

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

Calvey Creek Sewer District (CCSD)
ATTN: Edward Gass
7380 Highway O
Robertsville, MO 63072

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

As the department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

April 7, 2015
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

April 6, 2017
Expiration Date


John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction to consist of 75 linear feet of 8-inch PVC pipe, Norweco Model LF4800 tablet feeder, two – 1500-gallon chlorine contact basins in series, Norweco Model LF4800 tablet feeder for dechlorination, and all the necessary appurtenances to make the facilities complete and usable. This wastewater treatment facility is to serve the City of Robertsville and surrounding area with a design flow is 74,000 gallons per day and a population equivalent (PE) of 740.

II. FINDING OF AFFORDABILITY

The Finding of Affordability is not applicable. The requirement to meet *E. coli* limits with chlorination and dechlorination was required in the current Missouri State Operating Permit, MO-0115401 issued April 15, 2011.

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications submitted by Integrity Engineering, Inc. on March 10, 2015.
3. The department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).
4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's St. Louis Regional Office per 10 CSR 20-7.015(9)(E)2.
5. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."
7. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.

- A. Sewer mains shall be laid at least 10 feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a 10 foot separation, the department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
 - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
 - C. Manholes shall be located with the top access at or above grade level.
 - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
 - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
 - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the department for use in water main construction.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the department's ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm. See www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the department's Water Protection Program at 573-751-1300 for more information. See www.dnr.mo.gov/env/wpp/401/ for more information.

10. Upon completion of construction;

- A. The Calvey Creek Sewer District will be the continuing authority for operation, maintenance, and modernization of these facilities;
- B. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D);
- C. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications; and

IV. REVIEW SUMMARY

1. AMMONIA

The Water Protection Program is providing this notice to inform permittees that EPA's published ammonia criteria for aquatic life protection is lower than the current Missouri criteria and will be proposed in the 2014 Missouri Water Quality Standards triennial review. More information can be found at <http://dnr.mo.gov/pubs/pub2481.pdf>.

The disinfection system was designed to leave significant head between the existing lagoon water surface (Elev. 477.6) and the chlorination tablet feeder (Elev. 470.0). The 7.6 feet of head should be sufficient for installing a polishing reactor for ammonia following the lagoon and prior to disinfection. Potential options include a Lemna polishing reactor, a Nelson Environmental SAGR system, an Advantex system, and others. An engineering report will be required in the future to evaluate the best alternative.

2. CONSTRUCTION PURPOSE

April 2011 NPDES permit placed final effluent limitation for *E. Coli* on facility. Disinfection is required to limit the effluent limitation.

3. FACILITY DESCRIPTION

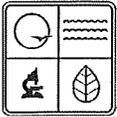
Current facility is a three-cell aerated lagoon. Construction permit proposes to add chlorination and dechlorination to existing treatment system.

4. COMPLIANCE PARAMETERS

When reported, facility has frequent violations of the bacteria effluent limitations. This construction permit is to correct these violations and meet the 126 colonies per 100 milliliters monthly average limit for *E. Coli* as a geometric mean.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Flow measuring only needs to be done once/month, so the proposed flow meter was removed to save on cost. Flow measurement will be with a four-gallon bucket and stopwatch on every Monday, Wednesday, and Friday.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM B – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE (≤100,000 gallons per day) UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY

CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

NOTE ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. This application is for:

An operating permit and antidegradation review public notice.

A construction permit following an appropriate operating permit and antidegradation review public notice.

A construction permit and a concurrent operating permit and antidegradation review public notice.

A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).

An operating permit for a new or unpermitted facility. Construction Permit # _____

An operating permit renewal: Permit #MO- _____ Expiration Date _____

An operating permit modification: Permit #MO- _____ Reason: _____

1.1 Is this a Federal/State Funded Project? YES NO Funding Agency/Project #: _____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? YES NO

2. FACILITY (Outfall 001 of 001)

NAME CCSD, Robertsville Lagoon		TELEPHONE WITH AREA CODE (636) 649-9111	
ADDRESS (PHYSICAL) Wheeler Road	CITY Robertsville	STATE MO	ZIP CODE 63072

2.1 **LEGAL DESCRIPTION:** SE ¼, SW ¼, NE ¼, Sec. 32, T 43N, R 2E Franklin County

2.2 UTM Coordinates Easting (X): 689691 Northing (Y): 4255359
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream:

3. OWNER

NAME Calvey Creek Sewer District		E-MAIL ADDRESS edwardgass@att.net	TELEPHONE WITH AREA CODE (636) 649-9111	
ADDRESS 7380 Highway O	CITY Robertsville	STATE MO	ZIP CODE 63072	

3.1 Request review of draft permit prior to Public Notice? YES NO

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

NAME Calvey Creek Sewer District		TELEPHONE WITH AREA CODE (636) 649-9111		
ADDRESS 7380 Highway O	CITY Robertsville	STATE MO	ZIP CODE 63072	

5. OPERATOR

NAME Edward Gass	CERTIFICATE NUMBER 532	TELEPHONE WITH AREA CODE (636) 649-9111
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6. FACILITY CONTACT

NAME Edward Gass	TITLE Operator	TELEPHONE WITH AREA CODE (636) 649-9111
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7.0 ADDITIONAL FACILITY INFORMATION

7.1 Description of facilities (Attach additional sheet if required). Attach a 1" = 2,000' scale U.S. Geological Survey topographic map showing location of all outfalls and downstream landowners. (See Item 9.)

7.2 Facility SIC code: 4952 ; Discharge SIC code: 4952 ; Facility NAICS code: 221320 ; Discharge NAICS code: 221320

7.3 Number of people presently connected or population equivalent (P.E.) 430 Design P.E. 740
 Number of units presently connected: Homes 100 Trailers 8 Apartments 0 Other 9
 Design flow for this outfall: 74000 Total design flow for the facility: 74000 Actual flow for this outfall: 42000
 Commercial Establishment: Daily number of employees working 30 Daily number of customers/guests 100

7.4 Length of pipe in the sewer collection system? 2.5 feet (miles) Please denote which unit is appropriate.)

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

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

7.7 Is industrial waste discharged to the facility identified in Item 2? Yes No (If yes, see instructions.)

7.8 Will the discharge be continuous through the year? Yes No
 a. Discharge will occur during the following months: all months
 b. How many days of the week will the discharge occur? every day

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

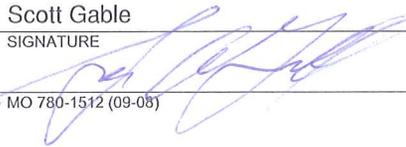
7.10 Will chlorine be added to the effluent? Yes No
 a. If chlorine is added, what is the resulting residual? _____ µg/l (micrograms per liter)

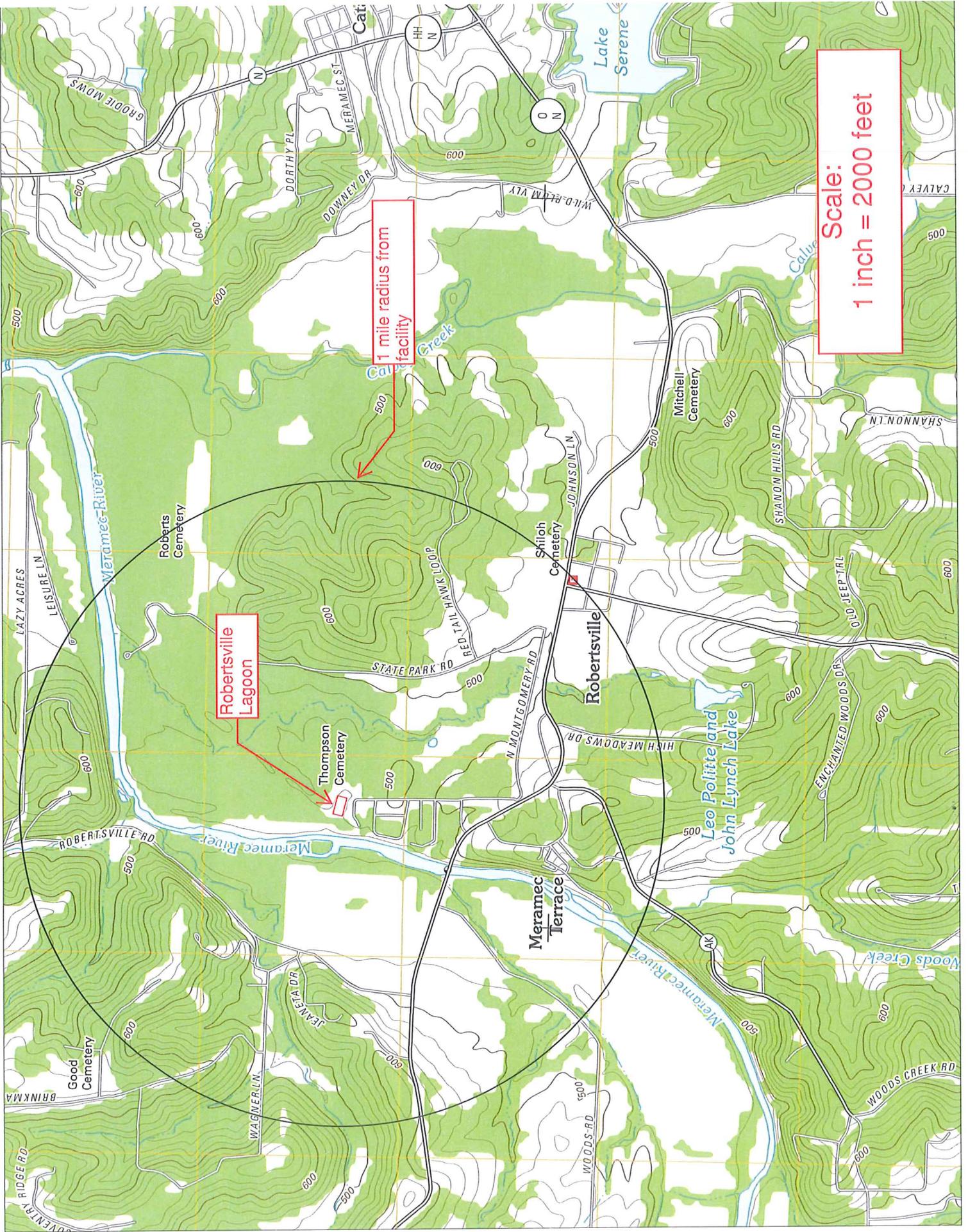
7.11 Does this facility discharge to a losing stream or sinkhole? Yes No

7.12 Attach a flow chart showing all influents, treatment facilities and outfalls.

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

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

8. SLUDGE HANDLING, USE AND DISPOSAL			
8.1 Is the sludge a hazardous waste as defined by 10 CSR 25? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
8.2 Sludge Production, including sludge received from others: <u>2.4</u> Design Dry Tons/Year <u>15</u> Actual Dry Tons/Year			
8.3 Capacity of sludge holding structures: Sludge storage provided: <u> </u> cubic feet; <u>2281</u> days of storage; <u>n/a</u> average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided.			
8.4 Type of Storage: <input type="checkbox"/> Holding tank <input type="checkbox"/> Building <input type="checkbox"/> Basin <input checked="" type="checkbox"/> Other (Please describe) <u>Lagoon</u> <input type="checkbox"/> Concrete Pad			
8.5 Sludge Treatment: <input type="checkbox"/> Anaerobic Digester <input checked="" type="checkbox"/> Lagoon <input type="checkbox"/> Composting <input type="checkbox"/> Storage Tank <input type="checkbox"/> Aerobic Digester <input type="checkbox"/> Other (Attach description) <input type="checkbox"/> Lime Stabilization <input type="checkbox"/> Air or Heat Drying			
8.6 Sludge Use or Disposal: <input type="checkbox"/> Land Application <input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years) <input type="checkbox"/> Contract Hauler <input type="checkbox"/> Incineration <input type="checkbox"/> Hauled to Another Treatment Facility <input checked="" type="checkbox"/> Sludge Retained in Wastewater treatment lagoon <input type="checkbox"/> Solid Waste Landfill <input type="checkbox"/> Other <u> </u> Attach explanation sheet.			
8.7 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY <input type="checkbox"/> By Applicant <input type="checkbox"/> By Others (complete below)			
NAME N/A - Lagoon			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
8.8 SLUDGE USE OR DISPOSAL FACILITY <input type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Please complete below.)			
NAME N/A - Lagoon			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
8.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? <input type="checkbox"/> Yes <input type="checkbox"/> No (Please attach explanation)			
9. DOWNSTREAM LANDOWNER (S). ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.			
NAME Missouri Dept. of Natural Resources - Division of State Parks			
ADDRESS P.O. Box 176		CITY Jefferson City	STATE ZIP CODE MO 65102
10. DRINKING WATER SUPPLY INFORMATION			
10.1 WHAT IS THE SOURCE OF YOUR DRINKING WATER SUPPLY: A. Public supply (municipal or water district water) <u>X</u> <u>Franklin County PWSD No. 3</u> If public, please give name of the public supply <u> </u> B. Private well <u> </u> C. Surface water (lake, pond or stream) <u> </u>			
10.2 Does your drinking water source serve at least 25 people at least 60 days per year (not necessarily consecutive days)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
10.3 Does your supply serve housing which is occupied year round by the same people? This does not include housing which is occupied seasonally? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
11. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.			
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Scott Gable		TELEPHONE WITH AREA CODE (636) 649-9111	
SIGNATURE 		DATE SIGNED <u>12-11-13</u>	



Robertsville Lagoon

1 mile radius from facility

Scale:
1 inch = 2000 feet



Meramec River
beyond

Point of Discharge

8" PVC Discharge Pipe

Existing 3-cell lagoon

10" PVC Inlet

Myrtle Ave

Myrtle Ave

Myrtle Ave

Wheeler Ave

Process Flow Diagram

**Downstream
Land Owner**

19.037

HOWARD W & LAURA E MCKEEVER
945 FRISCO DR
CATAWISSA MO 63015

HOWARD W & LAURA E MCKEEVER
945 FRISCO DR
CATAWISSA MO 63015

DO NOT DISTURB
ROBERT WILLEMARTH
19.00.31
DONALD S & SARAH JOHNSON
4009 WOODS DR
ROBERTSVILLE MO 63072

DEPT OF NATURAL RESOURCES
PO BOX 176
JEFFERSON CITY MO 65101

CALVEY CREEK SEWER DIST OF
PO BOX 262
CATAWISSA MO 63015

CALVEY CREEK SEWER DIST OF
PO BOX 262
CATAWISSA MO 63015

DEPT OF NATURAL RESOURCES
PO BOX 176
JEFFERSON CITY MO 65101

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JEFFERSON CITY MO 65101

DEPARTMENT OF NATURAL RESOURCES
PO BOX 176
JEFFERSON CITY MO 65102

SWEETZER DRIVE

CALVEY CREEK SEWER DIST OF

SCALE: 1" = 300 FT

1 in = 300 ft

