relating to the proposal and permits when the underlined items (i.e., certain effluent limits, schedules, and special conditions) in the above paragraph are not explained or addressed."*

In regard to the effluent limits, none are specified in the permit because this is a no-discharge facility (i.e., there is no effluent). The reference to schedule is intended to apply to compliance schedules for existing facilities. Since this is a new facility and there are no existing enforcement activities, no schedule has been developed. Special conditions are provided in the permit as section "D. Special Conditions". These are conditions that are applicable to the Irvine Housing Development facility that may not be applicable to other facilities. It should be noted that all facilities are subject to certain "standard conditions" which were reference in the permit and public notice documents, but were not re-printed in the public notice. A copy of these conditions is attached to this correspondence.

2. *"If the proposed system is indeed non-discharging as stated in the facility type, why is Yarnell Branch referred to as a receiving stream?"*

The proposed facility is indeed designed to be a non-discharging facility. The Department tracks permitted facilities in its MoCWIS database according to water basin. This "receiving stream" designation fulfills our data requirements for that database. The Department has established water quality criteria for waters of the State. This database lets us track water quality in the various water sheds and provides information on the wastewater treatment facilities that are located therein.

Irvine Housing Development  
MO0137561, McDonald County

3. *"...who determines when an emergency discharge may occur and who is keeping the records...who is responsible for emergency discharge monitoring or self-reporting..."*

Emergency discharges are typically associated with facilities with surface impoundments or lagoons used to store wastewater prior to land application. When a significant storm event (as defined in the permit) contributes substantially to the volume of stored water, an emergency discharge may be authorized. The Irvine Housing Development does not have a surface impoundment or lagoon. Their wastewater storage system will not be impacted by storm events. Therefore they should not have any emergency discharges. Language referring to emergency discharges has been deleted from the draft permit to clarify this. Any discharge will be considered a permit violation. Failure to report unauthorized discharges will subject a permittee to additional enforcement action.

4. *"The facility is not required to have a certified operator!"*

Missouri regulations exempt "private" wastewater treatment facilities from the certified operator requirement. Since we are not authorized to require a certified operator for the facility, we have required that an operation and maintenance manual (i.e., condition D.13) be developed for the facility that includes all items necessary to insure the operation and integrity of the system.

5. *"...no operational monitoring is required! ...who is responsible for bringing them into compliance? In case of an emergency discharge, will affected property owners be notified?"*

Operational monitoring is required; see Table A of the permit. Monitoring wells are to be installed and sampled semi-annually. Monitoring reports must be submitted to the Department.

The Department is responsible for tracking the permittee's compliance with its permit. The Water Protection Program, Compliance & Enforcement Section monitor the self-reporting of the permittee and track compliance with permit conditions. The Southwest Regional Office of the Department, located in Springfield has field inspectors that perform unannounced inspections of permitted facilities. The Department does also receive reports of suspicious activity from concerned citizens that can result in investigation of facilities. Failure to comply with the permit can result in enforcement action taken against the permittee

As stated previously, there should be no emergency discharges from the Irvine facility. We have amended the permit to clarify this. The Department does not typically notify affected property owners.

6. *"...who is responsible to monitor, keep stated records, and control emergency discharging?"*

There are of course self-monitoring and recordkeeping requirements in the permit, which are the permittee's responsibility. We have clarified the permit so that, for this facility, there is no misunderstanding that an emergency discharge is not authorized by the permit. The Department's Southwest Regional Office is the group in the Department that conducts inspections of permitted facilities. They also handle all citizen complaints on environmental issues, including unauthorized discharges. Contact information for this unit is as follows:

Irvine Housing Development  
MO0137561, McDonald County

Southwest Regional Office  
MO Dept. Of Natural Resources  
2040 W. Woodland  
Springfield, MO 65807-5912  
417-891-4300

Again, thank you for your comments. If you have any questions or comments concerning this matter, please do not hesitate contact me at 573-526-7558 or at [steve.busch@dnr.mo.gov](mailto:steve.busch@dnr.mo.gov) or at Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102-0176

Sincerely,

WATER PROTECTION PROGRAM



Stephen P. Busch, P.E.  
Engineering Section

SB/ig

**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION**

Revised  
October 1, 1980

**PART I - GENERAL CONDITIONS  
SECTION A - MONITORING AND REPORTING**

1. **Representative Sampling**
  - a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
  - b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.
2. **Schedule of Compliance**

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.
3. **Definitions**

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.
4. **Test Procedures**

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
  - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
    - (i) the date, exact place, and time of sampling or measurements;
    - (ii) the individual(s) who performed the sampling or measurements;
    - (iii) the date(s) analyses were performed;
    - (iv) the individual(s) who performed the analyses;
    - (v) the analytical techniques or methods used; and
    - (vi) the results of such analyses.
  - b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
  - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

**SECTION B - MANAGEMENT REQUIREMENTS**

1. **Change in Discharge**
  - a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
  - b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.
2. **Noncompliance Notification**
  - a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
    - (i) a description of the discharge and cause of noncompliance, and
    - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
  - b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
3. **Facilities Operation**

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.
4. **Adverse Impact**

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

- a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
    - (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
    - (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
    - (iii) where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
  - b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.
6. **Removed Substances**  
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.
  7. **Power Failures**  
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
    - a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
    - b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
  8. **Right of Entry**  
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;
    - a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
    - b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
    - c. to inspect any monitoring equipment or method required in the permit;
    - d. to inspect any collection, treatment, or discharge facility covered under the permit; and
    - e. to sample any wastewater at any point in the collection system or treatment process.
  9. **Permits Transferable**
    - a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
    - b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.
  10. **Availability of Reports**  
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.
  - a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
    - (i) violation of any terms or conditions of this permit or the Law;
    - (ii) having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
    - (iii) a change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge, or
    - (iv) any reason set forth in the Law and Regulations.
  - b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
12. **Permit Modification - Less Stringent Requirements**  
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.
  13. **Civil and Criminal Liability**  
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
  14. **Oil and Hazardous Substance Liability**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.
  15. **State Laws**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.
  16. **Property Rights**  
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
  17. **Duty to Reapply**  
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.
  18. **Toxic Pollutants**  
If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.
  19. **Signatory Requirement**  
All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).
  20. **Rights Not Affected**  
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.
  21. **Severability**  
The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION  
AUGUST 15, 1994**

**PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES**

**SECTION A – GENERAL REQUIREMENTS**

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
  - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
  - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
  - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
  - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
  - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
  - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
  - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:

  - a. An individual permit must be obtained for each operating location, including application sites.
  - b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
  - a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
  - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period  
Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

## **SECTION B – DEFINITIONS**

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
4. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unaerated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

## **SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES**

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

## **SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER**

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

## **SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS**

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

## **SECTION F – INCINERATION OF SLUDGE**

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

## **SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS**

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
  - a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
  - b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
  - c. Permittee shall close the lagoon in accordance with Section 1.

## **SECTION H – LAND APPLICATION**

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
  - a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
  - b. This permit authorizes “Class A or B” biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.  
Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. Agricultural and Silvicultural Sites.

In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and hereby incorporated as though fully set forth herein. The guide topics are as follows:

WQ 422	Land Application of Septage
WQ 423	Monitoring Requirements for Biosolids Land Application
WQ 424	Biosolids Standards for Pathogens and Vectors
WQ 425	Biosolids Standards for Metals and Other Trace Substances
WQ 426	Best Management Practices for Biosolids Land Applications

## SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
  - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
  - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
  - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
  - a. Testing for metals or fecal coliform is not required.
  - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
  - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

## SECTION J – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, “POTW Sludge Sampling and Analysis Guidance Document”, United States Environmental Protection Agency, August 1989, and subsequent revisions.

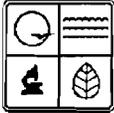
## SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
  - a. By January 28<sup>th</sup> of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
  - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:  
Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit  
(See cover letter of permit)

EPA Region VII  
Water Compliance Branch (WACM)  
Sludge Coordinator  
901 N 5<sup>th</sup> Street  
Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
  - a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
  - b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used or disposed.
  - c. Gallons and % solids data used to calculate the dry ton amounts.
  - d. Description of any unusual operating conditions.
  - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
    - (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
    - (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
  - f. Contract Hauler Activities.  
If contract hauler, provide a copy of a signed contract or billing receipts from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge disposal or biosolids use permit.
  - g. Land Application Sites.
    - (1) Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as legal description for nearest ¼, ¼, Section, Township, Range, and County, or as latitude and longitude.
    - (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
    - (3) If the “Low Metals” criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
    - (4) Report the method used for compliance with pathogen and vector attraction requirements.
    - (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**APPLICATION FOR CONSTRUCTION PERMIT –  
 WASTEWATER TREATMENT FACILITY**

RECEIVED

MAY 10 2013

CP0001519  
 AP15399 CB2414

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$300.00	CHECK NO. 7590
DATE RECEIVED 5-10-13	J.B.

**APPLICATION OVERVIEW WATER PROTECTION PROGRAM**

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

**PART A – BASIC INFORMATION**

**1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)**

- 1.1 Is this a Federal/State funded project?  YES  N/A Funding Agency: \_\_\_\_\_ Project #: \_\_\_\_\_
  - 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
 YES Date of Approval: \_\_\_\_\_  
 Attached is the No Degradation Evaluation Conclusion of Antidegradation Review form
  - 1.3 Has the department approved the proposed project's facility plan\*?  
 YES Date of Approval: \_\_\_\_\_  NO  N/A (If Not Applicable, complete No. 1.4.)
  - 1.4 [Complete only if answered Not Applicable on No. 1.3.] Is a copy of the engineering report\* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?  
 YES  NO
  - 1.5 Is a copy of the appropriate plans\* and specifications\* included with this application?  
 YES Denote which form is submitted:  Hard copy  Electronic copy (See instructions.)  NO
  - 1.6 Is a summary of design\* included with this application?  YES  NO
  - 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?  
 YES Date of submittal: \_\_\_\_\_  
 Enclosed is the appropriate operating permit application submittal. Denote which form:  A  B  B2  
 N/A Please explain: Submitting Form E-General Permit (included)
  - 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency?  YES  NO
  - 1.9 Is the appropriate fee included with this application?  YES  NO (See instructions for appropriate fee.)
- \* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

**2.0 PROJECT INFORMATION**

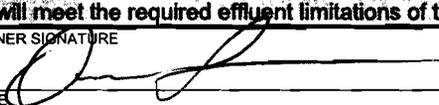
2.1 NAME OF PROJECT  
 Irvine Housing Development

2.2 PROJECT DESCRIPTION  
 Multi-family housing development to be constructed in 2 phases with a total design flow of 9,600 gpd. Proposed treatment is dual septic tanks in series at each building discharging to a pump station wet well that collects 2 buildings. The filtered effluent is pumped to a non-discharging low-pressure subsurface dosing field.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION  
 Sludge will be collected/stored in the septic tanks. Each tank will be inspected twice a year for sludge depth. When sludge depth reaches 1/3 of the tank capacity the tanks shall be pumped by a licensed disposal company and disposed of in accordance with all applicable regulations.

2.4 DESIGN INFORMATION  
 A. Current population: 0; Design population: 128  
 B. Actual Flow: N/A gpd; Design Average Flow: 9,600 gpd;  
 Actual Peak Daily Flow: N/A gpd; Design Maximum Daily Flow: 14,400 gpd

2.5 ADDITIONAL INFORMATION  
 A. Is a topographic map attached?  YES  NO  
 B. Is a process flow diagram attached?  YES  NO

<b>3.0 WASTEWATER TREATMENT FACILITY</b>				
NAME Irvine Housing Development		TELEPHONE NUMBER WITH AREA CODE (918) 314-0950		E-MAIL ADDRESS onieirvine@gmail.com
ADDRESS (PHYSICAL) 438 Hilltop Road	CITY Noel	STATE MO	ZIP CODE 64854	COUNTY McDonald
Wastewater Treatment Facility: Mo- (Outfall Of )				
3.1 Legal Description: _____ ¼, SW ¼, NW ¼, Sec. 21, T 21N, R 33W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>404963.49</u> Northing (Y): <u>364378.67</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Unnamed Tributary to Yarnell Branch</u>				
<b>4.0 PROJECT OWNER</b>				
NAME David & Onie Irvine		TELEPHONE NUMBER WITH AREA CODE (918) 314-0950		E-MAIL ADDRESS onieirvine@gmail.com
ADDRESS PO Box 451214	CITY Grove	STATE OK	ZIP CODE 74345	
<b>5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.</b>				
NAME Same as Above		TELEPHONE NUMBER WITH AREA CODE		E-MAIL ADDRESS
ADDRESS	CITY	STATE	ZIP CODE	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.				
A. Is a copy of the certificate of convenience and necessity included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.				
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
<b>6.0 ENGINEER</b>				
ENGINEER NAME / COMPANY NAME Brittlee L. Oakley, Rose & McCrary, PC		TELEPHONE NUMBER WITH AREA CODE (918) 786-6350		E-MAIL ADDRESS boakley@rosemccrary.com
ADDRESS 2125 S Broadway	CITY Grove	STATE OK	ZIP CODE 74344	
<b>7.0 PROJECT OWNER:</b> I hereby certify that I am familiar with the information contained in this application and 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 Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Onie Irvine			DATE 5-6-13	
TITLE OR CORPORATE POSITION <u>Owner</u>		TELEPHONE NUMBER WITH AREA CODE (918) 314-0950		E-MAIL ADDRESS onieirvine@gmail.com
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				
<b>END OF PART A</b>				
<b>REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.</b>				

**PART B – LAND APPLICATION ONLY**

**(Submit only if the proposed construction project includes land application of wastewater.)**

**8.0 FACILITY INFORMATION**

8.1 Type of wastewater to be irrigated:  Domestic  State/National Park  Seasonal business  
 Municipal  Municipal with a pretreatment program or significant industrial users  
 Other (explain) \_\_\_\_\_

8.2 Months when the business or enterprise will operate or generate wastewater:  
 12 months per year  Part of the year (list months): \_\_\_\_\_

8.3 This system is designed for:  
 No-discharge.  
 Partial irrigation when feasible and discharge rest of time.  
 Irrigation during recreational season, April – October, and discharge during November – March.  
 Other (explain) \_\_\_\_\_.

**9.0 STORAGE BASINS**

9.1 Number of storage basins: 0 (Use additional pages if greater than three basins.)

9.2 Type of basins:  Steel  Concrete  Fiberglass  Earthen  Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.

Basin #1:	Length _____	Width _____	Depth _____	Freeboard _____	Berm Width _____	% Slope _____
Basin #2:	Length _____	Width _____	Depth _____	Freeboard _____	Berm Width _____	% Slope _____
Basin #3:	Length _____	Width _____	Depth _____	Freeboard _____	Berm Width _____	% Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).

Basin #1:	Maximum operating water level _____ ft	Minimum operating water level _____ ft
Basin #2:	Maximum operating water level _____ ft	Minimum operating water level _____ ft
Basin #3:	Maximum operating water level _____ ft	Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.

Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.6 Existing sludge depth, if the basins are currently in operation.

Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.7 Total design sludge storage: \_\_\_\_\_ dry tons and \_\_\_\_\_ cubic feet

**10.0 LAND APPLICATION SYSTEM**

10.1 Number of irrigation sites 2 Total Acres 2.6 Maximum % field slopes 2.5%  
Location: NW ¼, SW ¼, NW ¼, 21 Sec. 21N T 33W R McDonald County 1.3 Acres  
Location: NW ¼, SW ¼, NW ¼, 21 Sec. 21N T 33W R McDonald County 1.3 Acres  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation:  Grass hay  Pasture  Timber  Row crops  
 Other (describe) \_\_\_\_\_

10.3 Wastewater flow (dry weather) gallons per day: Average annual 9,600 Seasonal \_\_\_\_\_ Off-season \_\_\_\_\_

10.4 Land application rate (design flow including 1-in-10 year storm water flows):

Design:	<u>81</u> inches/year	<u>0.009</u> inches/hour	<u>0.22</u> inches/day	<u>1.55</u> inches/week
Actual:	<u>54</u> inches/year	<u>0.006</u> inches/hour	<u>0.15</u> inches/day	<u>1.03</u> inches/week

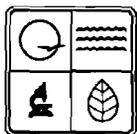
10.5 Total irrigation per year (gallons): Design: 5.2M gal Actual: 3.5M gal

10.6 Actual months used for irrigation (check all that apply):

Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

10.7 Land application rate is based on:

Hydraulic Loading  Other (describe) \_\_\_\_\_  
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included?  YES  NO



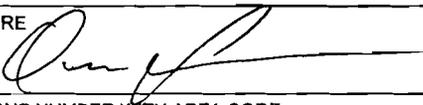
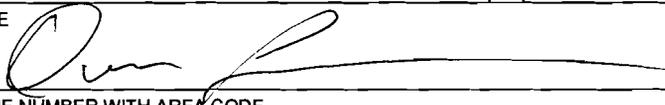
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH  
**NO DEGRADATION EVALUATION**  
**CONCLUSION OF ANTIDegradation REVIEW**  
 (Submit this form with the appropriate Permit Application)

<b>1. FACILITY</b>			
NAME Irvine Housing Development		COUNTY McDonald	
ADDRESS (PHYSICAL) 438 Hilltop Road	CITY Noel	STATE MO	ZIP CODE 64854
FACILITY CONTACT: David Irvine		TELEPHONE NUMBER WITH AREA CODE (918) 314-0950	

<b>2. NO DEGRADATION OPTIONS</b>										
<input type="checkbox"/>	Renewal without changes									
<input type="checkbox"/>	Sewer extensions									
<input type="checkbox"/>	CSO elimination projects									
<input type="checkbox"/>	No-discharge with land application									
<input checked="" type="checkbox"/>	No-discharge with subsurface irrigation									
<input type="checkbox"/>	Recycle or reuse of effluent									
<input type="checkbox"/>	Discharge to a regional wastewater collection and treatment system.									
<input type="checkbox"/>	Addition or replacement of disinfection system for an existing wastewater facility: Ultraviolet or Ozone The facility will be required to meet regulatory effluent limits for bacteria.									
<input type="checkbox"/>	Addition or replacement for chlorination or dechlorination disinfection system of existing facility. The chlorination or dechlorination disinfection treatment system design must be for total removal of Total Residual Chlorine. Therefore, the facility will be required to meet the water quality-bases effluent limits determined by the permit writer or the following water quality-bases effluent limits:									
<table border="1"> <thead> <tr> <th>Beneficial Use of Classified Water</th> <th>MDL (µg/l)</th> <th>AML (µg/l)</th> </tr> </thead> <tbody> <tr> <td>Warm-water fishery</td> <td>17</td> <td>8.2</td> </tr> <tr> <td>Cold-water fishery</td> <td>3.3</td> <td>1.6</td> </tr> </tbody> </table>		Beneficial Use of Classified Water	MDL (µg/l)	AML (µg/l)	Warm-water fishery	17	8.2	Cold-water fishery	3.3	1.6
Beneficial Use of Classified Water	MDL (µg/l)	AML (µg/l)								
Warm-water fishery	17	8.2								
Cold-water fishery	3.3	1.6								
<p>Note: These compliance limits for Total Residual Chlorine are much less than minimum quantification level, or ML, of 0.13. The facility will be required to meet regulatory effluent limits for bacteria.</p>										
<input type="checkbox"/>	Other, please describe: _____									

Consulted with Water Protection Staff:	
NAME Refaat Mefrakis	DATE

<b>3. NO DEGRADATION PROPOSED PROJECT SUMMARY</b>
Multi-family housing development to be constructed in 2 phases with a total design flow of 9,600 gpd. Proposed treatment is dual septic tanks in series at each building discharging to a pump station wet well that collects 2 buildings. The filtered effluent is pumped to a non-discharging low-pressure subsurface dosing field.

<b>CONSULTANT:</b> I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the Antidegradation Implementation Procedure and current state and federal regulations.		
SIGNATURE 		DATE 05/08/2013
PRINT NAME Brittie L. Oakley, P.E.		
TELEPHONE NUMBER WITH AREA CODE (918) 786-6350	E-MAIL ADDRESS boakley@rosemcrary.com	
<b>Owner:</b> I have read and reviewed the prepared documents and agree with this submittal.		
SIGNATURE 		DATE 05/08/2013
TELEPHONE NUMBER WITH AREA CODE (918) 314-0950	E-MAIL ADDRESS onieirvine@gmail.com	
<b>Continuing Authority:</b> Continuing Authority is the permanent organization that will be responsible for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at <a href="http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf">www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf</a> .		
I have read and reviewed the prepared documents and agree with this submittal.		
SIGNATURE 		DATE 05/08/2013
TELEPHONE NUMBER WITH AREA CODE (918) 314-0950	E-MAIL ADDRESS onieirvine@gmail.com	
<b>Return completed form with the appropriate Permit Application to:</b> Missouri Department of Natural Resources Water Protection Program Water Pollution Control Branch P.O. Box 176 Jefferson City, MO 65102		