

LUDLOW PARK RESIDENTS ASSOCIATION MEETING

YONKERS JOINT WRRF
THURSDAY OCTOBER 24, 2019

A presentation by the Department of
Environmental Facilities

Vincent Kopicki, P. E. Commissioner

Yonkers Joint O&M Management Team

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- Deputy Commissioner
- 813-5412

Jeff Bryant

- Plant Superintendent
- 231-2847

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- Supervisor, Maintenance
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- Director, Wastewater Treatment
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- Supervisor, Plant Operations
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Yonkers Joint WRRF



Yonkers Joint WRRF

- The Yonkers Joint Water Resource Recovery Facility was originally constructed in 1931 with primary treatment upgrades in 1961 and secondary treatment upgrades in 1979.
- Originally designed to treat an average daily flow of 93 million gallons a day (MGD), has a hydraulic capacity of 330 MGD, and is permitted by the New York State Department of Environmental Conservation to treat up to 120 MGD based on a 12 month rolling average.

Odor Remediation Project (SY009)

Phase I, \$9.6 Million

- Screen and Grit Building HAVAC and Odor Control, including Ludlow Street Pump Station Odor Control.
- **Operational and Completed**

Phase II, \$9.8 Million

- HVAC System upgrades to Blower and Administration Building, including new boilers.
- **Operational and Completed**

Odor Remediation Project (SY009)

Phase III, \$7.3 Million

- Odor control for Primary Access Bldg & South Pumping Station, HVAC systems in several other buildings.
- **Construction Substantially Complete; Start-up Operations are On-going**

Odor Remediation Project (SY009)

Phase IV, Estimated at \$11.5M

- Secondary Sludge Thickening Bldg. & HVAC upgrades
- Recommendations from Phase V Odor Study to be incorporated in Final Design
- Project Scheduled to start 1st Quarter of 2020, 24 months from project initiation to project closeout

Phase V

- Odor study is complete, items to be included in Phase IV:
 - Replace blowers & nozzles; re-coat Prim. Thick. scrubbers exterior 2-4
 - Install registers in Sludge Loading Bay supply ducts & balance airflow
 - Install automated wash-down stations
 - Replace Primary Settling Tank Scrubbers A, B, & C
 - Sludge Loading Bay Improvements

Other Construction Projects

Sludge Thickening Upgrade

- Existing DAF Thickeners to be replaced with new Gravity Belt Thickeners
- Construction start: December 2017
- ~ 80% complete
- Anticipated completion: April 2020

Grit System Upgrade

- Grit removal system refurbishment w/added redundancy
- Currently in construction, ~ 35% complete
- Anticipated completion: July 2020

Other Construction Projects

Engine Replacement Project

- Phase II and III
 - Replace engine driven blowers with Turbo Blowers, highly energy efficient
 - Construction Started December 2018, anticipated completion is December 2020
- Phase IV (final phase)
 - Replacement of two existing engines with Anaerobic Digester Gas (ADG) Engine – (ADG and/or Nat. Gas)
 - Anticipated Design completion April 2020 (@ ~80%)
 - Anticipated Construction start December 2020

Other Construction Projects

Sluice Gate Project

- Sluice gates replacement in Secondary System
- Design completed
- Anticipated Construction start: 2020.

Secondary Treatment Area Upgrades

- Various small systems refurbishment in secondary area
- Design 60% complete.

Other Construction Projects

Vulnerability Work

- Design improvements for storm resiliency
- Protect the WRRF for FEMA 500-year flood storm event
- Study completed
- Design RFP preparation to be completed by December 2019

Future Projects

- Plant wide electrical and lighting upgrades.

Annual Performance Report

YONKERS JOINT WASTEWATER TREATMENT PLANT ANNUAL PERFORMANCE REPORT

MONTH	FLOW THROUGH	Suspended Solids		Biochemical Oxygen Demand				WET TONS	SLUDGE CAKE REMOVED	SEWAGE		
	PLANT (mgd)	Inf Mg/L	Eff Mg/L	PLANT % Rem	Inf Mg/L	Eff Mg/L	PLANT % Rem		PERCENT SOLIDS	DRY M-TONS	SCREENINGS LBS	GRIT CU.YDS.
Oct '18	89	123	6	95	104	7	94	2,830	28.4	730	46,000	140
Nov '18	104	111	6	95	88	5	94	3,794	25.9	893	44,000	140
Dec '18	108	94	9	91	70	6	92	2,936	26.5	707	46,000	100
Jan '19	109	97	10	90	70	8	89	2,679	27.1	661	38,000	140
Feb '19	93	102	11	89	83	11	86	2,106	28.2	539	32,000	160
Mar '19	97	104	13	87	78	12	85	2,217	27.6	612	36,000	100
Apr '19	89	122	11	91	104	11	90	2,512	29.0	662	32,000	120
May '19	107	106	16	85	86	11	88	2,449	25.6	569	40,000	140
Jun '19	77	157	11	93	141	9	94	2,375	26.0	560	55,000	100
Jul '19	78	147	6	96	133	6	95	3,739	20.3	690	60,000	80
Aug '19	69	145	6	96	140	7	95	3,584	22.2	722	54,000	60
Sep '19	56	159	11	94	144	8	95	2,363	23.2	498	62,000	40
Avg.	90	122	10	92	103	8	91		25.8			
Max	109											
Total	1,076							33,584		7,842	545,000	1,320

Odor Complaint Form

Odor Complaint Form YJ-Log 34

Complaint Received by: JZB2 Date 09-24-2018 Time 16:016 Name of Caller: Phone:

Odor Location: Street Address: City: Yonkers Total Complaints from this address YTD 1

Event: Now Continuous Intermittent Intensity: Strong Medium light Period: 1+HR Less than 1 hour

Odor Type: Raw Sewage Musty Cholorine Chemical Smoke Fecal Gas Other

Describe Complaint: Neighbor Invest.: By: Date Time Complaint Verified: Yes No

Weather: Wind Direction N Wind Speed: mph Temperature: Humidity: Describe Odor:

Complainant Contacted: Yes No Action Taken to investigate:

Result Of Investigation:

Jerome Meter Reading(ppm): Action Taken to Remedy the Complaint:

PRIMARY PLANT

Influent Channel Rate (MGD) Time: Diverted Flow: North Control Structure: Yes No

Screen And Grit Tanks: Tank 1: F 1/2 1/4 E Tank 2: F 1/2 1/4 E Tank 3: F 1/2 1/4 E

Primary Tanks in service: 1 2 3 4 Barscreens in Service 1 2 3 Breezeway Door: Open Closed

Grit Container: F 1/2 E Grease: None Light Medium Heavy

PST Scrubbers: On Off Hypo Pumps: On Off Caustic Pumps: On Off

PRI Thick Scrubbers: On Off Hypo Pumps: On Off Caustic Pumps: On Off

S&G Scrubbers: On Off Hypo Pumps: On Off Caustic Pumps: On Off

3 STAGE SCRUBBERS: On Off Hypo Pumps: On Off Caustic Pumps: On Off Acid Pumps: On Off

PRIMARY DIGESTERS/STORAGE TANKS:

Digesters in Service: 1 2 3 Storage Tank: F 1/2 E Gas Venting: Yes No Doors: Open Closed

CENTRIFUGES: Units: On Off Time of Last Truck: Doors: Open Closed Windows: Open Closed

SECONDARY PLANT

AERATION TANKS AVERAGE D.O.: D Pass: B Pass: Digester Area Normal: Yes No Thickner Area Normal Yes No Gas

Venting: Yes No Total Air Flow: CFM Blowers in operation: 1 2 3 4 5 6

Grease Condition: None Light Medium Heavy

Aeration Tanks in Service: 1 2 3 4 5 6 Final Tanks in Service: 1 2 3 4 5 6 7 8 9

Fence Line H2S Monitors,PPB: H2S: PPB (Station 1) H2S: PPB (Station 2) H2S: PPB (Station 3) H2S: PPB (Station 4)

H2S: PPB (Station 5) H2S: PPB (Station 6) H2S: PPB (Station 7) H2S: PPB (Station 8)

System Response: name="YJ_MSG" value = "" >

Ludlow Park Residents Association Meeting October 24, 2019
Complaints from April 2019 to September 2019

Month	Date of Complaint	Total No. of Complaints	Correlation of Complaint with Plant Event	H ₂ S Reading, ppb
April (0)	-	0		
May (1)	May 10	1	Sludge Cake truck exiting the plant	3 - 6
June (6)	June 4	1	Sludge Cake truck exiting the plant	4
	June 7	1	Sewage Odor, no plant correlation observed; low tide	0
	June 23	1	Sludge Hopper Full	7 – 14
	June 26	1	Poor centrate quality to primary effluent causing odors from aerators	2
	June 28	2	No correlation observed	7

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Complaints from April 2019 to September 2019 (cont.)

Month	Date of Complaint	Total No. of Complaints	Correlation of Complaint with Plant Event	H ₂ S Reading, ppb
July (8)	July 1	1	Odors detected by Primary Tank No. 3	5
	July 2	1	No correlation observed	3
	July 3	1	No correlation observed	2
	July 4	1	Sludge Cake Truck in Plant	N/A
	July 9	1	Poor centrate quality to primary effluent causing odors	8
	July 15	2	Open dumpster in neighborhood	0
	July 29	1	Primary Tank #4 being pumped down	N/A

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Complaints from April 2019 to September 2019 (cont.)

Month	Date of Complaint	Total No. of Complaints	Correlation of Complaint with Plant Event	H ₂ S Reading ppb
August (6)	August 9	1	No correlation observed	4
	August 13	1	Odors detected from CSO Facility	14
	August 28	1	PST Odor Control out-of-service	N/A
	August 29	3	PST Odor Control out-of-service	2 - 4
Sept. (26)	Sept. 4	3	PST Odor Control out-of-service	3 - 13
	Sept. 7	3	Foam in Aeration Tanks PST Odor Control out-of-service	0 - 3
	Sept. 8	2	Primary Tank # 3 & PST Odor Control out-of-service	N/A

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Complaints from April 2019 to September 2019 (cont.)

Month	Date of Complaint	Total No. of Complaints	Correlation of Complaint with Plant Event	H ₂ S Reading ppb
	Sept. 11	1	Primary Tank # 3 & PST Odor Control out-of-service	3 -5
	Sept. 15	3	Primary Tank # 3 & PST Odor Control out-of-service	2 - 8
	Sept. 19	2	No correlation observed	4 - 17
	Sept.20	3	Cake room door will not close completely & missing cover on Grit Tank No.1	0
	Sept.21	5	Cake room door will not close completely & missing cover on Grit Tank No.1	0
	Sept. 24	3	Secondary Clarifier Tank out-of-service	N/A
	Sept. 25	1	Secondary Clarifier Tank out-of-service	3

Chemicals Used @ Yonkers Joint WRRF

<u>Chemical</u>	<u>Concentration</u>	<u>Why It is Used</u>
Sodium Hypochlorite	12-15%	Used for effluent disinfection and in odor control system scrubber units.
Sodium Bisulfite	25% and 38%	Used for effluent de-chlorination, 25% concentration is used in the colder months, while 38% concentration is used in the warmer months.
Sodium Hydroxide	25% and 50%	Used for pH control in odor control system scrubber units.
Sulfuric Acid	93%	Used in odor control system to remove ammonia odors.
Potassium Permanganate	Dry Powder	Used in primary sludge to aid in thickening and control odors.
Cationic Polymer	Dewatering: 46% active Thickening: 41% active	Used to aid in thickening and dewatering sludge unit processes.
Fuel Oils	N/A	Diesel fuel used to run generators and other process mechanical equipment.
Lemon Burst	N/A	Proprietary deodorizing agent used for odor control, when cleaning out process tanks.
Cooling Tower Chemicals	N/A	Biocides and rust inhibitors used in small quantities to disinfect and/or treat cooling tower water, used in warmer months only (typically June through October).

Questions?

