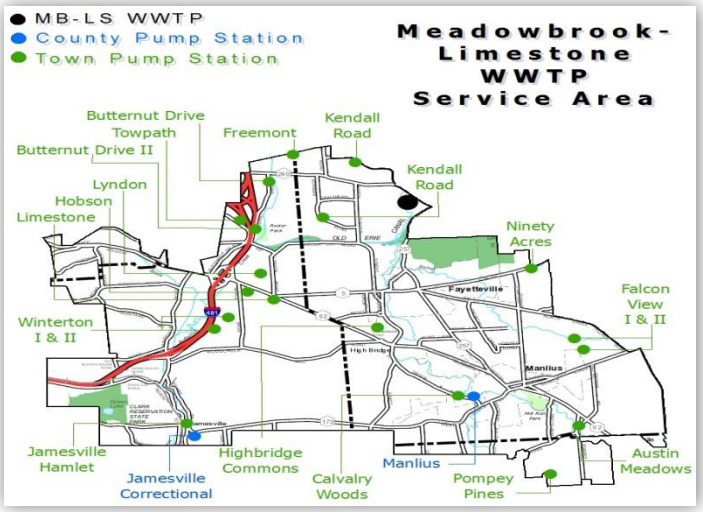
FACT SHEET: MEADOWBROOK-LIMESTONE WASTEWATER TREATMENT PLANT (WWTP)

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 chlorine contact tank for seasonal disinfection using sodium hypochlorite before discharge to Limestone Creek. Total Phosphorus is removed year round with the use of ferrous chloride. Wet Weather storage tank 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
Chlorine Contact Tanks	(2) Tanks – 65' l x 24.3' w
	10' (swd) Avg. Depth / 11.6' Max
	Per: Avg=118,200 gal Max=137,100 gal
	Tot: Avg=236,400 gal & Max=274,200
Aerobic Digester Tank	(1) Tank – 76.5'l x 70'w x 15'd
	600,800 gal - total
Wet Weather Storage Tank	(1) Tank – 140'l x 70'w x 15'd
	1,099,600 gal / tank (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 (2015)

Average Daily Data	
Design Flow:	6.5 MGD (peak 16 MGD)
Avg Flow:	4.3 MGD (peak 13.4 MGD)
Design BOD:	9,200 lbs/day
Ave Inf CBOD:	112 mg/L / 4,022 lbs/day
Ave Eff CBOD:	6.8 mg/L / 269 lbs/day
Design TSS:	10,800 lbs/day
Ave Inf TSS:	141 mg/L / 4,972 lbs/day
Ave Eff TSS:	9.9 mg/L / 414 lbs/day
Ave Inf TP:	3.1 mg/L / 110 lbs/day
Ave Eff TP:	0.64 mg/L / 23.9 lbs/day
Ave Inf TKN:	24 mg/L / 853 lbs/day
Ave Eff TKN:	1.8 mg/L / 72 lbs/day
Annual Information	
Biosolids Hauled:	1,313,896 lbs/dry
Grit Hauled:	1,107 cu ft
Screenings Hauled:	5,157 cu ft
Grease Hauled:	0 gal
Ferrous Chloride Usage:	78,628 gal
Na Hypochlorite Usage:	25,991 gal
Cationic Polymer Usage:	2,716 gal
Anionic Polymer Usage:	345 gal

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

Treatment Process Flow Diagram