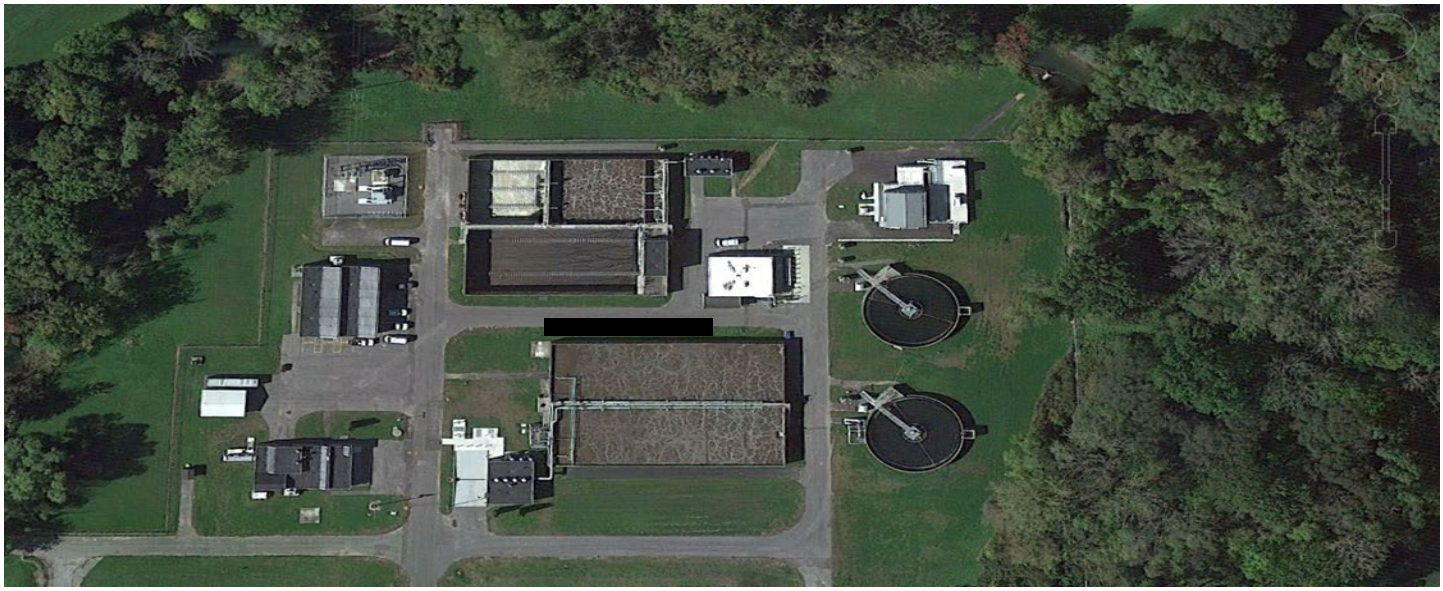
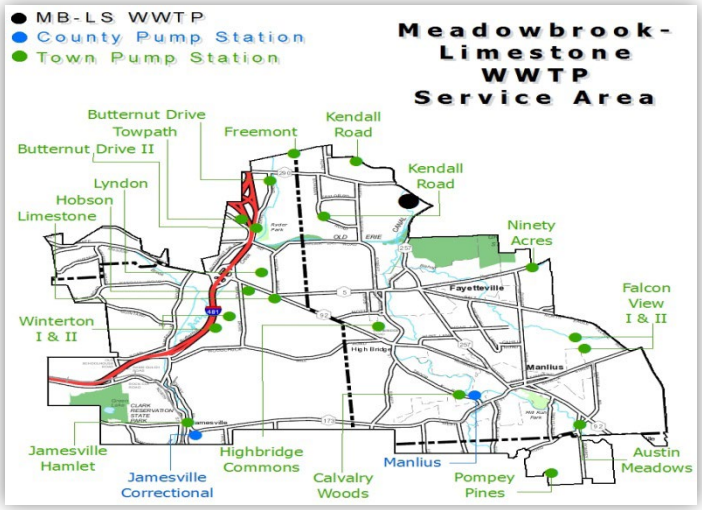
FACT SHEET: MEADOWBROOK-LIMESTONE WASTEWATER TREATMENT PLANT (WWTP)

SPDES Permit No. NY – 0027723 7530 Manlius Center Road, Kirkville, NY 13082



Service Areas

Construction of the Meadowbrook-Limestone WWTP was completed in 1973. The facility has a design flow of 6.5 MGD and provides advanced secondary treatment of wastewater using an Extended Aeration Activated Sludge Process. Wastewater is collected throughout significant sections of the Towns of Dewitt and Manlius; along with smaller portions of the Town of Pompey and the City of Syracuse. Wastewater is collected from various neighborhoods and commercial properties and transported via a series of pumping stations and gravity trunk sewers to the Meadowbrook-Limestone WWTP. The 48" Meadowbrook Trunk Sewer and the 18" Fremont Trunk Sewer enters the property via gravity feed and combines at Manhole No.2, located off the Southeast corner of the Maintenance Garage. Wastewater influent is primarily from residential and commercial sources.



Treatment Process Description

The wastewater undergoes screening and grit removal in the Headworks Building, utilizing both a bar rack and a mechanical screen rake, followed by grit removal in an aerated grit head cell, which uses a EUTEK Systems, Inc., stacked tray vortex grit removal system. Wastewater is then pumped from the influent wet well into the flow distribution box, where the flow is evenly split between two (2) aeration tanks where the activated sludge treatment process occurs. Activated sludge is treated using the Extended Aeration Process, activated sludge flows through both aerated tanks in parallel. The treated wastewater then flows to the final clarifiers where settling occurs. Activated sludge collected in the clarifiers is recirculated to the aeration tanks and/or wasted to the aerobic digestion tank. Digested sludge is thickened using a rotary drum thickener, stored in a thickened sludge holding tank and hauled to the Metropolitan-Syracuse WWTP for further treatment. Effluent from the clarifiers flows to the Disinfection Building where ultraviolet light is used for seasonal disinfection before discharge to Limestone Creek. Total Phosphorus is removed year-round with the use of aluminum sulfate. Wet weather storage tanks are used for high flow events.

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Treatment Plant Specifications

Head Cells (Grit Removal)	(2) Cells – 16.5' l x 10' w
	10' side wall depth (swd)
	12,300 gal /cell
Aeration Tanks	(2) Tanks – 180' l x 60' w
	14.30' (swd)
	1,155,300 gal / tank
	2,310,600 gal - total
Settling (Clarifier) Tanks	(2) Tanks – 75'd x 10.5' swd
	346,800 gal / tank
	693,700 gal - total
Aerobic Digester Tank	(1) Tank – 76.5'l x 70'w x 15'd
	600,800 gal - total
Wet Weather Storage Tank #1	(1) Tank – 140'l x 70'w x 15'd
	1,099,600 gal / tank (total)
Wet Weather Storage Tank #2	(1) Tank – 76.5'l x 70'w x 15'd
	600,800 gal - total
Decant Tank	(1) Tank – 70' l x 15' w x 15' d
	117,800 gal – total
Thickened Sludge Holding Tank	(1) Tank – 70' l x 15' w x 15' d
	117,800 gal – total

Performance Data (2023)

Average Daily Data	
Design Flow:	6.5 MGD (peak 16 MGD)
Avg Flow:	5.0 MGD (peak 15.7MGD)
Design BOD:	9,200 lbs/day
Ave Inf CBOD:	95 mg/L / 3,714 lbs/day
Ave Eff CBOD:	6.4 mg/L / 282 lbs/day
Design TSS:	10,800 lbs/day
Ave Inf TSS:	153 mg/L / 6,063 lbs/day
Ave Eff TSS:	9.6 mg/L / 452 lbs/day
Ave Inf TP:	3.4 mg/L / 138 lbs/day
Ave Eff TP:	0.6mg/L / 23.5 lbs/day
Ave Inf TKN:	24.6 mg/L / 986 lbs/day
Ave Eff TKN:	1.7 mg/L / 77.3 lbs/day
Annual Information	
Biosolids Hauled:	1,085,631 lbs/dry
Grit Hauled:	2,255 cu ft
Screenings Hauled:	4,590 cu ft
Alum. Sulfate Usage:	48,369 gal
Cationic Polymer Usage:	18,700 lbs
Anionic Polymer Usage:	0 gal

SPDES Permit compliance history can be found at: https://echo.epa.gov/

Treatment Process Flow Diagram