BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

IN THE MATTER OF:	)	MUTUAL AGREEMENT
	)	AND ORDER
THE CITY OF PORTLAND,	)	NO. WQ/M-NWR-11-073
Permittee	)	MULTNOMAH COUNTY
	)	

WHEREAS:

1. The City of Portland (City) operates the Columbia Boulevard Wastewater Treatment Plant (CBWTP) pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. 101505 issued by the Department;

2. The City has timely applied to DEQ for renewal of its NPDES permit;

3. DEQ intends to reissue the NPDES permit to the City for the CBWTP. The permit will include a Combined Sewer Overflow (CSO)-related bypass provision which will allow the intentional diversion of flow around secondary treatment. The bypassed flow will receive primary treatment before recombining with the effluent from the secondary treatment train. The blended flow will be disinfected and then discharged from Outfalls 001 and 003;

4. On December 4, 2009, the City submitted to DEQ and EPA a No Feasible Alternatives Analysis (NFAA) for approval of the CSO-related bypass;

5. DEQ and EPA conclude that the NFAA demonstrates that it is technically and economically feasible to increase secondary treatment capacity beyond the current capacity of 100 MGD;

6. The Department recognizes that the City will be implementing additional capital improvement projects at CBWTP that are expected to result in an increase in the captured CSO flow rates and volume delivered to the plant, increased secondary treatment capacity to treat more captured CSO, and an increase in the effluent quality;

7. The City plans to implement Secondary Treatment Improvement Projects that will effectively increase the secondary capacity from 100 MGD by an as yet unknown

increment. These improvements consist of:

(i) New Selector Process enhancements to reduce the sludge volume index (SVI) during wet weather conditions; and

(ii) Modified Step-Feed technology to control biomass in the aeration basins and reduce the effective loading to secondary clarifiers during wet weather.

8. The City plans to implement a Chemically Enhanced Primary Treatment project (CEPT) in the wet weather treatment facility using ferric chloride and polymer to increase the removal of pollutants in the treatment train that does not receive secondary treatment;

9. The City will implement the CEPT and Secondary Treatment Improvements Projects, as well as a performance monitoring program, according to the compliance schedule stipulated below.

NOW THEREFORE, it is stipulated and agreed that:

10. The Environmental Quality Commission shall issue a final order:

A. Requiring the City to comply with the following schedule and conditions:

(1) By no later than June 30, 2012, complete installation of monitoring equipment and initiate a flow monitoring program to measure flows from the separated area sanitary system into the combined system as defined in the Monitoring and Analysis Program outlined in Exhibit 1.

(2) By no later than September 30, 2012, implement CEPT and initiate applicable elements of the Monitoring and Analysis Program as defined in Exhibit 1 to this Agreement to evaluate the effectiveness of the project.

(3) By no later than June 30, 2014, implement the Secondary Treatment Improvements (SVI and Modified Step-Feed) Project for CBWTP and initiate applicable elements of the Monitoring and Analysis Program outlined in Exhibit 1 to evaluate the effectiveness of the project.

(4) By no later than December 30, 2015, submit to DEQ for approval

a Monitoring and Analysis Program Report to document the program and present an evaluation of the effectiveness of the CEPT and Secondary Improvements Projects. Monitoring data and analysis results will be used to update the CBWTP Facilities Plan.

(5) By no later than December 30, 2016, submit to DEQ for approval an updated CBWTP Facilities Plan. The Facilities Plan must incorporate the data and results of the Monitoring and Analysis Program, including:

(a) New monitoring data from the separated portions of the collection system; daily as well as Peak 7-Day and Maximum 30-Day effluent quality from both systems; bypass data; plant operation data, including flow and TSS and BOD5 loads to each treatment process (secondary versus wet weather, CEPT and non-CEPT); and percent removals;

(b) Updated secondary treatment capacity analysis including an evaluation of technical limitations of additional secondary treatment capacity expansions and remedies and alternatives to eliminate or minimize performance-limiting factors;

(c) Secondary capacity analysis to ensure adequate secondary capacity for peak dry weather flows (with separated system inflow/infiltration and maximization of the volume of CSO treated through the secondary process); and

(d) A schedule for initiating design and construction of recommended facilities.

(6) By no later than December 30, 2016, submit to DEQ for approval an updated NFAA for CSO bypass justification. The NFAA must be based on EPA guidance, information provided in the CBWTP Facilities Plan, and Exhibit 1 of this MAO. [NOTE: The CBWTP Facilities Plan and NFAA will provide the basis for CSO Bypass Justification for future (2017-22) permit applications.]

(7) Within ninety (90) days of receipt of the NFAA, DEQ will determine whether secondary capacity expansion is required. If DEQ notifies the City that

1 additional secondary capacity is required, the City must take the following steps according to
2 the following schedule:
3 (a) By June 30, 2017, the City shall submit to DEQ a critical
4 path schedule for design, permitting, construction, and startup of additional secondary capacity
5 at the CBWTP by December 31, 2021. The schedule must include critical milestones
6 including completion of preliminary design, final design, permitting, bidding, construction and
7 startup.
8 (b) By September 30, 2017, the City shall begin implementing
9 the schedule set forth in Paragraph 10.A.(7)(a).
10 (c) Beginning with January 1, 2018, the City shall submit a six-
11 month progress report to DEQ and EPA no later than January 1st and July 1st of each year that
12 the MAO is in effect. The progress report must include an update on the progress made
13 toward the critical milestones set forth in the critical path schedule.
14 (d) By December 31, 2021, the City shall complete the startup
15 of the expanded secondary capacity at the CBWTP.
16 B. Requiring the City, upon receipt of a written notice from the Department
17 for any violations of this MAO, to pay a civil penalty in the amount of $1000 for each day of
18 each violation of the compliance schedule set forth in Paragraph 10.A(1)-(7).
19 11. If any event occurs that is beyond the City's reasonable control and that causes or
20 may cause a delay or deviation in performance of the requirements of this MAO, the City shall
21 immediately notify the Department verbally of the cause of delay or deviation and its
22 anticipated duration, the measures that have been or will be taken to prevent or minimize the
23 delay or deviation, and the timetable by which the City proposes to carry out such measures.
24 The City shall confirm in writing this information within five (5) working days of the onset of
25 the event. It is the City's responsibility in the written notification to demonstrate to the
26 Department's satisfaction that the delay or deviation has been or will be caused by

circumstances beyond the control and despite due diligence of the City. If the City so demonstrates, the Department shall extend times of performance of related activities under this MAO as appropriate. Circumstances or events beyond the City's control include, but are not limited to, acts of nature, unforeseen strikes, work stoppages, bid protests, fires, explosion, riot, sabotage, or war. Increased cost of performance or consultant's failure to provide timely reports may not be considered circumstances beyond the City's control.

12. The Department reserves the right to enforce this order through appropriate administrative and judicial proceedings.

13. The terms of this MAO may be amended by the mutual agreement of the Department and the City.

14. The Department may amend the compliance schedule and conditions in this MAO upon finding that such modification is necessary because of changed circumstances or to protect public health and the environment. The Department shall provide the City a minimum of thirty (30) days written notice prior to issuing an Amended Order modifying any compliance schedules or conditions. If the City contests the Amended Order, the applicable procedures for conduct of contested cases in such matters shall apply.

15. This MAO shall be binding on the parties and their respective successors, agents, and assigns. The undersigned representative of each party certifies that he or she is fully authorized to execute and bind such party to this MAO. No change in ownership or corporate or partnership status relating to the facility shall in any way alter the City's obligations under this MAO, unless otherwise approved in writing by DEQ.

16. All reports, notices and other communications required under or relating to this MAO shall be directed to DEQ Water Quality Northwest Regional Office, 2020 SW 4th Avenue, Portland, Oregon 97201, phone number 503-229-5295. The contact person for the City shall be Dean Marriott, Environmental Services Director, 1120 SW 5th Avenue, Room 1000, Portland, Oregon 97204, phone number 503-823-7757.

17. The City acknowledges that it has actual notice of the contents and requirements of the MAO and that failure to fulfill any of the requirements hereof would constitute a violation of this MAO and subject the City to payment of civil penalties pursuant to Paragraph 10.B above.

18. Any stipulated civil penalty imposed pursuant to Paragraph 10.B shall be due upon written demand. Stipulated civil penalties shall be paid by check or money order made payable to the "Oregon State Treasurer" and sent to: Business Office, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, Oregon 97204. Within 21 days of receipt of a "Demand for Payment of Stipulated Civil Penalty" Notice from the Department, the City may request a hearing to contest the Demand Notice. At any such hearing, the issue shall be limited to the City's compliance or non-compliance with this MAO. The amount of each stipulated civil penalty for each violation and/or day of violation is established in advance by this MAO and shall not be a contestable issue.

19. Providing the City has paid in full all stipulated civil penalties pursuant to Paragraph 18 above, this MAO shall terminate 60 days after the City demonstrates full compliance with the requirements of the schedule set forth in Paragraph 10.A above.

APPROVED AS TO FORM

Linda Meng

CITY ATTORNEY

PERMITTEE

May 25, 2011

Date

DEPARTMENT OF ENVIRONMENTAL QUALITY

May 25, 2011

Date

Nina DeConcini, Administrator
Northwest Region

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FINAL ORDER

IT IS SO ORDERED:

ENVIRONMENTAL QUALITY COMMISSION

May 25, 2011
Date

Nina DeConcini

Nina DeConcini, Administrator
Department of Environmental Quality
Pursuant to OAR 340-011-136(1)

Exhibit 1
Monitoring and Analysis Program

The purpose of this program is to provide a robust monitoring program of the quality of effluent from CBWTP and the effectiveness of the Secondary Treatment Improvements and the CEPT Projects in treating captured CSO at CBWTP. The Monitoring and Analysis Program will focus on the effluent quality from the secondary and wet weather systems using parameters consistent with Clean Water Act definitions for secondary and primary treatment, EPA's CSO Control Policy, and the pathogen testing described below. The Monitoring and Analysis Program is also intended to provide the data and information necessary for updating the CBWTP Facilities Plan and the NFAA.

Goals

- Characterize effluent quality from CBWTP during wet weather events
- Compare the effluent quality of secondary effluent with the effluent quality from the wet weather treatment train during CEPT and non-CEPT operations.
- Provide data to inform CBWTP Facilities Plan Update and the NFAA for determining adequate secondary capacity.

Monitoring and Analysis Parameters

- Separated Portion of Sanitary Sewer Collection System
  - Average dry weather flows including % of total inflow to CBWTP
  - Peak wet weather flows including % of total inflow to CBWTP
  - Selected storm events and dry weather period volumes including % of total inflow to CBWTP
- Combined Portion of the Sanitary Collection System
  - Peak dry weather flow
- Total Flow to the CBWTP
  - Average dry weather flow

- Peak wet weather flow
- Selected storm and dry weather periods (See "Selected Storm Events" below)

- Wet weather event characteristics including:
  - CSO event characteristics of volume, duration, peak discharge rate, rainfall
  - Secondary treatment characteristics measured over time (year, season, month, week, day and select storm events) for volume, duration, peak flow rates, maximum and average turbidity, event TSS and BOD_5 effluent quality and percent removal. Analyze the annual and seasonal averages as well as the Maximum 30-day and Peak 7-Day events that occur during the monitoring period.
  - Wet weather treatment (or bypass events) including number of events, duration of events, volume and peak flow rates, operational strategies employed, identification of periods when wet weather flow is receiving CEPT versus standard primary treatment, maximum and average turbidity, event TSS and BOD_5 effluent quality and percent removal. Analyze the annual and seasonal averages as well as the Maximum 30-day and Peak 7-Day events that occur during the monitoring period.
  - Removal of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pathogens in the bypassed stream, effluent from the secondary treatment train, and the effluent from the wastewater treatment plant. Pathogens include: Giardia, Cryptosporidium, adenovirus (as indicator for somatic viruses), fecal coliform, Escherichia coli (as indicators of fecal contamination).

<u>Selected Storm Events</u>

- Five wet weather events after implementation of Secondary Treatment Improvements. Select and monitor storms that generate total flows to the CBWTP in the preferable range of 160 to 280 MGD.
- A minimum of three dry weather or small storm periods (when all flow receives secondary treatment) for baseline conditions.