New York City
Department of Environmental Protection
Bureau of Water Supply

Applicant's Guide
to
Wastewater Treatment Plants

January 2022

Applicant's Guide
to
Wastewater Treatment Plants
Table of Contents

1.0 INTRODUCTION

The "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources" (**Watershed Regulations**)[1] provide standards for the review and approval of plans for the construction, modification or expansion of wastewater treatment plants (**WWTPs**).[2] Applicants must obtain approval from the New York City Department of Environmental Protection (**Department or DEP**) for new WWTPs, or modifications or expansions of existing WWTPs.

This guide was developed to assist in preparing applications for Department review, and to help expedite the review process. Section 3.0 describes the requirements for review and approval of WWTPs. Appendix A provides an application checklist, and Appendix B contains the application form for review and approval. A copy of the Watershed Regulations may be obtained from the Department offices listed on page 2 of this guide, or on DEP's website: https://www1.nyc.gov/site/dep/environment/regulations.page. Where discrepancies exist between this guide and the Watershed Regulations, the Watershed Regulations will prevail.

The Watershed Regulations require that all WWTPs are compliant with the Watershed Regulations.[3] In order to facilitate this process, the City has arranged for the New England Interstate Water Pollution Control Commission (NEIWPCC) to work with owners of WWTPs. NEIWPCC is providing technical assistance to WWTP owners and serves as a liaison between the owner and the Department in designing, permitting, constructing, and installing WWTP upgrades required solely by the Watershed Regulations and not otherwise required by New York State or federal regulations, and in disbursing the funds to pay for such upgrades. For further information about this program, please contact the WWTP Upgrade Program Manager at (845) 340-7267.

2.0 APPLICATION PROCESS

Except for regulatory upgrades processed through NEIWPCC as noted above, applications for review and approval by the Department under the Watershed Regulations[4] are subject to the following process. A flow chart depicting the time frames and the application process is attached as Appendix D.

STEP 1 - OPTIONAL PRE-APPLICATION CONFERENCES

Prospective applicants may meet with Department representatives before submitting applications for review and approval to discuss proposed regulated activities, regulatory requirements, and the application process. The Department believes that pre-application conferences benefit both applicants and the Department, and therefore encourages applicants to include the Department early in the project planning stage. At the pre-application conference, an applicant may also request that the Department visit the applicant's site and flag any watercourses that may affect the project.

---

[1] Title 15 Rules of the City of New York, Chapter 18 (Watershed Regulations).

[2] For a definition of this term, please see the Glossary, Appendix C.

[3] Watershed Regulations §18-36.

[4] Watershed Regulations §18-36 and §18-37.

To request a pre-application conference, contact the appropriate Department office listed below:

East of Hudson

Regulatory and Engineering Programs
DEP
465 Columbus Avenue
Valhalla, NY 10595
Phone (914) 749-5266

Kingston Region (Projects in Greene, Schoharie & Ulster Counties)

Regulatory and Engineering Programs
DEP
71 Smith Avenue
Kingston, NY 12401
Phone (845) 340-7214

Arkville Region (Projects in Delaware and Sullivan Counties)

Regulatory and Engineering Programs
DEP
County Highway 38, Suite 2
Arkville, NY 12406
(845) 771-1119

Request to Flag Reservoir, Reservoir Stem, Controlled Lake or Watercourse

Under the Watershed Regulations, property owners and applicants may request that the Department flag the presence of any watercourse, reservoir, reservoir stem, or controlled lake on the property.[5] Identification of such bodies of water is key to determining how the Watershed Regulations apply to many of the activities discussed in this guide. The Department will fulfill the request as soon as field schedules permit. Owners or applicants may also supply a surveyor's field map which includes representations of flagged watercourses, reservoirs, reservoir stems or controlled lakes. The Department will review the surveyor's map and confirm it within 20 business days for applicants, and as soon as practicable for other property owners. Following Department confirmation, the survey map will be valid and binding upon the Department for five (5) years following the date of confirmation. Contact the Department at the above-listed offices to request flagging.

The Watershed Regulations address only those wetlands mapped by the NYSDEC. Applicants should consult with the United States Army Corps of Engineers (ACOE) and local authorities to determine if there are federally and/or locally designated wetlands, and if so, what restrictions may apply. The Department does not delineate wetlands. To establish the boundaries of a wetland, property owners must contact DEC, ACOE, or local authorities.

STEP 2 - APPLICATION SUBMISSION

Applications for review and approval of activities governed by the Watershed Regulations may be submitted to either of the Department offices noted above by mail, or in person between the hours of 8:30 a.m. and 4:30 p.m., Monday through Friday. A checklist of all elements necessary for the Department approval is attached as Appendix A, and a copy of the application form is attached as Appendix B. One or more of the elements may not be necessary depending upon the individual circumstances. An applicant is encouraged to

[5] Watershed Regulations § 18-23(b)(5) and (6).

discuss the level of information required with the Department prior to submission. There are no application fees.

STEP 3 - DETERMINATION OF COMPLETENESS

When the Department receives an application, it will review the application and within twenty (20) calendar days after it receives an application, determine if the application contains all information necessary to be considered complete. Section 3.0 of this document identifies the application requirements. Within twenty (20) days the Department will notify applicants either that the application is complete and that the Department has commenced its review, or that the application is incomplete, in which case the Department will specifically request the additional information that is needed before the review can proceed. If additional information is requested, the Department will notify the applicant whether or not the application, including the additional information, is complete within ten (10) days of receiving the requested information. Once it has asked for more information, the Department will request further information only if the additional information submitted by the applicant raises new questions. The Department may also request further information in the following situations: (1) false or misleading information has been submitted; (2) a change in relevant law has occurred; (3) changes have been proposed for the project; (4) there is a new applicant; or (5) the applicant's owner or sponsor has changed.

If the Department fails to notify the applicant within these time periods, the applicant may inform the Department of its failure to do so by writing to the Department office identified above, by certified mail, return receipt requested. In order to expedite this process, the notice should contain the applicant's name, the project name (if applicable), the location of the project, and the office where the application was filed. If the Department does not notify the applicant as to completeness within ten (10) business days of receiving the applicant's certified letter, the application will be deemed to be complete as of the eleventh day.

After it determines that an application is complete, the Department will begin its review to determine whether the proposed construction, expansion, or modification of the WWTP meets the standards set forth in the Watershed Regulations.

STEP 4 - DETERMINATION: APPROVAL OR DISAPPROVAL

The Department will notify applicants in writing of its determination to approve or disapprove an application within forty-five (45) days following the notification that the application is complete. The forty-five (45) day time period does not begin until any additional information, if requested by the Department during Step 3 above has been supplied, and the Department has notified the applicant that the application is complete. If the Department issues a comment letter, the time period is suspended from the date the letter is issued until the Department receives a revised plan or written response from the applicant. The time period may be extended by mutual agreement between the applicant and Department. A determination to approve may include conditions of approval.

If the Department fails to provide notification to the applicant of its determination within the forty-five (45) day period, the applicant may inform the Department of its failure to do so by writing to the Department office identified above, by certified mail, return receipt requested. The notice must contain:

- the applicant's name;
- the location of the proposed project;

- the project name (if applicable);
- the office in which the application was filed; and
- a statement that a decision is sought in accordance with the Watershed Regulations § 18-23(d)(6).

Any notice which does not contain the above information will not invoke this provision. If the Department fails to provide a determination to the applicant in writing within ten (10) business days of receipt of such a notice, the application will be deemed approved subject to the standard conditions for that approval.

Department approval of construction plans for wastewater treatment plants will expire unless construction is completed within five (5) years of the date of issuance of the approval.[6] Prior to the expiration of the approval, a request for an extension of the approval for the project or activity may be submitted to the Department. Once an approval expires, it may be resubmitted to the Department for consideration of a new approval.

The Department may condition its approval on the applicant providing a bond or an equivalent guarantee, covering the full cost of construction, and an additional bond for the payment of labor and material. In addition, the Department may require a bond for the operation and maintenance of the facility for five years following construction. This does not apply when the owner or operator is a village, town, county, or city.

State Environmental Quality Review Act (SEQRA):

If the project is subject to review under SEQRA and the Lead Agency for the project has determined that the project may have a significant impact on the environment pursuant to the SEQRA regulations, the time periods specified above for determinations will be suspended until a Final Environmental Impact Statement has been issued by the Lead Agency and submitted to DEP. DEP will consider a project that requires SEQRA review as whole and will attempt to make determinations regarding all applications relating to such a project concurrently. DEP must issue its own Findings Statement before issuing an approval for any project that was subject to an Environmental Impact Statement.

3.0 APPLICABILITY

This section applies to any expansion, alteration or modification of a new or existing wastewater treatment plant.

It is the responsibility of the applicant to submit the proper Department application forms, project plans and complete details to the appropriate Department office. Approval by the Department does not eliminate the need for approval(s) by other agencies where required. The applicant is responsible for obtaining any such approvals.

3.1 DESIGN AND SITING REQUIREMENTS

The designs, plans and specifications for the construction of a new WWTP, or the expansion or alteration or modification of an existing WWTP require the review and approval of the Department.

[6] Watershed Regulations § 18-36(a)(14).

3.1.1 DESIGN STANDARDS

Design standards for the development of WWTPs are set forth in the following documents, which are available online:

- New York State Design Standards for Intermediate Sized Wastewater Treatment Systems NYSDEC (2014) https://www.dec.ny.gov/permits/95768.html.
- "Recommended Standards for Wastewater Facilities," Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers (2014), (Ten State Standards) https://www.broward.org/WaterServices/Engineering/Documents/WWSTenStateStandardsWastewater.pdf.

3.1.2 DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE REQUIREMENTS

All new and existing WWTPs must provide the following to insure uninterrupted operation:

- Standby power sufficient to run the entire plant in the event of a power failure. The power supply must be equipped with an alarm and automatic start-up capability;
- A disinfection system with backup units, an alarm, and equipment which will insure uninterrupted processing of the plant flow;
- Electrical and/or mechanical backup equipment with automatic start-up capability;
- A flow meter with a recording device;
- Alarm systems with telemetering to a central location with around the clock operator presence; and
- All vital plant structures, mechanical and electrical systems located or designed within the 100-year flood plain (as defined by the Federal Emergency Management Agency Flood Insurance Rate Map) must be protected from damage from a 100-year flood. Such structures and systems must be designed to remain fully operational in a 25-year flood.

WWTPs with subsurface discharges located in the New York City watershed must meet the following additional requirements:

- An additional area of at least 50 percent of the absorption area must be set aside as a reserve area;
- At least one percolation and one deep hole test must be performed in the primary and reserve areas. The applicant must notify the Department, in writing, of the location and time of the tests at least seven (7) business days in advance;
- The use of pumping, mechanical dosing, or other mechanical devices requires a pump chamber equipped with an alarm to indicate malfunctions, a backup pump, and any other safety equipment required by the Department to prevent overflow; and

- A mounding analysis must be completed for systems with flows greater than 5,000 gallons per day (gpd).

3.1.3 TREATMENT REQUIREMENTS

Phosphorus Removal

All WWTPs with either surface discharges or subsurface discharges must provide phosphorus removal to meet the following requirements:

Permitted Flow (gpd)	Total Phosphorus Limit (mg/l)
≤50,000	1.0
>50,000 and <500,000	0.5
≥500,000	0.2

Disinfection

All WWTPs with surface discharge must provide disinfection. In addition, disinfection must also be provided for WWTPs with permitted subsurface discharges greater than 30,000 gpd.

Sand Filtration

All WWTPs with either surface or subsurface discharge must be designed to include sand filtration. Sand filtration or a Department approved alternative technology to sand filtration must be installed in units of sufficient size and number, consistent with the design standards listed in the references in Section 3.1.1 above, to ensure that the flow they are designed to accommodate can be processed in the event that the largest such unit is off line.

Pathogen Removal

All WWTP with surface discharges must be capable of achieving 99.9% removal and/or inactivation of Giardia lamblia cysts and 99.99% removal and/or inactivation of enteric viruses. In connection with this requirement, all surface discharging WWTPs must provide microfiltration or a Department approved equivalent.[7] The Department has approved dual sand filtration as an equivalent for microfiltration on a limited, case by case basis.

Subsurface Discharge

For WWTPs with subsurface discharges, the loading rate to the disposal area may be 25% greater than the loading rates specified in the design standards listed in the references in Section 3.1.1 above. Similarly, as the subsurface area is for disposal only, a 50% reserve area may be specified, as well as certain galley-type systems. However, subsurface disposal areas for new and expanded WWTPs may not be located within 100 feet of a watercourse or wetland, or within 500 feet of a reservoir, reservoir stem or controlled lake.

[7] §§18-36(d)(2)(ii); 18-36(e)(2)(ii).

3.1.4 SITING RESTRICTIONS FOR WWTPS

New WWTPs with surface discharges into a reservoir, reservoir stem, controlled lake, or wetland are prohibited. Existing WWTPs with SPDES permitted surface discharges may continue to operate provided that the treated effluent is subject to sand filtration, disinfection, phosphorus removal, and microfiltration or a Department-approved equivalent.

The Watershed Regulations prohibit new or expanded WWTPs with surface discharges from being located within phosphorus or coliform restricted basins, or within the sixty-day travel time except as provided in the Watershed Regulations §18-82(e).[8] Under certain conditions, an applicant may apply for a variance from these prohibitions as outlined in the Watershed Regulations.[9]

The Department will not approve the construction or expansion of a WWTP, which discharges within the watershed, if inflow or infiltration into a sewer system connected to that plant causes either:[10]

- The SPDES flow limit to be exceeded, or
- The sewage is so diluted that the overall efficiency of the treatment process is decreased. The Department shall not approve a wastewater treatment plant, or any proposed expansion of a wastewater treatment plant, if there is an indication of exfiltration from a sewer system connected to such wastewater treatment plant.

Existing wastewater treatment plants with surface discharges in any restricted basin may continue to operate provided that the treated effluent is subject to sand filtration, disinfection, phosphorus removal, and microfiltration or a Department approved equivalent.

New or expanded wastewater treatment plants with subsurface discharges may be permitted within coliform or phosphorus restricted basins, or within the sixty-day travel time, so long as the treated effluent is subject to sand filtration and phosphorus removal. For SPDES-permitted subsurface discharges greater than 30,000 gpd, disinfection is also required.

3.2 SUBMISSION REQUIREMENTS

In addition to the Application form (Appendix B), the application must contain specific information to be considered complete. While the following outlines the required items, the Department always considers a Pre-Application conference a primary source of information and answers.

3.2.1 GENERAL REQUIREMENTS

The plans (site plan, subdivision plat, etc.) submitted with the application for Department approval must contain the following information:

---

[8] Maps of coliform and phosphorus restricted basins and basins in the sixty-day travel time are available at Department offices.

[9] Watershed Regulations § 18-61(d) and (e)

[10] Watershed Regulations § 18-36(f)(3)

- The municipality and county in which the project is proposed;
- The street address and tax map parcel identification of the proposed project;
- The name, address and phone number of the owner/applicant;
- The name, address and phone number of the design professional;
- The seal and signature of the design professional;
- A 1:24,000 vicinity map (preferably a portion of a USGS map or equivalent) showing the location of the parcel;
- A location map (preferably a portion of tax map) highlighting the exact boundaries of the parcel;
- Topography of the area of activity;
- Identification of existing structures at the location;
- A list of all other approvals required from the Department or other agencies, and a statement as to the status of the approvals;
- If available, Geographic Information System (GIS) information, to include a minimum of three geographic coordinates from either New York State (NYS) Plane Survey (1927) or longitude and latitude (degrees, minutes and seconds) and a digital map or site plan of proposed project; and
- A list of any enforcement actions, including lawsuits or administrative proceedings, commenced against the applicant, or any principal affiliate of the applicant, for any alleged violations of law related to the activity for which approval is sought or the facility or site at which the activity is located, in the five years preceding the application, and disposition or status of the actions.
- A facility plan as discussed below in 3.2.3.

3.2.2 ENVIRONMENTAL ASSESSMENT FORM, ENVIRONMENTAL IMPACT STATEMENTS, AND SPDES PERMITS

A Part 1 Environmental Assessment Form, completed in the format required for the type of SEQRA action, must be submitted with each application.

Where a Draft Environmental Impact Statement (DEIS) has been prepared, it may contain some or all of the information required for an application. In these cases, the DEIS may constitute all or part of the application for Department approval.

As noted in Step 4 of the application process, the Department will not issue an approval until either an EIS is completed, or a determination of non-significance is issued by the Lead Agency. The Department must issue its SEQRA finding statement prior to the issuance of the approval

Where applicable, a copy of the draft SPDES permit and final SPDES permit (when issued), must be submitted to the Department. Copies of any revisions to the draft SPDES permit must also be submitted as they become available to the applicant.

3.2.3 FACILITY PLANS

A facility plan presents the entire concept of a project's design, construction, and operation. Applicants are required to prepare and submit a facility plan to the Department as part of the application process. Drawings must be at a scale not less than 1"=50' and include a north arrow. The facility plan must contain the following information:

- A site description;
- A description of the proposed project;
- Flow and waste load estimations;
- An evaluation of the existing system (if applicable), and existing local or related facilities, including any related water quality problems;
- If the project involves the expansion or modification of an existing facility, the condition of the existing plant's process unit structures must be described, including available information on age, materials of construction, design flow, and prior rehabilitation;
- The existing and proposed areas to be served by the proposed facilities must be identified. In addition to Service Area Maps, the applicant may wish to include other maps such as topographic, zoning or land use, soils, water distribution or infrastructure maps;
- Projections of the growth of population and development within the service area. Use of growth studies, local trends or data from regional planning agencies or the Federal Census can be helpful and should be documented;
- If a package plant has been selected, the owner's engineer should demonstrate the suitability of such a plant for the application. This includes, but is not limited to, a technical presentation by the plant manufacturer, site visits by Department personnel to other operating facilities using such plants, and 3 years of performance data for the similar plants. Package Plants must meet the requirements for standard wastewater treatment plants. The engineer must clearly demonstrate the capability of the treatment process to remove contaminants and nutrient loadings in order to meet SPDES permit limits;
- The determination of the projected hydraulic flows and organic loads must be documented in accordance with the methods and definitions required in the accepted standards and best engineering practices;
- A description of the plant design and unit processes, and an explanation of sizing;
- An analysis of potential impacts;

- Sludge processing, storage, and disposal methods;
- Operation and maintenance requirements (including cost projections);
- The mass balance calculations for each component of the treatment processes and design computations for each of the selected treatment process units.
- The hydraulic calculations for the plant's schematic flow must also be included;
- The plant's operation under emergency conditions;
- An estimation of costs, proposed financing methods, and anticipated user fees;
- An examination of alternative solutions and explanation of why the proposed option was chosen; and
- Regulatory review and permitting requirements.

3.2.4 ENGINEERING PLANS AND SPECIFICATIONS

The Engineering Plans and Specifications must be submitted as part of the application package. Engineering plans must include:

- A location plan;
- A site plan;
- A schematic of the plant hydraulic profile;
- Piping schematic;
- The location, dimension, and elevations of plant process units and appurtenances;
- Mechanical system layout;
- Electrical system layout;
- Construction specifications including material and equipment specifications,
- Plans for a new, expanded, or modified WWTP may require a Department approved stormwater pollution prevention plan (SWPPP) if the proposed plan will meet any of the thresholds listed in the Watershed Regulations.[11] For further information, please see the "Applicant's Guide to Stormwater Pollution Prevention Plans," and.

[11] Watershed Regulations § 18-39(b)(3)

3.2.5 CONSTRUCTION SCHEDULE

An application must include a detailed construction schedule. The schedule will be the basis for the Department's monitoring of the project. The applicant is responsible for notifying the Department of any changes to the construction schedule. In addition, communication between the construction contractor and the Department will be necessary for scheduling construction observation appointments.

3.2.6 OPERATION AND MAINTENANCE MANUAL

The owner or operator of all new or existing WWTPs must operate and maintain the plant in accordance with the operation and maintenance manual for the plant. This manual must be prepared or revised and submitted to the Department for approval within ninety (90) days after construction, expansion, alteration or modification of the WWTP is completed.

3.3 BOND AND GUARANTY REQUIREMENTS[12]

Owners or operators of approved new WWTPs must deposit a performance bond for the completion of construction of the plant, and an additional bond for the payment of labor and materials, prior to the start of construction. These bonds will be released upon the completion of the construction and payment of all labor and materials. In addition, the owners or operators must provide a surety bond, or reasonable guaranty, prior to beginning operation of the plant that they will continue to maintain and operate the system for a period of five years. The bond or guaranty shall be in an amount sufficient to insure the full and faithful performance by the owners or operators with regard to their obligation to maintain and operate the wastewater treatment plant in accordance with all requirements of law and conditions of the Department's approval. A bond or guaranty will not be required if:

- the owner or operator has already provided an equivalent bond or guaranty with the local governing body, or
- the owner or operator is a village, town, county, or city.

The owner or operator should consult the Department for information regarding the required bond or guarantee form.

3.4 RECORD DRAWINGS

As a condition of all WWTP approvals, the Department requires that the applicant submit a set of sealed, final record drawings or "as-built" drawings following the construction of the facility. The drawings must also be accompanied with a certification by the Design Professional that the construction has been in complete conformance with the approved plans and specifications.

[12] Watershed Regulations §18-36(f)(7(i).

4.0 AVAILABLE FUNDS

City funds are available for certain costs relating to WWTP compliance with the Watershed Regulations. To find out more about funding for certain WWTP costs, please contact the DEP WWTP Upgrade Program Manager at (845) 340-7267.

APPENDIX A
WASTEWATER TREATMENT PLANT
APPLICATION CHECKLIST

1. Items Required for Complete Application:

__ The municipality and county in which the project is proposed
__ The street address and tax map parcel identification of the proposed project
__ The name, address and phone number of the owner/applicant
__ The name, address and phone number of the design professional
__ Engineering plans with the seal and signature of the design professional
__ A facility plan or engineering report with the seal and signature of the design professional
__ Topography of the area of activity
__ Identification of existing structures at the location
__ A list of all other approvals required from the Department or other agencies, and a statement as to the status of the approvals
__ A list of any enforcement actions commenced against the applicant for any alleged violations of law related to the activity for which approval is sought, and disposition or status of the actions
__ A completed EAF (Long Form)
__ A DEIS (if applicable)
__ Construction specifications
__ A copy of the draft SPDES permit, if any, and, when issued a copy of the final SPDES permit
__ An expansion or an alteration or modification of a new or existing wastewater treatment plant shall either certify that the wastewater treatment plant is in compliance with all of the requirements of section 18-36 and all requirements of its SPDES permit; or certify that a schedule for the wastewater treatment plant to come into compliance with the requirements of section 18-36 and with the requirements of its SPDES permit has been submitted to the Department for approval. A copy of such compliance schedule shall be attached to the application.

2. Engineering Report (if applicable):

__ A description of site conditions including (if applicable):
  __ Topography
  __ Soils and geologic conditions
  __ Depth to bedrock
  __ Groundwater levels
  __ Floodplain or floodway considerations

__ A description of the proposed project including:
  __ Existing and/or anticipated proposed flows
  __ Existing or anticipated waste loads

__ A location map or drawing(s) identifying:
  __ The site of the project
  __ Location of proposed facilities or upgrades
  __ Existing sewer district boundaries

__ Any proposed sewer districts, sewer systems, or expansions of existing districts or sewer systems and the areas to be served by the facility

__ For expansion or modification of an existing systems a description of the condition of the existing system including (if applicable):
- __ Age, materials and condition of equipment/components
- __ Design flow/capacity of existing system components
- __ Any prior or required rehabilitation
- __ Proposed expansion or replacement of equipment/components

__ Supporting calculations for hydraulic flows and design of system components

__ Operation and maintenance requirements (including cost projections)

__ A procedure for operation of the system components under emergency conditions
__ An estimation of costs, proposed financing methods, and anticipated user fees

__ A list of regulatory review and permitting requirements

3. Facility Plan:

__ An existing facility review or description of the proposed project including (if applicable):
- __ Descriptions of the existing conditions
- __ Condition evaluation
- __ Evaluation of any problems needing correction
- __ A site description

__ A description of the service area including (if applicable):
- __ Existing service areas
- __ Proposed or potential future service areas
- __ Projections of the growth of population and development within the service area over a 20-year period

__ A hydraulic capacity analysis or projection for the design year shall be performed and used as a basis for sizing treatment units and shall include:
- __ Design average flow is the average of the daily volumes received/to be received for a continuous 12-month period expressed as a volume per unit time.
- __ Design maximum day flow (largest volume of flow received during a continuous 24-hour period)
- __ Design peak hourly flow (largest volume of flow received during a one-hour period)
- __ Design peak instantaneous flow (maximum flow rate to be received)
- __ Analysis of peak wet weather flows for existing facilities including data and methodology used. Graphical displays of critical peak wet weather flow data should be included for a sustained wet weather flow period of significance to the project.
- __ Projections shall be made from actual flow data to the extent possible for existing facilities

__ Wastewater facilities receiving flows from new collection systems shall be based on average daily flow per capita plus any flows from industrial, institutional and commercial users. Water use data may be provided to give a better flow estimate if available.

__ Where new collection systems serve existing development the likelihood of inflow and infiltration to service laterals from non-wastewater discharges shall be evaluated.

__ An analysis or projection of organic loads for the design year shall be performed and used as a basis for sizing treatment facilities. The analysis shall include:

- __ Biochemical Oxygen Demand
- __ Suspended Solids
- __ Nitrogen
- __ Contributions from industrial users in the service area and considerations for any pretreatment.
- __ Contributions from septage or leachate
- __ For existing plants and collection systems projections shall be made from actual waste load data to the extent possible.
- __ For new collection systems and plants the waste loads shall be calculated based on a loads per capita.

__ Wastewater treatment alternative(s) an explanation of why the proposed option was chosen including (if applicable):

- __ Proposed revisions to any sewer systems
- __ Proposed methods to treat wet weather flows and wet weather flow equalization
- __ A site evaluation including (if applicable):
  - __ Analysis of potential impacts
  - __ Compatibility of the treatment facility with surrounding land uses
  - __ Zoning and other land use restrictions
  - __ Topography and accessibility of site
  - __ Area for future expansion
  - __ Direction of prevailing wind and considerations to noise and odors
  - __ Flood elevations and requirements for protection
  - __ Geologic information (depth to bedrock or other considerations of significance)
  - __ Protection of groundwater including public and private wells
  - __ Soil types, suitability for construction and depths to groundwater
  - __ Present and known future effluent quality requirements
  - __ Access to receiving waters for the outfall shall be discussed and displayed

- __ A description of the plant design and unit processes, and the basis of sizing and design
- __ Flow diagrams of treatment facilities
- __ A description of the flexibility in the treatment process to divert flow to backup units
- __ The loading and removal efficiencies through each unit in the process
- __ Operation under emergency conditions
- __ Sludge processing, storage, and disposal methods
- __ Considerations for maintaining treatment processes during construction at upgrades to existing facilities
- __ Operation and maintenance requirements (including cost projections)
- __ An estimation of costs, proposed financing methods, and anticipated user fees
- __ Regulatory review and permitting requirements

__ For a package plant, the owner's engineer should demonstrate the suitability of such a wastewater treatment plant for the particular application

4. Engineering Plans:

__ All plan sheets (where applicable) shall contain the following information:
- __ Title with name/location of facility, municipality and sewer district, drawing/sheet title
- __ Scale (generally not greater than 1-inch equals 50 feet for detailed plans)
- __ North arrow
- __ Sheet number (if multiple pages)
- __ Name, contact information, stamp and seal of design professional preparing plans

__ The following information shall be included within the plan set:
- __ A location map 1:24,000 vicinity map (preferable a portion of a USGS map or equivalent) showing the location of the parcel
- __ A general plan of the proposed and/or existing facilities
- __ Topography and elevations (2-foot contours)
- __ Size and location of plant structures
- __ Existing and proposed physical site features streets, structures, parking areas, etc.
- __ Watercourses
- __ Existing and proposed property boundaries and easements
- __ Test borings and groundwater elevations
- __ Schematic flow diagram(s) showing the flow through various plant units and showing the utility systems serving the plant processes

- __ Piping plan including:
  - __ Any arrangements for bypassing individual units
  - __ Materials handled
  - __ Direction of flow
  - __ Size, material, lengths and grades of pipes

- __ Hydraulic profiles showing the flows of:
  - __ Wastewater
  - __ Supernatant liquor
  - __ Recycle streams
  - __ Sludge

- __ The location, dimensions, and elevations of all existing and proposed plant facilities
- __ Elevations of the high and low water levels of the body of water to which the plans effluent is to be discharged
- __ The type, size, pertinent features, and operating capacity of all pumps, blowers, motors and other mechanical devices

- __ A profile with:
  - __ Minimum flow
  - __ Design average flow
  - __ Peak hourly flow

__ Existing and design sludge storage volumes in plan and profile
__ Adequate description of any features not otherwise covered by specifications or report
__ Details of all sewer appurtenances, such as manholes, pump stations, tanks, vaults, etc.
__ Any special detail drawings to clearly show the nature of the design
__ Electrical system layout including alarm system and power requirements
__ Stormwater management and erosion and sediment control plan.

5. Engineering Specifications:

__ Installation specifications
__ Construction specifications
__ Material specifications
__ Equipment specifications
__ Performance testing specifications (pressure, vacuum, deflection, etc.)

6. Other Requirements:

__ Geographic Information System (GIS) information, to include a minimum of three geographic coordinates from either New York State (NYS) Plane Survey (1927) or Longitude and Latitude (degrees, minutes and seconds) and a digital map or site plan of proposed project if available
__ Construction schedule
__ Operational Instruction manual
__ Record Drawings:
    __ "As Built" plans upon completion of construction certified by a licensed Professional Engineer
    __ Deviations from approved plans and/or specifications submitted for approval prior to construction

APPENDIX B
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPLICATION FOR REVIEW AND APPROVAL OF WASTEWATER TREATMENT PLANTS

You are encouraged to participate in an optional pre-application conference to discuss your proposal and any specific requirements for Department review and approval. Please contact the appropriate Department office listed in the accompanying Applicant's Guide to arrange a pre-application meeting.

Project Name: _____

Applicant/Designated Representative:	Design Professional:
Name: _____	Name: _____
Address: _____	Address: _____
Phone: _____	Phone: _____

Project Location: Address: _____ Tax Map Parcel: _____
Town: _____ County: _____

Application is submitted for:

□ New wastewater treatment plant
□ Alteration, modification, or expansion of existing wastewater treatment plant

Submissions must include four copies of all plans and supporting documents. All applications must include narratives, plans, details, and specifications that provide the following information:

- General Specifications
- Facility Plans
- Construction Schedule
- EAF or EIS, and SPDES Permits
- Engineering Plans and Specifications
- Operation and Maintenance Manual

General Requirements for submission are set forth in Section 3.2 of the accompanying Guide. Also see Appendix A for a checklist of items to be included.

Notice of Cost-Sharing Funds
Certain costs incurred in the design, implementation, and maintenance of new or existing wastewater treatment plants may be eligible for Department funding. Refer to Section 4.0 of the accompanying Guide for information on these funds.

I believe this application to be complete and in compliance with the Watershed Regulations.

_____ _____
(Signature) (Date)

_____
(Print Name)

Return Completed form to: NYCDEP – Regulatory & Engineering Programs

APPENDIX C
GLOSSARY

Coliform restricted basins: A coliform restricted basin is the drainage basin of a reservoir or controlled lake in which the coliform standards, as set forth in the Watershed Regulations at 15 RCNY § 18-48 (a)(1) or (b)(1); 10 NYCRR Section 128-4.8(a)(1)(b)(1) are exceeded as determined by the Department pursuant to its annual review conducted under Section 15 RCNY § 18-48(c); 10 NYCRR § 128-4.8(1). At the time this document was prepared, no reservoirs were coliform-restricted.

Exfiltration: Wastewater that leaks out of a sewerage system into the surrounding environment, through faulty joints, defective pipes, cracks in pipes, connections, or at manholes.

Infiltration: Water, other than wastewater that enters a sewerage system, including sewer service connections, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow and from treatment of runoff by stormwater infiltration practices as defined by the Watershed Regulations.

Inflow: Water other than wastewater that enters a sewerage system, including sewer service connections, from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

Intermediate sized sewage treatment system: Means an on-site subsurface sewage treatment system serving an industrial, institutional, municipal, commercial or multifamily residential facility and receiving sewage without the admixture of industrial wastes or other wastes as defined in New York State Environmental Conservation Law § 17-0701. Such systems are not covered by this guide.

Intermittent stream: A watercourse that during certain times of the year goes dry or whose lowest annual mean discharge during seven consecutive days with a recurrence interval of ten years (MA7CD/10) is less than 0.1 cubic foot per second and which periodically receives groundwater inflow. A drainage ditch, swale, or surface feature that contains water only during and immediately after a rainstorm or snow melt shall not be considered to be an intermittent stream.

Microfiltration: A process in which treated effluent passes through a membrane filter having a nominal pore diameter of 0.2 microns or less.

Perennial stream: A stream that flows throughout the year from source to mouth.

Phosphorus restricted basins: A phosphorus restricted basin is either (i) the drainage basin of a source water reservoir in which the phosphorus load to the reservoir results in the phosphorus concentration in the reservoir exceeding 15 micrograms per liter, or (ii) the drainage basin of a reservoir other
than a source water reservoir or of a controlled lake results in the phosphorus concentration in
the reservoir or controlled lake exceeding 20 micrograms per liter in both instances as determined by the Department pursuant to its annual review conducted under the Watershed Regulations.[13] Information regarding

[13] Watershed Regulations § 18-48 (c).

which basins are phosphorous-restricted is available from the Department offices listed on page 3 of this document.

Reserve area: means an area identified in the design for a subsurface sewage treatment system as suitable for infiltration of sewage to the soil by means of a network of pipes.

Sewer system: Pipe lines or conduits, pumping stations, and force mains, and all other constructions, devices, and appliances appurtenant thereto, including sewer extensions, used for conducting sewage, industrial waste or other wastes to a treatment facility.

Sixty day travel time: Maps of basins included in the sixty day travel time are available at Department offices.

SPDES flow parameter violation: Two or more violations of a permitted SPDES flow parameter limit during a consecutive six month period. A facility that operates less than six months per year will be deemed to have a SPDES flow parameter violation if the permitted SPDES flow parameter limit is violated one or more times during any consecutive four month period.

SPDES permit: A State Pollutant Discharge Elimination System permit issued pursuant to Titles 7 and 8 of Article 17 of the Environmental Conservation Law.

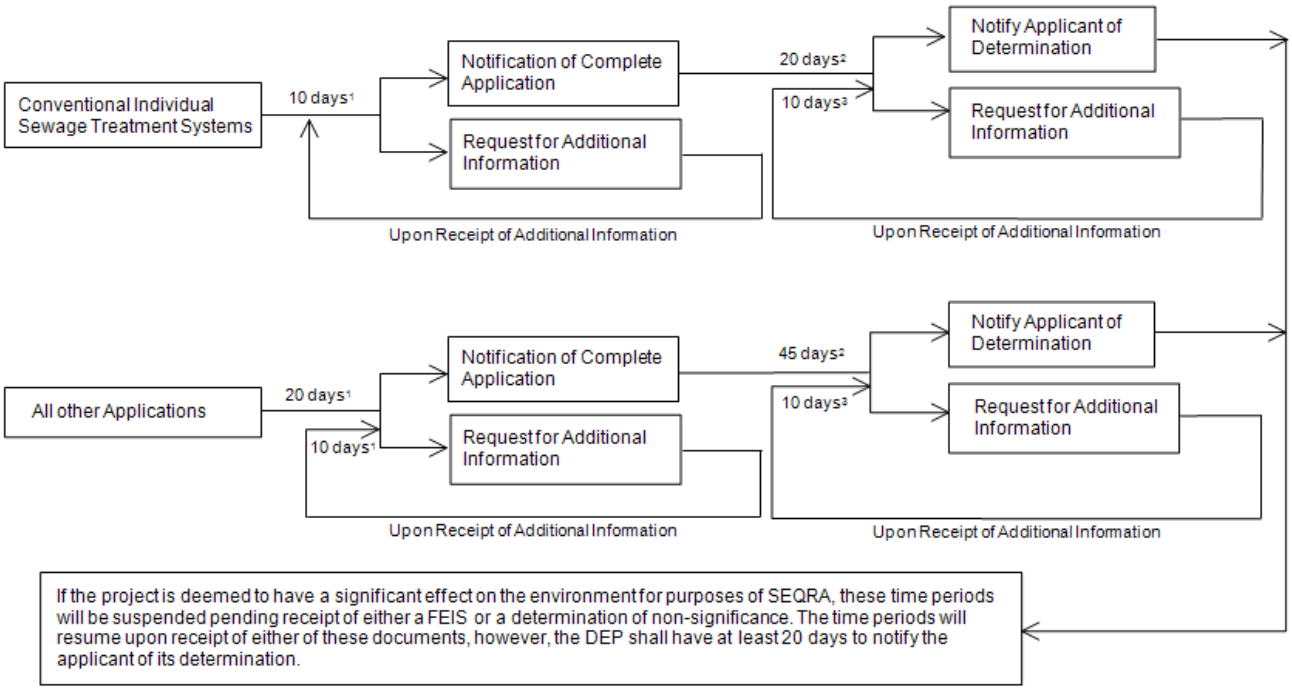
Subsurface discharge: Discharge to an absorption area, i.e., a process designed to allow filtered, treated sewage effluent to be discharged into the ground as a means of ultimate disposal.

Wastewater treatment plants: Any facility which treats sewage or discharges treated effluent not intended to receive further treatment in the New York City watershed, and which requires a permit under Titles 7 or 8 of Article 17 of the Environmental Conservation Law. A wastewater treatment plant is installed for the purpose of treating, neutralizing, stabilizing, or disposing of sewage by removal of contaminants accomplished by unit operations or processes as may be applicable to a given design for a wastewater treatment plant. Wastewater treatment plants do not include intermediate sized sewage treatment systems.

Watercourses: Visible paths through which surface water travels on a regular basis, including an intermittent stream, which is tributary to the New York City water supply. A drainage ditch, swale or surface feature that contains water only during and immediately after a rainstorm or a snowmelt shall not be considered to be watercourses.

Wetlands: Any area mapped as a wetland by the New York State Department of Environmental Conservation which are at least 12.4 acres in size, or have been designated as a wetland of unusual local importance.

APPENDIX D
PROJECT REVIEW TIMELINES



1. If the DEP fails to notify the Applicant in writing within these time periods, the Applicant may inform the DEP of its failure to do so, and request a determination of completeness in writing. The DEP then has 10 business days to notify the Applicant of the status of the application. If the DEP fails to act within those 10 days, the application will be deemed complete as of the eleventh day, For further information, refer to the guide.

2. If the DEP fails to notify the Applicant in writing within these time periods, the Applicant may inform the DEP of its failure to do so, and request a determination of completeness in writing. The DEP then has 10 business days to notify the Applicant of the status of the application. If the DEP fails to act within those 10 days, the application will be deemed approved, subject to standard conditions. For further information, refer to the guide.

3. If, during the review period, the DEP requests revisions to the application, the review period shall be suspended from the date such request is made until the date on which the DEP receives such revisions, provided that the DEP shall have no fewer than 10 days from the date of receipt to issue a determination. Refer to the Guide and §18-23(d)(4) and (5) for more information.