

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

BOARD ORDER

IN THE MATTER OF

THE CITY OF PORTLAND AND)	ADMINISTRATIVE CONSENT
PORTLAND WATER DISTRICT)	AGREEMENT
PORTLAND, MAINE)	AND ENFORCEMENT ORDER

This Agreement by and among The City of Portland and Portland Water District, ("Portland" and "PWD" respectively), the Maine Board of Environmental Protection, (the "Board"), and the State of Maine Attorney General is entered into pursuant to 38 M.R.S.A., Section 347-A(1) and in accordance with the Department of Environmental Protection's (the "Department") Consent Agreement Policy, as amended.

The parties agree as follows:

1. Portland is a municipal corporation which is organized and exists under the laws of Maine, and which operates a wastewater collection system in Portland, Maine.
2. PWD is a quasi-municipal corporation which is organized and exists under the laws of Maine, and which operates a wastewater conveyance and treatment system in Portland, Maine.
3. The Board has regulatory authority over the activities described hereafter.
4. PWD has a Waste Discharge License issued by the Board for the discharge of treated municipal wastewater and combined sewer overflow to the Portland Harbor, Class SC. The license was issued on August 20, 1984.
5. Portland maintains sixteen combined sewer overflow discharge points which periodically discharge pollutants to Portland Harbor. Portland does not have a current Waste Discharge License. For the purposes of this action only, Portland agrees that such discharges are in violation of 38 M.R.S.A., §413.
6. PWD's Waste Discharge License requires that a plan to monitor combined sewer overflows be submitted to the Department within twelve months of issuance of the license. Portland in cooperation with PWD, has agreed to conduct a stormwater overflow monitoring program.

7. Portland and PWD expressly waive:
 - a. notice of and opportunity for hearing;
 - b. any and all further procedural steps before the Board;
 - c. the making of any findings of fact by the Board or its presiding officer; and
 - d. its right to appeal any provision of this Administrative Consent Agreement and Enforcement Order.
8. This Agreement shall not become part of the official record unless and until it is accepted by the Board.
9. To resolve the violations referred to in paragraph 5 above, Portland and PWD agree to:
 - (A) Portland and PWD shall develop and implement a prioritized, long-term program for evaluation and abatement of Combined Sewer Overflow ("CSO") discharges from their sewerage systems. The program shall include evaluations of CSO discharge points, characterization of their activity under various conditions, study of water quality impacts, evaluation of the sewer system and development of a Master Plan for future steps to control CSO discharges. In the interim, appropriate best management practices for reducing CSO discharges shall be implemented. The Master Plan shall provide a report of evaluations and studies and shall examine a full range of alternatives for CSO abatement. In developing the Master Plan, consideration shall be given to pollutant loadings and management of urban runoff and separate storm sewers.
 1. Scope of Work. On or before March 1, 1991, Portland and PWD shall submit to the Department for review and approval a Scope of Work for the development of a CSO Master Plan consistent with the requirements of this agreement. The Scope of Work shall contain a critical path of tasks to be performed along with milestones, including dates for submitting an interim report on the CSO Master Plan.
 2. CSO Assessment. As part of the Interim Report, Portland and PWD shall complete an assessment of the sewer system. The assessment shall be based upon or include:
 - (a) Up-to-date plans or drawings of the as-built sewerage system, including currently proposed modifications;
 - (b) The locations of all significant and relevant sources of wastewater or stormwater discharges including CSO structures, stormwater outfalls, as well as known industrial discharges, and discharges from neighboring communities. Separate stormwater outfalls less than 8 inches in diameter need not be included;

- (c) A description of the drainage area of each CSO, including the size of the drainage area, topography, population and residential density, average daily volume of water use and/or average daily sewage flow, and all significant industrial, commercial, and other land uses that are likely to affect runoff or wastewater quality;
 - (d) A description and map of receiving waters, showing existing and designated uses, wildlife habitat, and commercial uses of such receiving waters under State water quality standards; and
 - (e) A characterization of known historic water use impairments if any.
3. CSO Monitoring Plan. On or before March 1, 1991 and July 1, 1991, respectively, Portland and PWD shall prepare preliminary and final plans for monitoring to supplement existing data as necessary, to allow estimation of the frequency, volume, pollutant loads, and impacts of their CSO discharges. The final CSO Monitoring Plan shall describe monitoring of the CSO discharge volumes and durations; monitoring of the pollutant loads in CSO discharges; and receiving water monitoring. If fewer than all CSOs are to be sampled, the plans shall include a demonstration that the program will adequately supplement existing data to allow characterization of the overall sewer system during both dry (summer) and wet seasons. The completed data base shall be adequate to evaluate storm events of a sufficient range of intensities and durations to characterize CSO discharges in all foreseeable conditions.
- (a) For the monitoring of CSO discharge volumes and durations the Monitoring Plan shall specify the measurement points and sampling protocol. The program shall be designed to fill data needs to establish the relationship between various environmental conditions such as land use; rainfall amounts; intensity and duration; surface runoff conditions; groundwater levels; and tidal influences. Particular attention shall be given to assure that data necessary to determine the relationship between various CSO discharge points and to identify those which function most frequently or are indicative of how other points function under given conditions, is collected.
 - (b) For the monitoring of pollutant loads the CSO Monitoring Plan shall specify the measurement points and sampling protocol (including the parameters for which samples are to be analyzed) to provide a basis for defining the pollutant loads from CSOs during varying rainfall conditions. This monitoring program shall also conform to the following:
 - i. Sampling shall be performed during dry periods and during storm events of a sufficient range of intensities and durations to characterize CSO discharges events;
 - ii. In each storm event selected for sampling, sampling will be based upon flow-proportioned composite samples which identify and include the "first flush", if any;

- iii. Priority should be given to sampling those CSOs that function first during storm events, that frequently discharge high volumes, or that are believed to impair or threaten impairment of water uses; and
 - iv. Observations of the water near the sampling location for floatables, debris, scum, oil and grease, odor, etc. shall be made at the time of sampling.
 - v. The program shall include testing for the following constituents unless testing and land use patterns in drainage areas of the system demonstrate that they are not present: suspended solids, biochemical oxygen demand, pH, lead, zinc, chromium, copper, cadmium, mercury, iron, arsenic, silver, total kjeldahl nitrogen, total ammonia, nitrate/nitrite nitrogen, total phosphorus, petroleum hydrocarbons, polyaromatic hydrocarbons, PCB's, and herbicides (2,4-D, dicamba and MCPP).
- (c) For the monitoring of receiving waters, the CSO Monitoring Plan shall specify the measurement points and sampling protocol (including the parameters for which samples are to be analyzed) to define the impacts of CSOs on ambient water quality and uses and to provide a basis for predicting the effects of sewer rehabilitation and separation projects on CSO discharges and on the receiving waters. Sediments in Casco Bay shall also be sampled to evaluate the accumulation of pollutants from CSO discharges and other sources.

Selection of monitoring locations will be based on consideration of location of overflows, wastewater characteristics and physical conditions in the receiving water such as uses (especially swimming), current, depth, other possible sources of pollutants and tidal influences. The monitoring locations and the rationale for their selection shall be submitted to the Department for review and approval. All water samples collected shall be tested for enterococcus bacteria and fecal coliform bacteria for marine waters and E. coli bacteria for freshwaters.

Ambient water samples will be collected at times of high tide, low tide and half tide (incoming and outgoing), and will be limited to the locations which best reflect the Portland and PWD CSO discharge after the opportunity for initial mixing with the receiving water.

- (d) CSO Monitoring Report. As part of the Interim Report and Master Plan, Portland and PWD shall submit reports of the results of CSO monitoring to the Department for review and approval. Monitoring Reports shall include summaries of all sampling data and a discussion of any deviations from the approved monitoring plans.

4. **Sewer System Evaluation.** Concurrently with the CSO monitoring referred to above, Portland shall conduct a study of its sewer system in order to evaluate volumes and sources of groundwater and surface runoff entering the system. The sewer system study shall be conducted in accordance with a plan of study submitted to the Department for review and approval. Monitoring points shall be established within the sewer system in order to measure the flows contributed from various drainage areas. The impact of flows from each area or sub-drainage system of discharges from CSO points shall be evaluated through use of a sewer system model or other means of predictive analysis. In conducting the study, significant sources of extraneous water entering the sewer system shall be described and if practical, identified and prioritized according to their contribution to CSO discharges and feasibility of corrective actions to abate them. A report of the study shall be submitted to the Department as part the Interim Report and the Master Plan.

5. **Sewer System Master Plan.** Portland and PWD shall develop a Master Plan describing steps and timetables for abatement of CSO discharges. Control or abatement of CSO discharges will not be technologically more stringent than that required to meet water quality standards or other applicable technology-based requirements. Nothing in this Agreement shall prevent Portland and PWD from seeking a modification of water quality standards in accordance with applicable federal and State law where appropriate. The plan will include the findings of the studies and evaluations referred to above and methods to be used in rehabilitating or improving the sewer system as necessary. Prioritized implementation schedules for this work shall be provided.

Prior to December 1, 1992, Portland and PWD shall submit the Master Plan to the Department for review and approval. The Master Plan submitted shall be complete except for revision in response to review comments provided by the Department. Appropriate revisions to the Master Plan will be completed within 3 months of receipt of the Department's review comments, if any, and the finalized copy will be provided to the Department. The Master Plan shall include: an evaluation of the effectiveness of the Best Management Practices, pretreatment program, and secondary treatment plant, and an assessment of alternative measures to abate CSO discharges or to apply treatment technology to improve the quality of such discharges, selection of abatement strategies for individual or groups of CSOs, and a timetable for completing CSO abatement projects. In developing an implementation schedule, consideration shall be given to water quality impacts, abatement alternatives selected and Portland's capacity to finance such measures.

- (a) Portland and PWD must assess a full range of possible alternatives, including reasonable combinations of elimination, reduction in discharge frequency or discharge volumes, relocations, and storage and treatment. In assessing each alternative Portland and PWD shall consider:

- i. The minimum size and intensity storm required to activate each overflow, volume discharged from each overflow for various size storms, and volume discharged and number of overflow events per year based on historic rainfall data;
 - ii. The existing and designated uses of receiving waters under the State water quality standards in the area affected by each CSO discharge;
 - iii. The alternative's expected effects on in-stream water quality and uses;
 - iv. The effects of the best management practices to be implemented under paragraph 6, below, as well as the pretreatment program and the improvements of the secondary treatment plant;
 - v. The estimated cost and construction dates for implementing the CSO control strategies;
 - vi. A comparative analysis of the costs of each control strategy for each CSO or group of CSOs with the overall benefits to the in-stream water quality and uses within the study area of the CSO Master Plan derived from each such strategy; and
 - vii. A sewer rate analysis, including but not limited to an examination of grant funding, phasing of projects, and rate stabilization.
- (b) In selecting and scheduling CSO abatement projects, Portland and PWD shall give priority to abating CSO discharges in the following order:
- i. Those which are due primarily to infiltration of water into the sewer system during dry weather periods;
 - ii. Those which may impair water contact recreation uses or create public health concerns in the receiving waters;
 - iii. Those which discharge into areas determined to have shellfish resources;
 - iv. Those which contain significant industrial or high strength wastes;
 - v. Those which function during the months of June through September; and
 - vi. Those which cause localized nuisance conditions.

Additionally, high priority should be given to abating all CSO discharges which occur during the so-called "first flush" of suspended sediments from the sewer system at the beginning of a storm event.

- (c) The CSO Master Plan shall also include a Compliance Monitoring Plan for the regular monitoring of the CSO discharges which may remain during and after implementation of the CSO Master Plan and the waters receiving those discharges.
 - (d) Portland and PWD shall provide periodic reviews of the Master Plan in order to evaluate the effectiveness of abatement projects. These reviews shall serve to supplement and/or amend the Master Plan as may be appropriate, taking into consideration projects completed, Compliance Monitoring Plan results or changes in the assumptions upon which the Master Plan was approved. Amendments to the Master Plan shall be approved by the Department. Reviews shall be made in accordance with a schedule provided in the Master Plan, but at least every two years.
6. Best Management Practices. During the time that studies, evaluations, and sewer system improvements are being completed and until modified through implementation of the approved Master Plan, Portland and PWD shall immediately take steps to minimize the discharge of pollutants from CSO points. These steps shall include but not be limited to the following:
- (a) Adopt and or maintain an ordinance or rule prohibiting the introduction of uncontaminated water into the sewer system (such as roof or cellar drains, surface drainage, and non-contact cooling water) from private sources;
 - (b) Development and implementation where feasible of a plan for the removal of existing direct sources of water into the sewer system from private sources such as roof or cellar drains, surface drainage, and non-contact cooling water;
 - (c) Formal plans for regular cleaning of sewer lines, especially in those sections where the deposition of solids may restrict flow and cause surcharges which result in overflows;
 - (d) Development and implementation of a high flow management plan designed to optimize the use and overall effectiveness of the treatment system during high flows;
 - (e) Formal plans for maintaining overflow control structures, pumping stations, tide control gates and other structures in the sewer system in good working condition to minimize CSO discharges;
 - (f) Addition of septic tank wastes only to the treatment plant during times when all flows being received are given full secondary treatment;

- (g) Special efforts to assure that industrial high strength wastewater and other non-"conventional" pollutants (such as hospital wastes) do not overflow and that such wastewater receives full treatment;
- (h) Regulating the addition of new or increased volumes of industrial process or high-strength wastewaters into the sewer system under circumstances in which they could be discharged through a CSO point;
- (i) Conducting periodic surveys all municipal discharges (CSO and stormwater) during dry weather to verify that no dry weather sanitary discharge exists;
- (j) Effective street sweeping and catch basin cleaning; and
- (k) Allowing the introduction of additional sanitary wastewater into the system only upon the removal of five gallons of uncontaminated water for each gallon of sanitary wastewater added. Sewer additions shall be based on the State Plumbing Code and calculated at the time building and plumbing permits are issued. Additions will be credited against sewer rehabilitation work completed within the preceeding two years or which will be done in the following year. Preference shall be given to CSO abatement in the area of the proposed addition, but sewer system-wide credits may be used. The effectiveness of rehabilitation projects shall be evaluated using inflow from a three-month storm, observed infiltration rates and engineering estimates of the proposed projects.

7. Sewer System Rehabilitation and Improvements.

- (a) Short-term Projects. During the period until 1993, Portland and PWD shall complete sewer system improvement projects in order to eliminate or abate CSO discharges. These projects shall be, to the extent possible, consistent with the priorities outlined in paragraph 9(A)(5), above. At a minimum, they shall include elimination of the Quebec Street CSO discharge, elimination of a CSO discharge in Sagamore Village and sewer separation work in the Libbytown area. Periodic reports of proposed projects and work completed shall be made to the Department.
 - (b) Long-term Projects. Beginning in 1993, and in each year thereafter, Portland and PWD shall complete CSO abatement projects described in the approved Sewer System Master plan referred to in paragraph (A)(5), above.
- (B) prior to March 1, 1991, Portland shall submit to the Department a complete application for a Waste Discharge License for all combined sewer overflows maintained by the City;

- (C) in the event that any of the actions described in paragraph 9(a) are not completed as required, Portland and PWD shall pay jointly and severally the Treasurer, State of Maine, the following total amounts:
1. for each day after March 1, 1991, that the Scope of Work required in paragraph 9(A)(1) is not submitted, the sum of \$100;
 2. for each day after December 1, 1992, that the Sewer Master Plan required in paragraph 9(A)(5) is not submitted, the sum of \$200;
 3. for each day after February 1, 1991, that the license application required in paragraph 9(B) is not submitted, the sum of \$100;
10. **Dispute Resolution.** Any dispute arising under or with respect to this consent agreement shall, in the first instance, be the subject of informal negotiations between or among the parties to the dispute for a period of up to fifteen (15) working days from the time notice of the existence of the dispute is given. The period for negotiations may be extended by agreement of the parties to the dispute. If a dispute cannot be resolved by informal negotiations then the position of the Department shall be considered binding unless, within fifteen (15) days after being notified of the Departments position, Portland and/or PWD may petition the Board setting forth the matter in dispute, the efforts made by the parties to resolve it, and its proposed resolution. The Department shall have twenty (20) days to file a response to Portland and/or PWD petition with an alternative proposal for resolution of the dispute. Decisions of the Board with respect to disputes may be appealed to the Court. In proceedings on any dispute under this paragraph, Portland and/or PWD shall have the burden of showing that its proposal meets the requirements of the agreement.
11. **Force Majeure.** If any event occurs which causes or is anticipated to cause delays in the achievement of any requirement of this consent agreement. Portland and/or PWD shall, within ten (10) business days from when they knew or reasonably should have known of such event, notify the Department in writing describing the cause or causes of the delay and a preliminary estimate of the length or anticipated length of the delay. Within thirty (30) days, Portland and/or PWD shall notify the Department in writing providing a detailed explanation of the length or the anticipated length of the delay, the measures taken and to be taken to prevent or minimize the delay and the timetable by which those measures will be implemented. Reasonable measures to avoid or minimize any such delay shall be adopted. If the parties agree that the delay or anticipated delay has been or will be caused by reason of force majeure beyond Portland and/or PWD's reasonable control, the time for performance hereunder shall be extended for a period no longer than that attributable to the delay resulting from such force majeure. In the event that there is any dispute as to whether all or a portion of Portland and/or PWD's failure to comply with any action required to be taken by it pursuant to this Administrative Consent Agreement and Enforcement Order, Portland and/or PWD shall have the burden of proof to show: (i) that the noncompliance was caused by circumstances beyond its reasonable control; (ii) the period of noncompliance that resulted from circumstances beyond its reasonable control; and (iii) that Portland and/or PWD took all reasonable measures to minimize the number of days and degree of any noncompliance. The provisions of this

paragraph shall be inoperative unless Portland and/or PWD notifies the Commissioner of the Department of Environmental Protection in writing as set forth above. Failure to agree under this paragraph shall trigger the dispute resolution provisions of Paragraph 10 hereof. During the negotiations under this paragraph or the proceeding paragraph providing for dispute resolution and any litigation thereunder, stipulated penalties shall not accrue and shall not be payable if the position of Portland and/or PWD prevails.

12. The Board and the State of Maine Attorney General grant Portland and PWD a release of their causes of action against Portland and PWD for the specific violations listed in paragraph 5 on the express condition that all actions called for in paragraph 9 above are completed in accordance with the express terms and conditions of this Agreement. The release shall not become effective unless and until the above condition is satisfied.

ORDER

Pursuant to 38 M.R.S.A., §347-A(1) and the Department's Consent Agreement Policy, as amended and based on the Agreement set forth above, the Board ORDERS Portland and PWD to:

- (A) Portland and PWD shall develop and implement a prioritized, long-term program for evaluation and abatement of Combined Sewer Overflow ("CSO") discharges from their sewerage systems. The program shall include evaluations of CSO discharge points, characterization of their activity under various conditions, study of water quality impacts, evaluation of the sewer system and development of a Master Plan for future steps to control CSO discharges. In the interim, appropriate best management practices for reducing CSO discharges shall be implemented. The Master Plan shall provide a report of evaluations and studies and shall examine a full range of alternatives for CSO abatement. In developing the Master Plan, consideration shall be given to pollutant loadings and management of urban runoff and separate storm sewers.

1. Scope of Work. On or before March 1, 1991, Portland and PWD shall submit to the Department for review and approval a Scope of Work for the development of a CSO Master Plan consistent with the requirements of this agreement. The Scope of Work shall contain a critical path of tasks to be performed along with milestones, including dates for submitting an interim report on the CSO Master Plan.
2. CSO Assessment. As part of the Interim Report, Portland and PWD shall complete an assessment of the sewer system. The assessment shall be based upon or include:
 - (a) Up-to-date plans or drawings of the as-built sewerage system, including currently proposed modifications;
 - (b) The locations of all significant and relevant sources of wastewater or stormwater discharges including CSO structures, stormwater outfalls, as well as known industrial discharges, and discharges from neighboring communities. Separate stormwater outfalls less than 8 inches in diameter need not be included;

- (c) A description of the drainage area of each CSO, including the size of the drainage area, topography, population and residential density, average daily volume of water use and/or average daily sewage flow, and all significant industrial, commercial, and other land uses that are likely to affect runoff or wastewater quality;
 - (d) A description and map of receiving waters, showing existing and designated uses, wildlife habitat, and commercial uses of such receiving waters under State water quality standards; and
 - (e) A characterization of known historic water use impairments if any.
3. CSO Monitoring Plan. On or before March 1, 1991 and July 1, 1991, respectively, Portland and PWD shall prepare preliminary and final plans for monitoring to supplement existing data as necessary, to allow estimation of the frequency, volume, pollutant loads, and impacts of their CSO discharges. The final CSO Monitoring Plan shall describe monitoring of the CSO discharge volumes and durations; monitoring of the pollutant loads in CSO discharges; and receiving water monitoring. If fewer than all CSOs are to be sampled, the plans shall include a demonstration that the program will adequately supplement existing data to allow characterization of the overall sewer system during both dry (summer) and wet seasons. The completed data base shall be adequate to evaluate storm events of a sufficient range of intensities and durations to characterize CSO discharges in all foreseeable conditions.
- (a) For the monitoring of CSO discharge volumes and durations the Monitoring Plan shall specify the measurement points and sampling protocol. The program shall be designed to fill data needs to establish the relationship between various environmental conditions such as land use; rainfall amounts; intensity and duration; surface runoff conditions; groundwater levels; and tidal influences. Particular attention shall be given to assure that data necessary to determine the relationship between various CSO discharge points and to identify those which function most frequently or are indicative of how other points function under given conditions, is collected.
 - (b) For the monitoring of pollutant loads the CSO Monitoring Plan shall specify the measurement points and sampling protocol (including the parameters for which samples are to be analyzed) to provide a basis for defining the pollutant loads from CSOs during varying rainfall conditions. This monitoring program shall also conform to the following:
 - i. Sampling shall be performed during dry periods and during storm events of a sufficient range of intensities and durations to characterize CSO discharges events;
 - ii. In each storm event selected for sampling, sampling will be based upon flow-proportioned composite samples which identify and include the "first flush", if any;

- iii. Priority should be given to sampling those CSOs that function first during storm events, that frequently discharge high volumes, or that are believed to impair or threaten impairment of water uses; and
 - iv. Observations of the water near the sampling location for floatables, debris, scum, oil and grease, odor, etc. shall be made at the time of sampling.
 - v. The program shall include testing for the following constituents unless testing and land use patterns in drainage areas of the system demonstrate that they are not present: suspended solids, biochemical oxygen demand, pH, lead, zinc, chromium, copper, cadmium, mercury, iron, arsenic, silver, total kjeldahl nitrogen, total ammonia, nitrate/nitrite nitrogen, total phosphorus, petroleum hydrocarbons, polyaromatic hydrocarbons, PCB's, and herbicides (2,4-D, dicamba and MCPP).
- (c) For the monitoring of receiving waters, the CSO Monitoring Plan shall specify the measurement points and sampling protocol (including the parameters for which samples are to be analyzed) to define the impacts of CSOs on ambient water quality and uses and to provide a basis for predicting the effects of sewer rehabilitation and separation projects on CSO discharges and on the receiving waters. Sediments in Casco Bay shall also be sampled to evaluate the accumulation of pollutants from CSO discharges and other sources.
- Selection of monitoring locations will be based on consideration of location of overflows, wastewater characteristics and physical conditions in the receiving water such as uses (especially swimming), current, depth, other possible sources of pollutants and tidal influences. The monitoring locations and the rationale for their selection shall be submitted to the Department for review and approval. All water samples collected shall be tested for enterococcus bacteria and fecal coliform bacteria for marine waters and E. coli bacteria for freshwaters.
- Ambient water samples will be collected at times of high tide, low tide and half tide (incoming and outgoing), and will be limited to the locations which best reflect the Portland and PWD's CSO discharge after the opportunity for initial mixing with the receiving water.
- (d) CSO Monitoring Report. As part of the Interim Report and Master Plan, Portland and PWD shall submit reports of the results of CSO monitoring to the Department for review and approval. Monitoring Reports shall include summaries of all sampling data and a discussion of any deviations from the approved monitoring plans.

4. Sewer System Evaluation. Concurrently with the CSO monitoring referred to above, Portland shall conduct a study of its sewer system in order to evaluate volumes and sources of groundwater and surface runoff entering the system. The sewer system study shall be conducted in accordance with a plan of study submitted to the Department for review and approval. Monitoring points shall be established within the sewer system in order to measure the flows contributed from various drainage areas. The impact of flows from each area or sub-drainage system of discharges from CSO points shall be evaluated through use of a sewer system model or other means of predictive analysis. In conducting the study, significant sources of extraneous water entering the sewer system shall be described and if practical, identified and prioritized according to their contribution to CSO discharges and feasibility of corrective actions to abate them. A report of the study shall be submitted to the Department as part the Interim Report and the Master Plan.

5. Sewer System Master Plan. Portland and PWD shall develop a Master Plan describing steps and timetables for abatement of CSO discharges. Control or abatement of CSO discharges will not be technologically more stringent than that required to meet water quality standards or other applicable technology-based requirements. Nothing in this Agreement shall prevent Portland and PWD from seeking a modification of water quality standards in accordance with applicable federal and State law where appropriate. The plan will include the findings of the studies and evaluations referred to above and methods to be used in rehabilitating or improving the sewer system as necessary. Prioritized implementation schedules for this work shall be provided.

Prior to December 1, 1992, Portland and PWD shall submit the Master Plan to the Department for review and approval. The Master Plan submitted shall be complete except for revision in response to review comments provided by the Department. Appropriate revisions to the Master Plan will be completed within 3 months of receipt of the Department's review comments, if any, and the finalized copy will be provided to the Department. The Master Plan shall include: an evaluation of the effectiveness of the Best Management Practices, pretreatment program, and secondary treatment plant, and an assessment of alternative measures to abate CSO discharges or to apply treatment technology to improve the quality of such discharges, selection of abatement strategies for individual or groups of CSOs, and a timetable for completing CSO abatement projects. In developing an implementation schedule, consideration shall be given to water quality impacts, abatement alternatives selected and Portland's capacity to finance such measures.

- (a) Portland and PWD must assess a full range of possible alternatives, including reasonable combinations of elimination, reduction in discharge frequency or discharge volumes, relocations, and storage and treatment. In assessing each alternative Portland and PWD shall consider:

- i. The minimum size and intensity storm required to activate each overflow, volume discharged from each overflow for various size storms, and volume discharged and number of overflow events per year based on historic rainfall data;
- ii. The existing and designated uses of receiving waters under the State water quality standards in the area affected by each CSO discharge;
- iii. The alternative's expected effects on in-stream water quality and uses;
- iv. The effects of the best management practices to be implemented under paragraph 6, below, as well as the pretreatment program and the improvements of the secondary treatment plant;
- v. The estimated cost and construction dates for implementing the CSO control strategies;
- vi. A comparative analysis of the costs of each control strategy for each CSO or group of CSOs with the overall benefits to the in-stream water quality and uses within the study area of the CSO Master Plan derived from each such strategy; and
- vii. A sewer rate analysis, including but not limited to an examination of grant funding, phasing of projects, and rate stabilization.

(b) In selecting and scheduling CSO abatement projects, Portland and PWD shall give priority to abating CSO discharges in the following order:

- i. Those which are due primarily to infiltration of water into the sewer system during dry weather periods;
- ii. Those which may impair water contact recreation uses or create public health concerns in the receiving waters;
- iii. Those which discharge into areas determined to have shellfish resources;
- iv. Those which contain significant industrial or high strength wastes;
- v. Those which function during the months of June through September; and
- vi. Those which cause localized nuisance conditions.

Additionally, high priority should be given to abating all CSO discharges which occur during the so-called "first flush" of suspended sediments from the sewer system at the beginning of a storm event.

- (c) The CSO Master Plan shall also include a Compliance Monitoring Plan for the regular monitoring of the CSO discharges which may remain during and after implementation of the CSO Master Plan and the waters receiving those discharges.
 - (d) Portland and PWD shall provide periodic reviews of the Master Plan in order to evaluate the effectiveness of abatement projects. These reviews shall serve to supplement and/or amend the Master Plan as may be appropriate, taking into consideration projects completed, Compliance Monitoring Plan results or changes in the assumptions upon which the Master Plan was approved. Amendments to the Master Plan shall be approved by the Department. Reviews shall be made in accordance with a schedule provided in the Master Plan, but at least every two years.
6. Best Management Practices. During the time that studies, evaluations, and sewer system improvements are being completed and until modified through implementation of the approved Master Plan, Portland and PWD shall immediately take steps to minimize the discharge of pollutants from CSO points. These steps shall include but not be limited to the following:
- (a) Adopt and or maintain an ordinance or rule prohibiting the introduction of uncontaminated water into the sewer system (such as roof or cellar drains, surface drainage, and non-contact cooling water) from private sources;
 - (b) Development and implementation where feasible of a plan for the removal of existing direct sources of water into the sewer system from private sources such as roof or cellar drains, surface drainage, and non-contact cooling water;
 - (c) Formal plans for regular cleaning of sewer lines, especially in those sections where the deposition of solids may restrict flow and cause surcharges which result in overflows;
 - (d) Development and implementation of a high flow management plan designed to optimize the use and overall effectiveness of the treatment system during high flows;
 - (e) Formal plans for maintaining overflow control structures, pumping stations, tide control gates and other structures in the sewer system in good working condition to minimize CSO discharges;
 - (f) Addition of septic tank wastes only to the treatment plant during times when all flows being received are given full secondary treatment;

- (g) Special efforts to assure that industrial high strength wastewater and other non-"conventional" pollutants (such as hospital wastes) do not overflow and that such wastewater receives full treatment;
- (h) Regulating the addition of new or increased volumes of industrial process or high-strength wastewaters into the sewer system under circumstances in which they could be discharged through a CSO point;
- (i) Conducting periodic surveys all municipal discharges (CSO and stormwater) during dry weather to verify that no dry weather sanitary discharge exists;
- (j) Effective street sweeping and catch basin cleaning; and
- (k) Allowing the introduction of additional sanitary wastewater into the system only upon the removal of five gallons of uncontaminated water for each gallon of sanitary wastewater added. Sewer additions shall be based on the State Plumbing Code and calculated at the time building and plumbing permits are issued. Additions will be credited against sewer rehabilitation work completed within the preceeding two years or which will be done in the following year. Preference shall be given to CSO abatement in the area of the proposed addition, but sewer system-wide credits may be used. The effectiveness of rehabilitation projects shall be evaluated using inflow from a three-month storm observed infiltration rates and engineering estimates of the proposed projects.

7. Sewer System Rehabilitation and Improvements.

- (a) Short-term Projects. During the period until 1993, Portland and PWD shall complete sewer system improvement projects in order to eliminate or abate CSO discharges. These projects shall be, to the extent possible, consistent with the priorities outlined in paragraph 9(A)(5), above. At a minimum, they shall include elimination of the Quebec Street CSO discharge, elimination of a CSO discharge in Sagamore Village and sewer separation work in the Libbytown area. Periodic reports of proposed projects and work completed shall be made to the Department.
 - (b) Long-term Projects. Beginning in 1993, and in each year thereafter, Portland and PWD shall complete CSO abatement projects described in the approved Sewer System Master plan referred to in paragraph (A)(5), above.
- (B) prior to March 1, 1991, Portland shall submit to the Department a complete application for a Waste Discharge License for all combined sewer overflows maintained by the City;

CONSENT AGREEMENT/THE CITY OF PORTLAND AND PORTLAND WATER DISTRICT
PAGE 17

IN WITNESS WHEREOF the parties have executed the Agreement consisting of 17 pages.

CITY OF PORTLAND

BY: Robert Stanley DATE: 1-10-91
its City Manager

PORTLAND WATER DISTRICT

BY: _____ DATE: _____
its

BOARD OF ENVIRONMENTAL PROTECTION

BY: _____ DATE: _____
E. CHRISTOPHER LIVESAY, CHAIRMAN

SEEN AND AGREED TO:
State of Maine

BY: _____ DATE: _____
Jon Edwards
Assistant Attorney General

PORTCA

1/4/91