New York City Watershed Program
Information Bulletin No. 7
Facility Plan Guidelines

This bulletin is intended to guide you, the WWTP Owner, and your selected Engineer, through the development of an approvable Facility Plan. Please refer to the following documents as you prepare for this process:

- Sections 2.2.1, 2.2.1.5 - 2.2.1.6.1, 2.2.2 - 2.2.2.2 of the Scope of Engineering Services, in Appendix A, Attachment A, Section 2 of the Upgrade Contract
- Appendix A, Attachment A, Section 7 of the Upgrade Contract, the Preliminary Engineer's Scope of Work
- Chapter 10 of Recommended Standards for Wastewater Facilities, 1990 (Ten States Standards)
- NYCDEP Technical Bulletins

The Facility Plan portion of the Preliminary Upgrade Plan commences upon NYCDEP's approval of the Conceptual Upgrade Plan. The major milestone (M5) associated with this phase is the submittal of an approvable Facility Plan, which must occur within three months of the date EFC authorizes you to begin work on the Facility Plan. EFC requests that four copies of the Facility Plan be provided, and that the copies be accompanied by the WWTP Owner's written acceptance of the Facility Plan.

Please note: As with all key documents, the Engineer **must** submit the Facility Plan to you, the WWTP Owner, for review and acceptance prior to submission to EFC. The Facility Plan must be accompanied by a transmittal letter from you indicating acceptance of the Facility Plan.

FACILITY PLAN PREPARATION AND SUBMITTAL

The Facility Plan must include the following information for the NYCDEP-approved Project Approach:

I. Evaluation of the existing WWTP and proposed modifications as required by Chapter 10 of Ten-States Standards (1990) for a Facility Plan. Through this evaluation, the Engineer should address comments included on the NYCDEP CUP approval letter, as applicable. Additionally, depending upon the NYCDEP-approved Project Approach, this evaluation may include:

   A. Technology/equipment selection analysis: This should include an evaluation of microfiltration and NYCDEP-approved equivalent alternatives, and other process treatment modifications being proposed, as applicable. The Engineer should provide a thorough and detailed evaluation of both the microfiltration and NYCDEP approved equivalent technology alternatives. This evaluation should include detailed cost estimates for equipment, installation, and operations and maintenance for

each technology. The Engineer should also provide a qualitative and quantitative evaluation of the limitations, advantages and disadvantages of the various alternatives based on conditions associated with the specific project.

B. The Engineer should provide a listing of all proposed Regulatory Upgrade Program modifications along with the Preliminary Engineer's Scope of Work item to which they are attributed. In addition, the Engineer should provide a description, including design calculations and/or sizing criteria, of each modification required to achieve each upgrade item listed in the Preliminary Engineers Scope of Work required to bring the facility into compliance with the Watershed Rules and Regulations, as applicable.

C. As approved by NYCDEP, Hydrogeologic Investigation information produced in accordance with Section 3 of the Scope of Engineering Services, if applicable. (See Below)

II. Revised schedule: The Engineer should provide a revised schedule for design, construction, and achieving compliance with the Watershed Rules and Regulations. The schedule should be accompanied by a narrative description of the Engineer's plans to ensure that the project is completed by May 2002, along with the identification of possible circumstances that may result in delays and recommended actions to prevent such delays.

III. Cost Analysis for Project Approach. (Present Worth Analysis) The basis for each cost item should be included with the analysis. Basis of information should be in the form of either individual references (Means, engineer's experience with previous projects, etc.) or actual vendor quotes. This should include the total present worth and individual itemizations for the following components:

A. Opinion of probable construction cost

B. Opinion of total annual operation and maintenance (O&M) costs

1. Show portion of annual O&M costs that is for existing equipment and treatment, based upon information provided by the owner.

2. Show portion of annual O&M costs that is the incremental costs for newly installed Upgrade Program equipment. In addition, calculate the present worth of the incremental O&M costs using the NYCDEP stipulated interest rate of 6% and a life estimate of 20 years.

C. Design and professional services as currently approved under the Upgrade Program.

D. Allowances for other items and services included in project approach costs (e.g. Force Account and Administrative Consultant costs)

E. Breakdown of cost components listed under A-D above, showing as applicable, the portion attributable to:

1. Regulatory Upgrade Program
2. SPDES Upgrade Program (for West of Hudson facilities **only**)
3. Costs unrelated to these programs (ineligible costs)

IV. Summary/Comparison of available technologies, as applicable, and recommendation of a selected final design approach.

V. Items **NOT** required for inclusion in the Facility Plan. These items will be prepared after approval of the Facility Plan during the PUP phase.

A. Contract Specifications
B. Plan of Operation (except as required by Chapter 10 of Ten States Standards)
C. Startup Plan
D. Operations & Maintenance Manual
E. Complete or detailed design plans

HYDROGEOLOGICAL INVESTIGATIONS

The Hydrogeological Investigations work is to be performed in accordance with Section 3 of the Scope of Engineering Services and should be performed as part of the Facility Plan. These services may only be performed by those qualified under this program for Hydrogeological Investigations.

If subsurface disposal is the approved CUP approach, it is strongly recommended that the Engineer meet with NYCDEP and EFC to discuss NYCDEP's regulatory role during the Hydrogeological Investigation prior to commencing work on the Hydrogeological Investigation.

With the written approval of or at the written direction of NYCDEP, the order of tests outlined in the Engineer's Scope of Work Section 3 may be altered or individual tests may be deleted.

The results of each of the three phases (included in the Scope of Engineering Services as 3.1.1, 3.1.2, & 3.1.3) outlined below are to be forwarded through the WWTP Owner to EFC for review and NYCDEP approval. EFC requests that 3 copies of each deliverable be provided, and that the copies be accompanied by the WWTP Owner's written acceptance of the deliverable.

The Engineer should not begin work on a subsequent phase until the most recent phase has been approved by NYCDEP. In the event that NYCDEP determines subsurface disposal to be unsuitable, the Engineer shall incorporate the findings of unsuitability into

the Facility Plan and proceed with a different project approach in the Facility Plan as directed by NYCDEP.

Phase I (3.1.1) of the Hydrogeological Investigation is primarily a desktop literature/resource review and visual site investigation. Standard resources already available, such as soil maps, land use and zoning maps, USGS maps, well logs, etc. should be utilized to determine the potential of the site for subsurface treatment and disposal. The information from these resources is verified where possible by a site visit. No actual soil borings or tests are to be performed in Phase I. If the Engineer is proposing to proceed with Phase II of the Hydrogeological Investigations, the Engineer shall include in the Phase I report (Sec. 3.1.1.5) the proposed number of shallow soil borings and percolation tests to be performed in Phase II.

Phase II (3.1.2) begins the on-site soil testing and hydraulic evaluation to determine the suitability of the site(s) for subsurface treatment and/or disposal of wastewater. The investigations are intended to characterize the suitability and variability of the subsurface layers, and perform percolation testing. The first item to be performed under this phase should be the percolation tests. Based on the results of these tests, if subsurface disposal continues to appear viable, the required area (and subsequent number of required shallow soil borings/test pits) shall be adjusted, as necessary, to meet the requirements of section 3.1.2.1 of the Scope of Engineering Services.
The report required following completion of this phase, in addition to reporting the results of the field testing, and assuming subsurface disposal continues to appear viable, should include the Engineer's proposed course of action (field sampling, etc) to comply with the requirements of Phase 3 (3.1.3).

Phase III (3.1.3) continues and expands upon the on-site soil testing and hydraulic evaluation begun in Phase II, to determine the suitability of the site for subsurface treatment and/or disposal of wastewater. The investigations are intended to determine depth to groundwater and groundwater quality, measure parameters such as hydraulic conductivity, transmissivity, specific yield, infiltration rate, response to hydraulic loading, and groundwater mounding. The Engineer will use the results of the Phase III investigations to draw conclusions concerning the suitability of the site(s). The findings of Phase 3 will be incorporated into the Facility Plan.

Note: This bulletin is only intended to serve as a guide for your reference when preparing your Facility Plan. Please remember that your proposed Facility Plan is subject to NYCDEP review and approval. Therefore, additional information and/or submissions may be requested by NYCDEP prior to you receiving approval of your Facility Plan.

Please refer any questions regarding the Study and Report Phase to:

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