

**KENTUCKY-AMERICAN WATER COMPANY**  
**CASE NO. 2012-00096**  
**COMMISSION STAFF'S SUPPLEMENTAL REQUEST FOR INFORMATION**

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**Witness: Lance Williams/Linda Bridwell**

1. Refer to Kentucky-American's Response to Commission Staffs First Request for information, Item 45.
  - a. Projected payroll expense remains at \$307,790 for the years 2016 to 2020, but Kentucky-American estimates that its retirement and payroll taxes will increase by three percent each year. Given that retirement and payroll taxes are dependent on the projected payroll, explain why these expenses are projected to increase.
  - b. Provide a table that lists Kentucky-American's annual employee health insurance premiums for the five-year period of 2008 to 2012. State for each two year period the percentage increase in the premium

**Response:**

- a) The table provided in response to Commission Staff's First Request for Information, Item 45, shall be revised as follows to show the three percent projected increase in Payroll expenses each year.

Year	Payroll	Retirement	Payroll Taxes	Insurance Benefits
2014	\$275,820	\$10,306	\$21,973	\$58,652
2015	\$284,095	\$10,616	\$22,632	\$60,411
2016	\$292,618	\$10,934	\$23,311	\$62,224
2017	\$301,396	\$11,262	\$24,010	\$64,091
2018	\$310,438	\$11,600	\$24,731	\$66,013
2019	\$319,752	\$11,948	\$25,472	\$67,994
2020	\$329,344	\$12,306	\$26,237	\$70,033

b)

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	2008	2009	2010	2011	2012 thru June
Grand Total	1,647,488.71	1,706,218.71	1,911,053.55	2,145,914.67	1,177,728.21
Variance YOY		3.56%	12.01%	12.29%	

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**Witness: Lance Williams / Keith Cartier**

2. Refer to Kentucky-American's Response to Commission Staffs First Request for Information, Item 46(a).
  - a. Kentucky-American provided a unit cost comparison for the years 2011 and 2012 of the chemicals used at the Owenton Treatment Plant. Provide similar unit cost comparisons for the years 2008 through 2011
  - b. Explain why it is appropriate to use a one-year cost comparison as the basis to project the chemical cost for a seven-year period.

**Response:**

- a) See chart below:

Owenton WTP Chemicals	2008 Unit Cost	2009 Unit Cost	2010 Unit Cost	2011 Unit Cost	2012 Unit Cost	2008-2009 % Increase	2009-2010 % Increase	2010-2011 % Increase	2011-2012 % Increase
Carbon	\$0.63	\$0.85	\$0.85	\$0.86	\$0.86	35%	0%	1%	0%
Chlorine	\$0.42	\$0.40	\$0.40	\$0.43	\$0.41	-5%	0%	7%	-5%
Copper Sulfate	N/A	N/A	\$1.75	\$1.75	\$1.80	N/A	N/A	0%	3%
Ferric	\$0.26	\$0.49	\$0.31	\$0.22	\$0.22	88%	-37%	-29%	0%
HFS Acid	\$0.17	\$0.43	\$0.43	\$0.42	\$0.42	153%	0%	-2%	0%
Polymer An	\$0.91	\$1.13	\$0.87	\$0.98	\$1.25	24%	-23%	13%	28%
Sod. Perm.	\$1.17	\$1.45	\$0.98	\$1.25	\$1.23	24%	-32%	28%	-2%
Sod. Hyd. 30%	\$0.13	\$0.25	\$0.15	\$0.19	\$0.20	92%	-40%	27%	5%
Sod. Hyd. 50%	\$0.17	\$0.37	\$0.16	\$0.21	\$0.22	118%	-57%	31%	5%
Sod. Thio gal	N/A	N/A	\$0.76	\$0.43	\$0.46	N/A	N/A	-43%	7%
Sod. Thio lb	N/A	N/A	\$0.32	\$0.31	\$0.46	N/A	N/A	-3%	48%
Sulf. Acid	\$0.26	\$0.32	\$0.22	\$0.28	\$0.28	23%	-31%	27%	0%
<b>Avg. Yrly Increase</b>						<b>61%</b>	<b>-24%</b>	<b>5%</b>	<b>7%</b>
<b>Avg. Increase 2008 - 2012</b>									<b>12%</b>

- b) In 2008 through 2010 the economy was more volatile with large adjustments both positive and negative. KAW used 7% trying to represent an increase that was representative of the current market. The table in section a) of this data request shows that the average for 2008 through 2012 is actually a 12% increase. Using 7% yearly inflation factor is a conservative estimate for the average unit cost increase for chemicals. If KAW utilized a 12% annual increase for the chemicals, then the KRS II option would be more favorable.

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**Witness: Lance Williams / Keith Cartier**

3. Refer to Kentucky-American's Response to Commission Staffs First Request for information, Item 46(b). Provide a comparison of the fuel and power cost for the Owenton Treatment Plant for the five-year period of 2008 to 2012. State for each two-year period the percentage increase in the expense.

**Response:**

Please see chart below:

<b>Owenton WTP</b>	<b>2008 Actual Cost</b>	<b>2009 Actual Cost</b>	<b>2010 Actual Cost</b>	<b>2011 Actual Cost</b>	<b>2012 Actual Cost</b>	<b>2008-2009 % Increase</b>	<b>2009-2010 % Increase</b>	<b>2010-2011 % Increase</b>
Fuel and Power	\$136,150	\$125,358	\$137,932	\$157,759	TBD*	-8%	10%	14%
<b>Avg. Yrly Increase</b>						<b>-8%</b>	<b>10%</b>	<b>14%</b>

Note:

TBD\*: The 2012 Actual Fuel and Power Costs will be determined after year-end.

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**Witness: Lance Williams**

4. Refer to Kentucky-American's Response to Commission Staffs First Request for Information, Item 46(c).
  - a. Provide the average annual inflation rate for each year from 2008 to 2012
  - b. Explain why the annual inflation rate is an appropriate factor to use in projecting labor and labor-related costs.

**Response:**

- a) The average annual US inflation rate from 2008 to 2012 is:
  - 2008: 3.85%
  - 2009: -0.34%
  - 2010: 1.64%
  - 2011: 3.16%
  - 2012: 2.35% (For January through June)
- b) The use of the approximate 3% inflation rate from 2011 is based on a general assumption and is less than Kentucky American Water's historical growth of labor and labor related costs as reported in Kentucky American Water's Response to Commission Staff's First Request For Information, Item 38.

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**Witness: Lance Williams / Keith Cartier**

5. Refer to Kentucky-American's Response to Commission Staffs First Request for Information, Item 46(d). Provide a comparison of the sludge disposal cost for the Owenton Treatment Plant for the five-year period from 2008 to 2012. State for each two-year period the percentage increase in the expense.

**Response:**

Prior to the year 2011, sludge disposal costs were not tracked separately, as they were included in the chemical expenses. The 2011 actual expense (\$36,441) for sludge disposal is higher than the Appendix D 2014 level starting point (\$32,083) upon which the inflation factor is applied.

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**Witness: Linda Bridwell**

6. Refer to Kentucky-American's Response to Commission Staffs First Request for Information, Item 50.
  - a. Kentucky-American estimates that, if the proposed facilities are constructed, its rate base will be increased by \$14,104,868. Calculate the effect that the construction of the proposed facilities will have on accumulated depreciation and deferred income taxes and show their impact on Kentucky-American's revenue requirement.
  - b. Kentucky-American estimates that, if the capital improvements necessary to maintain the Owenton Treatment Plant are constructed, its rate base will be increased by \$11,400,000. Calculate the effect that the construction of the capital improvements will have on accumulated depreciation and deferred income taxes and show their impact on Kentucky-American's revenue requirement.

**Response:**

- a. If the proposed facilities are constructed, the first year impact of accumulated depreciation and deferred income taxes on Kentucky American's revenue requirement is calculated to be (\$19,326). This would reduce the revenue requirement identified in PSC DR1 #50 from \$88,160,329 to \$88,141,003.

This impact is based on average accumulated depreciation for the first year of (\$124,956), and deferred taxes in the first year of (\$26,230). The net rate base impact of these two items would be (\$151,186). At the current authorized rate of return of 7.74%, and using an authorized gross-up factor of 1.6515716, this rate base change would have the (\$19,326) revenue requirement effect listed above.

- b. If the Owenton Water Treatment Plant improvements were completed, the first year impact of accumulated depreciation and deferred income taxes on Kentucky American's revenue requirement is calculated to be (\$22,604). This would reduce the revenue requirement identified in PSC DR1 #51 from \$88,461,388 to \$88,438,784.

This impact is based on average accumulated depreciation for the first year of (\$165,545), and deferred taxes in the first year of (\$12,285). The net rate base impact of these two items would be (\$176,830). At the current authorized rate of return of 7.74% and an authorized gross-up factor of 1.6415716, this rate base change has the (\$22,604) effect listed above.

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**Witness: Linda Bridwell**

7. In determining that the construction of the proposed facilities is cost effective when compared to the capital improvements necessary to maintain the Owenton Treatment Plant, Kentucky-American provided comparisons of the overall construction costs and the operations costs. Explain why Kentucky-American's analysis is more appropriate than comparing the revenue requirement impact of the two projects.

**Response:**

In considering whether the public convenience and necessity require any construction project, it is appropriate, meaningful and helpful for the Commission to consider financial information relating to the various options. When KAW concluded that a comparison of construction and operating costs meant that the Northern Division Connection is the least-cost solution to the problem, it did so knowing that a revenue requirement comparison would lead to the same conclusion. KAW believes that both methods of analysis are helpful, and, of course, if performed properly, both methods prove that the Northern Division Connection is the least-cost solution and will ultimately provide a savings to KAW customers.

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**Witness:** Lance Williams / Keith Cartier

8. In the Kentucky Pollutant Discharge Elimination System General Permit that the Kentucky Division of Water ("DOW") issued in December 2009, DOW required Kentucky-American to develop and implement a Best Management Practices Plan.
  - a. Provide a copy of this plan.
  - b. State whether this plan has been submitted to and approved by DOW.

**Response:**

- a. The 2009 Draft Permit referenced above and included in PSCDR1#018 was never issued by DOW. BMP's were required in the 2011 general permits and were submitted as required (Attachments PSCDR2#008-1 and PSCDR2#008-2).
- b. The BMP plans were submitted as required in the 2011 permit and approved by the Kentucky Division of Water (Attachment PSCDR2#008-3).



# **BEST MANAGEMENT PRACTICES PLAN**

**For**

**KENTUCKY AMERICAN WATER  
NORTHERN DIVISION WATER TREATMENT PLANT  
OWENTON, KENTUCKY**

**JULY 2011**

## BEST MANAGEMENT PRACTICES PLAN

### TABLE OF CONTENTS

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12. PLAN REEVALUATION

### ATTACHMENT A

American Water Environmental Policy

### ATTACHMENT B

BMP Committee

### ATTACHMENT C

Source Risk Assessment Inventory List

### ATTACHMENT D

BMP Site Drawing

## 1. INTRODUCTION

Kentucky American Water (KAW) provides water in Central Kentucky to Lexington, and nine surrounding counties. In order to do that, KAW operates four water treatment facilities. In 2005, KAW purchased the Owenton Water Treatment Plant (Owenton WTP). This is a facility that with a rated capacity of 1.0 million gallons per day. The facility is located at 220 Water Plant Road, Owenton, 40359. The facility withdraws water from the Severn Creek and delivers water into Owenton and surrounding Owen County, Gallatin County, and Grant County.

On May 2, 2011 the Kentucky Energy and Environment Cabinet granted KAW a Kentucky Pollutant Discharge Elimination System General Permit for wastewater discharges associated with drinking water production from water treatment plants in Permit number KYG640069. One of the conditions of the permit was that a Best Management Practices Plan be developed and submitted to the Cabinet Division of Water within 90 days, and implemented within 180 days. This plan has been developed in response to that permit.

## 2. BEST MANAGEMENT PRACTICES COMMITTEE

A BMP Committee has been established to effectively develop and implement the BMP Plans. The committee will include at least two representatives of the production supervisory team, and one supervisory from Water Quality and Environmental Compliance. The Committee may draw from other internal and external resources to develop and implement the plan at any time.

The BMP Committee will meet no less than once per calendar year to carry out the primary functions listed below, or more frequently as needed.

- The BMP Committee will advise site management, which has overall responsibility and accountability for the plan, on technical matters. The BMP Committee will assist site management in implementation, to update and maintain the plan
  - The BMP Committee will evaluate the BMP Plan relative to the safe handling and identification of toxic substances and hazardous materials used at the site. The committee will also review potential spill sources and communicate updates/changes to KAW management
  - The BMP Committee is responsible for the overview of procedures, practices and training, developed or provided by either internal or external personnel. These include:
    - o Incident reporting procedures
    - o BMP inspections and record keeping procedures
    - o Personnel training programs
    - o Incident response and review
    - o Clean-up, disposal and notification procedures
    - o Good housekeeping, security practices and preventative maintenance measures
  - The BMP Committee will review all environmental incidents to determine the need for revision or corrections to this plan, and will assist in any interdepartmental coordination of the plan.
  - The BMP Committee will meet as necessary, but at least annually. Additional meetings will be held in case of any reportable spill or other incident, to discuss changes or improvements to the BMP Plan, and/or changes in the use of toxic substances or hazardous materials at the Owenton WTP.
- The current committee members are listed in Attachment B.

### **3. BMP POLICY STATEMENT**

The Best Management Practices Plan for the Owenton WTP is developed to heighten management and employee awareness of potential pollution causing spill situation, and develop practices to reduce their risk of occurrence.

The BMP for the Owenton WTP addresses all toxic pollutants and hazardous substances used at the site. The BMP is an umbrella document that includes the Stormwater Pollution Prevention Plan and Spill Prevention Control and Countermeasure plans for the plant.

American Water has adopted an Environmental Policy, which is included in Attachment A. This Policy clearly states the Business Objective making environmental management a fundamental part of our business. Within that policy, American Water commits to 1) Ensuring compliance with all relevant environmental laws, regulations, and standards; 2) Sustaining the environment through responsible business practices which promote environmental stewardship with a holistic approach to the prevention of pollution; and 3) Ensuring effective and efficient use of natural resources, including energy. Clearly the development and implementation of the BMP is within the scope and the intention of the Environmental Policy.

### **4. RELEASE IDENTIFICATION AND ASSESSMENT**

Sources of toxic substances and hazardous materials used at the Owenton WTP are identified and evaluated in the BMP. These sources are identified in Attachment C. Each source is evaluated for its potential risk of discharge to receiving waters.

Each point source is evaluated for its risk to the environment, its potential flow path if spilled, secondary containment features, the proposed action to contain or control the spill, and current or recommended measures for reducing the risk of release to the environment via various BMP controls.

Toxic substances and hazardous material locations at Owenton WTP are shown on the site BMP drawing. Contaminant locations shown on the drawing are identified according to the worksheets.

An evaluation of each stored material at the site is given in Attachment C. For all of the assessments, the potential risk to the environment was considered to be very low. Chemicals used in the treatment process have been designed to prevent spills or potential contaminants as part of the treatment design.

Site inspections, good housekeeping, and maintenance of equipment and systems are described in more detail later in this plan. The practices are also important in reducing the potential for leaks or spills of toxic substances and hazardous materials to the environment.

### **5. GOOD HOUSEKEEPING**

The following procedures are pursuant to good housekeeping, to lessen the risk of a spill or pollution-causing incident:

All containers of hazardous materials/waste are sealed/closed and are labeled and managed according to all applicable laws and regulations.

All dry chemicals in opened or punctured bags are stored in a temporary containment area until the chemical is fully used. Bags storing dry chemicals will be

stored on pallets to prevent any interaction with liquids on the floor and to facilitate inspection and good housekeeping.

Drums, bags, or other containers will be stored according to container limitations and arranged to facilitate inspection for leaks or spills.

Walkways and pathways will be maintained free of obstruction.

Spilled liquids shall be controlled immediately to prevent run-off into storm water drains, natural waterways, or ground water.

Horizontal surfaces will be vacuumed or swept to control dry (solid) spills.

All new or used oil storage areas will be clearly marked and maintained in covered drums or containers, and stored in designated areas. All containers are clearly labeled indicating the contents.

Storage areas are inspected at least weekly for leaks, spills, and/or degrading containers. Containers are inspected at least quarterly to ensure the expiration date has not been exceeded.

Returnable containers are returned to the vendor when empty. For containers with removable liners, the liners are removed, classified, and then disposed properly; the containers may then be used for other purposes, recycled, or disposed. All other containers are triple rinsed; these containers may then be reused, recycled, or disposed.

## **6. PREVENTATIVE MAINTENANCE**

Owenton WTP has a variety of audit and site assessment practices to assist with the detection of potential problems. These practices are standard operating procedures to ensure proper operation and maintenance of the Owenton WTP equipment and materials, and prevention of a spill or pollution-causing incident at the plant. These include but are not limited to:

Equipment check every shift with physical sign-off at each equipment site within the plant

Chemical deliveries occur only in the designated chemical area under the supervision of plant personnel.

Plant supervisors and maintenance staff inspect all equipment at least once per week and equipment is maintained per the manufacturers' recommendations within a computer maintenance system.

Plant staff and environmental compliance staff perform quarterly inspections

For additional information, refer to the Owenton WTP SOP Manual located at the plant.

## **7. INSPECTIONS**

Monitoring controls are on all equipment with alarms for releases detected within the containment areas. During each eight hour shift, the plant will be physically observed by the plant operator in its entirety to look for potential leaks within chemical feed

systems. This includes both in contained storage areas and around piping throughout the plant. Once per week, a maintenance inspection will occur as part of preventative maintenance schedule and in the event that an operator notices a problem during his/her shift. Once per quarter, a walk-thru will take place with at least two people including the Director of Water Quality/Environmental Compliance, the Production Manager and the Plant Supervisor. Once annually the BMP committee will do an inspection as part of the annual plan review process. Other audits, site assessments, and inspections will take place on a scheduled basis to ensure environmental compliance and to avoid any spill or pollution causing incidents.

## **8. PLANT SECURITY**

The Owenton WTP plant has at least one employee on site 20 hours per day, seven days per week, and 365 days per year. The plant is enclosed within a fenced perimeter. Employees may only gain access to the plant site with an electronic security badge, and access within the plant is further limited with an electronic locking system.

Adequate lighting is available around the site to assist in the detection of a breach of security including vandals. Chemical deliveries are not accepted at night to eliminate the risk for an external spill that would require additional lighting for clean-up.

Further details regarding security are available to regulatory agencies on an as needed basis and are not provided in this document.

## **9. EMPLOYEE TRAINING**

Training programs are essential for providing employees with a complete understanding of operating procedures, as well as the BMP plan and its objectives. Training sessions for chemical processes focus on notification and immediate response to spills.

Training is given to all new operators on the standard operating procedures, and periodically refreshed thereafter. The specific training on the BMP for the operators occurs at the implementation of the BMP and at any revision to the BMP. All employees receive general overview training.

## **10. RECORDKEEPING AND REPORTING**

Recordkeeping is critical to maintaining records that are pertinent to actual or potential environmental releases, and are important in evaluating root cause analysis when problems do arise.

Logs of shift inspections are located throughout the plant at each equipment area. Training records and other inspection records are kept at the plant as required. Maintenance records are maintained through a computerized system implemented in 2011. Incident records will be maintained at the plant by incident, including internal correspondence, formal agency notifications and responses, and investigation reports.

The BMP plan will be updated periodically and correspondence and reports relating specifically to the BMP plan will be kept with the BMP plan at the plant. It will be the plant supervisor's responsibility to establish and maintain the BMP plan file and updated records.

## **11. PLAN EVALUATION**

The BMP plan has been developed in coordination with the Northern Division superintendent, the Production Manager, the Director of Water Quality and Environmental Compliance, and the Water Quality Supervisor. The plan's effectiveness will be evaluated based on permit compliance with the discharge permit, and containment of any spills that prevent the discharge into the environment. Because the plant is fairly new, it is not anticipated that the BMP plan implementation will result in a reduction of expenses at the plant.

## **12. PLAN REEVALUATION**

At a minimum, the plan will be reevaluated annually as part of the annual inspection process and committee meeting. Additionally, it the plan should be re-evaluated following a plant expansion, a significant change in the nature or quantity of pollutants discharged, following significant treatment modifications, following a revision to the existing permit, new legislation approved at a local, state or federal level that is related to BMPs, or any incident that resulted in a release to the environment. The amended plan will be subsequently filed with the Kentucky Division of Water.

**ATTACHMENT A**  
**AMERICAN WATER ENVIRONMENTAL POLICY**





AMERICAN WATER

**Title: Environmental Policy**  
**Functional Area: Operations – Service Delivery – General**  
**Policy Number: ops\_svd\_gen\_po\_01\_environmental\_2008\_05\_30.doc**

### **SCOPE**

This policy applies to all personnel and all functional areas within American Water Works Company, Inc. and its controlled subsidiaries (together “American Water” or the “Company”) including all regulated and non-regulated business.

### **POLICY STATEMENT**

#### **Business Objective:**

As a company that provides water and wastewater utility services to customers in the United States and Canada, American Water contributes to, and relies on, the quality of the physical environment, making environmental management a fundamental part of our business. As such, it is imperative that each operating unit within American Water carry out its operations in a manner that limits the impact that American Water has on the environment. The objective of this policy is to clearly outline the roles and responsibilities of the different operating units to support this effort. American Water commits to:

1. *Ensuring compliance with all relevant environmental laws, regulations, and standards.*
  - 1.1. The requirements of all environmental laws, regulations, and standards pertaining to each operation or activity must be clearly understood and implemented. In addition, compliance with these requirements must be monitored and reported on a regular basis. Compliance with all new standards will be met by the required date as set by applicable regulations and regulatory agencies.
2. *Sustaining the environment through responsible business practices which promote environmental stewardship with a holistic approach to the prevention of pollution.*
  - 2.1. American Water operations and investments strive to promote environmental stewardship on American Water’s owned land, where our operations, activities, or practices could impact the environment, and in our business offerings.
  - 2.2. American Water will expect and encourage similar standards to our own from our partners, suppliers, agents, and contractors.
  - 2.3. We will discuss our environmental performance and the implementation of this policy with our stakeholders.
3. *Ensuring effective and efficient use of natural resources, including energy.*
  - 3.1. Natural resources include water, energy, and land. Use of energy can contribute to climate change through the emission of greenhouse gases which could have serious implications for us and our customers, as it could affect the availability and quality of water resources. By working to achieve a high level of energy efficiency, promoting renewable energy generation, and utilizing transport in a sustainable manner, American Water can help to ensure that our contribution to climate change is minimized.
  - 3.2. Projects for capital investments strive to minimize the impact on resource consumption including water use, selection of environmentally compatible materials, waste



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production, and energy efficiency for both the construction of the facilities and within the facility itself.

- 3.3. Sustainable water resource management is a central element of our business as well as our environmental strategy. This management includes watershed protection and partnering with communities in protection activities, development of sustainable water resources, and demand management programs including reducing leakage and promoting water conservation and use efficiency with our customers.
- 3.4. Land resources are used both for the development of our operations and for the management of the wastes produced during our activities. Effective waste management is therefore essential. Recycling, reuse, incineration, or biodegradation with energy recovery are encouraged in our operating strategies.

### Statement:

Given the above commitments, each operating unit is responsible for identifying and managing its environmental impacts in a systematic way through the implementation of an Environmental Management Plan that includes:

1. Establishing responsibility for environmental management within the business unit;
2. Establishing a register of applicable Federal, state, and local environmental requirements;
3. Establishing environmental objectives and training to meet regulatory requirements and enhance environmental stewardship;
4. Monitoring and reporting on performance and taking corrective action where necessary;
5. Establishing an internal audit mechanism; and
6. Undertaking an annual management review to ensure performance is continually improved.

For drinking water and wastewater systems, Environmental Management Plans are developed at the system level, but include specific facility level information regarding sampling requirements and the person(s) who will be responsible for ensuring required sampling occurs. Environmental Management Plans are also developed at other operating centers as needed. Environmental Management Plan Templates are posted on the American Water Intranet.

### **MONITORING**

The State / American Water Enterprises Group Presidents or their designee are accountable for ensuring that the environmental management plans have been developed and are being implemented at all drinking water systems, wastewater systems, and, as needed, operating centers, and that the plans have been reviewed and updated at a minimum of once per year.

The Environmental Program Leads will be responsible for maintaining the Environmental Management Plans and reporting that each plan has been reviewed and updated at a minimum of once per year. However, each functional area is responsible for providing updates to the Environmental Management Plan highlighting new requirements / responsibilities, reporting progress against goals and indicating any changes in responsible parties.

### **REPORTING/METRICS**

The Environmental Program Leads will certify annually that the operating unit has developed and is implementing appropriate Environmental Management Plans and that the plans have been reviewed within the past year.



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Every American Water employee is responsible to immediately report incidents of non-compliance with the Environmental Management Plan through the Ethics Hotline (877 207-4888). This includes, but is not limited to, failure to perform required sampling, notification of non-compliance from a regulatory agency, or an event that could have a substantial impact on public health or the environment. These issues must be elevated to appropriate management at the utility subsidiary and Corporate levels.

### **CONSEQUENCE OF NON-COMPLIANCE**

Any employee who violates or circumvents this policy may be subject to disciplinary action up to and including termination.

### **WAIVER**

No waivers will be granted under this policy.

### **REFERENCES**

US Environmental Protection Agency  
Canada Environmental Assessment Agency

### **DEFINITIONS**

None

### **REVIEW/UPDATE**

Review no later than three (3) years from approval / last review.

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**Approved by:** Service Company Board

Original Adopted: May 30, 2008

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Revised Adopted: Not applicable

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Date of Last Review: Not applicable

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Effective Date: May 30, 2008

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Prepared By: Innovation & Environmental Stewardship

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#### **Disclaimer**

American Water reserves the right to change, revise or discontinue this Policy for any reason whatsoever. No employee, manager or other agent of American Water, other than the Service Company Board (and, if applicable, the executive having authority to approve this policy) has the authority to enter into any agreement contrary to this Policy.

This Policy supersedes and voids all previous policies and practices, which may be inconsistent in any way with that stated herein.

**ATTACHMENT B**  
**BEST MANAGEMENT PRACTICE PLAN COMMITTEE**

Owenton Water Treatment Plant  
Best Management Practices Plan Committee

1. Linda Bridwell, Director of Water Quality and Environmental Compliance (Chair)  
2300 Richmond Road  
Lexington, KY 40502  
859-268-6373  
[Linda.bridwell@amwater.com](mailto:Linda.bridwell@amwater.com)
2. Michael Moler, Production Manager  
2300 Richmond Road  
Lexington, KY 40502  
859-335-3418  
[Michael.moler@amwater.com](mailto:Michael.moler@amwater.com)
3. Kevin Kruchinski, Northern Division Superintendent  
16035 S US 127  
Owenton, KY 40359  
502-484-8373  
[Rkevin.kruchinski@amwater.com](mailto:Rkevin.kruchinski@amwater.com)

Other Technical Resources:

David Shehee, Water Quality Supervisor  
2300 Richmond Road  
Lexington, KY 40502  
859-335-3660  
[David.shehee@amwater.com](mailto:David.shehee@amwater.com)

**ATTACHMENT C**  
**SOURCE RISK ASSESSMENT INVENTORY LIST**

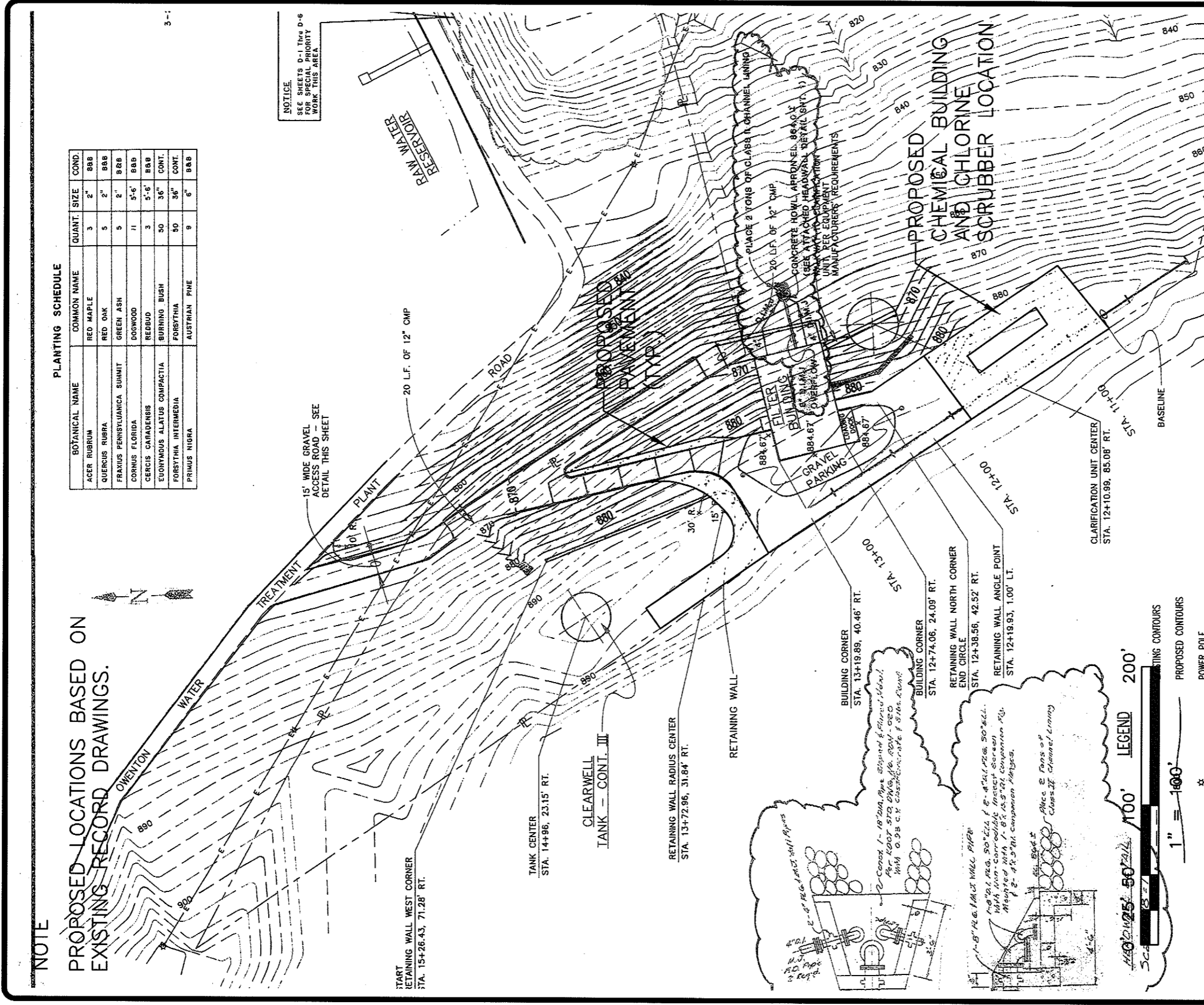
RELEASE POTENTIAL IDENTIFICATION AND ASSESSMENT WORKSHEET												
Steps 1 and 2		IDENTIFICATION AND ASSESSMENT FOR CURRENT RELEASES			IDENTIFICATION AND ASSESSMENT FOR POTENTIAL RELEASES							
Process	Pollutants	Current Amount Released	Priority Based on Pollutant Toxicity	Step 3	Step 4	Step 5	Steps 1 and 2	Step 3	Step 4	Step 5		
Chemical Delivery	Chlorine	None	High	Low	Low	Low	150lb cylinder	Cylinders are unloaded and moved individually	High	Medium	High	Low
	Fluoride	None	Medium	Low	Low	Low	55 gallon drum	Drums are unloaded individually into a contained area.	High	Medium	High	Low
	Ferric Chloride Polymer	None	Medium	Low	Low	Low	3,000 gallons	Truck tanker has vacuum feed into tank.	Medium	Medium	High	Low
	Carbon Coagulant	None	Low	Low	Low	Low	45 lb bags	Unloaded individually into contained area	High	Low	High	Low
	Polymer	None	Low	Low	Low	Low	55 gallons	Individual drums unloaded	High	Low	Low	Low
	Caustic Soda	None	High	Low	Low	Low	55 gallon	Individual drums unloaded	High	Medium	High	Low
	Sodium Thiosulfate	None	Medium	Low	Low	Low	15 gallon container	Containers unloaded individually.	High	Low	Low	Low
	Copper Sulfate	None	Low	Low	Low	Low	5 gallon container	Containers unloaded individually.	High	Low	Low	Low
	Sulfuric acid	None	Medium	Low	Low	Low	55 gallon drum	Drums are unloaded individually.	Medium	Medium	Low	Low
Water Treatment	Chlorine	None	High	Low	Low	Low	150 lb cylinder	Alarm in room that is isolated from rest of plant.	Medium	High	High	Low
	Fluoride	None	Medium	Low	Low	Low	55 gallon drum	Alert that feed system is not working.	Medium	High	High	Low
	Ferric Chloride Polymer	None	Medium	Low	Low	Low	3,000 gallons	Alert that feed system is not working.	Medium	High	High	Low
	Carbon Coagulant	None	Low	Low	Low	Low	45 lb	Alert that feed system is not working.	Medium	High	High	Low
	Polymer	None	Low	Low	Low	Low	55 gallon	Alert that feed system is not working.	Medium	Low	Low	Low
	Caustic Soda	None	High	Low	Low	Low	55 gallon	Alert that feed system is not working.	Medium	High	High	Low
	Sodium Thiosulfate	None	Medium	Low	Low	Low	15 gallon	Only applied by operator	High	Low	Low	Low
	Copper Sulfate	None	Low	Low	Low	Low	5 gallon	Only applied by operator	High	Low	Low	Low
	Sulfuric acid	None	Low	Low	Low	Low	55 gallon	Alert that feed system is not working.	Low	High	High	Low
Process residuals dewatering	Total Suspended Solids	<50 mg/l	Low	Low	Low	Low	>50 mg/l	Grab sampling, discharge can be terminated to allow for further treatment	High	Medium	Low	Low

BMPP Owenton Source Risk Assessment Inventory List\_kk.xls

	Residual Chlorine	<0.019 mg/l	High	Medium	Low	>0.019 mg/l	Low	Grab sampling, increase dechlorination chemical if too high	High	Medium	Low	Low



**ATTACHMENT D**  
**BMP SITE DRAWINGS**



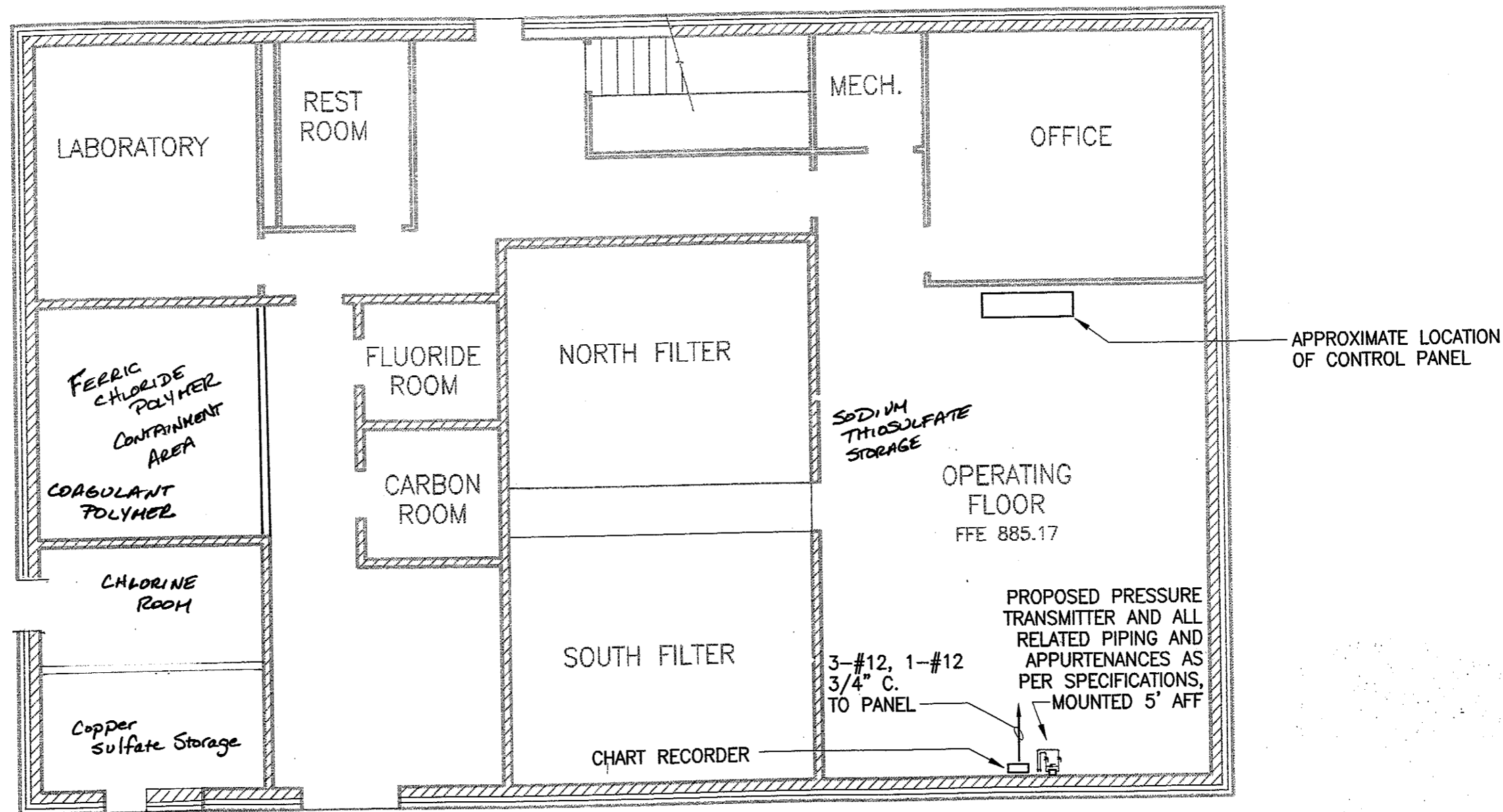
**PROPOSED ACCESS ROAD PAVEMENT & PROPOSED LOCATION OF NEW CHEMICAL BUILDING AND CHLORINE SCRUBBER**  
**OWENTON WATER TREATMENT PLANT CHEMICAL FEED SYSTEM IMPROVEMENTS**  
**KENTUCKY AMERICAN WATER**  
**OWENTON, KENTUCKY**

**STRAND ASSOCIATES, INC. ENGINEERS**

**FIGURE 1**  
 5493.107

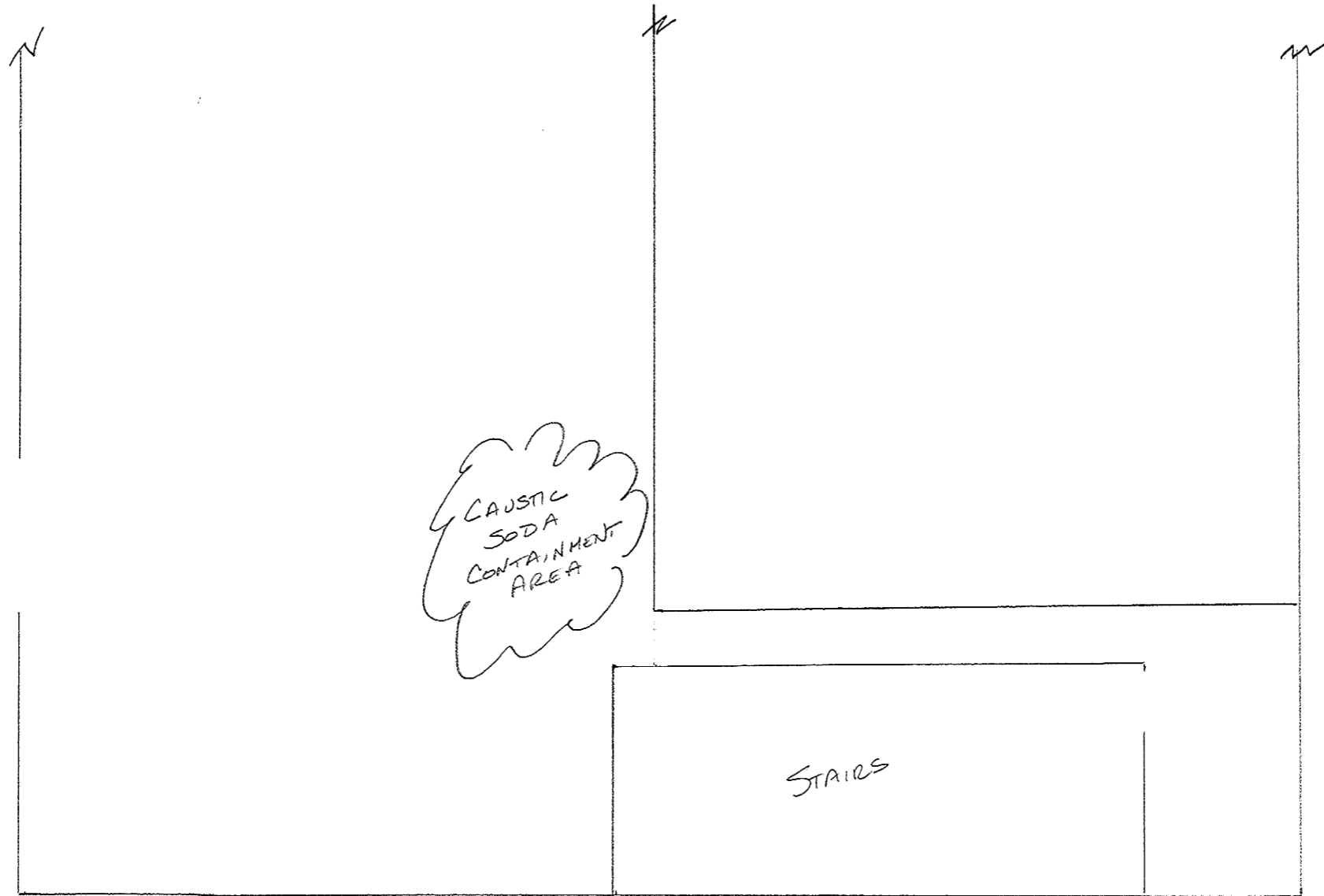
File: S:\05\451--500\493\107\Acad\Access Road on Old Site Plan.dwg Time: Jun 09, 2008 - 6:19pm

OWENTON WATER TREATMENT PLANT  
 SITE DRAWING BMP-1



SULFURIC ACID - OUTSIDE STORAGE - CONTAINMENT AREA PROPOSED  
**OPERATING LEVEL FLOOR PLAN**  
0 2' 4' 8' 16'





GALLERY FLOOR

## **BEST MANAGEMENT PRACTICES PLAN**

For

**KENTUCKY AMERICAN WATER  
KENTUCKY RIVER STATION II AT HARDIN'S LANDING  
OWEN COUNTY, KENTUCKY**

**JULY 2011**

## BEST MANAGEMENT PRACTICES PLAN

### TABLE OF CONTENTS

1. INTRODUCTION
2. BMP COMMITTEE
3. BMP POLICY STATEMENT
4. RELEASE IDENTIFICATION AND ASSESSMENT
5. GOOD HOUSEKEEPING
6. PREVENTATIVE MAINTENANCE
7. INSPECTIONS AND RECORDS
8. SECURITY
9. EMPLOYEE TRAINING
10. RECORDKEEPING AND REPORTING
11. PLAN EVALUATION
12. PLAN REEVALUATION

#### ATTACHMENT A

American Water Environmental Policy

#### ATTACHMENT B

BMP Committee

#### ATTACHMENT C

Source Risk Assessment Inventory List

#### ATTACHMENT D

BMP Site Drawing

## 1. INTRODUCTION

Kentucky American Water (KAW) provides water in Central Kentucky to Lexington, and nine surrounding counties. In order to do that, KAW operates four water treatment facilities. In 2010, the fourth facility named Kentucky River Station II at Hardin's Landing (KRS II) was placed into service. This is a new facility that with a rated capacity of 20 million gallons per day. The facility is located at 16035 Owenton Road North (US 127) in Owen County, just north of the Franklin County line. The facility withdraws water from the Kentucky River at Pool 3 and delivers water into Lexington through a 42" ductile iron transmission main.

On May 2, 2011 the Kentucky Energy and Environment Cabinet granted KAW a Kentucky Pollutant Discharge Elimination System General Permit for wastewater discharges associated with drinking water production from water treatment plants in Permit number KYG640175. One of the conditions of the permit was that a Best Management Practices Plan be developed and submitted to the Cabinet Division of Water within 90 days, and implemented within 180 days. This plan has been developed in response to that permit.

## 2. BEST MANAGEMENT PRACTICES COMMITTEE

A BMP Committee has been established to effectively develop and implement the BMP Plans. The committee will include at least two representatives of the production supervisory team, and one supervisory from Water Quality and Environmental Compliance. The Committee may draw from other internal and external resources to develop and implement the plan at any time.

The BMP Committee will meet no less than once per calendar year to carry out the primary functions listed below, or more frequently as needed.

- The BMP Committee will advise site management, which has overall responsibility and accountability for the plan, on technical matters. The BMP Committee will assist site management in implementation, to update and maintain the plan

- The BMP Committee will evaluate the BMP Plan relative to the safe handling and identification of toxic substances and hazardous materials used at the site. The committee will also review potential spill sources and communicate updates/changes to KAW management

- The BMP Committee is responsible for the overview of procedures, practices and training, developed or provided by either internal or external personnel. These include:

- o Incident reporting procedures
- o BMP inspections and record keeping procedures
- o Personnel training programs
- o Incident response and review
- o Clean-up, disposal and notification procedures
- o Good housekeeping, security practices and preventative maintenance

measures

- The BMP Committee will review all environmental incidents to determine the need for revision or corrections to this plan, and will assist in any interdepartmental coordination of the plan.

- The BMP Committee will meet as necessary, but at least annually. Additional meetings will be held in case of any reportable spill or other incident, to discuss changes or improvements to the BMP Plan, and/or changes in the use of toxic substances or hazardous materials at KRS II.

The current committee members are listed in Attachment B.

### **3. BMP POLICY STATEMENT**

The Best Management Practices Plan for the KRS II is developed to heighten management and employee awareness of potential pollution causing spill situation, and develop practices to reduce their risk of occurrence.

The BMP for the KRS II addresses all toxic pollutants and hazardous substances used at the site. The BMP is an umbrella document that includes the Stormwater Pollution Prevention Plan and Spill Prevention Control and Countermeasure plans for the plant.

American Water has adopted an Environmental Policy, which is included in Attachment A. This Policy clearly states the Business Objective making environmental management a fundamental part of our business. Within that policy, American Water commits to 1) Ensuring compliance with all relevant environmental laws, regulations, and standards; 2) Sustaining the environment through responsible business practices which promote environmental stewardship with a holistic approach to the prevention of pollution; and 3) Ensuring effective and efficient use of natural resources, including energy. Clearly the development and implementation of the BMP is within the scope and the intention of the Environmental Policy.

### **4. RELEASE IDENTIFICATION AND ASSESSMENT**

Sources of toxic substances and hazardous materials used at the KRS II are identified and evaluated in the BMP. These sources are identified in Attachment C. Each source is evaluated for its potential risk of discharge to receiving waters.

Each point source is evaluated for its risk to the environment, its potential flow path if spilled, secondary containment features, the proposed action to contain or control the spill, and current or recommended measures for reducing the risk of release to the environment via various BMP controls. In addition to containment areas, all process chemicals are conveyed through double walled piping to prevent leak that would lead to spills.

Toxic substances and hazardous material locations at KRS II are shown on the site BMP drawing. Contaminant locations shown on the drawing are identified according to the worksheets.

An evaluation of each stored material at the site is given in Attachment C. For all of the assessments, the potential risk to the environment was considered to be very low. Chemicals used in the treatment process have been designed to prevent spills or potential contaminants as part of the treatment design.

Site inspections, good housekeeping, and maintenance of equipment and systems are described in more detail later in this plan. The practices are also important in reducing the potential for leaks or spills of toxic substances and hazardous materials to the environment.

### **5. GOOD HOUSEKEEPING**

The following procedures are pursuant to good housekeeping, to lessen the risk of a spill or pollution-causing incident:

All containers of hazardous materials/waste are sealed/closed and are labeled and managed according to all applicable laws and regulations.



All dry chemicals in opened or punctured bags are stored in a temporary containment area until the chemical is fully used. Bags storing dry chemicals will be stored on pallets to prevent any interaction with liquids on the floor and to facilitate inspection and good housekeeping.

Drums, bags, or other containers will be stored according to container limitations and arranged to facilitate inspection for leaks or spills.

Walkways and pathways will be maintained free of obstruction.

Spilled liquids shall be controlled immediately to prevent run-off into storm water drains, natural waterways, or ground water.

Horizontal surfaces will be vacuumed or swept to control dry (solid) spills.

All new or used oil storage areas will be clearly marked and maintained in covered drums or containers, and stored in designated areas. All containers are clearly labeled indicating the contents.

Storage areas are inspected at least weekly for leaks, spills, and/or degrading containers. Containers are inspected at least quarterly to ensure the expiration date has not been exceeded.

Returnable containers are returned to the vendor when empty. For containers with removable liners, the liners are removed, classified, and then disposed properly; the containers may then be used for other purposes, recycled, or disposed. All other containers are triple rinsed; these containers may then be reused, recycled, or disposed.

## **6. PREVENTATIVE MAINTENANCE**

KRS II has a variety of audit and site assessment practices to assist with the detection of potential problems. These practices are standard operating procedures to ensure proper operation and maintenance of the KRS II equipment and materials, and prevention of a spill or pollution-causing incident at the plant. These include but are not limited to:

Equipment check every shift with physical sign-off at each equipment site within the plant

Chemical deliveries occur only in the designated chemical area under the supervision of plant personnel.

Plant supervisors and maintenance staff inspect all equipment at least once per week and equipment is maintained per the manufacturers' recommendations within a computer maintenance system.

Plant staff and environmental compliance staff perform quarterly inspections

For additional information, refer to the KRS II Standard Operating Procedures Manual located at the plant.

## **7. INSPECTIONS**

Monitoring controls are on all equipment with alarms for releases detected within the containment areas. During each eight hour shift, the plant will be physically observed by the plant operator in its entirety to look for potential leaks within chemical feed systems. This includes both in contained storage areas and around piping throughout the plant. Once per week, a maintenance inspection will occur as part of preventative maintenance schedule and in the event that an operator notices a problem during his/her shift. Once per quarter, a walk-thru will take place with at least two people including the Director of Water Quality/Environmental Compliance, the Production Manager and the Plant Supervisor. Once annually the BMP committee will do an inspection as part of the annual plan review process. Other audits, site assessments, and inspections will take place on a scheduled basis to ensure environmental compliance and to avoid any spill or pollution causing incidents.

## **8. PLANT SECURITY**

The Kentucky River Station II water treatment plant has at least one employee on site 24 hours per day, seven days per week, and 365 days per year. The plant is enclosed within a fenced perimeter and has continuous third party security monitoring. Employees may only gain access to the plant site with an electronic security badge, and access within the plant is further limited with an electronic locking system.

Adequate lighting is available around the site to assist in the detection of a breach of security including vandals. Chemical deliveries are not accepted at night to eliminate the risk for an external spill that would require additional lighting for clean-up.

Further details regarding security are available to regulatory agencies on an as needed basis and are not provided in this document.

## **9. EMPLOYEE TRAINING**

Training programs are essential for providing employees with a complete understanding of operating procedures, as well as the BMP plan and its objectives. Training sessions for chemical processes focus on notification and immediate response to spills.

Training is given to all new operators on the standard operating procedures, and periodically refreshed thereafter. The specific training on the BMP for the operators occurs at the implementation of the BMP and at any revision to the BMP. All employees receive general overview training.

## **10. RECORDKEEPING AND REPORTING**

Recordkeeping is critical to maintaining records that are pertinent to actual or potential environmental releases, and are important in evaluating root cause analysis when problems do arise.

Logs of shift inspections are located throughout the plant at each equipment area. Training records and other inspection records are kept at the plant as required. Maintenance records are maintained through a computerized system implemented in 2011. Incident records will be maintained at the plant by incident, including internal correspondence, formal agency notifications and responses, and investigation reports.

The BMP plan will be updated periodically and correspondence and reports relating specifically to the BMP plan will be kept with the BMP plan at the plant. It will be the plant supervisor's responsibility to establish and maintain the BMP plan file and updated records.

## **11. PLAN EVALUATION**

The BMP plan has been developed in coordination with the KRS II water treatment plant supervisor, the Northern Division superintendent, the Production Manager, the Director of Water Quality and Environmental Compliance, and the Water Quality Supervisor. The plan's effectiveness will be evaluated based on permit compliance with the discharge permit, and containment of any spills that prevent the discharge into the environment. Because the plant is fairly new, it is not anticipated that the BMP plan implementation will result in a reduction of expenses at the plant.

## **12. PLAN REEVALUATION**

At a minimum, the plan will be reevaluated annually as part of the annual inspection process and committee meeting. Additionally, it the plan should be re-evaluated following a plant expansion, a significant change in the nature or quantity of pollutants discharged, following significant treatment modifications, following a revision to the existing permit, new legislation approved at a local, state or federal level that is related to BMPs, or any incident that resulted in a release to the environment. The amended plan will be subsequently filed with the Kentucky Division of Water.

**ATTACHMENT A**  
**AMERICAN WATER ENVIRONMENTAL POLICY**



# AMERICAN WATER

**Title:** Environmental Policy  
**Functional Area:** Operations – Service Delivery – General  
**Policy Number:** ops\_svd\_gen\_po\_01\_environmental\_2008\_05\_30.doc

## SCOPE

This policy applies to all personnel and all functional areas within American Water Works Company, Inc. and its controlled subsidiaries (together “American Water” or the “Company”) including all regulated and non-regulated business.

## POLICY STATEMENT

### Business Objective:

As a company that provides water and wastewater utility services to customers in the United States and Canada, American Water contributes to, and relies on, the quality of the physical environment, making environmental management a fundamental part of our business. As such, it is imperative that each operating unit within American Water carry out its operations in a manner that limits the impact that American Water has on the environment. The objective of this policy is to clearly outline the roles and responsibilities of the different operating units to support this effort. American Water commits to:

1. *Ensuring compliance with all relevant environmental laws, regulations, and standards.*
  - 1.1. The requirements of all environmental laws, regulations, and standards pertaining to each operation or activity must be clearly understood and implemented. In addition, compliance with these requirements must be monitored and reported on a regular basis. Compliance with all new standards will be met by the required date as set by applicable regulations and regulatory agencies.
2. *Sustaining the environment through responsible business practices which promote environmental stewardship with a holistic approach to the prevention of pollution.*
  - 2.1. American Water operations and investments strive to promote environmental stewardship on American Water’s owned land, where our operations, activities, or practices could impact the environment, and in our business offerings.
  - 2.2. American Water will expect and encourage similar standards to our own from our partners, suppliers, agents, and contractors.
  - 2.3. We will discuss our environmental performance and the implementation of this policy with our stakeholders.
3. *Ensuring effective and efficient use of natural resources, including energy.*
  - 3.1. Natural resources include water, energy, and land. Use of energy can contribute to climate change through the emission of greenhouse gases which could have serious implications for us and our customers, as it could affect the availability and quality of water resources. By working to achieve a high level of energy efficiency, promoting renewable energy generation, and utilizing transport in a sustainable manner, American Water can help to ensure that our contribution to climate change is minimized.
  - 3.2. Projects for capital investments strive to minimize the impact on resource consumption including water use, selection of environmentally compatible materials, waste



## AMERICAN WATER

production, and energy efficiency for both the construction of the facilities and within the facility itself.

- 3.3. Sustainable water resource management is a central element of our business as well as our environmental strategy. This management includes watershed protection and partnering with communities in protection activities, development of sustainable water resources, and demand management programs including reducing leakage and promoting water conservation and use efficiency with our customers.
- 3.4. Land resources are used both for the development of our operations and for the management of the wastes produced during our activities. Effective waste management is therefore essential. Recycling, reuse, incineration, or biodegradation with energy recovery are encouraged in our operating strategies.

### Statement:

Given the above commitments, each operating unit is responsible for identifying and managing its environmental impacts in a systematic way through the implementation of an Environmental Management Plan that includes:

1. Establishing responsibility for environmental management within the business unit;
2. Establishing a register of applicable Federal, state, and local environmental requirements;
3. Establishing environmental objectives and training to meet regulatory requirements and enhance environmental stewardship;
4. Monitoring and reporting on performance and taking corrective action where necessary;
5. Establishing an internal audit mechanism; and
6. Undertaking an annual management review to ensure performance is continually improved.

For drinking water and wastewater systems, Environmental Management Plans are developed at the system level, but include specific facility level information regarding sampling requirements and the person(s) who will be responsible for ensuring required sampling occurs. Environmental Management Plans are also developed at other operating centers as needed. Environmental Management Plan Templates are posted on the American Water Intranet.

### MONITORING

The State / American Water Enterprises Group Presidents or their designee are accountable for ensuring that the environmental management plans have been developed and are being implemented at all drinking water systems, wastewater systems, and, as needed, operating centers, and that the plans have been reviewed and updated at a minimum of once per year.

The Environmental Program Leads will be responsible for maintaining the Environmental Management Plans and reporting that each plan has been reviewed and updated at a minimum of once per year. However, each functional area is responsible for providing updates to the Environmental Management Plan highlighting new requirements / responsibilities, reporting progress against goals and indicating any changes in responsible parties.

### REPORTING/METRICS

The Environmental Program Leads will certify annually that the operating unit has developed and is implementing appropriate Environmental Management Plans and that the plans have been reviewed within the past year.



## AMERICAN WATER

Every American Water employee is responsible to immediately report incidents of non-compliance with the Environmental Management Plan through the Ethics Hotline (877 207-4888). This includes, but is not limited to, failure to perform required sampling, notification of non-compliance from a regulatory agency, or an event that could have a substantial impact on public health or the environment. These issues must be elevated to appropriate management at the utility subsidiary and Corporate levels.

### **CONSEQUENCE OF NON-COMPLIANCE**

Any employee who violates or circumvents this policy may be subject to disciplinary action up to and including termination.

### **WAIVER**

No waivers will be granted under this policy.

### **REFERENCES**

US Environmental Protection Agency  
Canada Environmental Assessment Agency

### **DEFINITIONS**

None

### **REVIEW/UPDATE**

Review no later than three (3) years from approval / last review.

**Approved by:** Service Company Board

Original Adopted: May 30, 2008

Revised Adopted: Not applicable

Date of Last Review: Not applicable

Effective Date: May 30, 2008

Prepared By: Innovation & Environmental Stewardship

#### **Disclaimer**

American Water reserves the right to change, revise or discontinue this Policy for any reason whatsoever. No employee, manager or other agent of American Water, other than the Service Company Board (and, if applicable, the executive having authority to approve this policy) has the authority to enter into any agreement contrary to this Policy.

This Policy supersedes and voids all previous policies and practices, which may be inconsistent in any way with that stated herein.

**ATTACHMENT B**  
**BEST MANAGEMENT PRACTICE PLAN COMMITTEE**



Kentucky River Station II at Hardin's Landing Water Treatment Plant  
Best Management Practices Plan Committee

1. Linda Bridwell, Director of Water Quality and Environmental Compliance (Chair)  
2300 Richmond Road  
Lexington, KY 40502  
859-268-6373  
[Linda.bridwell@amwater.com](mailto:Linda.bridwell@amwater.com)
2. Michael Moler, Production Manager  
2300 Richmond Road  
Lexington, KY 40502  
859-335-3418  
[Michael.moler@amwater.com](mailto:Michael.moler@amwater.com)
3. Kevin Kruchinski, Northern Division Superintendent  
16035 S US 127  
Owenton, KY 40359  
502-484-8373  
[Rkevin.kruchinski@amwater.com](mailto:Rkevin.kruchinski@amwater.com)

Other Technical Resources:

David Shehee, Water Quality Supervisor  
2300 Richmond Road  
Lexington, KY 40502  
859-335-3660  
[David.shehee@amwater.com](mailto:David.shehee@amwater.com)

Dalvin Krug, Plant Supervisor  
16035 S US 127  
Owenton, KY 40359  
502-484-8373  
[Dalvin.krug@amwater.com](mailto:Dalvin.krug@amwater.com)

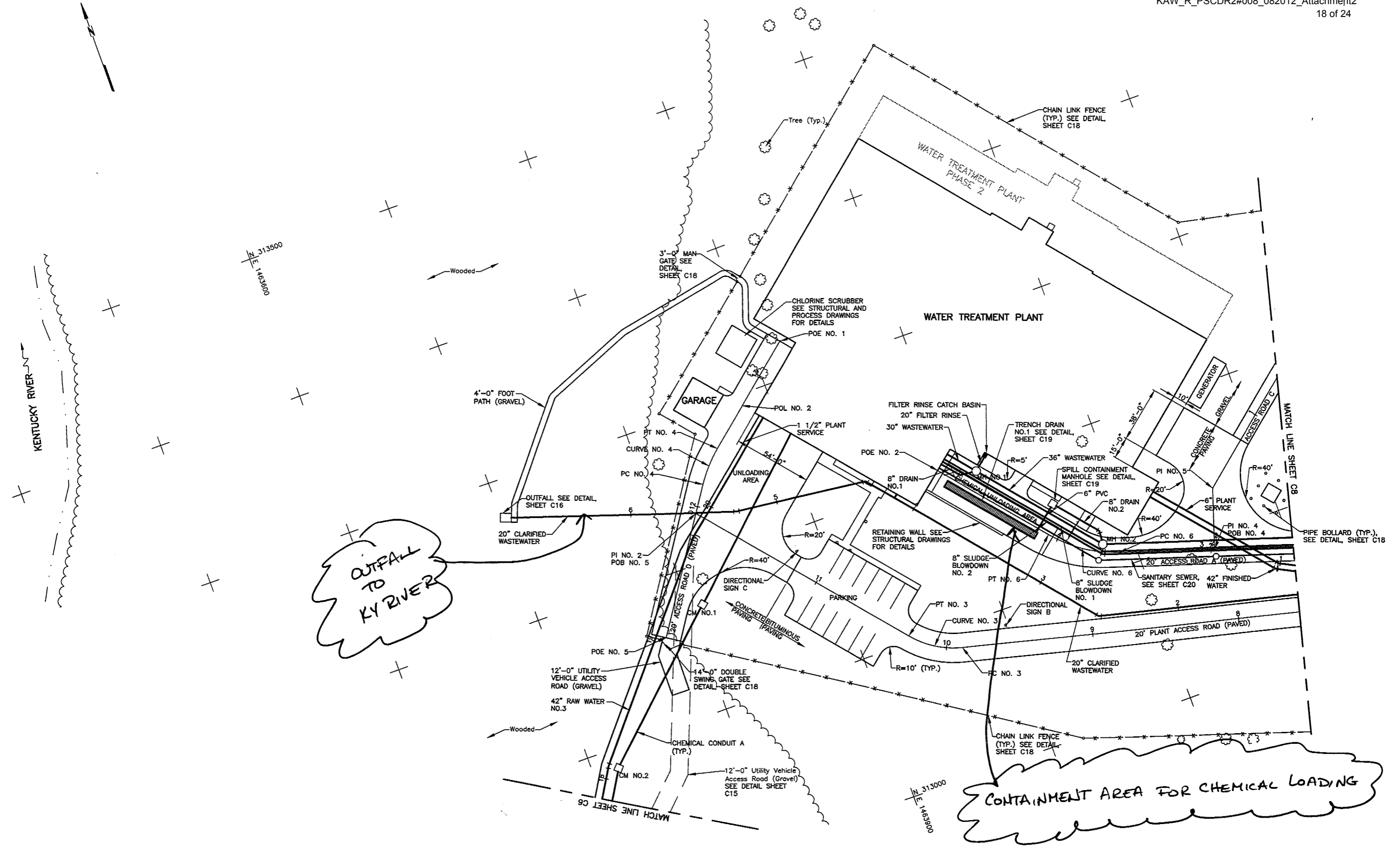
**ATTACHMENT C**  
**SOURCE RISK ASSESSMENT INVENTORY LIST**

RELEASE POTENTIAL IDENTIFICATION AND ASSESSMENT WORKSHEET													
Steps 1 and 2		IDENTIFICATION AND ASSESSMENT FOR CURRENT RELEASES			IDENTIFICATION AND ASSESSMENT FOR POTENTIAL RELEASES					Steps 1 and 2			
Process	Pollutants	Current Amount Released	Priority Based on Pollutant Toxicity	Step 3	Step 4	Step 5	Potential Amount Released	Priority Based on Pollutant Toxicity	Current Controls	Confidence Rating of Controls	Priority Based on Potential Amount Released	Priority Based on Potential Pollutant Receptors	Step 5
Chemical Delivery	Chlorine	None	High	High	Low	Low	1 ton gaseous cylinder	High	Cylinders are unloaded and moved individually	High	High	High	Low
	Fluoride	None	Medium	Medium	Low	Low	4,000 gallons	Medium	Truck tanker has vacuum feed into tank. Containment area will hold entire tanker in event of incident	High	High	High	Low
	Polyaluminum Chloride	None	Medium	Medium	Low	Low	4,000 gallons	Medium	Truck tanker has vacuum feed into tank. Containment area will hold entire tanker in event of incident	High	High	High	Low
	Carbon	None	Low	Low	Low	Low	15,000 lb	Low	Unloaded individually into contained area	High	High	High	Low
	Potassium Permanganate Coagulant Polymer	None	Low	Low	Low	Low	330 lb drum	Low	Individual drums unloaded	High	High	High	Low
	Residual Polymer	None	Low	Low	Low	Low	55 gallons	Low	Individual drums unloaded	High	Low	Low	Low
	Caustic Soda	None	High	High	Low	Low	55 gallons	Low	Individual drums unloaded	High	High	High	Low
	Hydrous Ammonia	None	High	High	Low	Low	4,000 gallons	High	Truck tanker has vacuum feed into tank. Containment area will hold entire tanker in event of incident	High	High	High	Low
	Sodium Thiosulfate	None	Medium	Medium	Low	Low	4,000 gallons	Low	Truck tanker has vacuum feed into tank. Containment area will hold entire tanker in event of incident	High	High	High	Low
	Filter Aid Polymer	None	Low	Low	Low	Low	55 gallon	Low	Individual drums unloaded	High	Low	Low	Low
	Corrosion Inhibitor	None	Low	Low	Low	Low	4,000 gallons	Low	Truck tanker has vacuum feed into tank. Containment area will hold entire tanker in event of incident	High	High	High	Low
	Dewatering Polymer	None	Low	Low	Low	Low	55 gallon	Low	Individual drums unloaded	High	High	High	Low

BMPP KRS II Source Risk Assessment Inventory List.xls

Water Treatment	Chlorine	None	High	Low	Low	1 ton storage cylinder	High	Alarm in room that sends alert to operator, turns on chlorine scrubber	High	High	High	Low
	Fluoride	None	Medium	Low	Low	6,000 gallon	Medium	Alarm in room that sends alert electronically, individual containment within room. Controls outside room	High	High	High	Low
	Polyaluminum Chloride	None	Medium	Low	Low	12,000 gallons	Medium	Alarm for pump failure, controls outside containment area	High	High	High	Low
	Carbon	None	Low	Low	Low	15,000 lb	Low	Alarms for feed failure, controls outside containment area	High	High	High	Low
	Potassium Permanganate	None	Low	Low	Low	1400 gallon	Low	Alarms for feed failure, controls outside containment area	High	High	High	Low
	Coagulant Polymer	None	Low	Low	Low	55 gallons	Low	Alarms for feed failure, controls outside containment area	High	Low	Low	Low
	Residual Polymer	None	Low	Low	Low	55 gallons	Low	Alarms for feed failure, controls outside containment area	High	High	High	Low
	Caustic Soda	None	High	Low	Low	6,000 gallon	High	Alarm in room that sends alert electronically, individual containment within room. Controls outside room	High	High	High	Low
	Hydrous Ammonia	None	High	Low	Low	8,000 gallon	High	Alarm in room that sends alert electronically, individual containment within room. Controls outside room	High	High	High	Low
	Sodium Thiosulfate	None	Medium	Low	Low	5,000 gallon	Low	Alarms for feed failure, controls outside containment area	High	Low	Low	Low
	Filter Aid Polymer	None	Low	Low	Low	55 gallon	Low	Alarms for feed failure, controls outside containment area	High	Low	Low	Low
	Corrosion Inhibitor	None	Low	Low	Low	5,000 gallon	Low	Alarm in room that sends alert electronically, individual containment within room. Controls outside room	High	High	High	Low
	Dewatering Polymer	None	Low	Low	Low	6,300 gallon	Low	Alarms for feed failure, controls outside containment area	High	High	High	Low
Process residuals dewatering	Total Suspended Solids	<30 mg/l	Low	Low	Low	>30 mg/l	Low	Continuous sampling, discharge can be terminated to allow for further treatment	High	Medium	Low	Low
	Residual Chlorine	<0.011 mg/l	High	Medium	Low	>0.011 mg/l	Low	Continuous sampling, programmed to increase dechlorination chemical if too high	High	Medium	Low	Low

**ATTACHMENT D**  
**BMP SITE DRAWINGS**



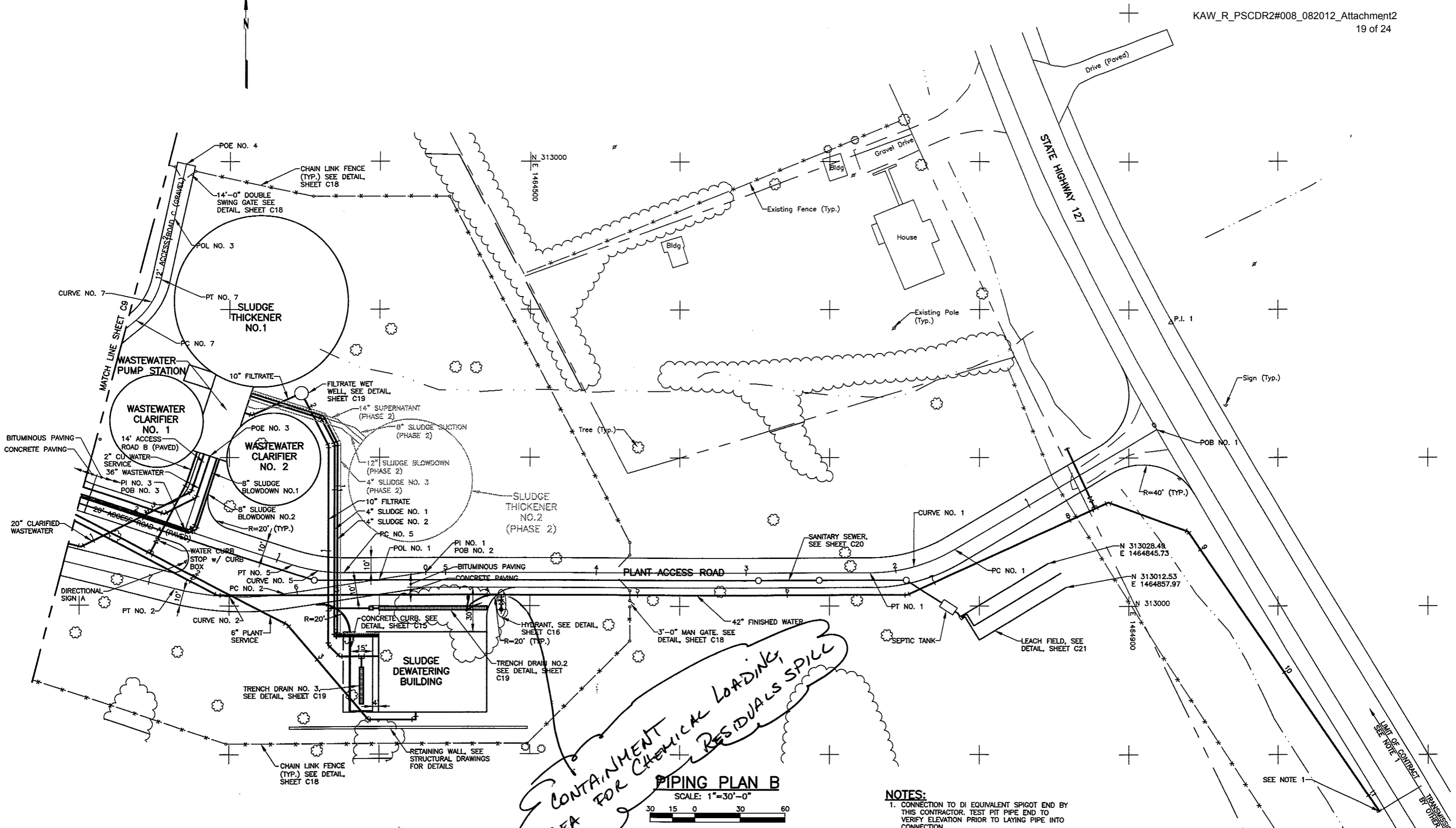
**PIPING PLAN A**  
SCALE: 1"=30'-0"  
30 15 0 30 60

120\47225\KAW\WTP\CML\12020001C9.DWG  
3/2007 TIME: 1:19:08 pm

I AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING, INC. ANY REUSE, REUSE, MODIFICATIONS, AND/OR DELETIONS OF THESE DRAWINGS OR PROJECT EXTENSIONS OF ANY KIND, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO GANNETT FLEMING, INC. IF A CONFLICT EXISTS BETWEEN THE SEALED DRAWINGS AND THE ELECTRONIC FILES, THE SEALED DRAWINGS WILL GOVERN.

STATE OF KENTUCKY  
GENE C. KOONITZ

KRS II  
SITE DRAWING BMP-1



*CONTAINMENT AREA FOR CHEMICAL LOADING, RESIDUALS SPILL*

**PIPING PLAN B**  
SCALE: 1"=30'-0"



- NOTES:**
- CONNECTION TO DI EQUIVALENT SPIGOT END BY THIS CONTRACTOR. TEST PIT PIPE END TO VERIFY ELEVATION PRIOR TO LAYING PIPE INTO CONNECTION.

\\PC420\47225\KAW\WTP\CML\1202001C10.DWG  
6/28/2007 TIME: 1:24:30 pm

THIS IS AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING, INC. ANY MISUSE, REUSE, OR ALTERATION OF THESE DRAWINGS OR PROJECT EXTENSION OR DELAY SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO GANNETT FLEMING, INC. IF THERE IS A CONFLICT BETWEEN THE SEALED DRAWINGS AND THE ELECTRONIC FILES, THE DRAWINGS WILL CONTROL.



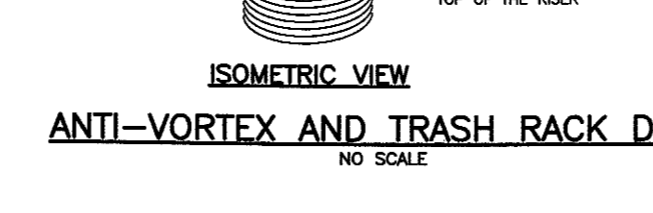
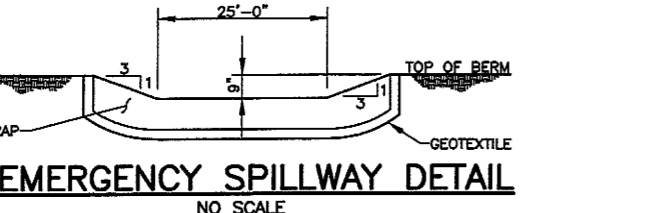
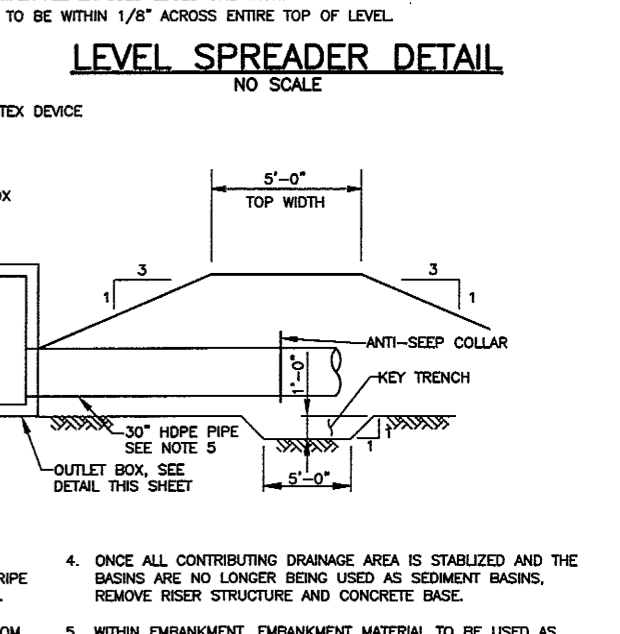
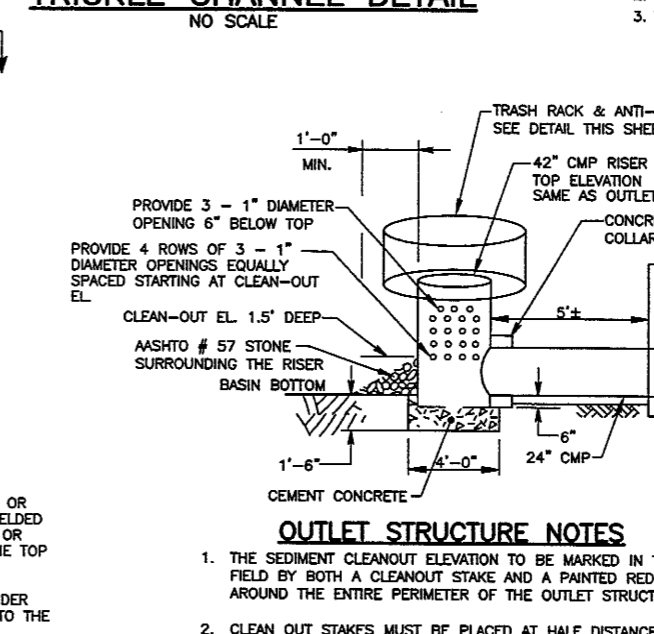
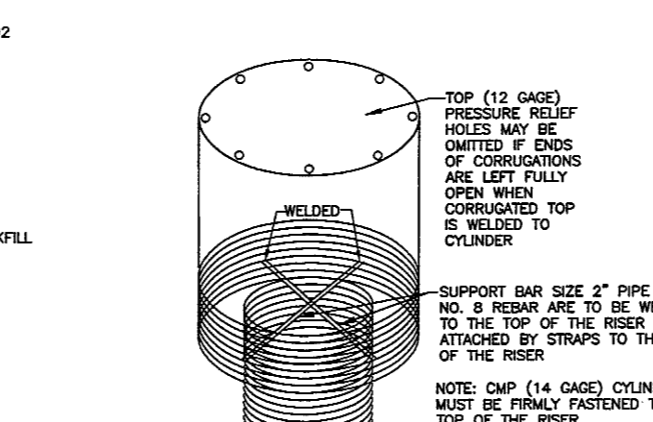
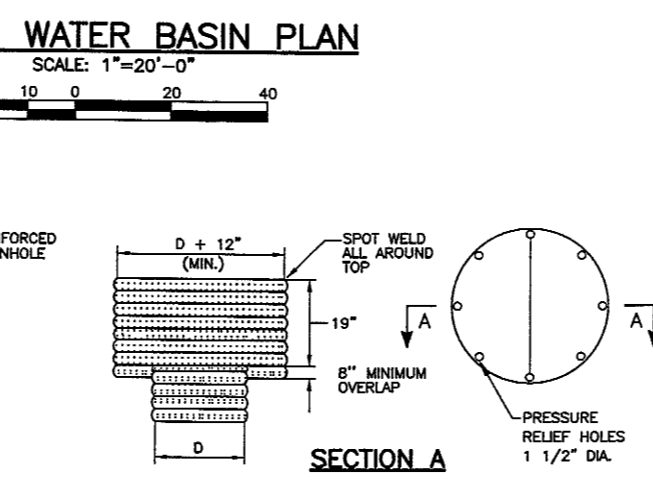
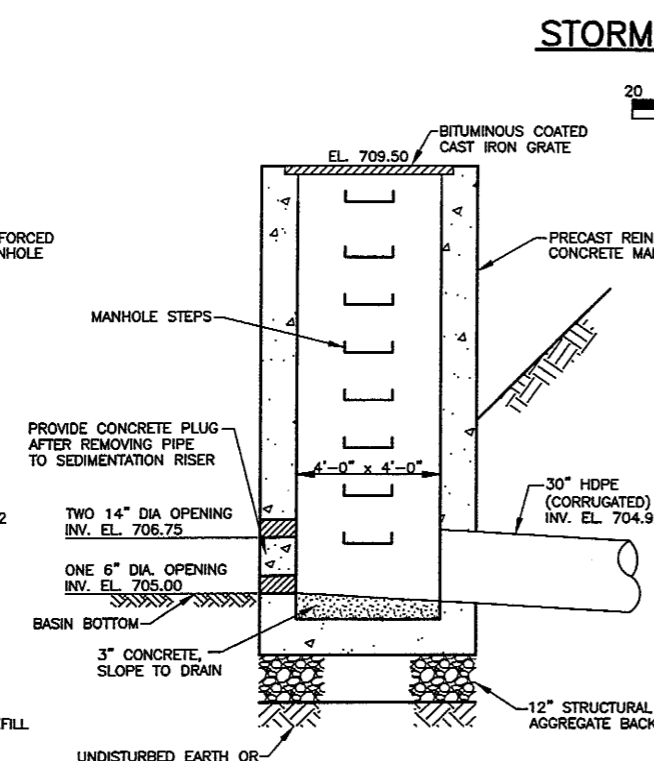
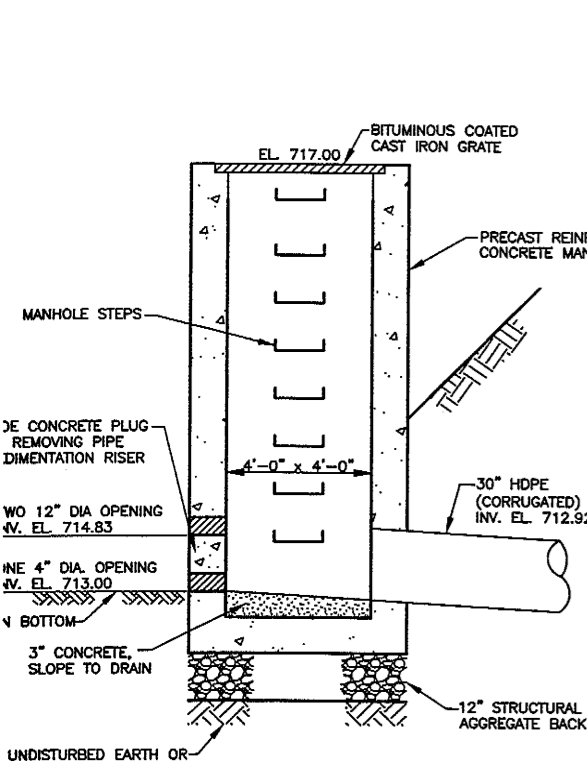
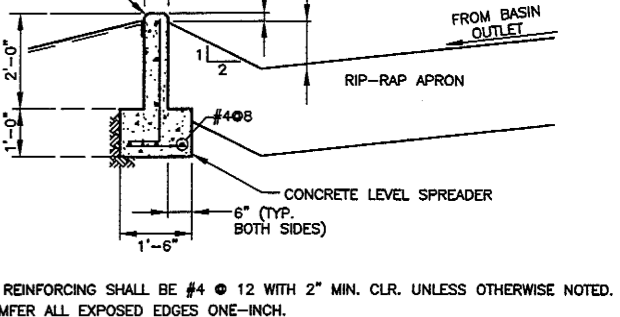
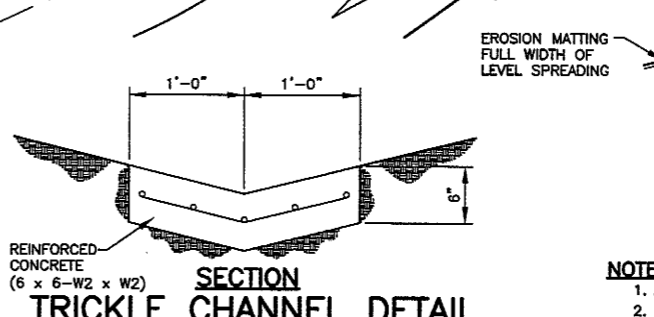
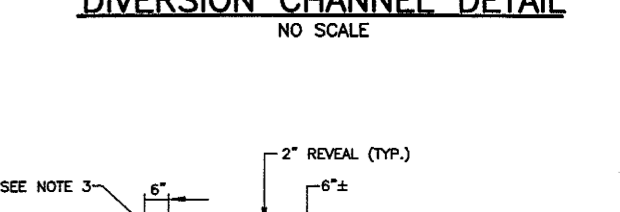
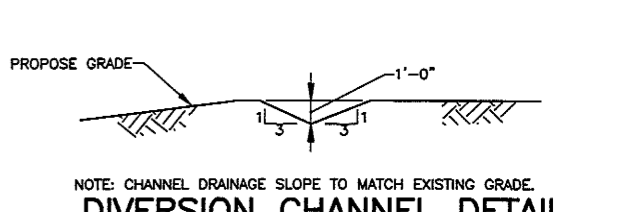
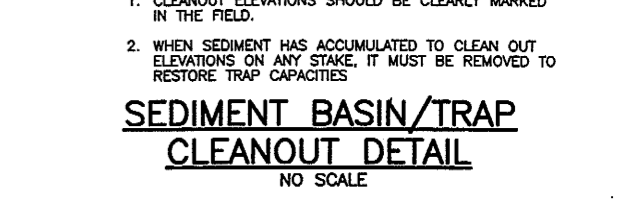
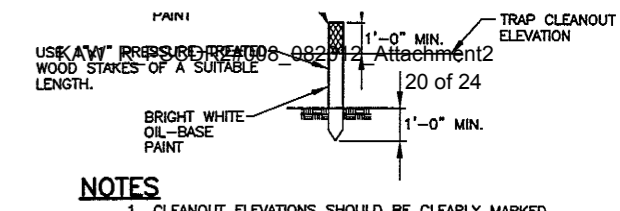
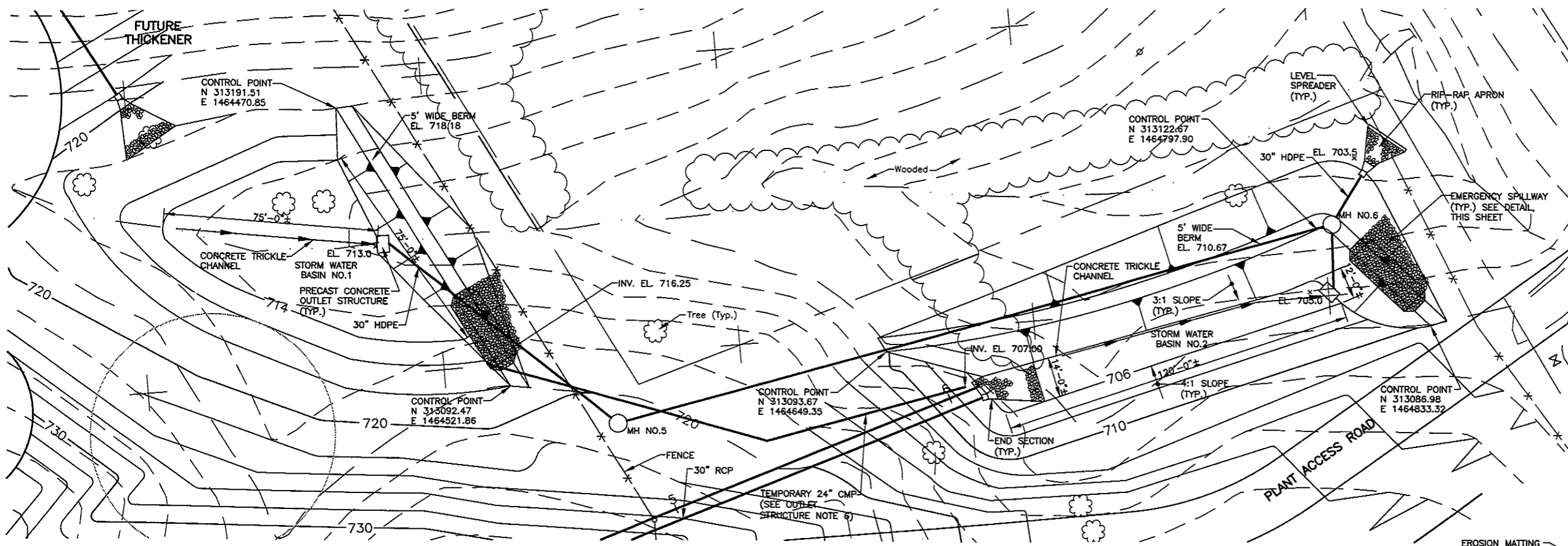
DESIGNED	CADD	SCALE
J.L.G.	C.B.I.	AS NOTED
CHECKED	APPROVED	APPROVED



KENTUCKY-AMERICAN WATER COMPANY  
LEXINGTON, KENTUCKY  
**KENTUCKY RIVER POOL 3**

**KRSII**  
**SITE DRAWING BMP-2**

JOB No.	SHEET No.
47225	C10
DATE	DRAWING NO.



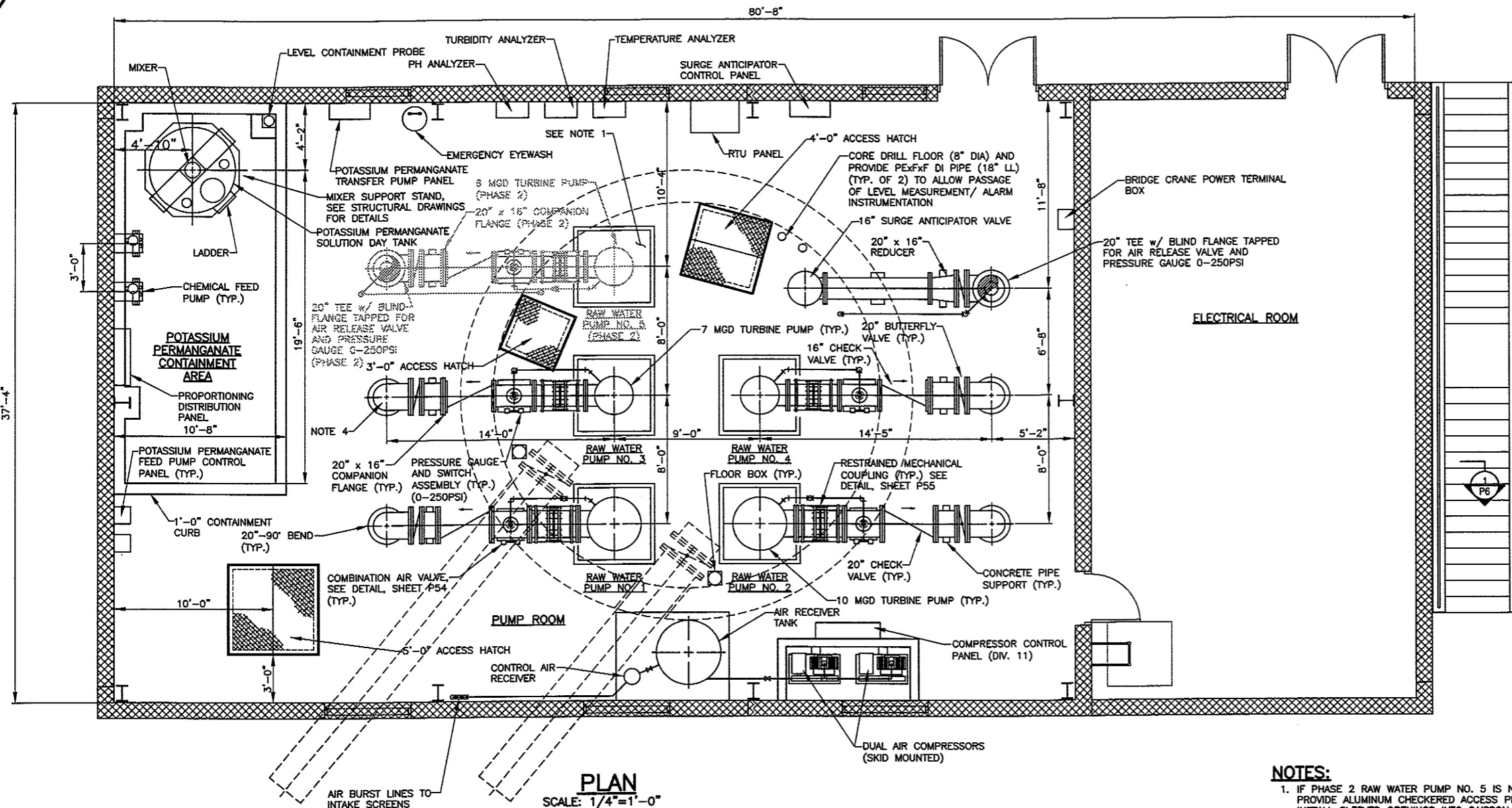
20\47225\KAW\WTP\CML\12020001C23.DWG  
1/2007 TIME: 2:20:15 pm  
I AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING, INC. ANY REUSE, REVISIONS, AND/OR DELETIONS OF THESE DRAWINGS ON PROJECTS EXTENDING BEYOND THE ORIGINAL CONTRACT SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO GANNETT FLEMING, INC. IF A CONFLICT ARISES BETWEEN THE SEALED DRAWINGS AND THE ELECTRONIC FILES, THE SEALED DRAWINGS WILL GOVERN.

STATE OF KENTUCKY  
GISE C. KOONTZ  
20483  
REGISTERED PROFESSIONAL ENGINEER

DESIGNED J.L.G.	CADD C.B.I.	SCALE AS NOTED	<b>Gannett Fleming</b>	KENTUCKY-AMERICAN WATER COMPANY LEXINGTON, KENTUCKY	WATER TREATMENT PLANT	JOB No. 47225	SHEET No. C23
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KRSII  
SITE DRAWING  
BMP-3





**PLAN**  
SCALE: 1/4"=1'-0"

**NOTES:**

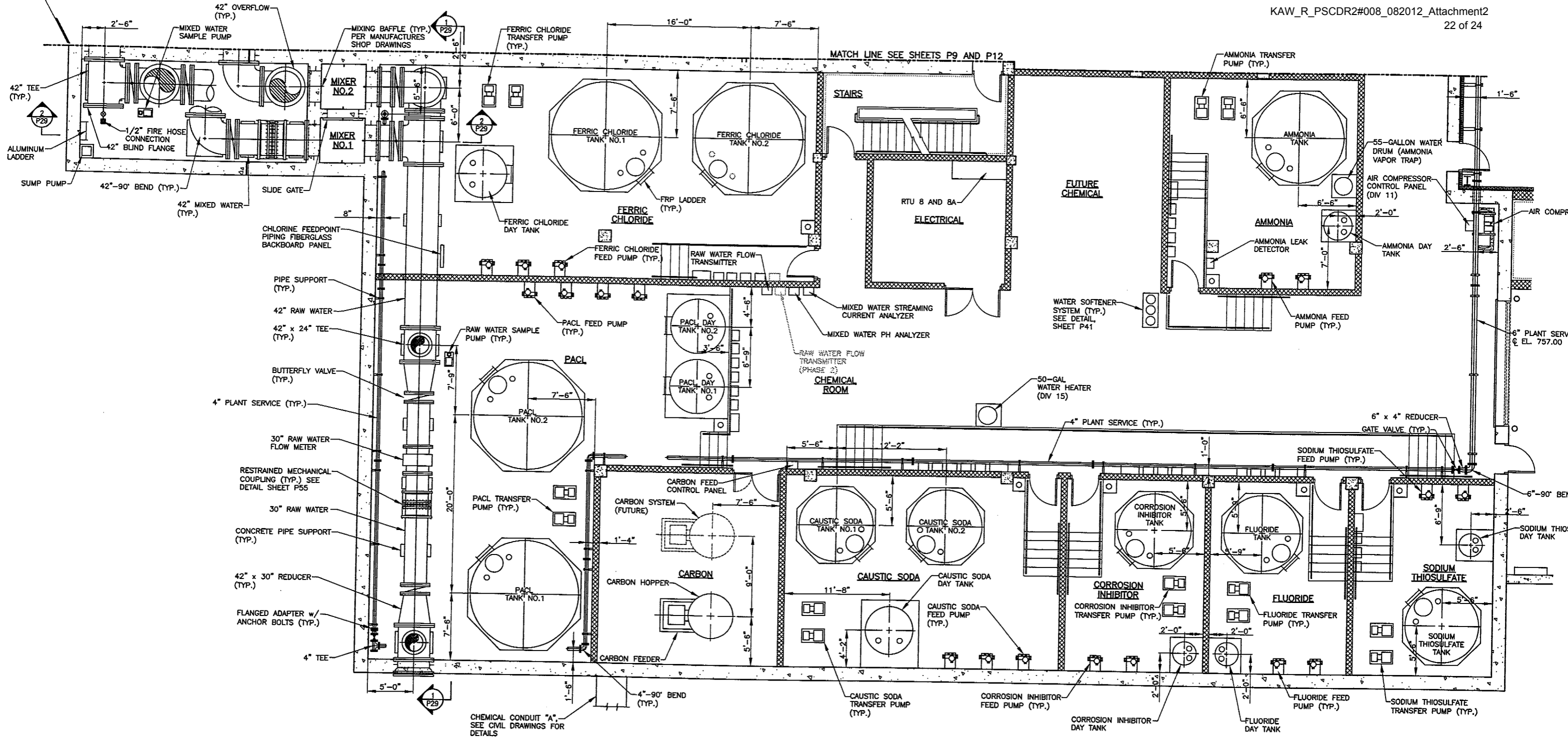
1. IF PHASE 2 RAW WATER PUMP NO. 5 IS NOT CONSTRUCTED, PROVIDE ALUMINUM CHECKERED ACCESS PLATE FOR PUMP BASE, INSTALL SLEEVED OPENINGS INTO CAISSON TO PASS AIR VALVE EXHAUST AND PUMP LUBE DRAINS.
2. DISCHARGE AIR VACUUM VALVE EXHAUSTS AND PUMP LUBE DRAIN LINES INTO CAISSON.
3. PUMP BASES AND FLOOR OPENINGS FOR PUMP UNITS 3, 4, AND 5 SIZED TO ACCOMMODATE FUTURE 10MGD UNITS.
4. IF PHASE 2 RAW WATER PUMP NO.5 IS NOT CONSTRUCTED, INSTALL 20" TEE w/ BLIND FLANGE AND PRESSURE GAUGE ON RAW WATER PUMP NO.4.
5. RAW WATER PUMP DISCHARGE PIPING TO AND INCLUDING GUARDIAN BUTTERFLY VALVE SHOULD BE RATED FOR 250 PSI SERVICE INCLUDING AIR/VACUUM VALVE, CHECK VALVE, GATE VALVE AND PRESSURE GAUGE AND SWITCH AND RESTRAINED COUPLING.

RAW WATER INTAKE BUILDING  
POTASSIUM PERMANGANATE CONTAINMENT AREA

D:\PC420\47225\KAW\WTP\PROCESS\12020001P4.DWG  
07/26/2007 TIME: 2:30:58 pm  
DRAWING IS AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING, INC. ANY MISUSE, REUSE, ALTERATIONS, ADDITIONS AND/OR DELETIONS OF THESE DRAWINGS OR PROJECT EXTENSIONS OR PROJECTS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO GANNETT FLEMING, INC. EVEN IF A CONFLICT ARISES BETWEEN THE SEALED DRAWINGS AND THE ELECTRONIC FILES. SEALED DRAWINGS WILL PREVAIL.



KRS II  
SITE DRAWING BHP  
4



FIRST FLOOR PLAN  
SCALE: 3/16"=1'-0"

CHEMICAL TREATMENT AREA

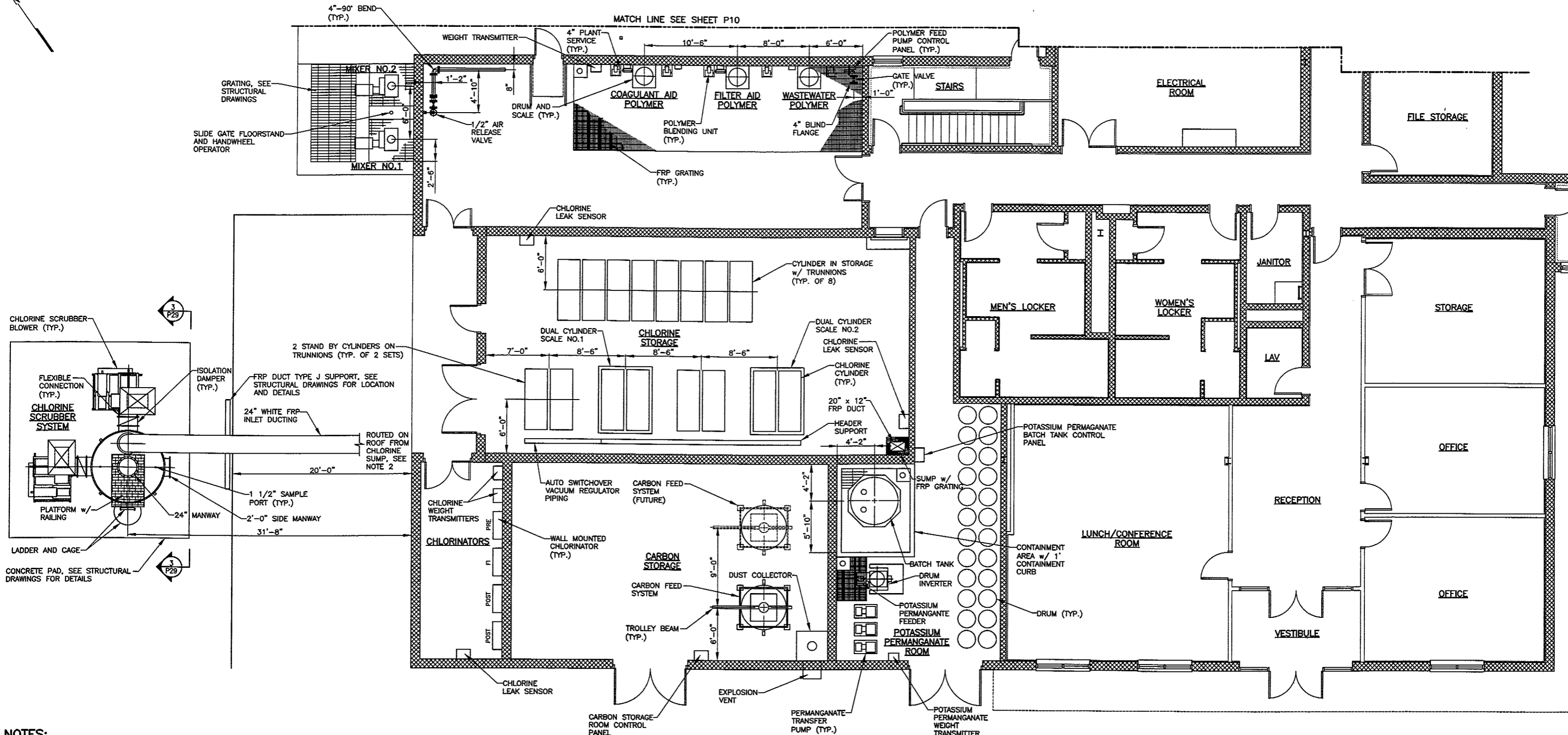
FILE: D:\PC420\47225\KAW\WTP\PROCESS\12020001P23.DWG  
 DATE: 07/11/2007 TIME: 8:21:34 am

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DESIGNED L.L.K.	CADD J.L.G.	SCALE AS NOTED	KENTUCKY-AMERICAN WATER COMPANY LEXINGTON, KENTUCKY	JOB No.
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KRS II  
 SITE DRAWING BHP-5



**SECOND FLOOR PLAN**  
SCALE: 3/16"=1'-0"

*CHEMICAL TREATMENT AREA*

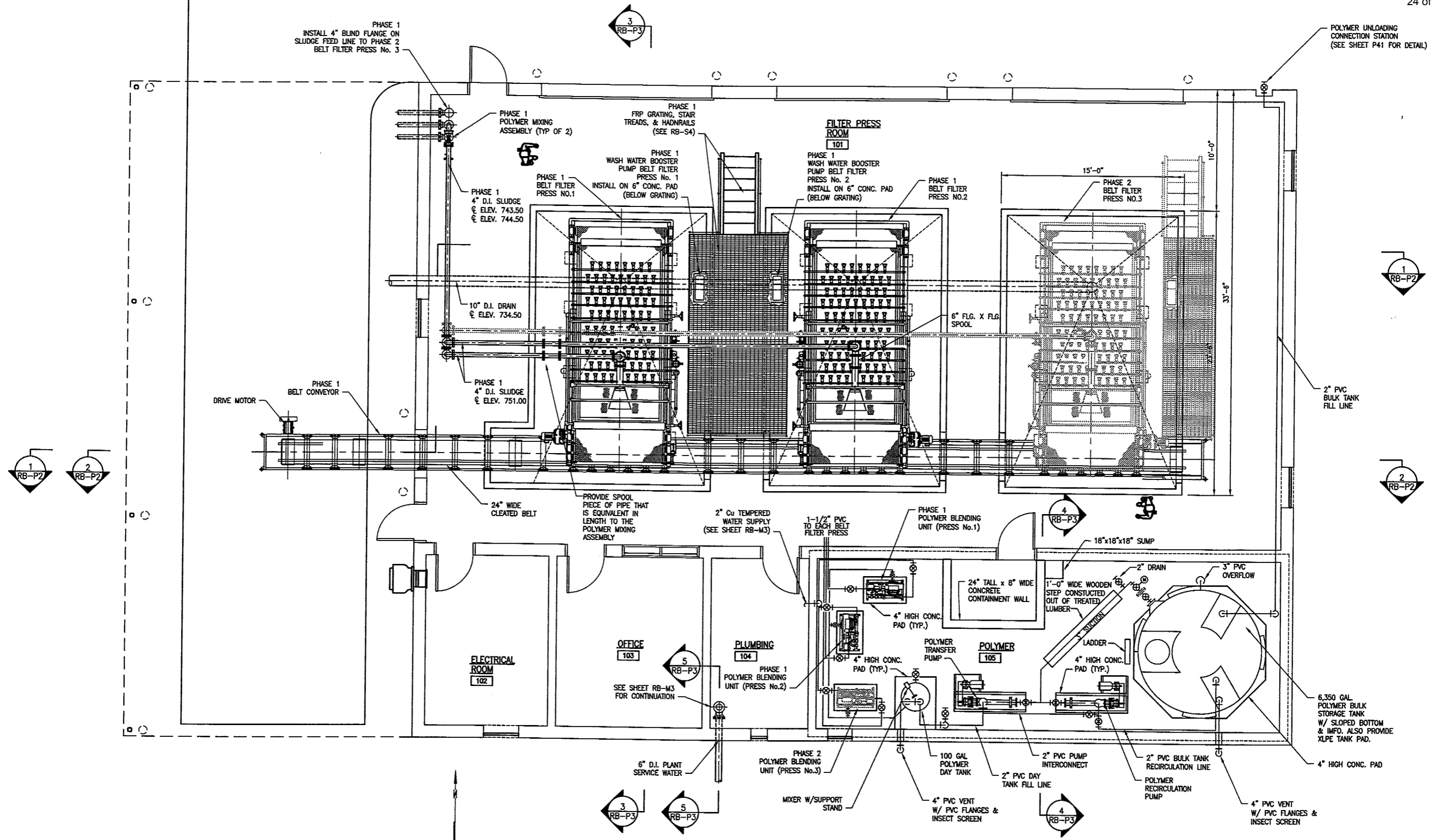
- NOTES:**
1. SEE STRUCTURAL DRAWINGS FOR CHLORINE STORAGE MONORAIL DETAILS.
  2. PROVIDE TYPE D SUPPORTS AS REQUIRED ALONG WATER TREATMENT PLANT WALL LOCATED ABOVE CHLORINE STORAGE ROOM ROOF FOR 24" FRP SCRUBBER DUCTWORK SUPPORT. SEE STRUCTURAL DRAWINGS FOR SUPPORT DETAILS.

FILE: D:\PC420\47225\KAW\WTP\PROCESS\12020001P24.DWG  
DATE: 07/26/2007 TIME: 1:40:41 pm

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STATE OF KENTUCKY  
GENE C. KOONITZ  
20483

KRS II  
SITE DRAWING BMP-6



**RESIDUALS DEWATERING BUILDING FLOOR PLAN**  
SCALE: 1/4"=1'-0"

*RESIDUALS BUILDING  
POLYMER CONTAINMENT*

*KRS II  
SITE DRAWING  
BMP-7*

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STEVEN L. BESHEAR  
GOVERNOR

**ENERGY AND ENVIRONMENT CABINET**  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
200 FAIR OAKS LANE  
FRANKFORT, KENTUCKY 40601  
[www.kentucky.gov](http://www.kentucky.gov)

LEONARD K. PETERS  
SECRETARY

August 12, 2011

Linda Bridwell, PE  
Kentucky American Water  
2300 Richmond Road  
Lexington, Kentucky 40502

Re: KAW Northern Division WTP  
KAW Kentucky River Station II WTP  
KPDES No.: KYG640069 and KYG640175  
AI ID No.: 34054  
Owen County, Kentucky

Dear Ms. Bridwell:

The Division of Water acknowledges receipt of the Best Management Practices (BMP) Plan for the facilities referenced above. The Surface Water Permits Branch has no comments at this time.

If you have any questions, please feel free to contact me at (502) 564-8158, extension 4925 or e-mail [ronnie.thompson@ky.gov](mailto:ronnie.thompson@ky.gov).

Sincerely,

A handwritten signature in cursive script that reads "Ronnie Thompson".

Ronnie Thompson, KPDES Permit Writer  
Operational Permits Section  
Surface Water Permits Branch  
Division of Water

**KENTUCKY-AMERICAN WATER COMPANY**  
**CASE NO. 2012-00096**  
**COMMISSION STAFF'S SUPPLEMENTAL REQUEST FOR INFORMATION**

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**Witness: Lance Williams**

9. Describe the current status of Kentucky-American's efforts to purchase the sites for the proposed water storage tanks and booster pump station.

**Response:**

The status has not changed from the response given to Commission Staff's First Request for Information No. 68, which stated:

"The original Option to Purchase for the Owenton Tank site was executed on October 21, 2011. This Option to Purchase was extended on April 6, 2012, and will expire on October 1, 2012.

The original Option to Purchase for the Booster Pump Station and Tank site was executed on October 21, 2011. This Option to Purchase was extended on April 3, 2012, and will expire on October 1, 2012."