

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

NPDES NO. CA0078034

MONITORING AND REPORTING PROGRAM NO. R5-2006-XXXX  
FOR  
CITY OF WILLOWS AND ECO RESOURCES, INC.  
WILLOWS WASTEWATER TREATMENT PLANT  
GLENN COUNTY

The Code of Federal Regulations (CFR) at 40 CFR Section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the Central Valley Regional Water Quality Control Board (Central Valley Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program establishes monitoring and reporting requirements, which implement the federal and California regulations.

**INFLUENT MONITORING**

A sampling station shall be established where representative samples of influent can be collected. Samples shall be collected at the influent sampling station at approximately the same time as effluent samples and should be representative of the influent flow for the period sampled. Influent samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Continuous	Daily
BOD <sub>5</sub>	mg/L	24-hr Composite	Monthly
Total Suspended Solids	mg/L	24-hr Composite	Monthly

**EFFLUENT MONITORING**

Effluent samples shall be collected at Discharge Point 001 and 002 downstream of the last connection through which wastes can be admitted to the outfall. Effluent samples shall be representative of the volume and nature of the discharge. Composite samples may be collected by a proportional sampling device approved by the Executive Officer or by grab samples composited proportionately to flow. When compositing grab samples, the sampling interval shall not exceed one hour. The time of collection of grab samples shall be recorded. Effluent samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sample Frequency</u>
Flow	mgd	Continuous	Daily
Total Residual Chlorine	mg/L	Continuous	Daily
Turbidity	NTU	Grab	Daily
BOD <sub>5</sub>	mg/L	24-hr Composite	Weekly
Total Suspended Solids	mg/L	24-hr Composite	Weekly

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pH	pH units	Grab	Weekly
Electrical Conductivity @ 25°C	umhos/cm	Grab	Weekly
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly
Temperature	°C	Grab	Weekly
Ammonia	mg/L	Grab	Weekly
Priority Pollutants <sup>a</sup>	ug/L	24 hr Composite	Monthly <sup>b</sup>
Acute Toxicity <sup>c</sup>	% survival	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Chronic Toxicity	To be done once during permit cycle. See requirements below.		

<sup>a</sup> Samples shall be analyzed for the toxic priority pollutants identified by the California Toxics Rule at 40 CFR 131.38. Effluent samples shall be collected simultaneously with receiving water samples to be analyzed for the Priority pollutants. See requirements below under section “Priority Pollutant Monitoring”.

<sup>b</sup> Priority pollutant sampling shall be performed monthly for the first year (12 months) following the start of operation of the new treatment system (starting no later than 1 March 2007), and then annually thereafter.

<sup>c</sup> All acute toxicity bioassays shall be performed according to EPA-821-R-02-012 *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, October 2002 (or latest edition) using *Pimephales promelas* with no pH adjustment, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). Temperature and pH shall be recorded at the time of bioassay sample collection.

### RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water samples shall be taken from the following stations during periods of discharge to that receiving water.

<u>Station</u>	<u>Station Description</u>
R-1	1200 feet upstream from the point of discharge when discharging to Agricultural Drain C
R-2	100 feet downstream from the point of discharge when discharging to Agricultural Drain C
R-3	100 feet upstream from the point of discharge when discharging to GCID Lateral 26-2
R-4	100 feet downstream from the point of discharge when discharging to GCID Lateral 26-2

Receiving water samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
Dissolved Oxygen	mg/L	R-1, R-2, R-3, R-4	Biweekly
pH	pH units	R-1, R-2, R-3, R-4	Biweekly
Turbidity	NTU	R-1, R-2, R-3, R-4	Biweekly
Temperature	°C	R-1, R-2, R-3, R-4	Biweekly
Electrical Conductivity @ 25°C	umhos/cm	R-1, R-2, R-3, R-4	Biweekly
Priority Pollutants <sup>a</sup>	ug/L	R-3	Monthly <sup>b</sup>
Fecal Coliform Bacteria	MPN/100 mL	R-1, R-2, R-3, R-4	Quarterly
Ammonia <sup>c</sup>	mg/L	R-1, R-2, R-3, R-4	Quarterly
Priority Pollutants <sup>a</sup>	ug/L	R-1	Annually

<sup>a</sup> Samples shall be analyzed for the toxic priority pollutants identified by the California Toxics Rule at 40 CFR 131.38. Receiving water samples shall be collected simultaneously with effluent samples to be analyzed for the priority pollutants. Monitoring shall be conducted in accordance with procedures described below under section "Priority Pollutant Monitoring".

<sup>b</sup> Priority pollutant sampling shall be performed monthly for the first year (12 months) following the start of operation of the upgraded treatment plant (starting no later than 1 March 2007), and then annually thereafter.

<sup>c</sup> Temperature and pH shall be determined at the same time of sample collection for ammonia.

Whenever receiving water samples are collected, the Discharger shall observe receiving water conditions throughout the reach bounded by Stations R-1, R-2, R-3 and R-4 and record observations pertaining to:

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|------------------------------|--------------------------------|
| Floating or suspended matter | Films, sheens, and coatings    |
| Discoloration                | Algae, fungi, and slime growth |
| Aquatic life                 | Potential nuisance conditions  |
| Bottom deposits              |                                |

### CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA-821-R-02-013, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002. Composite samples shall be collected at the discharge of the plant prior to its entering the unnamed agricultural drain. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. If at the time of sampling the discharge is not continuous the sample shall be a composite over the entire discharge time for the day. Time of sample collection shall be recorded. The chronic toxicity

monitoring shall be performed on the undiluted effluent samples. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

- Species: *Pimephales promelas*, *Ceriodaphnia dubia* and *Selenastrum capricornicutum*
- Frequency: One time no more than 365 days and no less than 180 days prior to expiration of this Order

### **PRIORITY POLLUTANT MONITORING**

The State Water Resources Control Board (State Water Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

Receiving water samples shall be collected upstream at receiving water station R-1 and R-3. Receiving water and effluent samples shall be collected simultaneously, and analyzed for the CTR pollutants (identified in Attachment E) plus pH and hardness. The Discharger is not required to perform asbestos monitoring or additional dioxin congener monitoring. All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each of the analytes. Laboratory methods and limits shall be as described in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2000), unless a variance has been approved by the Executive Officer. If, after a review of the monitoring results, it is determined that the discharge causes, has the reasonable potential to cause, or contributes to in-stream excursions above water quality objectives, this Order will be reopened and limitations based on those objectives will be included. Additionally, if pollutants are detected, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then additional monitoring will be required to provide sufficient information.

All organic analyses shall be by Gas Chromatography/Mass Spectrometry (GCMS), Method 8260B for volatiles and Method 8270C for semi-volatiles. Pesticides shall be analyzed by Method 8081A. Dioxins shall be analyzed by Method 1613/8290. If organic analyses are run by Gas Chromatography (GC) methods, any detectable concentrations are to be confirmed by GCMS. Inorganics shall be analyzed by the following Methods.

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Metals shall be analyzed by the USEPA methods listed below. Alternative analytical procedures may be used with approval by the Central Valley Water Board if the alternative method has the same or better detection level than the method listed.

Method Description	EPA Method	Constituents
Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)	1638	Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc
Cold Vapor Atomic Absorption (CVAA)	1631	Mercury
Gaseous Hydride Atomic Absorption (HYDRIDE)	206.3	Arsenic
Flame Atomic Absorption (FAA)	218.4	Chromium VI
Colorimetric	335./ 2 or 3	Cyanide

All priority pollutant metal analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
- b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
- c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or - a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

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### SLUDGE

A composite sample of sludge shall be collected annually in accordance with the USEPA POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

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Cadmium	Lead
Chromium	Nickel
Copper	Zinc

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Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated, and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report. The Discharger shall submit annually by 30 January:

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1. Annual sludge production in dry tons and percent solids.
2. A schematic diagram showing sludge-handling facilities and a solids flow diagram.
3. A description of disposal methods, including the following information related to the disposal methods used at the facility. If more than one method is used, include the percentage of annual sludge production disposed by each method.
  - a. For landfill disposal, include: (1) the Central Valley Water Board's waste discharge requirement Order numbers that regulate the landfill(s) used; (2) the present classifications of the landfill(s) used; and (3) the names and locations of the facilities receiving sludge.
  - b. For land application, include: (1) the location of the site(s); (2) the Central Valley Water Board's waste discharge requirement numbers that regulate the site(s); (3) the application rate in lbs/acre/year (specify wet or dry); and (4) subsequent uses of the land.
  - c. For other disposal methods, include: (1) the location of the site(s); and (2) the Central Valley Water Board's waste discharge requirement numbers that regulate the site(s).

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### GROUNDWATER MONITORING

Prior to construction, plans and specifications for groundwater monitoring wells shall be submitted to Central Valley Water Board staff for review and approval. Wells shall comply with requirements of the Department of Water Resources. Quarterly samples shall be collected from the three existing monitoring wells and analyzed for the following:

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<u>Constituent</u>	<u>Units</u>
Nitrate (N)	mg/L
Electrical Conductivity	µmhos/cm
Chemical Oxygen Demand	mg/L
pH	pH units
Elevation <sup>1</sup>	feet, hundredths

<sup>1</sup> The groundwater elevation shall be measured prior to purging the wells. The elevation shall be measured to the nearest one-hundredth of a foot from mean sea level. The groundwater elevation shall be used to calculate the direction of groundwater flow, which must be reported with the monitoring reports.

### REPORTING

Unless otherwise specified, monitoring results shall be submitted to the Central Valley Water Board by the first day of the second month following sample collection (i.e., the January report is due by 1 March). Effective in January 2004, any NPDES effluent monitoring report received more than 30 days after its due date is subject to a \$3000 Mandatory Minimum Penalty [Water Code Section 13385]. An additional \$3000 penalty is required for each 30 days a report is late. If you have no discharge, you must still submit a report indicating that no discharge occurred, or you will be subject to the \$3000 Penalties.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with the waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the Discharge Monitoring Reports.

Upon written request of the Central Valley Water Board, the Discharger shall submit an Annual Report (calendar year) with both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall discuss the facility's compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements. The Annual Report shall be submitted by **1 February of the subsequent year** and shall address all aspects of the waste discharge requirements (effluent limitations, compliance schedules, storm water, sludge handling and disposal, etc.)

At any time during the term of this permit, the State Water Board or Central Valley Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is

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given, the Discharger shall submit self-monitoring reports in accordance with the requirements described above.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provisions D.6.

The Discharger shall implement the Monitoring and Reporting Program beginning on the effective date of this Order.

Ordered by: \_\_\_\_\_  
KENNETH D. LANDAU, Acting Executive Officer

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