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, 92nd Congress) as amended,

Permit No.	MO-0004600
Owner:	Missouri American Water Company
Address:	727 Craig Road, Creve Coeur, MO 63141
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	MAWC – Jefferson City Plant
Facility Address:	909 W. Main St., Jefferson City, MO 65109
Legal Description:	SE¼, SE ¼, Sec. 1, T44N, R12W, Cole County
UTM Coordinates:	X = 571247, Y = 4271298
Receiving Stream:	Missouri River (P)
First Classified Stream and ID:	Missouri River (P) (0701)
USGS Basin & Sub-watershed No.:	(10300102-1304)

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

FACILITY DESCRIPTION

Outfall #001 – Drinking Water Treatment Plant – SIC #4941

Design flow is 5 MGD.
Actual flow is 1.5 MGD.

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

August 1, 2013
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

December 31, 2014
Expiration Date

John Madras, Director, Water Protection Program

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 2 of 6
		PERMIT NUMBER MO-0004600

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect through **July 31, 2015**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Whole Effluent Toxicity (WET) test – Note 1	*	See Special Conditions			twice/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ONCE / YEAR; THE FIRST REPORT IS DUE JUNE 28, 2014.						

OUTFALL #001	TABLE A-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PERMIT NUMBER MO-0004600

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **August 1, 2015** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions			twice/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ONCE / YEAR; THE FIRST REPORT IS DUE JUNE 28, 2016.						

OUTFALL #001	TABLE A-3. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 3 of 6
		PERMIT NUMBER MO-0004600

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/day	calculated
Total Suspended Solids	mg/L	*		*	once/week	grab
Total Residual Chlorine	µg/L	*		*	once/quarter**	grab
pH	SU	*		*	once/quarter**	grab
Lime	tons	***		***	once/month	reported
Iron, Total Recoverable	µg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only.

** See table below for quarterly sampling

Minimum Sampling Requirements			
Quarter	**Months**	**Effluent Parameters**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

*** Report the tons of lime used per month in the water treatment process

Note 1 – Conduct WET tests in accordance with Tables B1 & B2 and items (a) 1. (i) – (a) 1. (iii) of Special Condition #9. Results of failing WET tests shall also be submitted to the Department.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I Standard Conditions dated October 1, 1980, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

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

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

C. SPECIAL CONDITIONS (continued)

3. 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.

4. Changes in Discharges of Toxic Substances

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

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

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

7. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

8. Submit an annual report due January 28th of each year detailing type and quantity of water treatment chemicals (other than lime and chlorine) used during the previous year. Reports will be sent to the Northeast Regional Office.

C. SPECIAL CONDITIONS (continued)

9. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

TABLE B1 - SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
001	10%	twice per year	grab	January & May

TABLE B2 - Dilution Series						
40% effluent	20% effluent	10% effluent	5% effluent	2.5% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements

(1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.

(i) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.

(ii) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.

(iii) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.

(2) The WET test will be considered a failure if mortality observed in effluent concentrations for either specie, equal to or less than the AEC, is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.

(3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.

(4) If the effluent fails the test for BOTH test species, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.

(i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.

(ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(5) Follow-up tests do not negate an initial failed test.

(6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

(7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by the department for this period.

(9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a department approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as

C. SPECIAL CONDITIONS (continued)

required in the permit, without the follow-up requirements, will be required during this period.

(10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.

(11) Submit a concise summary in tabular format of all WET test results with the annual report.

(b) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.

(3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.

(5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the department upon request.

(6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

(8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

(9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

D. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with final effluent limitations for WET tests as soon as reasonably achievable or no later than **2 years** from the effective date of this permit.

1. Within one year of the effective date of this permit, the permittee shall submit a report detailing progress made in attaining compliance with the final effluent limits for WET tests.

2. Within **2 years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits for WET tests.

   Please submit progress reports to the Missouri Department of Natural Resources, Northeast Regional Office, 1709 Prospect Dr., Macon, MO 63552.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0004600
MAWC – JEFFERSON CITY

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 Minor ☒

Part I – Facility Information

Facility Type: Drinking Water Treatment Plant – SIC #4941

Facility Description:
Potable water production / Filter backwash / Settling basin discharge

Have any changes occurred at this facility or in the receiving water body that affects effluent limit derivation?
☒ - No.

Application Date: March 18, 2010
Expiration Date: February 13, 1996

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	7.75	Industrial	Industrial	0

Receiving Water Body's Water Quality & Facility Performance History:

There are no stream surveys for this facility

Comments:

Prior to issuance, the permittee must agree to the Compliance Agreement found in Attachment: Compliance Agreement. The applicant will be required to submit an economic feasibility analysis that evaluates methods to dispose of lime softening residuals and meet Water Quality Standards for toxics and conventional pollutants.

Part II – 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 1st 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:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC
Missouri River	P	701	AQL, DWS, IND, IRR, LWW, SCR, WBC (B)	10300102-1304

* - 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).
** - Ecological Drainage Unit

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM (P)	7Q10 (CFS)
Missouri River	15,884

MIXING CONSIDERATIONS
Mixing Zone: 10 CSR 20-7.031(4)(A)4.B.(III)(a).
Zone of Initial Dilution: 10 CSR 20-7.031(4)(A)4.B.(III)(b).

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) = (0.25)7Q10	ZONE OF INITIAL DILUTION (CFS) = (0.25)(0.1)7Q10, BUT NO MORE THAN 10X DESIGN FLOW
3,971	77.5

Part III – 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.

☒ - All limits in this operating permit are at least as protective as those previously established; therefore, 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.

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.

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. In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

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

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

Applicable ☒; This permit contains a two-year SOC for compliance with the final effluent limits for WET tests.

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.

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.

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 either not submitted or 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.

Applicable ☒; Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

☐ Facility is a designated Major.
☐ Facility continuously or routinely exceeds its design flow.
☐ Facility (industrial) that alters its production process throughout the year.
☒ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
☐ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH_3)
☐ Facility is a municipality or domestic discharger with a Design Flow ≥ 22,500 gpd.

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

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

Not Applicable ☒; This facility does not discharge to a 303(d) listed stream.

Part IV – Effluent 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 outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☒

OUTFALL #001 – MAIN FACILITY OUTFALL
Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	MGD	*		*	no	
Total Suspended Solids	mg/L	*		*	yes	**
Total Residual Chlorine	µg/L	*		*	yes	**
pH	SU	*		*	yes	**
Lime	tons	*		*	yes	**
Iron	µg/L	*		*	yes	**
Whole Effluent Toxicity (WET) Test	% Survival	Please see WET Test in the Derivation and Discussion Section below.				

* Monitoring requirement only.
** Parameter was not previously established in previous state operating permit.

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Total Suspended Solids, pH, Total Residual Chlorine, Iron.** Monitoring requirement only based on Best Professional Judgment. The permittee will be required to sign a Compliance Agreement to provide, for the Department's consideration, information regarding the discharge and its ability to meet Missouri's Water Quality Standards, with or without control technologies, and an analysis of available treatment technologies and their costs. Monitoring data will be used to evaluate this information.

- **WET Test**. WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring.* Sampling is recommended in the months of January and May because these are the approximate months when turbidity in the Missouri River is highest. Higher turbidity means an increased use of water treatment chemicals and therefore higher discharge volumes from the facility.

  ☒ Acute

  ☒ **TWICE/YEAR:**
  ☐ Facility is subject to production processes alterations throughout the year.
  ☒ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
  ☐ Facility has been granted seasonal relief of numeric limitations.

  Acute AEC% = (design flow$_{cfs}$ / (design flow$_{cfs}$ + ZID$_{7Q10}$)) x 100 = ##%

  = (7.75 / (7.75 + 77.5)) x 100 = 9.1%; however an AEC less than 10% is not allowed unless a diffuser is used.

  Therefore Acute AEC% = 10%

Part V – 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. **Sync Date is: December 31, 2014.**

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 was from 05/17/2013 to 06/17/2103. No responses were received.

DATE OF FACT SHEET: JULY 3, 2013.

COMPLETED BY:

ALAN MOREAU, ENVIRONMENTAL SPECIALIST III
OPERATING PERMITS SECTION - INDUSTRIAL WASTEWATER UNIT
(573) 522-2553
alan.moreau@dnr.mo.gov

WATER TREATMENT PLANT COMPLIANCE AGREEMENT

THIS COMPLIANCE AGREEMENT is made between the Missouri Department of Natural Resources (Department) and the Missouri American Water Company – Jefferson City Plant (Permittee) - MO-0004600 (collectively referred to as "the Parties"). Through this Compliance Agreement (Agreement), the Parties stipulate and agree as follows:

WHEREAS, the Department director or his/her designee, on behalf of the Missouri Clean Water Commission, administers the provisions of the Missouri Clean Water Law, Chapter 644 of the Revised Statutes of Missouri (as amended).

WHEREAS, the Permittee owns and operates a water treatment plant for the production of potable water.

WHEREAS, the Permittee, in operation of this water treatment plant, discharges to "waters of the state," as defined in Section 644.016(26), RSMo. The effluent discharge to the receiving "waters of the state" includes solids from potable water production.

WHEREAS, the Permittee has an operating permit which was issued January 4, 1990 and which does not include numeric effluent limits for solids.

WHEREAS, the State of Missouri Effluent Regulations, 10 CSR 20-7.015(2)(B), authorizes the return of solids resulting from the production of potable water to the Missouri and Mississippi Rivers. But neither this regulation nor any other authorizes a violation of Missouri's Water Quality Standards.

WHEREAS, the State of Missouri Water Quality Standards, 10 CSR 20-7.031(3), contains general criteria applicable to all waters of the state, and the return of solids may cause violations of this general criteria.

WHEREAS, the Missouri Revised Statues Sections 644.026(13) and 644.051 require the Department to issue permits which ensure compliance with any federal water pollution control act.

WHEREAS, in the absence of the United States Environmental Protection Agency (EPA) promulgated effluent limitations, and in the absence of other promulgated technology-based effluent limits, Federal Regulation 40 CFR §125.3(a)(2) requires the development of effluent limitations based on Best Professional Judgment (BPJ) under Section 402(a)(1)(B) of the Clean

Water Act. In addition, Federal Regulation 40 CFR §125.3(d)(1) and (2) require the development of effluent limitations based on Best Practicable Control Technology (BPT) and Best Conventional Control Technology (BCT).

WHEREAS, the Permittee intends to provide, for the Department's consideration, information regarding the discharge and its ability to meet Missouri's Water Quality Standards, with or without control technologies, and an analysis of available treatment technologies and their costs.

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the Department and the Permittee further stipulate and agree as follows:

1. The provisions of this Agreement shall apply to and be binding upon the parties executing this Agreement as well as their successors in interest and their successors in office. This Agreement shall not supersede any other permits, orders, or agreements made by the parties. Further, each party executing this Agreement shall be responsible for ensuring that their agents, subsidiaries, affiliates, lessees, officers, servants, or any person or entity acting pursuant to, through, or for the parties, adhere to the terms of this Agreement.

2. Document submittals required by this Agreement shall be submitted to the Department in duplicate. Other correspondence or documentation with regard to this Agreement shall be directed to the following persons, subject to change upon written notification from either party:

For the Department:

Wastewater Permit Unit Chief
Missouri Department of Natural Resources
Water Protection Program
Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

For the Permittee:

Tim Ganz
Missouri American Company
901 Hog Hollow Road
Chesterfield, MO 63017
(314) 469-6050 XT 6404

3. So long as the Department renews the Permittee's operating permit (the expiration date of which has passed) in substantially the same form as the draft permit most recently provided to the Permittee, and without numeric limitations on total suspended solids or other pollutants other than toxics, Permittee agrees to develop a BPJ Work Plan and BPJ Study as described below, and Permittee waives its right to appeal or otherwise challenge such renewal of the operating permit, and waives any right to petition for a variance related to such permit under 644.061 RSMo. However, nothing in this Agreement shall be interpreted to limit the Department's authority to revise the permit in response to public comments or as otherwise appropriate, nor shall this Agreement be interpreted as a waiver of the Permittee's right to participate in any appeal of the permit by a third party.

4. Within 365 days of execution of this Agreement, the Permittee agrees to submit to the Department for review a BPJ Work Plan. The BPJ Work Plan shall include, but not be limited to:

a. A plan to evaluate the water quality in the receiving stream, including at least
   1) Total Suspended Solids.
   2) Chlorine.
   3) Impact on benthic communities.
   4) Unsightly color changes in river.
   5) Consideration of effect of non-continuous or batch discharges of pollutants from the water treatment process.
   6) A Quality Assurance Project Plan consistent with the *EPA March 2001 Requirements for Quality Assurance Projects Plans*, EPA QA/R-5, Washington, DC.

b. A schedule for a BPJ Study.

5. Within three (3) years of approval of the BPJ Work Plan, the Permittee agrees to submit to the Department for review a BPJ Study. The BPJ Study shall be performed in accordance with 40 CFR 125.3, including an evaluation of:

a. The age of the equipment and facilities involved.
b. The process employed.
c. The engineering aspects of the application of various types of control techniques.
d. Process changes.
e. Non-water quality environmental impacts including energy requirements.
f. The reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefit derived. The evaluation shall include the expected water quality in the receiving stream and be based on at least three scenarios:

1) The operation of the water treatment plant with no changes.
2) The implementation of Best Management Practices to minimize the impact of pollutants on the receiving stream.
3) A selected technology option to modify the water treatment plant's facilities and operations to decrease the amount of pollutants discharged.

g. The comparison of the cost and level of reduction of conventional pollutants (such as total suspended solids) for your facility compared to the cost and level of reduction of conventional pollutants for a publicly-owned treatment works.

h. For the second and third scenarios referenced above, an affordability analysis. This analysis, at a minimum, will compare the median household income in the service area to the current cost of drinking water service and the expected cost of service which includes the implementation of the selected technology option.

6. All documents submitted to the Department pursuant to this Agreement shall be subject to review by the Department. If the Department comments and/or requests modification of any document submitted pursuant to this Agreement, the Permittee shall make appropriate modifications and/or address the Department's comments and resubmit the document(s) within 60 calendar days.

7. If the Permittee fails to comply with this Agreement, the Department may pursue enforcement action, including injunctive relief and/or penalties.. In any action to enforce this Agreement, the Permittee agrees not to challenge the validity or effectiveness of this Agreement.

8. Nothing in this Agreement shall be construed to limit the Department's authority to determine appropriate effluent limitations or otherwise modify any terms or conditions of the Permittee's operating permit as authorized by law.

9. If the BPJ Work Plan is approved by the Department, it shall become enforceable as a part of this Agreement. So long as the Permittee complies with this Agreement, the Department agrees to consider the Permittee's BPJ Study when next renewing or re-issuing the Permittee's operating permit.

10. Permittee may submit a written request to the Department to modify this Agreement, whether due to an act of God, war, strike, riot, catastrophe, flood, or any other reason. Any such request shall describe the basis for the request, and include sufficient detail and/or documentation as the Department deems necessary under the circumstances. The Department shall consider, and may grant, such a request.

11. Each signatory to this Agreement affirms that he or she has the authority to bind his or her respective party to this Agreement as evidenced by his or her signature on this Agreement. Execution of this Agreement shall be completed, and this Agreement shall become effective when the Department has signed and dated this Agreement. As the last party signing this Agreement, the Department shall promptly distribute copies of the fully-executed Agreement to the other signatories.

12. The terms of this Agreement supersede all previous memoranda of understanding, notes, conversations and agreements expressed or implied, with respect to the subject matter addressed herein. This Agreement may not be modified orally.

13. Severability. If any provision of this Agreement is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

14. Governing Law. This Agreement shall be governed and interpreted in accordance with the laws of the State of Missouri.

In Witness Whereof, the parties have executed this Agreement as follows:

MISSOURI-AMERICAN WATER COMPANY – JEFFERSON CITY PLANT

By: _____ Date: 5/13/13

Greg Weeks, V.P., Operations

MISSOURI DEPARTMENT OF NATURAL RESOURCES

By: John Madras Date: 6/7/13

John Madras, Director
Water Protection Program

CG4862

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM A – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT 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 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- 0004600 — Expiration Date 02/13/1996
- ☐ An operating permit modification: permit # MO-_____ — Reason: _____

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

2. FACILITY

NAME		TELEPHONE WITH AREA CODE
MO-AWC JEFFERSON CITY PLANT		573-634-3801
		FAX 573-634-8459
ADDRESS (PHYSICAL)	CITY	STATE / ZIP CODE
909 W. MAIN STREET	JEFFERSON CITY	MO 65109

3. OWNER

NAME	E-MAIL ADDRESS	TELEPHONE WITH AREA CODE
MISSOURI AMERICAN WATER COMPANY	CINDY.HEBENSTREIT@AMWATER.COM	314-991-3404
		FAX
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
727 CRAIG RD.	CREVE COEUR	MO 63141

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

4. CONTINUING AUTHORITY

NAME		TELEPHONE WITH AREA CODE
SAME		
		FAX
ADDRESS (MAILING)	CITY	STATE / ZIP CODE

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
STEVE RIDENHOUR	235	573-634-3801
		FAX 573-634-8459
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
909 W. MAIN STREET	JEFFERSON CITY	MO 65109

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE WITH AREA CODE
GILBERT COLE	OPERATIONS SUPERINTENDENT	573-634-3801
		FAX

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 SE¼ SE¼ Sec 1 T 44N R 12W COLE County
UTM Coordinates Easting (X):_ _ _ _ _ _ _ _ _ Northing (Y): _ _ _ _ _ _ _ _ _
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _ _ _ _ _ _ _ _ _ Northing (Y): _ _ _ _ _ _ _ _ _

003 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X):_ _ _ _ _ _ _ _ _ Northing (Y):_ _ _ _ _ _ _ _ _

004 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X):_ _ _ _ _ _ _ _ _ Northing (Y): _ _ _ _ _ _ _ _ _

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC 4941 and NAICS 221310 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)

A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).	YES ☒	NO ☐
B.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C and D.	YES ☐	NO ☒
C.	Is application for storm water discharges only? If yes, complete EPA Form 2F.	YES ☐	NO ☒
D.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
E.	Is wastewater land applied? If yes, complete Form I.	YES ☐	NO ☒
F.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☐	NO ☒

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME			
UNION PACIFIC RAILROAD COMPANY			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
STATE STREET	JEFFERSON CITY	MO	65101

10. 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 to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE WITH AREA CODE
FRANK KARTMANN, PRESIDENT	314-991-3404
SIGNATURE	**DATE SIGNED**
[signature]	3/17/10

MO 780-1479 (01-08)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☒ Appropriate Fees?
- ☒ Map at 1" = 2000' scale?
- ☒ Signature?
- ☒ Form C, if applicable?
- ☐ Form D, if applicable?
- ☐ Form 2F, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

MO-AWC Jefferson City Plant

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO - 0004600

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 4941 B. SECOND

C. THIRD D. FOURTH

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) SE ¼ SE ¼ SEC 1 T 44N R 12W Cole County

001

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER.

OUTFALL NUMBER (LIST)	RECEIVING WATER
001	Missouri River

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS:

Public Water Supply

2.40

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Potable Water	NOT PART OF filter backwash 117,000 GPD	None	4A
	Treatment	(1,500,000 GPD) AVG		
001 -	Filter backwash, pre-settling basin, and primary sedimentation			
	basin wastes from the drinking water treatment plant operations.			
Design flow for the total discharge from the facility is 5 MGD.				

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS, OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☒ **NO** *(GO TO SECTION 2.50)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(S) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME *(specify with units)*		C. DURATION *(in days)*
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☐ **YES** *(COMPLETE B.)* ☒ **NO** *(GO TO SECTION 2.60)*

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINE EXPRESSED IN TERMS OF PRODUCTION *(OR OTHER MEASURE OF OPERATION)*?

☐ **YES** *(COMPLETE C.)* ☐ **NO** *(GO TO SECTION 2.60)*

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☒ **NO** *(GO TO 3.00)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS *(OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY EFFECT YOUR DISCHARGES)* YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

☐ **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.**

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
2,4-D	in raw (MO River)		
Outfall 001	0.2 ug/L		

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON A RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☐ **YES** *(IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.)* ☒ **NO** *(GO TO 3.20)*

3.20 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☒ **YES** *(LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.)* ☐ **NO** *(GO TO 3.30)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
PDC Laboratories	3278 N Hwy 67 Florissant, MO 63033	314-432-0550	Nitrogen(total organic) Phosphorus (total as P) Ammonia (as N)

3.30 CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER (AREA CODE AND NUMBER
Frank Kartmann, President	314-991-3404
SIGNATURE (SEE INSTRUCTIONS)	DATE SIGNED
	3/17/10

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages.
SEE INSTRUCTIONS.

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT						D. NO. OF ANAL-YSES	3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		B. NO. OF ANAL-YSES
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*			A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand *(BOD)*	*											
B. Chemical Oxygen Demand *(COD)*	*											
C. Total Organic Carbon *(TOC)*	*											
D. Total Suspended Solids *(TSS)*	23						1	mg/L				
E. Ammonia *(as N)*	*						1	mg/L				
F. Flow	VALUE 1,500,000		VALUE		VALUE			GPD		VALUE		
G. Temperature *(winter)*	VALUE *		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE *		VALUE		VALUE			°C		VALUE		
I. pH	8.9		MINIMUM	MAXIMUM			1	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

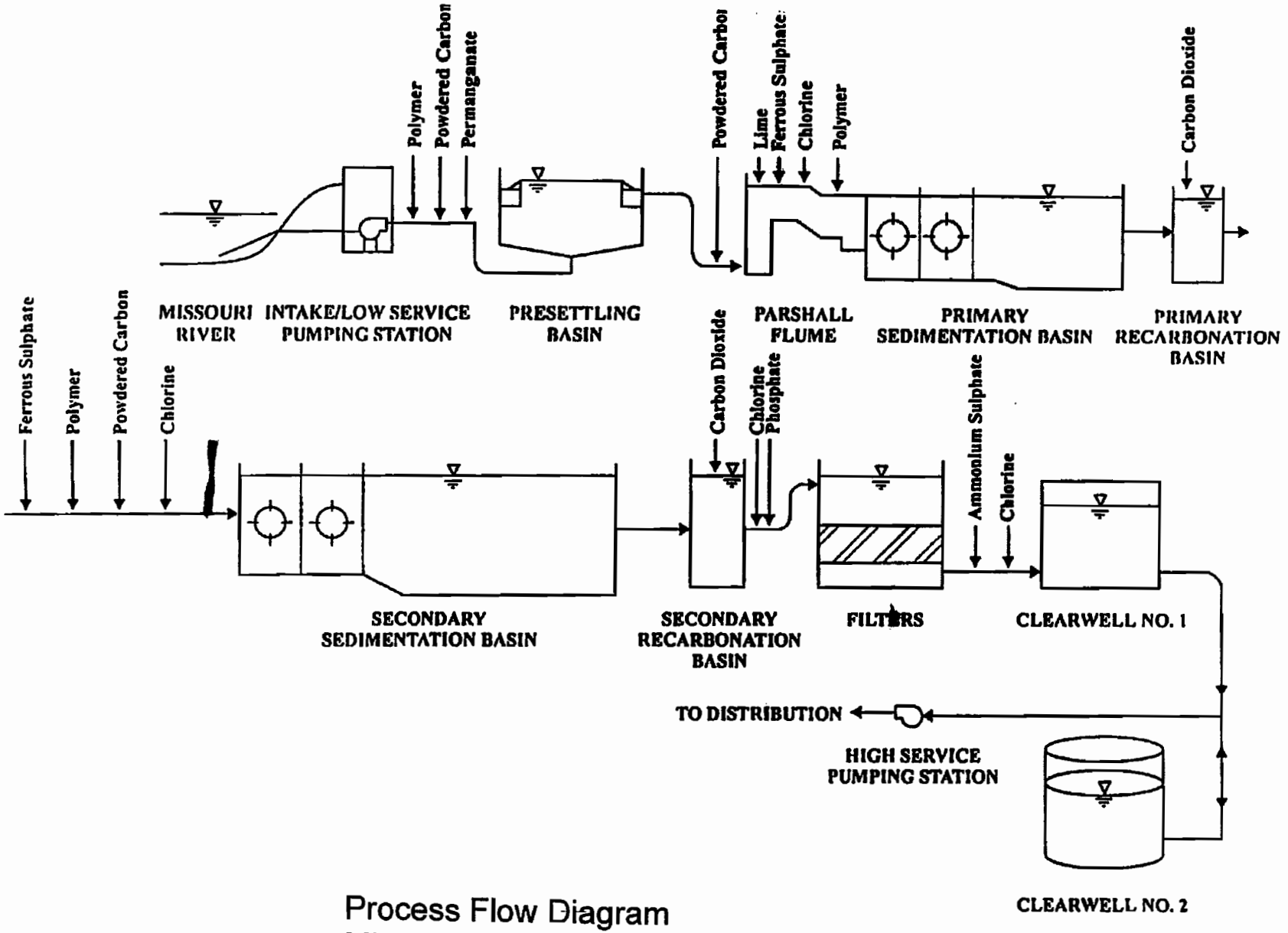
1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT						D. NO. OF ANAL-YSES	4. UNITS		5. INTAKE *(optional)*		B. NO. OF ANAL-YSES
	A. BE-LIEVED PRE-SENT	B. BE-LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*			A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Bromide (24959-67-9)		X												
B. Chlorine Total Residual	X		0.7						1	mg/L				
C. Color	X		4						1	Color Units				
D. Fecal Coliform	X		<1						1	cfu				
E. Fluoride (16984-48-8)	X		0.9						1	mg/L				
F. Nitrate–Nitrite *(as N)*	X		1.68/0.007						1	mg/L				

*Not required to test per MDNR

CONTINUED FROM FRONT

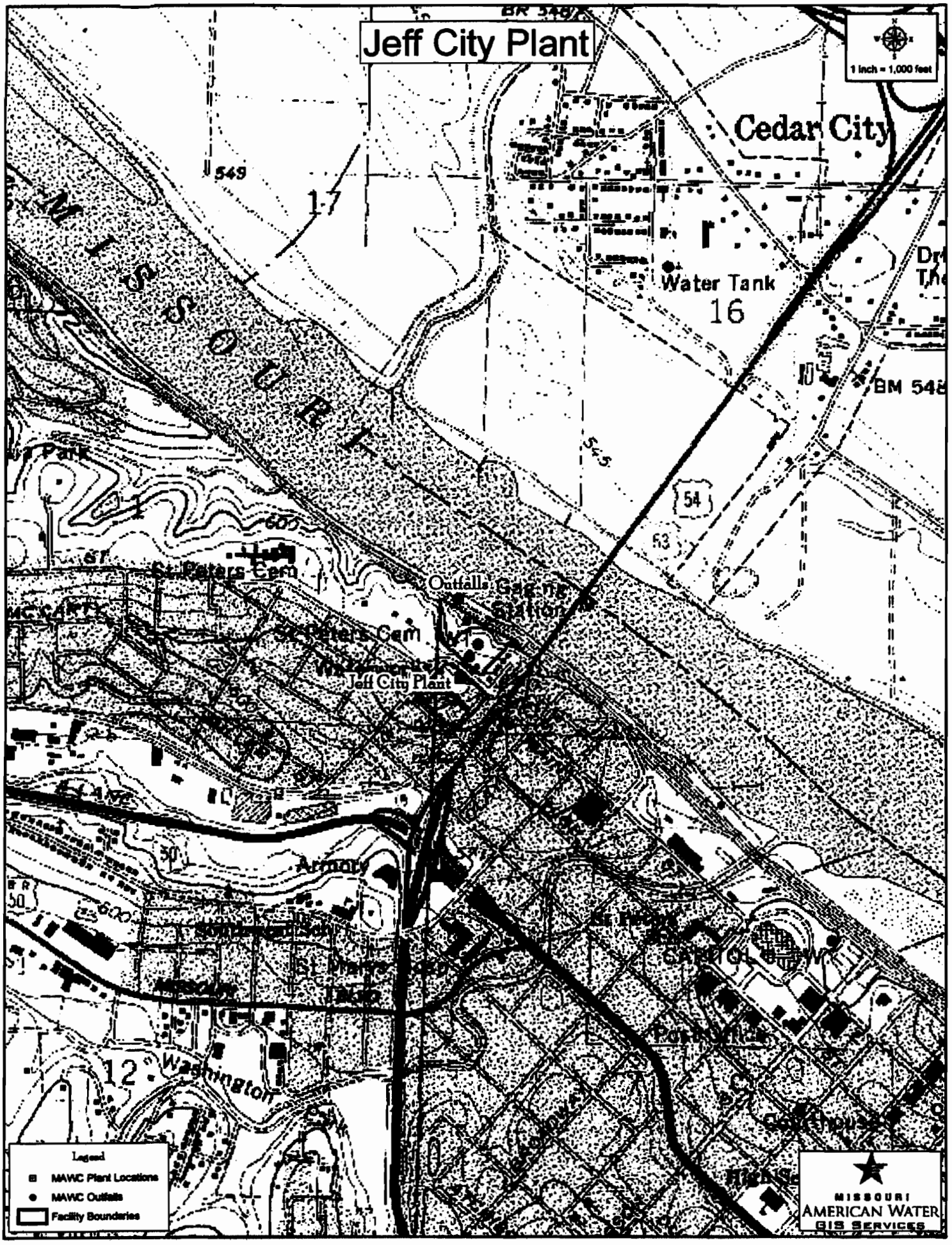
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen Total Organic *(as N)*	X		1.4						1	mg/L				
H. Oil and Grease		X												
I. Phosphorus *(as P)* Total (7723-14-0)	X		0.27						1	mg/L				
J. RADIOACTIVITY														
(1) Alpha Total			*											
(2) Beta Total			*											
(3) Radium Total			*											
(4) Radium 226 Total			*											
K. Sulfate *(as SO^4)* (14808-79-8)	X		97.0						1	mg/L				
L. Sulfide *(as S)*		X												
M. Sulfite *(as SO^3)* (14265-45-3)		X												
N. Surfactants		X												
O. Aluminum Total (7429-90-5)	X		2.051						1	mg/L				
P. Barium Total (7440-39-3)	X		0.067						1	mg/L				
Q. Boron Total (7440-42-8)		X							1	mg/L				
R. Cobalt Total (7440-48-4)		X												
S. Iron total (7439-89-6)	X		2.80						1	mg/L				
T. Magnesium Total (7439-95-4)	X		12						1	mg/L				
U. Molybdenum Total (7439-98-7)	X		0.002						1	mg/L				
V. Manganese Total (7439-96-5)	X		0.050						1	mg/L				
W. Tin Total (7440-31-5)		X												
X. Titanium Total (7440-32-6)		X												

*Not required to test per MDNR



Process Flow Diagram
Missouri American Water Co. Jefferson City

Figure 5-1


Jeff City Plant
1 inch = 1,000 feet
Cedar City
Water Tank
16
17
549
545
54
53
BM 548
Outfalls Gaging Station
St. Peters Cem
Jeff City Plant
Armory
Washington
12
Legend
MAWC Plant Locations
MAWC Outfalls
Facility Boundaries
MISSOURI
AMERICAN WATER
GIS SERVICES

MISSOURI
AMERICAN WATER

rec'd 3-18-10

727 Craig Road
St. Louis, MO 63141
P: 314-996-2391
F: 314-432-7824
cindy.hebenstreit@amwater.com

March 17, 2010

Mr. Alan Moreau
Missouri Department of Natural Resources
Water Protection Program
1101 Riverside Drive
Jefferson City, MO 65101

Subject: Missouri American Water Company Jefferson City Plant
Renewal application for Operating Permit MO-0004600

Dear Mr. Moreau:

Enclosed please find completed forms A and C as application for renewal of the Missouri American Water Company Jefferson City Plant operating permit MO-0004600. A map identifying the location of the outfall and a line drawing showing the water flow through the facility are also attached.

Please contact me at 314-996-2391 if you need additional information or have any questions concerning the enclosed operating permit renewal application.

Sincerely,

Cindy Hebenstreit

Cynthia M. Hebenstreit
Director, Water Quality & Environmental Management

Enc.

c: Frank Kartmann