RESPONSE TO PUBLIC COMMENT

From May 18, 2004 to June 19, 2004, the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MA DEP) solicited Public Comments on a draft NPDES permit, developed pursuant to a reapplication from the City of Brockton for reissuance of the City's NPDES permit to discharge wastewater to the Salisbury Plain River. A public hearing was held on August 25, 2004 where additional comments were accepted and the public comment period was extended until August 27, 2004. After a review of the comments received, EPA has made a final decision to issue the permit authorizing the discharge. The following response to comment describes the changes and briefly describes and responds to the comments on the draft permit. A copy of the final permit may be obtained by writing or calling Betsy Davis, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMA), Boston, Massachusetts 02114-2023; Telephone (617) 918-1576.

Comments submitted by Camp, Dresser and McKee on behalf of the City of Brockton on June 19, 2004.

Comment #1: In general, there are many references to a design flow rate of 18.0 mgd, which is the correct flow for the facility upgraded in the 1970's. However, over the coming five year permit duration, this design flow rate will be increased to 20.48 mgd. Language should be added to the permit noting this design flow change.

Response: The references in the fact sheet to the design flow of 18 MGD accurately reflect the current design flow of the facility, which was used in conjunction with the 7Q10 to calculate the water quality-based effluent limits in the draft permit. This is the same design flow used to calculate the water quality-based effluent limitations in the current permit. The final permit does not contain a flow limitation, but there is a requirement in footnote 2, page 4 of te final permit which requires the permittee to report the quantity of flow discharged from the facility.

We understand that the City's current plans are to construct upgraded facilities with a design flow of 20.48 MGD. However, the facilities plan which proposes this design flow increase has not yet been approved by MADEP, it has not been shown that Class B water quality standards can be attained at the increased flow, nor has the state conducted a review which demonstrates that this increase can be authorized under its antidegradation policy.

An increase in design flow at the facility may be reflected in the City's permit after their facility's plan has been approved, it has been shown that the Class B water quality standards can be achieved at the increased flow and that the increased discharge can be authorized under the MADEP antidegradation policy. Limitations in the permit based upon a dilution factor [metals] would need to be adjusted to reflect the change in dilution at the low flow conditions.

Comment #2 On page 2 and 3 of the permit, both mass loading and concentration limits are provided. This is problematic and the City requests that only concentration limits are included in the permit for the following reasons.

The proposed lb/day discharge limitations for average monthly, average weekly and average daily loads are all based on the average annual plant flow of 18.0 mgd, and applied to permit concentration limits. The permit is written such that mass limits govern during flow periods greater than the annual average. Concentration limits govern during flow periods less than the annual average.

The concentration limits are based on water quality requirements established at 7Q10 flow conditions. In New England, these conditions and annual average plant flows are not simultaneous occurring events. When stream flow approaches 7Q10, the plant flow is substantially less than the annual average. The permit as written requires the highest quality effluent (or lowest concentration) during those periods when stream flows are the highest. Such stringency is not required for meeting water quality standards.

The City requests that the final permit include only concentration based limits. If mass limits must be included, then peaking factors should be provided to account for monthly, weekly, and daily variations.

Response: Mass limits for BOD_5 and TSS are now added to all POTW permits in Massachusetts as is part of a flow policy change that allows the flow limit in a permit to be calculated as an annual rather than a monthly average. This change was made in an effort to allow a facility to operate at the maximum monthly hydraulic capacity. To prevent degradation of the receiving water, DEP and EPA agreed that mass limitations for BOD_5 and TSS should be included as permit conditions to ensure that existing controls on mass discharges of BOD_5 and TSS are maintained.

Comment #3: On page 3 of 16, the permit refers to a concentration and loading limits for phosphorus and nitrogen but there are no references to the fact that a facility upgrade is underway to meet these limits. Promulgation of this permit, as written, will create a permit violation and initiate a penalty as described in the draft Consent Decree. The permit needs to describe that the phosphorus and nitrogen limits becomes effective at the conclusion of the three phased WWTF Upgrade. A predraft version of the new permit contained a paragraph discussing this issue but has since been removed. Attention regarding this issue needs to be addressed before the permit becomes acceptable to the City.

Response: Pursuant to Section 301(b)(1)(C) of the Clean Water Act (CWA), discharges are subject to effluent limitations based on Water Quality Standards. The concentration and loading limits for phosphorus are new water quality-based limits. EPA intends to include a reasonable schedule of compliance reflecting the time necessary to complete the treatment facility upgrade in an enforcement document.

The ammonia nitrogen limits are the same as in the previous permit, and there are no total nitrogen concentration or mass limits in this permit. Total nitrogen limits are expected to be included in the future and an appropriate schedule, if necessary, will be developed at that time.

A Consent Decree has not been negotiated between the Parties and discussion of a penalty is premature.

Comment #4: On page 3 of 16 of the permit, an average monthly loading limit of 30 lbs/day is provided for phosphorus. This mass loading limit for phosphorus is not consistent with the conditions provided for the phosphorus concentration limit. A rolling average is allowed for concentration reporting but not mass loading reporting. For these reasons, the City request that all loading limits for phosphorus be taken out of the permit.

Response: The mass loading limit has been removed; the permittee is now only required to report the mass of phosphorus discharged. If the mass loading levels and/or new water quality information indicate that mass loadings must be further controlled, a mass loading limit may be included in future permits.

The definition of compliance with the 0.2 mg/l total phosphorus limit contained in footnote #10 has been clarified in the final permit. The footnote in the draft permit indicated that calculation of the 60 day rolling average must be calculated on the 60th day after April 1. However, since the phosphorus limit is not a seasonal limit, the footnote now requires that the 60 day rolling average be calculated on the 60th day after the effective date of the permit. An enforcement document is expected to establish an interim limit to be in effect until completion of the treatment facility upgrade.

Comment #5: On page 3 of 16 of the permit, the copper limit is unreasonably stringent. If the WWTF effluent passes Whole Effluent Toxicity testing, copper should not be of concern. Moreover, studies conducted by DEP in southeastern Massachusetts have indicated that copper limits established per Gold Book criteria are unreasonably stringent. As noted in the Draft Conceptual Design Report dated October 2003, the current upgrade is not being designed for specific copper removals or effluent quality.

Response: Massachusetts Surface Water Quality Standards establish that allowable receiving water concentrations of toxics are to be based on recommended limits published by EPA pursuant to 33 USC1251 Section 304(a) unless a site specific limit has been established (see 314CMR4.05(5)(e)). EPA has not approved any site-specific copper criteria for the Salisbury Plain River, so EPA's most current recommended copper criteria, found in "National Recommended Water Quality Criteria: 2002" were used to develop the effluent limitations for copper.

There are ongoing efforts by the state to establish site specific limits for copper. If such limits are ultimately approved by EPA the permit limits may be modified using appropriate permit modification procedures. EPA intends to establish interim effluent limitations for copper in an enforcement document.

Comment #6: On page 3 of 16, the permit includes an increase in fecal monitoring requirements from 3x per week to 5x per week. The City believes that this is excessive and unnecessary and requests that the monitoring frequency remain at 3x per week.

Disinfection challenges have recently been resolved by the installation of new chemical feed and pacing equipment.

Response: Past discharge monitoring reports (DMRs) show the monthly average and maximum daily fecal coliform limits have been exceeded many times over the past several years. Given the number of violations and the lack of a track record for the new chemical feed and pacing equipment, we believe an increase in sampling is necessary to characterize the effluent over a variety of flow and capacity conditions at the facility.

Comment #7: On page 4 of 16, paragraph 3, the permit refers to flow limits for Abington and Whitman. In the first sentence, it should be noted that these are annual average limits. In addition, the last sentence in this paragraph must be deleted. The City of Brockton should not be responsible for offsetting flow additions from Abington and Whitman. The current Intermunicipal Agreements allow for up to 1 MGD per community with no requirement to offset flow additions up to that limit.

Response: The 1.0 MGD flow limits for the Towns of Abington and Whitman have been defined in the final permit as annual average limits; increases above the 1 MGD flow limits in the contracts will not be allowed.

The offset requirement in footnote 3 does not apply to Whitman and Abington, or to connections within the City of Brockton, but to existing connections from other communities connected to the Brockton facility. The intent of the offset requirement was to ensure that any flow increases from facilities in other communities which were currently connected, would be minimized. The permit prohibits new connections from communities other than Brockton, Abington, and Whitman. However, if an abutting Town were to complete a Comprehensive Wastewater Management Plan (CWMP) which demonstrates that a tie-in to Abington or Whitman was an appropriate option EPA and MADEP may allow such a tie-in through a permit modification or permit reissuance. We have clarified this language in the final permit.

We have also added a requirement that Brockton report the annual average flow volumes received from each community discharging to its POTW in order to track compliance with the sewer connection restrictions.

Comment #8: On page 5 of 16 of the permit, footnote 11 requires that toxicity testing samples be collected in the second week of the stated months, instead of requiring the testing be done in a given quarter. This is unnecessary and inconsistent with the existing permit. Also, the new results submittal requirement could be troublesome if the testing lab has a problem and needs to retest. The result submittal requirement should remain the month following the quarter ending period.

Response: Toxicity test sampling is required during the second weeks of February, May, August and December in all NPDES permist issued to dischargers in the Taunton Watershed. Requiring the same sampling schedule for all toxicity tests supports the State's watershed approach and provides the Agencies with a better sense of toxicity impacts to the receiving water.

Each year, EPA Region 1 sends permittees a copy of the," NPDES Permit Program Instructions for Discharge Monitoring Reports" and the attachment titled, "The NPDES Whole Effluent Toxicity Testing Monitoring and Reporting Tips, Common Pitfalls and

Guidance". This document provides guidance on what to do when the samples can not be used or a retest is necessary.

Comment #9: On page 6 of 16, paragraph 2 of the permit. Clarify and/or define "Director".

Response: Director is the Regional Administrator or the State Director as defined in 40 CFR Part 122.

Comment #10: In paragraph I.A 1.f on page 6 of 16 of the permit, there is a requirement to address WWTF influent flow when it exceeds 80 percent of the design flow over 90 consecutive days. This threshold has been exceeded numerous times and engineering reports required to address the concern have been submitted to DEP and EPA. Since the upgraded facilities will be started under this condition, the facilities assessment and conceptual design reports satisfy this requirement. The City requests that this paragraph be removed from the permit.

Response: This requirement is unnecessary and has been removed from the permit.

Comment #11: On page 9 of 16 of the permit, in the first paragraph under "OPERATION AND MAINTENANCE OF THE SEWER SYSTEM", delete the second sentence and insert therefore:

"The permitee and co-permittee shall independently meet the following conditions for those portions of the collection system which it owns and operates."

Response: The suggested change has been made in the final permit.

Comment #12: On page 10 of 16 of the permit, the title "Reporting Requirements" should be changed to "Independent Reporting Requirements for Brockton, Whitman and Abington

Response: We believe that the last sentence in the first paragraph of Section D, "The permittee and co-permittees shall meet the following conditions for those portions of the collection system which it owns and operates." clearly establishes that the requirements in this section of the permit, which include the reporting requirement, are independent.

Comment #13: On page 12 of 16, paragraph 4.h refers to "fluidized bed incinerator". The Brockton WWTF has a multiple hearth incinerator.

Response: The final permit has been changed.

Comment #14: On page 13 of 16, paragraph j contains language that is too broad and can leave the City open to violations for circumstances beyond the City's control (for example, if a bald eagle nests in the vicinity of the plant). The first sentence should therefore be modified to insert the words "the City becomes aware that" between the words "if' and "it".

Response: This is standard language in NPDES permits pursuant to 40 CFR 503.45(g) for any facility that incinerates sewerage sludge.

Comment #15: On page 3 of the Fact Sheet, in the section titled FLOW, the second paragraph should be revised to state annual average flow limit of 1.0MGD. Also in this section, it is requested that the second sentence in the third paragraph be deleted. Facilities' planning shows that new connections in the existing service area are minimal and should not have a noticeable impact on total flow to the treatment facility. This requirement is unnecessary and would be a burden on limited resources to enforce.

Response: See Response #7 above. Language in the fact sheet is not changed once the draft permit has gone to public notice. Any appropriate corrections to the Fact Sheet are noted in the Response to Comments document which becomes part of the administrative record. This correction is noted for the record.

Comment #16: On page 4 of the Fact Sheet in the section titled "Conventional Pollutants", BOD5 limits and reporting has been taken out of the permit. Reference to BOD5 should be removed from this paragraph.

Response: See Response to Comment #15 regarding modifications to the fact sheet. The correction is noted.

Comment #17: On page 5 of the Fact Sheet in the section titled "Total Phosphorus", the last sentence in this section is vague and should either be deleted or modified to be more specific. The City cannot agree to a statement allowing EPA and DEP to set future phosphorus limits as desired. Requiring treatment facility improvements for unknown (future) pollutant limits is unjustifiable. In addition, this issue is discussed on page 9 of Section 1, in the Conceptual Design Report dated October 2003. The City requests that this sentence be removed.

Response: The statement accurately describes EPA and DEP authorities and responsibilities under State and Federal Clean Water Acts. Any changes to the phosphorus limits could only be in done using appropriate permit modification or reissuance procedures, which include public comment and appeal rights.

The statement is also consistent with guidance given to the City during the planning process.

Comment #18: On page 5 of the Fact Sheet in the section titled "Nitrogen", the last sentence in this section is vague and should either be deleted or modified to be more specific. The City cannot agree to a statement allowing EPA and DEP to set future nitrogen limits as desired. Requiring treatment facility improvements for unknown (future) pollutant limits is unjustifiable. In addition, this issue is discussed on page 9 of Section 1, in the Conceptual Design Report dated October 2003. The City requests that this sentence be removed.

Response: The statement accurately describes EPA and DEP authorities and responsibilities under State and Federal Clean Water Acts (also, see response to Comment #17). The statement is also consistent with guidance given to the City during the planning process.

Ccomments were received from the Brockton City Council, the Town of Easton, Town of East Bridgewater, East Bridgewater Wastewater Management Study Committee, Town of West Bridgewater, Old Colony Planning Council, State Senator Brian Joyce, Congressman Stephen Lynch, Town of Abington, State Representative Kathleen Teahan, Kenneth Carlson, the Massachusetts Riverways Program, the Taunton River Watershed Alliance, Save the Bay, the Natural Resource Trust of Bridgewater, Massachusetts Audubon Society, the Nature Conservancy, the National Parks Service, the East Bridgewater Open Space Committee, the Green Futures, Douglas Watts, Tim Watts and Kevin Curry.

Comment # 19: Many commenters requested that language restricting new sewer connections and limiting the Towns of Abington and Whitman to 1 MGD be deleted from the draft permit.

> The primary concern is that economic growth and development has been restricted in the surrounding communities due to limited options available for treating wastewater. On-site septic systems are not suitable for much of the area because of poor soil conditions and high groundwater levels.

Response: We understand that several of the local communities near the treatment facility are faced with difficult decisions relative to water and wastewater management, however, the Salisbury Plain River can not support an increase in flow.

> As stated in the fact sheet, the facility frequently exceeds its design flow of 18 MGD and high flows have caused the facility to be out of compliance with their existing NPDES permit. The Salisbury Plain River, is an effluent dominated river (the Salisbury Plain River at the point of the POTW discharge is about 98 percent effluent under 7Q10 conditions) and does not meet the State's Water Quality Standards for Class B Waters. It is also on the State's 2004 Integrated List of Waters as a Category 5 water (water requiring a TMDL), for pathogens. Increasing flow to the facility by allowing new sewer connections would inevitably contribute to further water quality impairment of the Salisbury Plain River.

Comment #20: Many comments recommended establishing a regional facility as a cost effective alternative to managing wastewater in the area. Suggestions included expanding the Brockton facility and relocating the discharge to the Taunton River or constructing a new facility with a new discharge location.

A few comments referred to the original 208 Water Quality Management Plan and requested resurrection of the Old Colony Water Pollution Abatement District. The Plan recommended a regional facility be built in Bridgewater and available to surrounding communities to treat their wastewater.

Response: Alternatives that involve treating additional flows at the Brockton facility but discharging at alternative locations should be considered as part of any planning of wastewater alternatives. However, these alternatives would have to be consistent with State Water Quality Standards, including the antidegradation provisions of the Standards. There are significant water quality issues throughout the basin that require significant consideration.

State and Federal priorities for any planning process will be for the communities to aggressively pursue alternatives for keeping wastewater treatment and disposal local. We recognize that this likely will not be an inexpensive solution for managing wastewater, but is most likely necessary in order to achieve Standards, including maintaining base flows for the protection of aquatic life in tributary watersheds.

EPA and MA DEP know of the recommendations in the 208 Water Quality Management Plans. Since they were published in the 1970s, the Agencies have become more aware that large regional treatment plants, which result in wastewater being transported away from local water sources cause the resource to diminish over time. EPA and MA DEP recommend that Towns treat their own wastewater with smaller treatment facilities or on-site septic systems whenever feasible.

The Massachusetts Executive Office of Environmental Affairs, (EOEA) has finalized a water policy for the State that recommends maximizing sources of groundwater infiltration via recharge and reuse to help maintain a community's water supply. EPA and MA DEP support the recommendations in the draft policy. Transporting wastewater out of a community to be treated it at a regional facility defeats this approach. A copy of the draft policy is on their website at http://www.mass.gov/envir.

In the last decade, growth in the southeast region of the State has caused water resources in the area to be stressed. We believe increasing the flow at the Brockton facility by having additional communities send their wastewater to the facility will cause further degradation to Salisbury Plain River.

Comment #21: Several commenters requested EPA and MA DEP assist the communities in developing an approach to manage their wastewater in the area that supports industrial and commercial growth.

Response: The Agencies are committed to assisting the communities in finding sustainable solutions for wastewater management. We recognize that extensive planning will be necessary.

Comment #22: One comment stated that base flows in the subbasin are not an issue due to the ample quantity of water in the watershed.

Response: We do not agree that there is ample base flow in the subbasins in this watershed. The Taunton River has been identified as a stressed basin by the State and a detailed accounting of inflows and outflows would likely indicate that many subwatershed reaches are significantly stressed.

Comment #23: Comments were submitted requesting that Abington and Whitman be allowed to sell excess capacity, should it be available, to other communities in the region. The concern is that the proposed permit eliminates flexibility in the region should Abington or Whitman decide it is in their best interests to transfer a portion of their allotted 1 MGD to another community. Towns of Abington and Whitman could sell excess capacity to nearby communities and flows to the Brockton facility would remain unchanged, but the

wastewater needs of the region could be addressed, providing environmental benefit by reducing the number of failing or malfunctioning on-site septic system.

Response: Footnote #3 page 3 of the draft permit specifically states that flows from the Towns of Abington and Whitman shall originate from each Town or from another community if a Comprehensive Wastewater Management Plan has been approved and the final permit has been modified. See Response to Comments # 7. The final permit maintains this condition. Also see Response to Comments #20, and #47.

Our records indicate that this may be a minor issue given that both Whitman and Abington are fairly close to their contracted flow limit. An EPA memo in the Administrative Record, dated July 2003, provides annual average flow data from both Towns. The domestic and sanitary annual average total flow rate for Abington from January 2000 to July 2001 was 0.71 MGD and 0.77 MGD for Whitman. (See July 17, 2003 memo on Influent flow and loads to the Brockton Wastewater Treatment Facility.)
The Town of Abington provided flow data in a comment letter to the draft permit in June 2004. The Town currently produces 875,000 gallons of effluent per day, 82% of properties in Abington have municipal sewer services and 17% have equitable entitlement and direct access to use it.

Comment #24: One commenter requested that language be added to the final permit which not only eliminates any additional connections to the facility but, also terminates connections from Towns other than Abington and Whitman that have one or two properties with existing connections to the facility until Brockton can meet the needs of their own City.

Response: The Agencies have co-permitted Abington and Whitman because these Towns have town-wide sewage collection system which have contractual agreements with Brockton. We are aware of a small number of connections from other Towns, but it is our understanding that wastewater discharges from these Towns are very small, and we have prohibited new connections from these Towns. There are no restrictions in the permit relative to new connections within the City of Brockton. Please see Response #7 above.

Comment #25: The Town of West Bridgewater request that the final permit include "Specific Area Only" language that grants sewer connections to Towns that have a business associated with the Marley Street Industrial Corridor.

The Town of West Bridgewater requests that they be added as a Co-Permittee to the final permit because there is a connection from the Town to the treatment plant.

Response: The final permit does not include the Town of Bridgewater as a Co-permittee or language allowing additional connections to accommodate businesses in the Marley Street Industrial Corridor. Response to Comments #1, #19, #20 and #22 address impacts to the Salisbury Plain River that will cause further environmental degradation if the flow to the Treatment Plant is increased.

Comment #26: The Town of Abington requests priority access should capacity for additional connections become available after the treatment plant is upgraded.

Response: The Town of Abington may make whatever additional connections it believes are appropriate within the 1 MGD limit in its contract. Decisions on access to any additional future capacity will be made by the EPA, MADEP, and Brockton. EPA and MADEP will only allow additional flow from outside communities where it can be accomplished within the constraints of achieving water quality standards in the Salisbury Plain River, and also only when there is a demonstrated need as shown by Comprehensive Wastewater Planning.

Comment #27: The Agencies received several comments requesting that the City continue efforts to reduce sources of I/I as well as support of the Infiltration/Inflow (I/I) language in the permit. One commenter specifically recommended reducing I/I by having the permittee implement a leak detection and conservation program.

Response: As part of a Consent Decree with MA DEP, the City of Brockton was required to identify the existing condition of the City's wastewater collection system, identify sources of I/I, and implement sewer rehabilitation and repair measures to reduce I/I throughout the City.

In August 2000, A City Wide Sewer System Evaluation Study, was prepared by Camp Dresser and McKee (CDM) for the City which identifies problem areas and makes recommendations for improvements. The permit requires implementation of extensive I/I reduction measures.

Comment #28: The Natural Trust Resource recommended that the final permit require that any facility currently connected to the treatment facility be required to offset any increases in their flow to the treatment facility.

Response: In an effort to minimize a net increase in flow to the Brockton facility, an offset requirement for facilities currently connected to the WWTP that are not in Brockton or in the Towns of Abington and Whitman was included in the permit. See footnote #3 on page four of the final permit.

The extensive requirements related to I/I control in conjunction with the restrictions on new connections from communities outside of Brockton are expected to control flow to the facility. The City may choose to pursue an offset program for connections within its collection system in order to provide additional resources for accomplishing I/I reductions. Offset requirements within Brockton may be considered in future permits or enforcement actions if necessary to further control flow.

Comment #29: Comments were submitted from several organizations and individuals in nearby communities in support of the more stringent effluent limits, the I/I requirements, and flow restrictions language in the proposed permit.

Response: EPA and MA DEP believe these measures, in conjunction with the plant upgrades will contribute towards meeting the State's Water Quality Standards during this five year permit cycle

Comment #30: Comments were submitted from several organizations in support of year round tertiary treatment at the facility.

Response: Many of the limitations in the permit, including the phosphorus limitations are year-round. Also, see Response to Comment #29.

Comment #31: Several commenters recommended effluent limits for nitrogen and phosphorus be added to the final permit**.**

Response: The year round phosphorus limits of 0.2 mg/l in the final permit reflects 314 CMR 4.04(5) of the Massachusetts Water Quality Standards which requires control of eutrophication to be addressed with the highest and best practical treatment. The discharge from the facility is to a fresh water river therefore the nutrient of concern is primarily phosphorus.

Limits for total nitrogen are expected to be incorporated in future permit issuances to address eutrophication issues in Mt. Hope Bay. A TMDL is currently under development for Mt. Hope Bay. In addition, the treatment facility upgrade is incorporating nitrogen treatment capabilities.

Comment #32: There was a recommendation to include technology based nitrogen limits in the final permit as an interim step until the TMDL for Mt. Hope Bay has been completed.

Response: See Response to Comment #31.

Comment #33: A comment was received stating that the calculation of the monthly average as an annual average violates the anti-degradation requirement in the CWA.

Response: See Response #2 above.

Comment #34: A few comments were received recommending the facility upgrades include an ultraviolet disinfection system. Comments were received stating the TRC levels discharged into the receiving water consistently violates the permit limitation and the odor from the existing system impacts the Taunton River system up to 20 miles downstream from the discharge.

Response: The permit includes extensive new requirements on chlorine monitoring to ensure that discharges of residual chlorine are consistent with permit limits. See Response to Comment #6.

Comment #35: The schematic of the facility (figure 2) shows a bypass from the primary clarifiers to the chlorine contact chamber. Is this an active bypass? Under what conditions are flows bypassed around the advanced treatment processes directly to the chlorination process? If flows are bypassed, is the facility required to report the volume of bypassed flow to the EPA and DEP? Incorporating a requirement to record the date and volume of bypassed flows into the permit should be considered and an increase in the monitoring of certain parameters, BOD, TSS and nutrients in particular, to capture the nature of any bypassed flows.

Response: The plant does have the capability of bypassing secondary treatment. This occurs during wet weather events, and the bypassed flow is recombined with the secondary treated flow prior to disinfection. This bypassing is not authorized by the permit, and it has contributed to violations of the permits discharge limitations. Bypasses are relatively

infrequent, and the frequency is expected to further decrease in the future as the mandated I/I program is completed. The facility is required to report bypass events on their monthly discharge monitoring reports, including the volume of bypassed flow, as required in Part II.General Requirements of the permit.

While BOD, TSS, and nutrient monitoring are composite samples and are frequent enough that some samples will include bypass periods, bacteria sampling may not reflect bypass periods. We have added a requirement in the final permit for an additional bacteria grab sample during all bypass events to be collected at a time when the final discharge is representative of bypass conditions.

Comment #36: The Fact Sheet notes the facility uses sulfur dioxide gas to dechlorinate effluent but details of the process are not provided; such as where the gas is added or the length of contact time between the gas and effluent under the range of flows seen at this facility. The DMR data show the facility has had some elevated fecal coliform levels in the effluent in addition to high residual chlorine concentrations. One could infer there may be an issue with the design of the chlorination - dechlorination process or issues with operation. It would be helpful to have more specific information about the process to assess the efficacy of the methods used to chlorinate and dechlorinate. If problems in meeting limits imposed in the NPDES permit persist, it is hoped an assessment of the chlorination-dechlorination process is undertaking and improvements made to bring the facility into compliance consistently.

Response: Sulfur dioxide, used to dechlorinate the effluent after chlorination, is added through diffusers at the end of the chlorine contact tanks. Sulfur dioxide when mixed adequately with chlorine, reacts instantaneously so there is no contact time required. Please also see Response to Comment #6.

Comment #37: The facility description notes the facility offers seasonal nitrification and phosphorus removal. The draft permit appears to institute year-round phosphorus removal. We highly support a year round concentration and loading limit for phosphorus and welcome this addition to the draft permit. The effluent from this point source is often a majority of the flow in the receiving water and the receiving water is tributary to a large sensitive systems including the Wild and Scenic study area of the Taunton River and Mount Hope and Narragansett Bays. A year round phosphorus limit will help limit the accumulation of phosphorus in the sediments in the river system, reduce the likelihood of early seasonal growth of algae which can be detrimental to aquatic life and habitat including the successful spawning of anadromous fish and may help reduce some of the impacts associated with artificially elevated phosphorus limits in a fresh water system.

Response: The permit does require year-round phosphorus removal. Also see Response to Comments #4 and #31.

Comment #38: The flow design capacity of this facility is listed as 18 mgd in the Fact Sheet. The discharge monitoring data provided and the recent flow average listed in the Fact Sheet indicate this facility routinely exceeds 18 mgd daily maximum and as a monthly average. Given the frequent exceedances of design capacity, particularly in certain seasons, instituting a rolling annual average to determine the monthly flow average appears to be a case of backsliding since monthly averages are likely to be tempered in the traditionally

higher flow months. We have expressed our opinion concerning this matter in comment letters on other draft permits. The New England region is noted for many things, most certainly our diverse seasons. Having a monthly flow average that is flattened by annual averaging muddles the actual monthly average contribution in relation to seasonal aquatic activity and flow regimes. This is a significant loss to ones ability to assess effluent impacts and understand the operating issues at a facility. This change will also obfuscate assessments of progress made in the reduction of I/I in the system. We reiterate our opinion that this change in calculation methods for monthly average flows violates the anti-degradation requirements contained in the Clean Water Act.

Response: The reporting requirement for flow is now expressed as an annual average, rather than a monthly average as in the current permit. This change is being made to all POTW permits in MA at the request of MADEP. The purpose of this change was to allow some variation in POTW flows in response to wet weather, and in recognition that the flow rate used as the monthly average is in most cases presented in the treatment plant planning documents as an annual monthly average. As part of this change in how flow limits are written, DEP and EPA agreed that mass limitations for BOD and TSS should be included as permit conditions to ensure that existing controls on mass discharges of BOD and TSS were maintained, in order to prevent degradation of the receiving water. We have also strengthened the I/I requirements of the permit to ensure that the permittee maintains efforts to minimize extraneous flows to the collection system.

EPA believes this policy change does not constitute "back-sliding" or require State antidegradation review.

Comment #39: The discussion of the reporting requirements for conventional pollutants in the Fact Sheet states the requirement for BOD_5 will remain the same. Reporting requirements for CBOD appear in the draft permit but there is no obvious BOD_5 report requirement in the draft permit. Assigning CBOD limitations and monitoring requirements is understandable and appropriate given the nitrogen removal done seasonally at this facility. None-the-less, the Fact Sheet seems to indicate the nitrification is only seasonal so a year-round monitoring and reporting requirement for BOD_5 is warranted and may be a better measure of the facility's operating efficiency when nitrification is not part of the treatment process. BOD_5 monitoring and reporting requirements should be added to the permit at the same frequency and with the same sampling requirements as CBOD. Some consideration should be made to adding a BOD concentration and loadings limits to the permit during seasons when nitrogen removal is not being done at the plant.

Response: The permit includes year round ammonia limits. Consequently, CBOD is an appropriate measurement for biochemical oxygen demand.

Comment #40: The 60 day rolling average for phosphorus is a typical as most POTWs with nutrient monitoring and limitations have monthly averages. Why has a 60day rolling average been chosen for this facility? How is the monthly average for P currently determined? The start date of April 1 is also not explained; shouldn't the averaging start 60 days after the NPDES permit renewal is finalized and the final permit issued?

Response: Please see Response to Comment #4. The 60 day rolling average limit is a reasonable relaxation from a monthly average limit in that it allows for greater flexibility relative to infrequent short term exceedances of the permit limit that may be difficult to prevent

while protecting water quality standards. Short term exceedances are unlikely to result in a significant response in the receiving water relative to aquatic plant growth. Longer term exceedances which would elicit a response in plant growth would also likely result in a violation of the rolling average limit. The rolling average ensures that any reduction in treatment efficiency is responded to quickly. The rolling average allows for unavoidable excursions while ensuring that the excursions are only short term. A requirement to report the monthly average value has been included in the permit.

Comment #41: As the Fact Sheet indicates, the phosphorus load in the Salisbury Plain River is well above the EPA recommendations for this ecoregion. The elevated concentrations are not limited to the Salisbury Plain River, the monitoring done by the Taunton River Watershed Alliance and the Water Access Lab at Bridgewater State show problems continuing downstream. Given this data, the year round phosphorus limit and reporting requirement is a sound decision and one that will help protect the water quality of the receiving waters.

> It is regrettable no numeric limits exist in the MA water quality standards since the Salisbury Plain River is a part of the larger Taunton River and Narragansett Bay watershed and this facility discharges a significant load of nitrogen on a daily and annual basis. The RI DEM has Mount Hope Bay (segment RI0007032E-01-62-1998) listed as impaired for pathogens, nutrients and hypoxia. Mount Hope Bay is downstream of the Brockton discharge. In general the Taunton River estuary and the greater Narragansett Bay are nitrogen sensitive embayments. Given the impaired status of downstream waters and data from the Water Access Lab showing nitrate nitrogen loads of greater than 300,000 g/day below the Brockton treatment facility, it is likely nitrogen from this facility is contributing to the nutrient problem in the impaired Mount Hope Bay segments and of the greater Taunton River and Narragansett Bay watershed. More frequent monitoring during the warm weather months would provide more data for TMDL development and help monitor the efficacy of the nitrification process at the facility. We would like to suggest twice monthly monitoring of nitrate and TKN at this facility between May 1 and October 31.

Response: The monitoring requirements in the final permit have been increased to two per month for nitrite/nitrate and TKN.

Comment #42: Comments were received advocating for nitrogen concentration and loads limits for this facility, (nitrate and TKN). The data collected by Water Access Laboratory (WAL) at Bridgewater State College and the Taunton River Watershed Alliance (TRWA) show the majority of nitrogen in the lower Taunton River is from this point source, (TWRA Water Quality Report, 1999-2000). The plant is most likely one of the two largest Massachusetts sources of nitrogen to Narragansett Bay, the other being the Upper Blackstone Regional Wastewater facility. Beginning to lower the loadings of nitrogen to the estuarine and coastal areas of the Taunton and Narragansett Bay is a pro-active measure and a warranted one. It seems inevitable that a TMDL done for these waters will require a reduction in nitrogen loading, adding some nitrogen limits in this permit is a recognition of this probability.

Response: See Response #31.

Comment #43: The chlorine limits and the monitoring requirements for this facility are sound. Continuous monitoring is an important addition as it will help to prevent temporary elevated TRC concentrations with the potential to have a toxic affect on the aquatic ecosystem of the receiving waters. A daily check of the accuracy of the continuous monitor are also a sound idea to guarantee there are no unwitting problems with elevated TRC and it offers a level of redundancy to the testing of this pollutant. A possible TRC related concern is the odor often present near and even well downstream of the facility. The odor may be a product of the facility's chlorination-dechlorination method. While not a visual aesthetic concern, objectionable odors do impacts users and potential users of the Salisbury Plain River even the Matfield and Nemasket. Can the permit be modified in any manner to address what is perceived by many to be an objectionable and pervasive problem?

Response: See Response to Comments #6 and #34. The Massachusetts Water Quality Standards for Class B waters prohibit odor in concentrations or combinations which are aesthetically objectionable, that would impair use assigned to Class B waters, or cause tainting in the edible portion of aquatic life.

The upgrades to the facility which include improvements for sludge storage, the sludge thickening and dewatering process and the headworks will all contribute to the elimination of odors emanating from the facility

Comment #44: The additional two sets of toxicity tests for flow events above 30 mgd is a valuable supplement to the permit requirements as this facility has had several flow events in excess of 30 mgd and many of the permit limits are calculated using the dilution factor based on the 18 mgd design flow. The toxicity testing, while unable to capture all of the impacts possible from an effluent discharge, is able to integrate factors including those constituents not monitored and the affects of different interactions between pollutants. The toxicity testing methods are not infallible indicators of chronic or acute toxicity issues. For example: test solutions are renewed daily but effluent collection is done on days 1, 3 and 5. This infrequent collection of test water could result in some changes to the effluent sample water used as test solutions including reductions in concentrations of volatile pollutant such as TRC. This is something to consider when reviewing the toxicity test results for this facility which has had historic compliance problems with its TRC concentrations.

Response: We acknowledge the points made in the comment and agree that toxicity testing methods are not infallible indicators of chronic or acute toxicity. This is one of the primary reasons that toxicity testing is supplemented with chemical specific limits. It should be noted relative to chlorine that the timing of effluent collection is irrelevant since samples are dechlorinated before the test. The toxicity of chlorine is well understood and that is the reason for the stringent permit requirements relative to chlorine. Toxicity testing is designed to determine the presence of unknown toxicants and/or the synergistic effects of multiple toxicants.

Comment # 45: The Fact Sheet has a summary of DMR data in Table 1. The data for the toxicity tests lists information for only three dates. The EPAs on-line PCS data base has test results for several additional dates in the recent past. The facility has a more problematic compliance report when this on-line data is considered. The LC50 results of 1/03 is listed as 58.6%, 12/02 was listed as both 70% (report designator B) and 72.5% (report

designator T). The results for the NOEL went as low as 12.5% in 9/03 to 25% in 12/02 and 50% on 4/30 and 6/02. The facility's effluent appears to have acute and chronic toxicity. Testing is not done monthly so one or two noncompliant tests can translate to 25 or 50% failure rate for the year. Has the facility attempted to determine the cause of toxicity? Given some of the low survival numbers from some of these tests, (12.5%, 25%) in-stream monitoring of the aquatic community would provide insight into the impacts the effluent has on in-stream aquatic organisms. An in-stream monitoring program should be considered as a supplement to the lab testing. The facility should also perform a thorough assessment and analysis to determine the probably cause(s) of the toxicity being uncovered by the LC50 and NOEC testing and implement corrective measures.

Response: The Agencies agree that the record of compliance with whole effluent toxicity requirements has been poor. The permit continues to require six tests per year including two during high flow events. Mandated improvements in the pre-treatment program as well as significant upgrades at the treatment facility are expected to greatly reduce effluent toxicity. Toxicity Identification Evaluations and Toxicity Reduction Evaluations may be required if toxicity persists. Instream monitoring for toxicity is conducted periodically by MADEP. While this monitoring is relatively infrequent, it is appropriate for monitoring the results of significant pollutant reductions such as will occur over the life of this permit.

Comment #46: The permit is requiring an I/I removal program which we heartily support. The facility receives a significant volume of I/I according to studies completed by the permit holder, this I/I problem is also easily inferred from the flow data for the plant. And the seasonal peaks seen in the flow volume. The data illustrates the need for aggressive I/I removal for this system. We would like to ask that the I/I plan required by the draft permit be made available to interested individuals and entities for review when it is completed. A suggestion for an inclusion in the I/I plan is to include a prioritization of discrete projects and a clear outline of the decision making structure and the criteria used to determine the priority for each I/I reduction project.

Response: Once submitted by the permittee, the I/I plan will be part of the administrative record and available to the public for review. MA DEP recently approved a City Wide Sewer System Evaluation Study (SSES) to address I/I that was prepared by the City. The report is very detailed and provides specifics on project priorities, and the criteria used to determine the priorities. It is available for public review at MADEP and EPA.

Comment #47: Many commenters were supportive of language in the draft permit restricting flow at the facility until the receiving water meets State Water Quality Standards for Class B waters.

Response: The final permit addresses flow by including mass limits in the final permit, requiring implementation of an I/I reduction plan, and restricting an increase in additional wastewater being treated at the facility.

EPA and MA DEP believe, these measures in conjunction with the plant upgrades will contribute towards minimizing further degradation of the Salisbury Plain River and move closer toward meeting the State's Water Quality Standards during this five year permit cycle.

Comment #48: The decision to restrict new flows to the facility including a ban on expanding the service network for this facility is definitely supported. The facility has many issues from an average influent flow well above the design capacity of the plant to problems meeting existing NPDES permit limits to a dilution factor of less than 1.5. Additional flows can only exacerbate problems and negatively affect the receiving waters. Requiring, to the extent feasible, an offset of new flows from within the existing wastewater system with equivalent reductions in I/I is also a sound idea and perhaps the concept could be refined to require a reduction in I/I to offset new flows above the reduction milestones included in the I/I report. This would guarantee general I/I remediation at a pace set by the plan without losing ground when a new flow is added from the current service area.

Response: See Response to Comment #47.

Comment # 49: In the section of the draft permit covering the industrial pretreatment program, we would like to recommend an additional clause to part 1.c :Obtain appropriate *and implement* remedies for noncompliance by an industrial user.

Response: The pre-treatment program requirements include provisions for enforcement of non-compliance by industrial users.

Comment #50: Comments were received questioning the length of time needed before the Salisbury Plain River meets water quality standards and what justification the Agencies have in issuing this NPDES permit that will not meet water quality standards.

Response: Many variables can contribute to a water body not achieving its assigned water quality standards. Large scale reductions in dry weather and wet weather point source pollutant loadings will be necessary to achieve Standards in the Salisbury Plain River. This permit, as well as the Phase II stormwater permit, will result in significant reductions in dry weather and wet weather pollutant loadings but if further reductions are necessary the permit may be modified or revoked and reissued with more stringent limits if cause exists, pursuant to 40 CFR 122.62.

Comment #51: Many commenters expressed concern over the impact of nutrients in the Taunton River and Mt. Hope Bay stemming from this facility and the impact nutrients are having on biodiversity in the watershed. There were several requests for the final permit to have effluent limitations for TKN and nitrate/nitrite.

Response: See Response to Comment #31.

Comment #52: Are the limits in the draft permit sufficient to ensure the Salisbury Plain River will meet state water quality standards for Class B waters? Is the stream flow of the Salisbury Plain River sufficient to assimilate the volume of pollutants in the wastewater from the treatment plant under all flow conditions?

Response: In general, if the discharge meets the effluent limitations in the draft permit the water quality of the receiving water should meet the State Water Quality Standards for Class B waters in Massachusetts.

The most uncertainty involves phosphorus and the lack of a numeric phosphorus criteria in the Standards. A future TMDL or water quality analysis, or the adoption of a numeric

phosphorus criteria in the Standards, may result in a more stringent phosphorus limit in the future. The permittee has been advised to implement phosphorus removal technologies that are compatible with additional technologies that may be necessary in the future.

Comment # 53: One commenter recommended that flow limits should be included in the final permit as well as prohibiting new sewer connections from other communities due to the environmental degradation of the River. Two commenters questioned whether the in-stream flow of the Salisbury River will meet water quality standards if the City of Brockton can continue to increase flows to the Salisbury Plain River.

Response: The Agencies agree that an increase in effluent flow to the River is unacceptable and the prohibition on new sewer connections from communities outside of Brockton, Abington, and Whitman, as well as the requirements for I/I reduction will remain in the final permit. Flow limits may be included in future permit issuances if necessary to control flow. Please see Response to Comments #1, #7, #19, #20, and #22.

Comment #54: There were comments submitted referring to the limited dilution available in the receiving water and comparing more stringent dilution ratios used for treatment plants in the State of Maine.

Response: Dilution ratios for NPDES permits in Massachusetts are based on Massachusetts Water Quality Standards pursuant to 314 CMR 4.03(3)(a). The regulation requires dilution calculations for NPDES permits be calculated using the receiving water 7Q10, the lowest observed mean river flow for seven consecutive days recorded over a ten year period, and the plant design flow.

Comment #55: Water quality monitoring results were submitted from local watershed groups documenting detrimental impacts the effluent from the facility is having on the receiving water, the sub-watersheds, the Taunton River watershed, Narragansett Bay and Mt Hope Bay.

Response: See Response to Comment #31.

Comment #56: It was recommended that the plant's flow be increased by 20% to reflect the upgrade and expected sustained higher quality effluent.

Response: See Response to Comments #1, #19, #20 and #22.

Comment #57: It was recommended that the final permit include restrictive language to allow selective sewering while maintaining groundwater and stream flows by requiring comparable amounts of stormwater recharge in the sub-basins.

Response: See Response to Comment #19, #20 and #22.