ATTACHMENT E – MONITORING AND REPORTING PROGRAM
(Revised September 20, 2007)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Summary of Discharge Points and Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	Untreated wastewater influent collected at the plant headworks, at a representative point preceding primary treatment
---	INT-001	Influent to Tertiary Filters
---	INT-002	Tertiary Filter Effluent prior to UV disinfection unit
001	EFF-001	Treated, disinfected wastewater immediately following UV disinfection process before discharge to storage
002	EFF-002	Treated, disinfected wastewater after storage pond, but before effluent contacts receiving water (Control Valve)
---	RSW-001	Mark West Creek surface water upstream beyond influence of the discharge
---	RSW-002	Mark West Creek surface water at the point of discharge or other location approved by the Executive Officer
003A	REC-003A	Treated, UV disinfected tertiary effluent delivered to reclamation system
003B	REC-003B	Treated, UV and chlorine disinfected tertiary effluent delivered to Windsor High School

INF- Influent; INT- Internal; EFF- Effluent; RSW- Receiving Surface Water; REC- Reclamation

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the facility at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	8-hour composite	Weekly	Standard Methods
Total Suspended Solids	mg/L	8-hour composite	Weekly	Standard Methods
Flow (Mean and Peak)	mgd	Continuous	Daily	Meter

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor disinfected, advanced treated effluent at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring for Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	8-hour composite	Weekly	Standard Methods
Total Suspended Solids	mg/L	8-hour composite	Weekly	Standard Methods)
Hydrogen Ion	pH units	Grab	Daily	Standard Methods
Total Coliform Organisms[1]	MPN/100 mL	Grab	Daily	Standard Methods
Operational UV Dose[2]	mW-s/cm	Calculation[3]	30-minute intervals	---
Flow (Mean and Peak)	mgd	Continuous	Daily	Meter

B. Monitoring Location EFF-002

1. The Discharger shall monitor disinfected, advanced treated effluent at Monitoring Location EFF-002 when discharging at Discharge Point 002 (discharge to Mark West Creek) as follows:

[1] Report daily test results and 7-day medians
[2] Report daily average and lowest daily operational UV dose.
[3] UV dose is calculated from UV transmittance and exposure time, using lamp age and sleeve fouling factors.

Table E-4. Effluent Monitoring for Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
BOD (20° C, 5-day)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	Grab	Weekly	Standard Methods
Hydrogen Ion	pH units	Grab	Daily	Standard Methods
Dissolved Oxygen	mg/L	Grab	Daily	Standard Methods
Chlorine Residual	mg/L	Grab	Daily	Standard Methods
Temperature	° C	Grab	Daily	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Monthly	Standard Methods
Unionized Ammonia	mg/L	---	Monthly	Calculation
Nitrate Nitrogen	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen	mg/L	Grab	Monthly	Standard Methods
Total Phosphorus	mg/L	Grab	Monthly	Standard Methods
Acute Toxicity Bioassay	Percent survival	Grab	Monthly	*See Section V.A*
Chronic Toxicity Bioassay	TUc	Grab	2x/year	*See Section V.B*
Copper	ug/L	Grab	Monthly	USEPA Method 200.8 (2 ug/L)
Priority Pollutants [4]	ug/L	Grab	1x/year	40 CFR 136
Flow	mgd	Continuous	Daily	Meter
Dilution Rate	% of stream flow	Calculation	Daily	---

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute toxicity testing to determine compliance with the Basin Plan narrative toxicity objective. The Discharger shall meet the following acute toxicity testing requirements:

1. **Test Frequency**. The Discharger shall conduct monthly acute toxicity testing, when discharging at Discharge Point 002 (discharge to Mark West Creek).

2. **Sample Type**. For 96-hour static renewal or 96-hour static non-renewal testing, grab samples shall be collected and shall be representative of the volume and quality of the pond discharge. Effluent samples shall be collected at Monitoring Location EFF-002. Grab samples are permitted in place of 24-hour composite samples because the storage pond provides compositing of the effluent.

[4] Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR 131.38 (b) (1). Samples shall be collected on the same day as receiving water samples are collected for analysis of the priority pollutants. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 CFR 136, or if no method is specified for a pollutant at 40 CFR 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board.

3. **Test Species**. Test species for acute testing shall be with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Oncorhynchus mykiss*, for at least the first two suites of tests conducted within 12 months after the effective date of the Order. After this screening period, monitoring shall be conducted monthly using the most sensitive species. At least once every five years, the Discharger shall re-screen with the two species listed above and continue routine monitoring with the most sensitive species.

4. **Test Methods**. The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-002, when discharging to surface waters.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival) and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with Section VI.C.2.c of the Order. If the two additional samples are in compliance with the acute toxicity requirement and the testing meets all test acceptability criteria, then a TRE will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

9. **Reporting**. Test results for acute toxicity tests shall be reported according to the acute toxicity manual Chapter 12 (Report Preparation) or in an equivalent format that clearly demonstrates that the Discharger is in compliance with effluent limitations and other permit requirements.

B. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the monitoring requirements for chronic toxicity. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Discharger shall conduct chronic toxicity testing two times per year, during the discharge season.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be 24-hour composite and shall be representative of the volume and quality of the discharge. The effluent sample shall be collected at Monitoring Location EFF-002. Grab samples may be permitted in place of 24-hour composite samples if the Discharger demonstrates, to the Executive Officer's satisfaction, that the storage pond provides compositing of the effluent.

3. **Test Species.** Test species for chronic testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test**)**, an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green alga, *Selanastrum capricornutum* (growth test).

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, 4th or subsequent editions).

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent effluent. Control and dilution water should be receiving water at an appropriate location upstream of the discharge point. Laboratory water may be substituted for receiving water, as described in the manual, upon approval by the Regional Water Board Executive Officer. Specifically, for the Selenastrum capricornutum test, synthetic laboratory water with a hardness similar to the receiving water shall be used as the control and dilution water. If the dilution water used is different from the culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger

shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger.

9. **Accelerated Monitoring Requirements**. If the result of any chronic toxicity test exceeds the chronic toxicity trigger of 1.0 TUc specified in section VI.C.2.a. of the Order and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week, over a four-week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the chronic toxicity effluent limitation. The following protocol shall be used for accelerated monitoring and TRE implementation:

   a. If the results of four consecutive accelerated monitoring tests do not exceed the effluent limitation, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board Executive Officer may require that the Discharger initiate a TRE.

   b. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the effluent limitation. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

   c. If the result of any accelerated toxicity test exceeds an effluent limitation or trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the effluent limitation during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
      i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
      ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
      iii. A schedule for these actions.

C. Chronic Toxicity Reporting

1. **Routine Reporting**. Test results for chronic tests shall be reported according to the acute and chronic manuals and the Monitoring and Reporting Program and shall be attached to the self-monitoring report. Test results shall include, at a minimum, for each test:

   a. sample date(s)
   b. test initiation date
   c. test species
   d. end point values for each dilution (e.g., number of young, growth rate, percent survival)
   e. NOEC value(s) in percent effluent
   f. IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent
   g. TUc values (100/NOEC, 100/IC25, 100/ EC25)
   h. Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable)
   i. NOEC and LOEC values for reference toxicant test(s)
   j. IC50 or EC50 value(s) for reference toxicant test(s)
   k. Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia)
   l. Statistical methods used to calculate endpoints.
   m. The statistical output page, which includes the calculation of percent minimum significant difference (PMSD)

2. **Quality Assurance Reporting**. Because the permit requires sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), with-in test variability must be reviewed for acceptability, and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review critera in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

3. **Compliance Summary**: The monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

This section is not applicable to the Town of Windsor Wastewater Treatment, Reclamation and Disposal Facility as treated wastewater is not discharged to or applied to land for the purpose of disposal. The Town of Windsor reclaims treated wastewater, thus the Town has Reclamation Monitoring Requirements rather than Land Discharge Monitoring Requirements.

VII. RECLAMATION MONITORING REQUIREMENTS

During periods of reclamation, the Discharger shall monitor the recycled water distribution system in the proximity of use areas with the highest potential for public exposure (e.g., subdivisions, neighborhood parks, high school, sports fields, etc). A grab sample shall be collected at one sample location per week and analyzed for total coliform and *Escherichia coli*. The bacteriological samples must enumerate biological activity and not just indicate a presence or absence. Sampling stations shall be approved by the Regional Water Board Executive Officer and Department of Health Services.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Surface Water Monitoring Location RSW-001

1. The Discharger shall monitor Mark West Creek at Monitoring Location RSW-001, during periods of discharge to Mark West Creek, as follows:

Table E-5. Receiving Water Monitoring Requirements for Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	Grab	Weekly	Standard Methods
Hydrogen Ion	pH units	Grab	Weekly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Temperature	° C	Grab	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Monthly	Standard Methods
Unionized Ammonia	mg/L	---	Monthly	calculation
Nitrate Nitrogen	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen	mg/L	Grab	Monthly	Standard Methods
Total Phosphorus	mg/L	Grab	Monthly	Standard Methods
Priority Pollutants [7]	µg/L	Grab	1x / year	40 CFR 136
Hardness ($CaCO_3$)	mg/L	Grab	Concurrent with Priority Pollutant Sampling	Standard Methods

B. Surface Water Monitoring Location RSW-002

1. The Discharger shall monitor Mark West Creek at Monitoring Location RSW-002, during periods of discharge to Mark West Creek, as follows:

Table E-6. Receiving Water Monitoring Requirements for Monitoring Location RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	Grab	Weekly	Standard Methods
Hydrogen Ion	pH units	Grab	Weekly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Temperature	° C	Grab	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Monthly	Standard Methods
Unionized Ammonia	mg/L	---	Monthly	calculation
Nitrate Nitrogen	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen	mg/L	Grab	Monthly	Standard Methods
Total Phosphorus	mg/L	Grab	Monthly	Standard Methods
Hardness	mg/L	Grab	Monthly	Standard Methods

IX. OTHER MONITORING REQUIREMENTS

A. Monitoring Location INT-001

1. The Discharger shall monitor flow to the tertiary filters at Monitoring Location INT-001 to calculate the surface loading rate as follows:

Table E-7. Effluent Filter Monitoring (Monitoring Location INT-001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Surface Loading Rate	gpm/ft^2	Calculation	Daily	---

B. Monitoring Location INT-002

1. The Discharger shall monitor effluent from the tertiary filters at Monitoring Location INT-002 as follows:

Table E-8. Effluent Filter Monitoring (Monitoring Location 1NT-002)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity [5], [6], [7]	NTU	Continuous	Continuous	Meter
Transmittance [8]	Percent	Continuous	Continuous	Meter

C. Visual Monitoring of Discharge (EFF-002) and Receiving Water (RSW-001 and RSW-002)

Visual observations of the discharge and the receiving water shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include, but not be limited to observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors. Visual observations shall be recorded and included in the Discharger's monthly monitoring reports.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS

[5] The daily maximum and 95th percentile turbidity results shall be reported on the monthly monitoring reports.
[6] The recorded data shall be maintained by the Discharger for at least five years.
[7] Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours.
[8] Report daily average and lowest daily transmittance

Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	August 1, 2007	All	First day of second calendar month following month of sampling
Hourly	August 1, 2007	Hourly	First day of second calendar month following month of sampling
Daily	August 1, 2007	Midnight through 11:59 PM	First day of second calendar month following month of sampling
Weekly	August 5, 2007	Sunday through Saturday	First day of second calendar month following month of sampling
Monthly	August 1, 2007	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	October 1, 2007	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Annually	January 1, 2008	January 1 through December 31	February 1 of each year
Once during Order term	October 1, 2010	October 1 Through May 15	July 1, 2011

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, 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.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

e. The Discharger shall submit SMRs in accordance with the following requirements:

f. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment. During periods of no discharge, the reports shall certify "no discharge".

g. The Discharger shall attach a cover letter to the SMR. The cover letter shall include the following:
   i. Identification of facility: Name, address, WDID number;
   ii. Date of report and monitoring period;
   iii. Identification of all violations discharge prohibitions, effluent limitations or other discharge requirements found during the monitoring period, and details of the violations, including parameters, magnitude, frequency, test results and dates and cause of the violation(s). Identified violations must

include a description of the requirement that was violated and a description of the violation;

iv. Discussion of corrective actions taken or planned to resolve the violation(s) and prevent recurrence; and the proposed time schedule for corrective actions.

h. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions VI.B.2., VI.C.2., and VI.C.3. of this Order. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in Special

Provision VI.C.7 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsections X.B and X.D.5.

2. Water Reclamation System

   a. **Reclamation Operations Reporting.** The Discharger shall submit reports pertaining to the operation, performance, monitoring, and other activities related to water reclamation.

      i. **Quarterly Recycled Water Report**. The Discharger shall submit a quarterly recycled water summary report, as required by section 13523.1(b)(4) of the Water Code, containing the following information:

         (a) Total volume of recycled water supplied to all recycled water users for each month of the reporting period;

         (b) Total number of recycled water use sites;

         (c) Locations of recycled water use sites, including a map and tabular summary with acreage and name of property owner;

         (d) A summary of user inspections conducted by the Discharger, including the number and location of any cross-connections and/or improper backflow prevention devices and all observations of misuse of recycled water;

         (e) A summary of recycled water user violations of the Discharger's rules and regulations;

         (f) A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order.

         (g) A record of equipment or process failures initiating an alarm, as well as any corrective and preventative actions;

         (h) When new user(s) are added to the reclamation system, the Discharger shall notify the Regional Water Board of the new users in accordance with Water Reclamation Provision C.5 in Attachment G. The notice shall include the following: site location, acreage involved, County Assessor Parcel number(s), name of property owner and/or user, estimated volume of recycled water to be used and a description of the recycled water management facilities and operations plan.

      ii. **Annual Recycled Water Report**. The annual report shall contain, but not be limited to, a review of the operations curve, irrigation volumes, rainfall, and acreage under irrigation. In addition, the annual report shall contain a description of the incidental discharges to surface water, scheduled and

nonscheduled maintenance of the reclamation system appurtenances and irrigation areas, and enforcement and monitoring activities that occurred during the previous year, and identification of any problems and how the problems were addressed. In addition, the annual recycled water report shall include a summary of all cross-connection testing and back-flow prevention activities (inspections, maintenance) and a summary of any problems identified, or certification that no problems occurred.

b. **Groundwater Monitoring Program.** The Discharger shall submit groundwater monitoring information specified in its groundwater monitoring program developed in accordance with Provision VI.C.2.d of the Order.

3. **Annual Report.** The Discharger shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by February 1st of the following year. The report shall, at a minimum, include the following:

   a. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

   b. A comprehensive discussion of the facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

   c. Sanitary Sewer System Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's activities within the sanitary sewer system over the previous twelve months. The report shall contain:

      i. A description of any change in the local legal authorities enacted to implement the Sewer System Management Plan (SSMP);

      ii. A summary of the SSOs that occurred in the past year. The summary shall include the date, location of overflow point, affected receiving water (if any), estimated volume, and cause of the SSO, and the names and addresses of the responsible parties as well as the names and addresses of the property owner(s) affected by the sanitary sewer overflow.

      iii. A summary of compliance and enforcement activities during the past year. The summary shall include fines, other penalties, or corrective actions taken as a result of the SSO. The summary shall also include a description of public participation activities to involve and inform the public;

iv. Documentation that all feasible steps to stop and mitigate impacts of sanitary sewer overflows have been taken.

d. Source Control Activity Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's source control activities, as required by Provision VI.C.5.b. of Order No. R1-2007-0013, during the past year. This annual report is due on February 1st of each year.

i. A copy of the source control standards.

ii. A description of the waste hauler permit system.

iii. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Discharger, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.

iv. A summary of any waste survey results.

v. A summary of public participation activities to involve and inform the public.

e. Biosolids handling and disposal activity reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's solids handling, disposal and reuse activities over the previous twelve months. At a minimum, the report shall contain:

i. Annual sludge production, in dry tons and percent solids

ii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.) and a solids flow diagram.

iii. Methods of final disposal of sludge:

(a) For any portion of sludge discharged to a sanitary landfill, the Discharger shall provided the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.

(b) For any portion of sludge discharged through land application, the Discharger shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that

the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

(c) For any portion of sludge further treated through composting, the Discharger shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

PERMIT ATTACHMENT E-1
TOWN OF WINDSOR
WASTEWATER TREATMENT PLANT
WASTE DISCHARGE REQUIREMENTS ORDER NO. R1-2007-XXXX
FINAL COPPER EFFLUENT LIMITATIONS

Hardness-Dependent Effluent Limitations for Copper
Total Recoverable Copper (in ug/l)

			Copper Concentration Limitations				
Hardness mg/l as CaCO3	**CCC 4-Day Ave. (ug/l)**	**CMC 1-Hour Ave. (ug/l)**	**0.527CCC**	**0.321CMC**	**Lowest LTA Min D and E**	**AMEL (ug/l)**	**MDEL (ug/l)**
5	0.72	0.83	0.38	0.27	0.27	0.41	0.83
10	1.30	1.60	0.69	0.51	0.51	0.80	1.60
15	1.84	2.34	0.97	0.75	0.75	1.17	2.34
20	2.36	3.07	1.24	0.99	0.99	1.53	3.07
25	2.85	3.79	1.50	1.22	1.22	1.89	3.79
30	3.33	4.50	1.76	1.45	1.45	2.24	4.49
35	3.80	5.21	2.00	1.67	1.67	2.59	5.20
40	4.26	5.90	2.25	1.90	1.90	2.94	5.89
45	4.72	6.60	2.48	2.12	2.12	3.28	6.59
50	5.16	7.29	2.72	2.34	2.34	3.62	7.27
55	5.60	7.97	2.95	2.56	2.56	3.97	7.96
60	6.03	8.65	3.18	2.78	2.78	4.30	8.64
65	6.46	9.33	3.40	2.99	2.99	4.64	9.31
67	6.63	9.60	3.49	3.08	3.08	4.78	9.58
70	6.88	10.00	3.62	3.21	3.21	4.98	9.99
75	7.30	10.68	3.84	3.43	3.43	5.31	10.66
80	7.71	11.34	4.06	3.64	3.64	5.64	11.33
85	8.12	12.01	4.28	3.86	3.86	5.98	11.99
90	8.53	12.68	4.49	4.07	4.07	6.31	12.65
95	8.93	13.34	4.71	4.28	4.28	6.64	13.32
100	9.33	14.00	4.92	4.49	4.49	6.97	13.98
105	9.73	14.66	5.13	4.71	4.71	7.29	14.63
110	10.12	15.31	5.33	4.92	4.92	7.62	15.29
115	10.51	15.97	5.54	5.13	5.13	7.95	15.94
120	10.90	16.62	5.75	5.34	5.34	8.27	16.59
125	11.29	17.27	5.95	5.55	5.55	8.59	17.25
130	11.67	17.92	6.15	5.75	5.75	8.92	17.89
135	12.06	18.57	6.35	5.96	5.96	9.24	18.54
140	12.44	19.22	6.55	6.17	6.17	9.56	19.19
145	12.82	19.87	6.75	6.38	6.38	9.89	19.83
150	13.19	20.51	6.95	6.58	6.58	10.21	20.48
155	13.57	21.16	7.15	6.79	6.79	10.53	21.12
160	13.94	21.80	7.35	7.00	7.00	10.85	21.76
165	14.31	22.44	7.54	7.20	7.20	11.16	22.40
170	14.68	23.08	7.74	7.41	7.41	11.48	23.04
175	15.05	23.72	7.93	7.61	7.61	11.80	23.68
180	15.42	24.36	8.12	7.82	7.82	12.12	24.32
185	15.78	24.99	8.32	8.02	8.02	12.44	24.95
190	16.14	25.63	8.51	8.23	8.23	12.75	25.59
195	16.51	26.26	8.70	8.43	8.43	13.07	26.22
200	16.87	26.90	8.89	8.63	8.63	13.38	26.85
205	17.23	27.53	9.08	8.84	8.84	13.70	27.49
210	17.59	28.16	9.27	9.04	9.04	14.01	28.12
215	17.94	28.80	9.46	9.24	9.24	14.33	28.75
220	18.30	29.43	9.64	9.45	9.45	14.64	29.38
225	18.65	30.06	9.83	9.65	9.65	14.95	30.00
230	19.01	30.68	10.02	9.85	9.85	15.27	30.63
235	19.36	31.31	10.20	10.05	10.05	15.58	31.26
240	19.71	31.94	10.39	10.25	10.25	15.89	31.89
245	20.06	32.57	10.57	10.45	10.45	16.20	32.51
250	20.41	33.19	10.76	10.65	10.65	16.51	33.14
255	20.76	33.82	10.94	10.86	10.86	16.83	33.76
260	21.11	34.44	11.12	11.06	11.06	17.14	34.38
265	21.45	35.07	11.31	11.26	11.26	17.45	35.01
270	21.80	35.69	11.49	11.46	11.46	17.76	35.63
275	22.14	36.31	11.67	11.66	11.66	18.07	36.25
280	22.49	36.93	11.85	11.86	11.85	18.37	36.86
285	22.83	37.55	12.03	12.05	12.03	18.65	37.42
290	23.17	38.17	12.21	12.25	12.21	18.93	37.98
295	23.51	38.79	12.39	12.45	12.39	19.21	38.54
300	23.85	39.41	12.57	12.65	12.57	19.48	39.09
310	24.53	40.65	12.93	13.05	12.93	20.04	40.20
320	25.20	41.88	13.28	13.44	13.28	20.59	41.31
330	25.88	43.12	13.64	13.84	13.64	21.14	42.41
340	26.54	44.35	13.99	14.24	13.99	21.68	43.51
350	27.21	45.57	14.34	14.63	14.34	22.23	44.60
360	27.87	46.80	14.69	15.02	14.69	22.77	45.68
370	28.53	48.02	15.04	15.42	15.04	23.31	46.77
380	29.19	49.25	15.38	15.81	15.38	23.85	47.84
400	30.50	51.68	16.07	16.59	16.07	24.91	49.99
>400	30.50	51.68	16.07	16.59	16.07	24.91	49.99

CV = 0.60

CCC = Criteria Continuous Concentration
{0.8545[ln(hardness)] - 1.702}
= e

CMC = Criteria Maximum Concentration
{0.9422[ln(hardness0] - 1.700}
= e

AMEL = Average Monthly Effluent Limitation

= 1.55[min(0.527CCC,0.321CMC)]

MDEL = Maximum Daily Effluent Limitation
= 3.11[min(0.527CCC,0.321CMC)]

Hardness – hardness of the receiving water at the time the discharge is sampled.

LTA - Long term average

ATTACHMENT E-2. INTERIM RECEIVING WATER MONITORING REQUIREMENTS (Revised August 16, 2007)

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations (Upstream)

1. The Discharger shall monitor Mark West Creek at Monitoring Location RSW-001, identified in Table E-7 below, as follows in Table E-5.

Table E-5. Receiving Water Monitoring Requirements for Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	grab	Weekly	Standard Methods
Hydrogen Ion	pH units	grab	Weekly	Standard Methods
Dissolved Oxygen	mg/L	grab	Weekly	Standard Methods
Temperature	° C	grab	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	grab	Monthly	Standard Methods
Unionized Ammonia	mg/L	---	Monthly	calculation
Nitrate Nitrogen	mg/L	grab	Monthly	Standard Methods
Organic Nitrogen	mg/L	grab	Monthly	Standard Methods
Total Phosphorus	mg/L	grab	Monthly	Standard Methods
Priority Pollutants [7]	µg/L	grab	1x / year	40 CFR 136
Hardness ($CaCO_3$)	mg/L	grab	Concurrent with Priority Pollutant Sampling	Standard Methods

B. Monitoring Locations (Downstream)

1. The Discharger shall monitor downstream receiving waters, when discharging to surface waters, at Monitoring Locations RSW-003 when the creek flow is contained in its banks, and at RSW-004 during high creek flow, as follows in Table E-6. Monitoring locations are identified in Table E-7 below.

Table E-6. Receiving Water Monitoring Requirements for Monitoring Location RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	grab	Weekly	Standard Methods
Total Suspended Solids	mg/L	grab	Weekly	Standard Methods
Hydrogen Ion	pH units	grab	Weekly	Standard Methods
Dissolved Oxygen	mg/L	grab	Weekly	Standard Methods
Temperature	° C	grab	Weekly	Standard Methods
Ammonia Nitrogen	mg/L	grab	Monthly	Standard Methods
Unionized Ammonia	mg/L	---	Monthly	calculation
Nitrate Nitrogen	mg/L	grab	Monthly	Standard Methods
Organic Nitrogen	mg/L	grab	Monthly	Standard Methods
Total Phosphorus	mg/L	grab	Monthly	Standard Methods
Hardness	mg/L	grab	Monthly	Standard Methods

Table E-7. Summary of Discharge Points and Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	Untreated wastewater influent collected at the plant headworks, at a representative point preceding primary treatment
---	INT-001	Influent to Tertiary Filters
---	INT-002	Tertiary Filter Effluent prior to UV disinfection unit
001	EFF-001	Treated, disinfected wastewater immediately following UV disinfection process before discharge to storage
002	EFF-002	Treated, disinfected wastewater after storage pond, but before effluent contacts receiving water (Control Valve)
---	RSW-001	Mark West Creek surface water upstream beyond influence of the discharge
---	RSW-002	Mark West Creek surface water at the point of discharge or other location approved by the Executive Officer
---	RSW-003	Mark West Creek surface water, north bank, approximately 800 feet downstream of discharge point
---	RSW-004	Mark West Creek surface water at the Wohler Road Bridge over Mark West Creek, approximately 2 miles downstream of discharge point
003A	REC-003A	Treated, UV disinfected tertiary effluent delivered to reclamation system
003B	REC-003B	Treated, UV and chlorine disinfected tertiary effluent delivered to Windsor High School

INF- Influent; INT- Internal; EFF- Effluent; RSW- Receiving Surface Water; REC- Reclamation