STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality

Reset Form

ENGINEER'S REPORT for DOMESTIC TREATMENT WORKS APPROVAL APPLICATIONS

INSTRUCTIONS

- Complete all applicable sections and certifications.
- Justifications for any exceptions from the regulations at N.J.A.C. 7:14A - 23 et seq. must be submitted. (Additional sheets may be attached if necessary.)
- All supplemental information required to be submitted along with this engineer's report must be signed, sealed, and dated by a professional engineer, licensed to practice in the State of New Jersey.
- **For Treatment Works other than collection and/or conveyance, please attach a separate Engineer's Report in accordance with N.J.A.C. 7:14A - 23.5.**

GENERAL INFORMATION

Applicant: _____ Municipality: _____

Project Name: _____ County: _____

Name of Receiving Sewage Treatment Plant: _____

NJPDES Permit Number: _____

Effluent Receiving Waters: _____

Scope of Project:

_____

_____

_____

Contributory Flow: *For assistance in completing this chart, refer to N.J.A.C. 7:14A - 23.3.*

Establishment Type		Number of Measurement Units		Gallons per Day per Unit		Projected Flow (G.P.D.)
			X		=	
			X		=	
			X		=	
			X		=	

Combined Projected Flow: _____ M.G.D.
Existing Contributory Flow (if any): _____ M.G.D.
TOTAL FLOW: _____ **M.G.D.**

1. *WASTEWATER CONVEYANCE SYSTEMS*

(A) GRAVITY SEWER SYSTEMS

Diameter (inches)	Total Length (feet)	Material Type	"n" Value	Max. MH Spacing (feet)	Min. Slope (%)	Max. Velocity (ft/sec)	Max. Capacity (M.G.D.)

		YES	NO	N/A
1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire sewer line? ft.			
2.	What is the infiltration and/or exfiltration limit for testing purposes (gallons per inch of pipe per mile per day)?			
3.	Are sewers within 100 feet of a public water supply well or a below-grade reservoir?	☐	☐	☐
4.	Are sewers located at least 10 feet horizontally from potable water lines and/or at least 18 inches below potable water lines and in separate trenches, including crossings?	☐	☐	☐
5.	Are sewers crossing streams located within 10 feet of a stream embankment encased in concrete?	☐	☐	☐
6.	Is a drop pipe provided for sewers entering manholes above the manhole invert wherever the difference in elevation is two feet or more?	☐	☐	☐
7.	Are all manholes located more than 100 feet from a public water supply well or a below-grade reservoir?	☐	☐	☐
8.	Are watertight covers used where street elevations are less than 10 feet above the North American Vertical Datum of 1988 and/or where the top of a manhole may be flooded by street runoff or high water?	☐	☐	☐
9.	Are the sanitary sewers designed to carry at least twice the estimated average projected flow when flowing half full?	☐	☐	
10.	Have adequate provisions been made for the ventilation of manholes?	☐	☐	
11.	If siphons are part of this project, are they in conformance with N.J.A.C. 7:14A - 23.7?	☐	☐	☐
12.	Are the immediate downstream sewer lines constructed?	☐	☐	☐

(B) PUMPING SYSTEM: Submit a Pump Station Design Report, which should include, at a minimum, the basis for the following: (a) pump selection; (b) sizing of force main and velocity calculations;(c) total dynamic head; (d) pump station performance curve and (e) wet well detention time.

Average daily flow: _____ GPD
Peaking factor: _____
Peak design flow: _____ GPD
Number of pumps: _____
Surface area of wet well: _____ ft^2
Wet Well Detention Time : _____ minutes
TDH of pump: _____ ft
Design capacity of pump station (with the largest pump out of service): _____ GPM

1. *WASTEWATER CONVEYANCE SYSTEMS*

(B) PUMPING SYSTEM (continued)

FORCE MAINS

Diameter (inches)		Length (feet)		Material Type		Velocity (ft/sec)

1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire force main?			ft
2.	Specify the method of screening at the pumps.			
3.	Where is the ultimate location of the alarm for high water conditions, power failures, and mechanical breakdowns?			
4.	Specify the type of back-up power source provided.			
		YES	**NO**	**N/A**
5.	Is adequate light and ventilation provided at the pump station?	☐	☐	☐
6.	Are air and/or vacuum release valves provided on the high points of the force main?	☐	☐	☐
7.	Are adequate freshwater wash-down facilities provided?	☐	☐	
8.	If a domestic water service connection will be utilized for wash-down purposes, is it protected by a backflow prevention device?	☐	☐	☐
9.	Are shut-off valves on suction and discharge piping and check valves on discharge lines provided?	☐	☐	
10.	Is the base of the pump station wet well sloped toward the pump suction?	☐	☐	
11.	Does the alarm system provide for competent assistance on a 24 hour basis?	☐	☐	
12.	Is the pump station adequately protected from flooding?	☐	☐	
13.	Is the dry well provided with a sump pump?	☐	☐	

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto, is true, accurate, and complete. Exceptions attached [YES ☐, NO ☐]?

Signature of Engineer: _____

Professional Engineer's Embossed Seal

Name and Date: _____
(Print or Type)

Firm Name: _____

2. DOMESTIC WASTEWATER TREATMENT AND/OR RESIDUAL FACILITIES

Is the following information submitted with this engineer's report?		YES	NO
1.	A complete description of the selected wastewater treatment system.	☐	☐
2.	For the modification of an existing system which has not previously been granted a treatment works approval (TWA), the capacities of the existing units and a brief description of the operation of each, and a statement concerning which units are existing and which are proposed at the time of the application. If there exists a previously issued TWA approval for the subject facility, submit the date of issuance and the TWA number.	☐	☐
3.	Hydraulic profiles of the flow of wastewater through the system.	☐	☐
4.	A unit by unit mass balance for all discharge parameters.	☐	☐
5.	The ultimate disposal location of all effluent.	☐	☐
6.	The basis and computations for average and peak flow requirements.	☐	☐
7.	The expected composition of the influent and effluent from the treatment system including the average, maximum and minimum values of the pollutant parameters specified in the facility's NJPDES permit/DAC.	☐	☐
8.	An evaluation of the quantity and quality of any and all residuals generated and projected to be generated, including a hydraulic profile and unit by unit mass balance for the flow of residuals through the system.	☐	☐
9.	Documentation of adequate storage and handling facilities for residuals.	☐	☐
10.	Provisions for the ultimate management of residuals.	☐	☐
11.	Details of flow monitoring and control, alarm systems, auxiliary power, storage facilities for treatment chemicals and wastes, and plans for bypassing units during construction or maintenance.	☐	☐
12.	The basis and computations for the projected wastewater flow.	☐	☐
13.	A fully executed Licensed Operator Grading Form.	☐	☐

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, are adequate to meet all applicable final NJPDES permit limitations contained in the current NJPDES Discharge Permit No. _____. In addition, I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto is true, accurate, and complete. Exceptions attached [YES ☐, NO ☐]?

Signature of Engineer* _____

Professional Engineer's Embossed Seal

Name and Date: _____
(Print or Type)

Firm Name: _____

** This certification may not be completed until the effective date of the associated final NJPDES Discharge Permit.*