

# ENSURING ENERGY EFFICIENCY IS PART OF OPERATIONS IN SUN PRAIRIE

JEREMY CRAMER  
SUN PRAIRIE WASTEWATER DIRECTOR



# AGENDA

Collection System  
Treatment Facility  
Energy Tracking  
Biosolids Upgrade





# THE COLLECTION SYSTEM



# COLLECTION SYSTEM TEAM AND EQUIPMENT



TV Truck

VAC Truck's

Pickup truck's with crane for liftstation pump maintenance

2 six-inch trash pumps and 1 pull behind generator

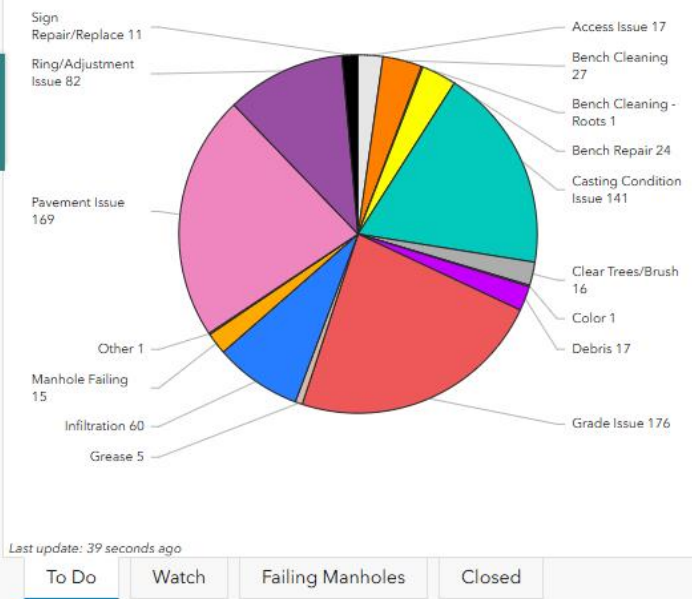
4 Operators focused only on the Collection System (NASSCO Standards trained)

GIS Specialist

Utility Locator



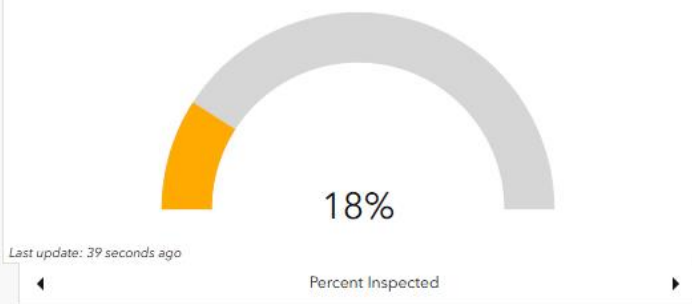
Status - To Do



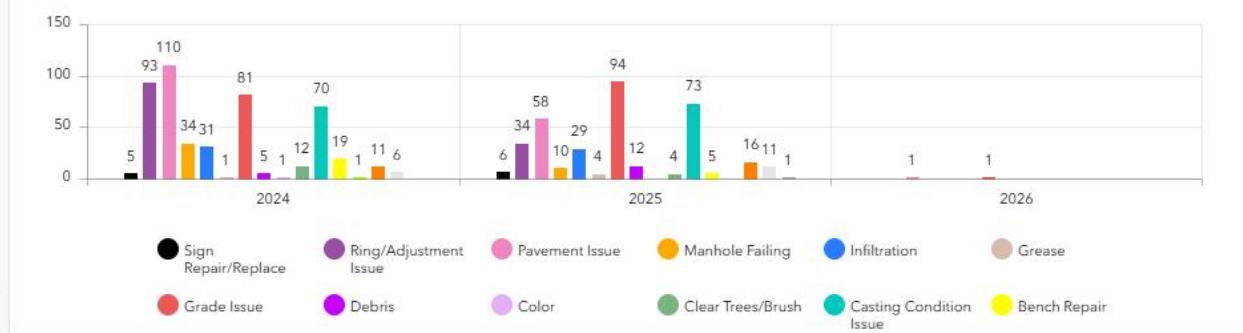
Sanitary Sewer Manhole Inspection/Maintenance Map



Inspected Manholes (Percent)



Open Issues by Year Found



1 of 631

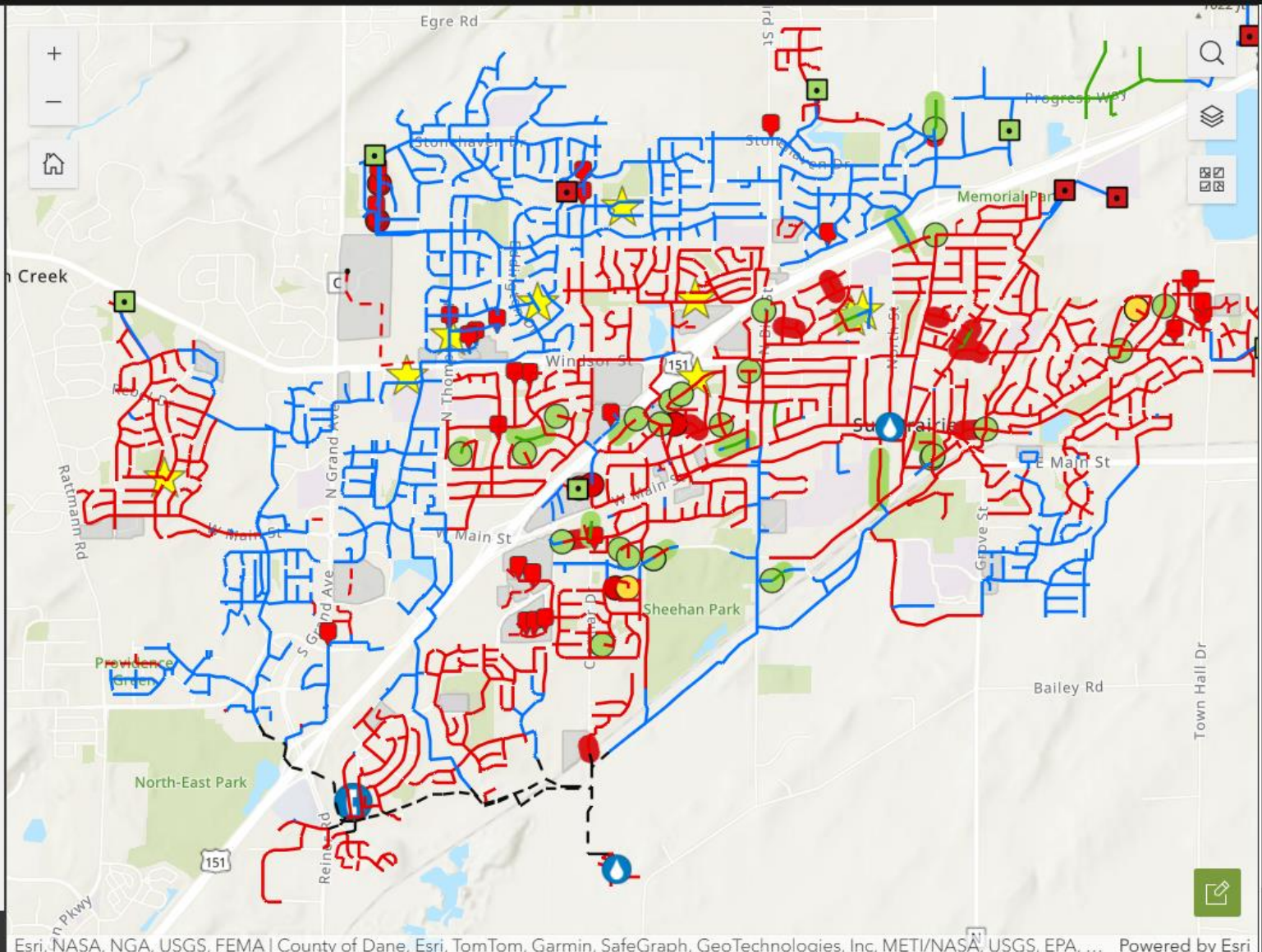
Inspection: E1-9

Sign Condition	
Access Issue	
Pavement Condition	
Grade Issue	
Cover Type	Bolt Down
Lid Seal Type	Round
Cover Diam	
AR Height	
DS_Invert (ft)	
Ring Type	Concrete (precast)
Combo Ring/Adjustment Type	
Ring/Adjustment Condition	
MH Type	Precast
Drop MH	No
Pipe Drop	
Bench Condition	
Infiltration	
Casting Offset	
Casting Condition	
Laterals	0
Pipes In	
Pipes Out	
Main Diam In	36"
Main Diam In (2)	
Main Diam In (3)	
Main Diam Out	36"

Last update: 38 seconds ago

## Lift Station Cleaning Status

- WILBURN LIFT STATION - 5/1/2024  
 Cleaning Interval: 6 Month(s)
- BLOOMING MEADOWS LIFT STATION - 2/17/2026
- WYNDHAM HILLS LIFT STATION - 2/18/2026
- HICKORY GROVE LIFT STATION - 10/24/2025
- BUSINESS PARK LIFT STATION - 10/27/2025
- SHONAS LIFT STATION - 2/17/2026  
 Cleaning Interval: 6 Month(s)
- CREEK VIEW CROSSING LIFT STATION - 2/18/2026
- COLUMBUS LIFT STATION - 5/22/2024  
 Cleaning Interval: 6 Month(s)
- PATRICK MARSH LIFT STATION - 10/21/2024
- PARK CIRCLE LIFT STATION - 2/9/2026



## Past Jetting Statistics

### 2025

**Total Length Jetted**  
 311,765 ft / 775,464 ft  
 59 mi / 147 mi  
**Unique Length Jetted**  
 224,455.1 ft / 775,464 ft  
 42.5 mi / 147 mi  
**Percent of System Jetted**  
 28.9%  
**SPU Water Fill-Ups**  
 Total Gallons This Year: 66,000

### 2024

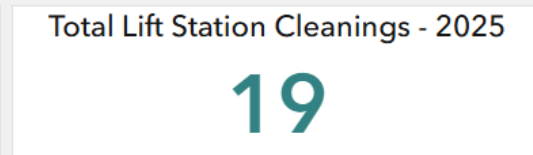
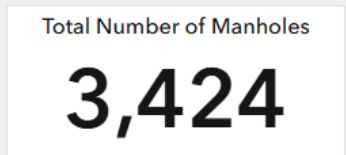
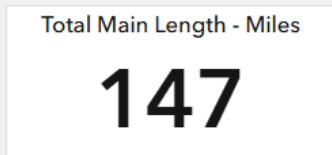
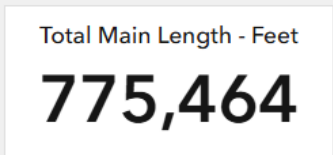
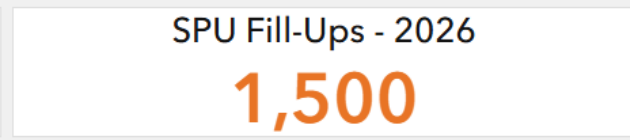
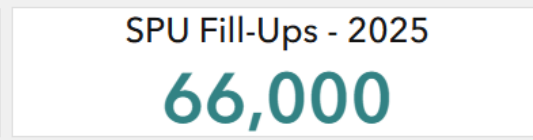
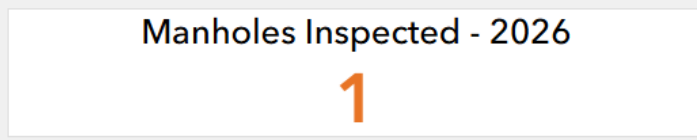
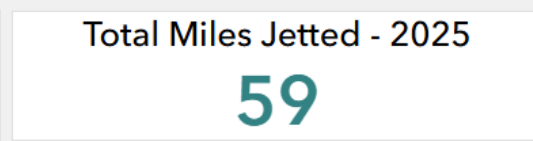
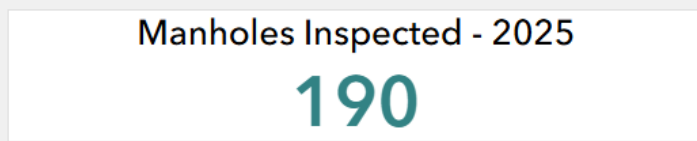
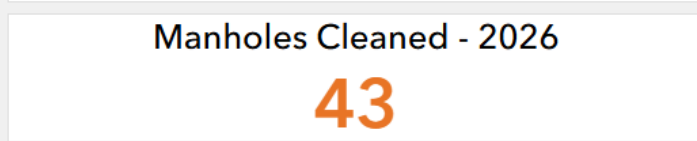
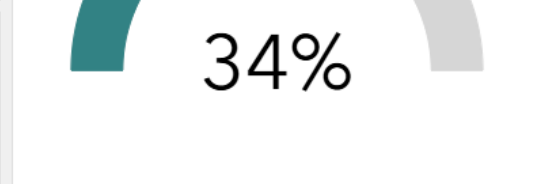
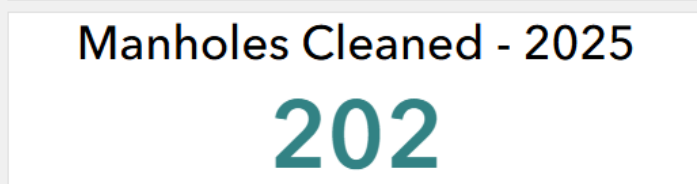
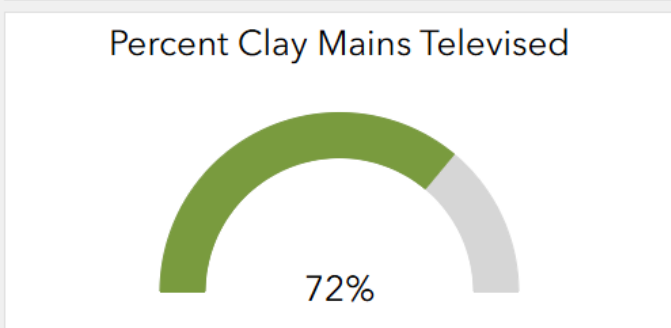
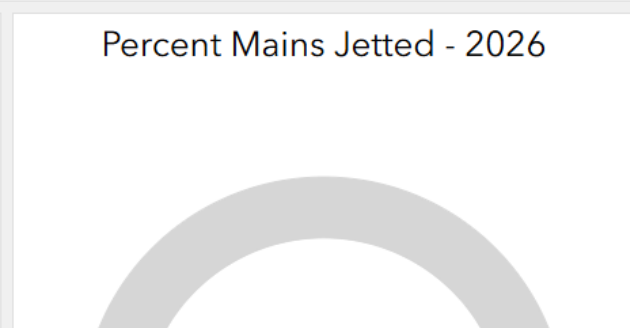
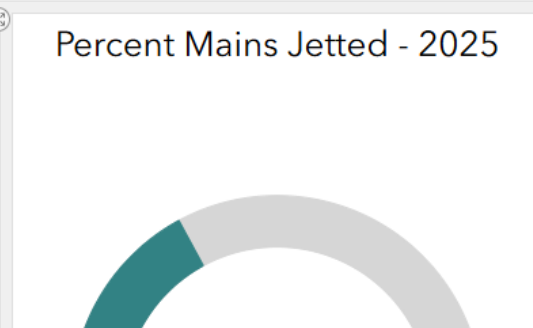
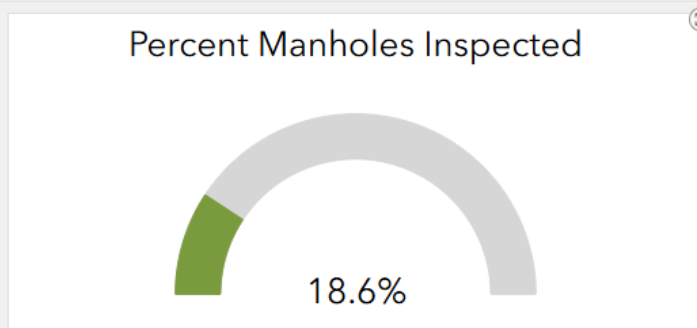
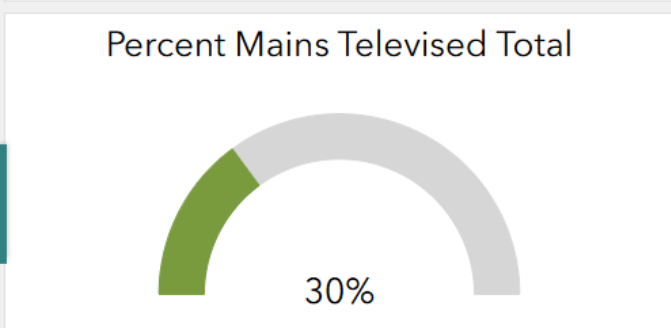
**Total Length Jetted**  
 313,793.6 ft / 775,464 ft  
 59.4 mi / 147 mi  
**Unique Length Jetted**  
 229,658.7 ft / 775,464 ft  
 43.5 mi / 147 mi  
**Percent of System Jetted**  
 29.6%  
**SPU Water Fill-Ups**  
 Total Gallons This Year: 129,000

### 2023

**Total Length Jetted**  
 320,667.4 ft / 775,464 ft  
 60.7 mi / 147 mi

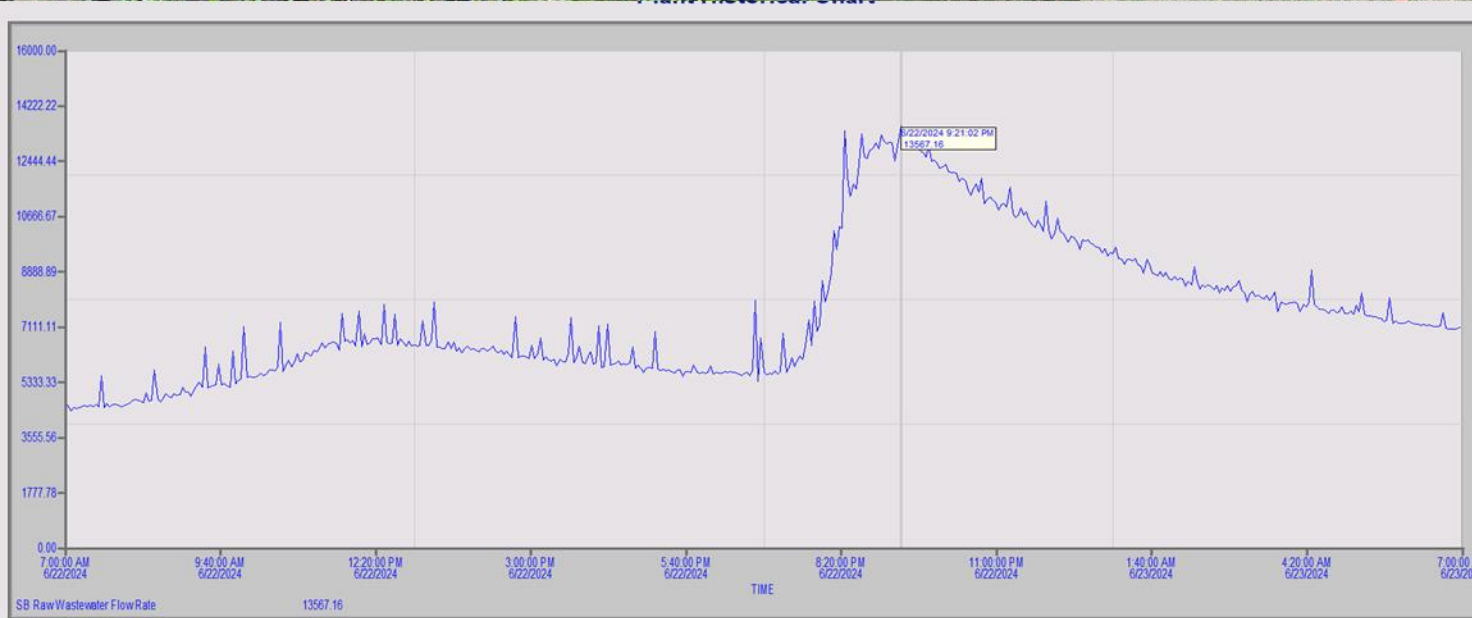
[Current](#)
Past Stats

### Sanitary Sewer Quick Numbers

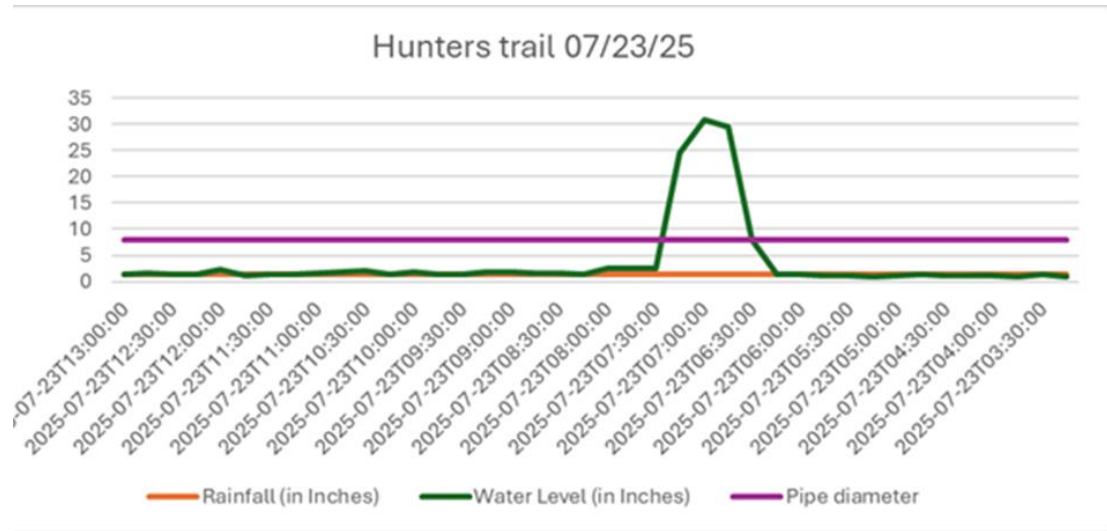
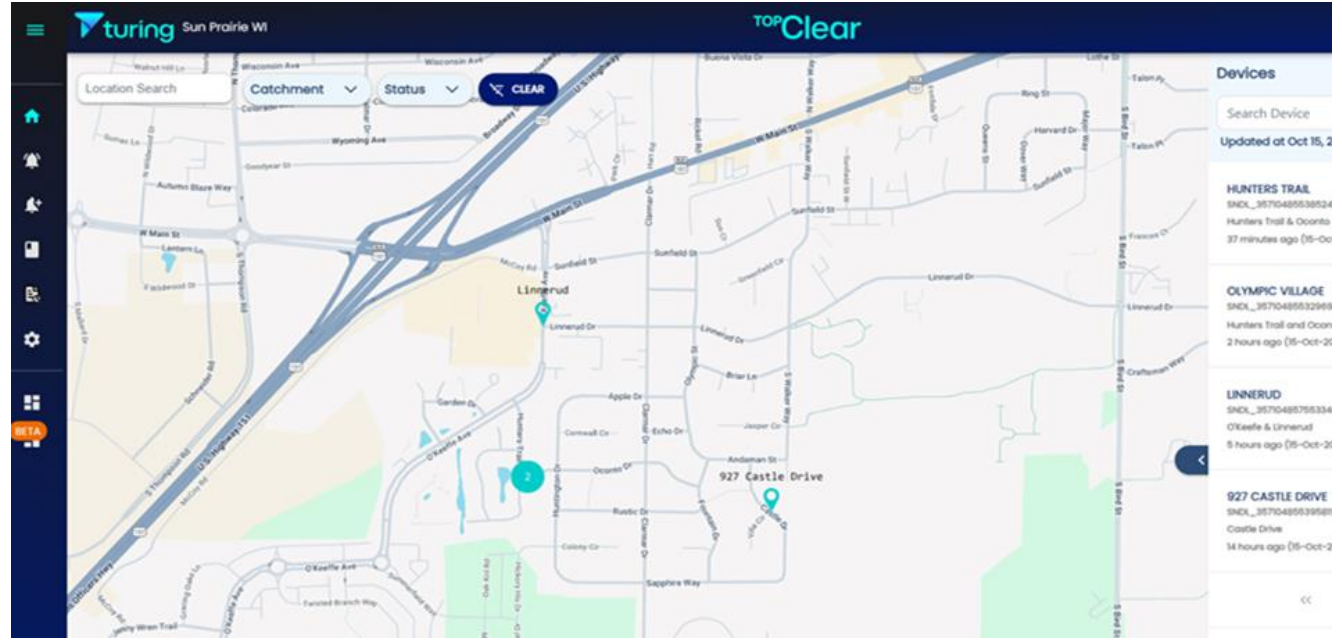


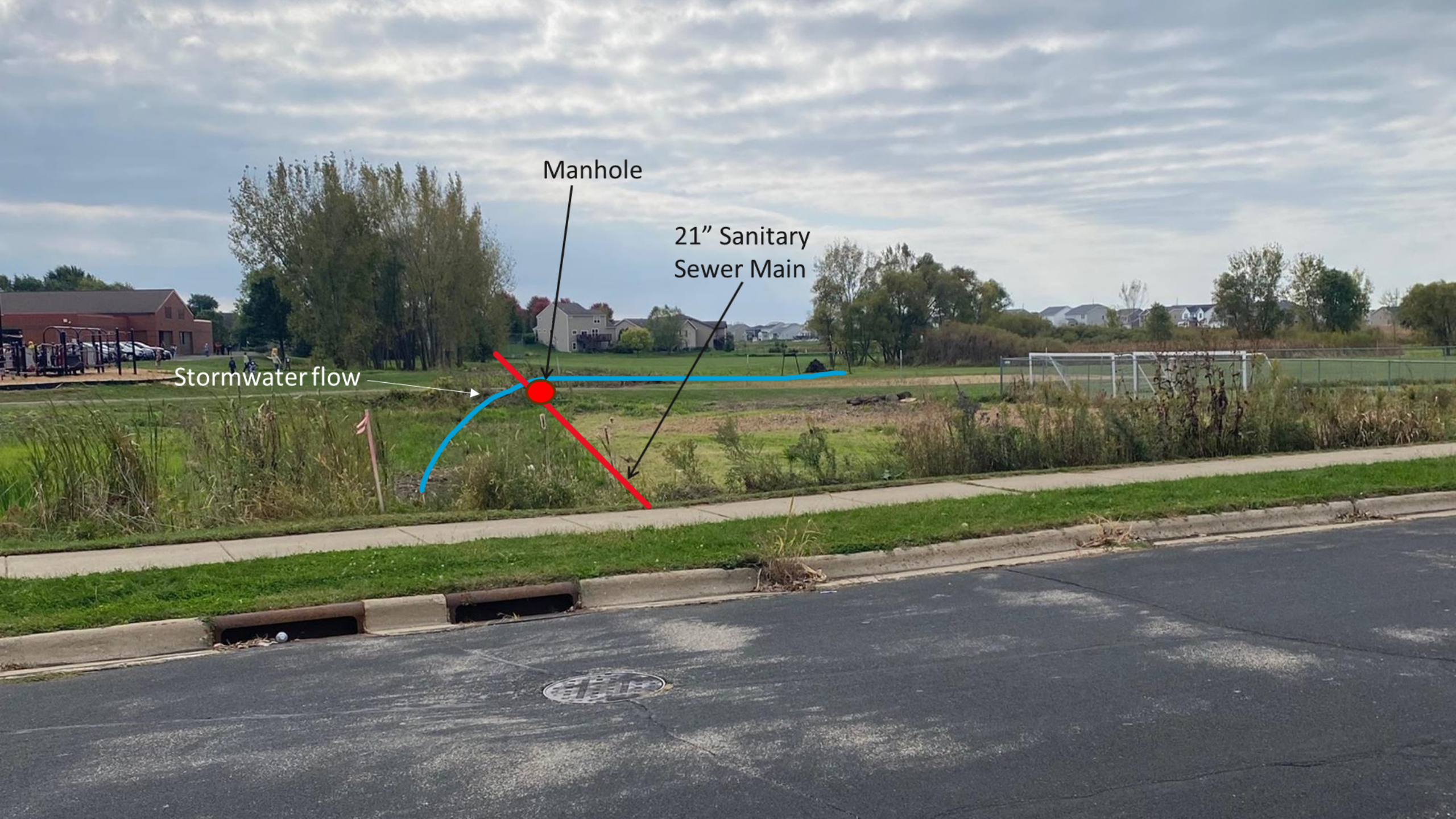






# LEVEL MONITORING





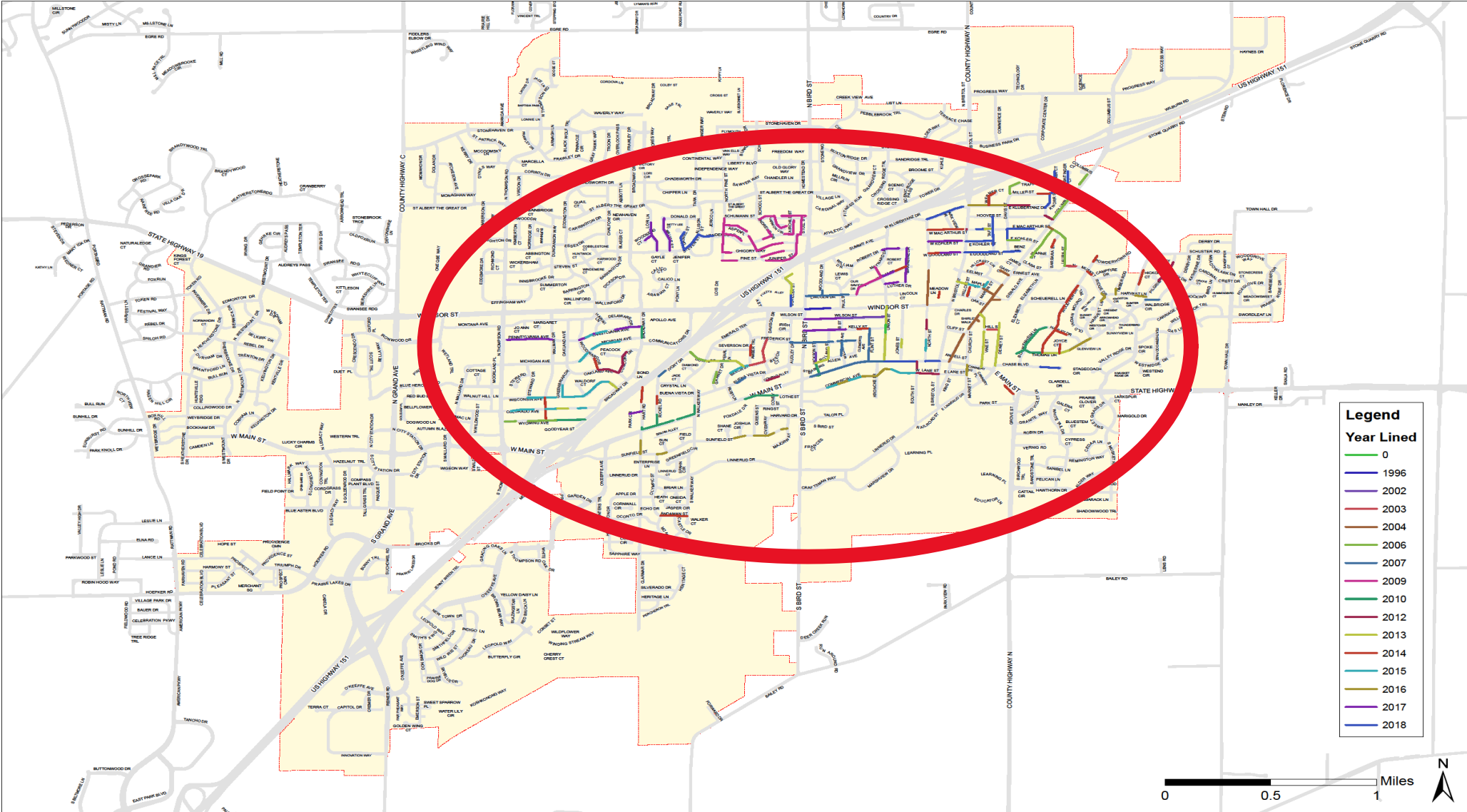
Manhole

21" Sanitary  
Sewer Main

Stormwater flow



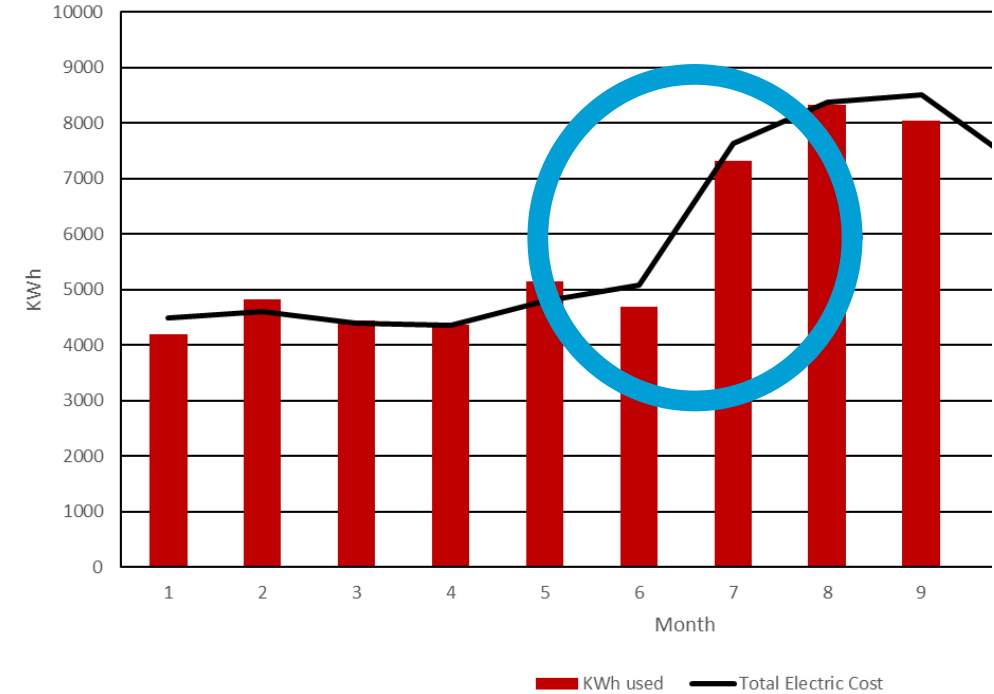
# COLLECTION SYSTEM LINING



# LIFTSTATION PUMP CONTROL

Float control to static level  
transducer control with VFD's

Lift stations Electric Usage & Cost

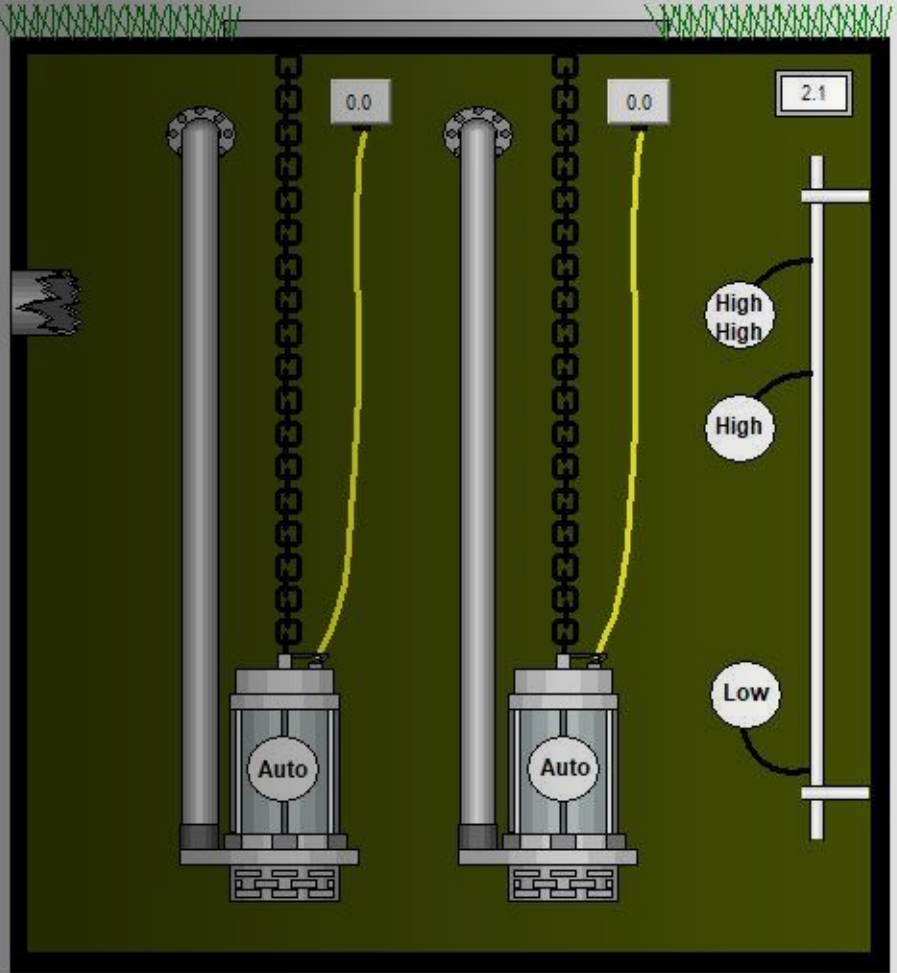


Address: Name:	1254 BROADWAY - acct: 424385-10 Hickory Grove		2524 STONEHAVEN - acct 419265-10 Shonas		1461 STONEWOOD XING - acct: 485195-10 Creek View		1306 COLUMBUS - acct: 235850-10 Columbus		1345 COLUMBUS - acct: 235810-10 Patrick Marsh		1841 HAYNES - 234555-10 Wilburn		1590 CORPORATE CNTR - acct: 232400- 10 Busines Park		1417 PRAIRIE ROSE - acct: 436108-10 Blooming Meadows		785 HEATHERSTONE - acct 428018-10 Wyndham		102 PARK CIRCLE - 229053-10 Park Circle		Total KWh used per Month	Total Electric Cost per Month
	Date Ending	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost	KWh used	Electric Cost			
January	479	\$69.51	7396	\$725.62	363	\$58.12	85	\$30.77	237	\$45.72	131	\$35.28	269	\$48.86	409	\$62.63	326	\$54.46	500	\$71.58	10195	\$ 1,202.55
February	462	\$62.52	4806	\$424.45	376	\$55.05	100	\$31.08	265	\$45.41	139	\$34.47	273	\$46.10	301	\$48.54	316	\$49.85	549	\$70.07	7587	\$ 867.54
March	416	\$60.93	3750	\$356.42	380	\$57.59	93	\$31.01	259	\$46.39	132	\$34.62	283	\$48.61	311	\$51.21	256	\$46.10	529	\$71.39	6409	\$ 804.27
April	396	\$60.87	3507	\$350.01	340	\$55.43	83	\$30.46	232	\$44.93	125	\$34.54	300	\$51.54	346	\$56.02	281	\$49.69	463	\$67.37	6073	\$ 800.86
May	653	\$85.09	3442	\$340.09	313	\$52.44	85	\$30.57	182	\$39.87	123	\$34.21	305	\$51.68	311	\$52.26	235	\$44.95	457	\$66.28	6106	\$ 797.44
June	544	\$82.25	3855	\$431.01	369	\$63.00	93	\$32.64	158	\$39.78	245	\$49.36	360	\$62.00	329	\$58.59	260	\$51.00	596	\$87.96	6809	\$ 957.59
July	396	\$70.20	3110	\$383.79	260	\$53.78	85	\$32.67	217	\$48.60	162	\$41.96	355	\$65.26	368	\$66.82	272	\$55.23	433	\$74.68	5658	\$ 892.99
August	445	\$75.26	3494	\$422.16	298	\$57.79	97	\$33.91	74	\$31.18	143	\$39.38	426	\$72.99	316	\$59.92	211	\$47.46	533	\$85.70	6037	\$ 925.75
September	420	\$76.62	3201	\$420.39	273	\$57.64	81	\$32.86	62	\$30.40	137	\$40.08	360	\$68.86	356	\$68.36	225	\$51.44	439	\$79.06	5554	\$ 925.71
October	403	\$68.36	3050	\$356.94	247	\$50.57	100	\$33.80	117	\$35.74	148	\$39.27	463	\$75.20	296	\$56.16	224	\$47.95	417	\$69.95	5465	\$ 833.94
November	469	\$69.94	3542	\$367.83	303	\$53.11	82	\$30.72	128	\$35.39	122	\$34.77	345	\$57.38	322	\$55.03	277	\$50.49	514	\$74.49	6104	\$ 829.15
December	509	\$72.41	4311	\$430.57	299	\$51.77	74	\$29.67	190	\$41.08	113	\$33.51	259	\$47.86	346	\$56.40	252	\$47.17	393	\$61.02	6746	\$ 871.46
Sum	5592	\$ 853.96	47464	\$ 5,009.28	3821	\$ 666.29	1058	\$ 380.16	2121	\$ 484.49	1720	\$ 451.45	3998	\$ 696.34	4011	\$ 691.94	3135	\$ 595.79	385	\$ 879.55	78743	\$ 10,709.25
Ave	466	\$71.16	3955.3333	\$417.44	318.4166667	\$55.52	88.16666667	\$31.68	176.75	\$40.37	143.3333	\$37.62	333.1667	\$58.03	334.25	\$57.66	261.25	\$49.65	485.25	\$73.30		
Max	653	\$85.09	7396	\$725.62	380	\$63.00	100	\$33.91	265	\$48.60	245	\$49.36	463	\$75.20	409	\$68.36	326	\$55.23	596	\$87.96	7197	905

# LIFTSTATIONS

- Amp draws on pumps weekly
- Check impellers and wear plate tolerance
- View trending on SCADA (can easily tell if blockage in pump and or check valves daily or if elevated flows)
- Clean check valves quarterly
- Clean wetwell monthly or bi-monthly
- Check on floats and float connections weekly
- Check on transducer weekly
- Check runtime hours and starts daily





### Shonas Lift Station (LS6)

<input type="checkbox"/> AC Power Fail	<input type="checkbox"/> Pump 1 High Temperature	<input type="checkbox"/> VFD 1 Fault
<input type="checkbox"/> Battery Fail (UPS)	<input type="checkbox"/> Pump 2 High Temperature	<input type="checkbox"/> VFD 2 Fault
<input type="checkbox"/> Comm Fail <span style="border: 1px solid black; padding: 2px;">60</span> Min.	<input type="checkbox"/> Pump 1 Seal Fail	<input type="checkbox"/> Pump 1 CTR Fail
<input type="checkbox"/> Backup Floats Active	<input type="checkbox"/> Pump 2 Seal Fail	<input type="checkbox"/> Pump 2 CTR Fail
<input type="checkbox"/> High Level Transducer	<input type="checkbox"/> Low Float	<input type="checkbox"/> Both Pumps Not Available
<input type="checkbox"/> Low Level Transducer	<input type="checkbox"/> High High Float	<input type="checkbox"/> Generator Fault
<input type="checkbox"/> Transducer Fail		<input type="checkbox"/> Generator Running

Pump 1 Daily Info.			Pump 2 Daily Info.		
Runtime	0.9	Hrs.	Runtime	0.9	Hrs.
Starts	8	Evts.	Starts	8	Evts.





# WASTEWATER TREATMENT FACILITY

6 Operators/Maintenance Personnel

2 Lab Personnel

**4 MGD facility with 99% removal of BOD, TSS, TP, and Ammonia**

Permit limits:

BOD 5mg/L for 6 months and 10 mg/L for 6 months

TSS 10 mg/L

Total Phosphorus 0.075 mg/L

Ammonia 1.1 mg/L for 5 months, 2.8 mg/L for 1 month, and 4.5 mg/L for 6 months







671

SUN PRAIRIE 

LIBERTY PRAIRIE



# ENERGY AND OPERATIONAL EFFICIENCY AND TRACKING

## **Biological, Chemical, and Electrical Efficiency**

Generator Operation

Energy Tracking

Dissolved Oxygen control

GBT and BFP Operation

Chemical (Ferric Sulfate) dosing and Polymer dosing

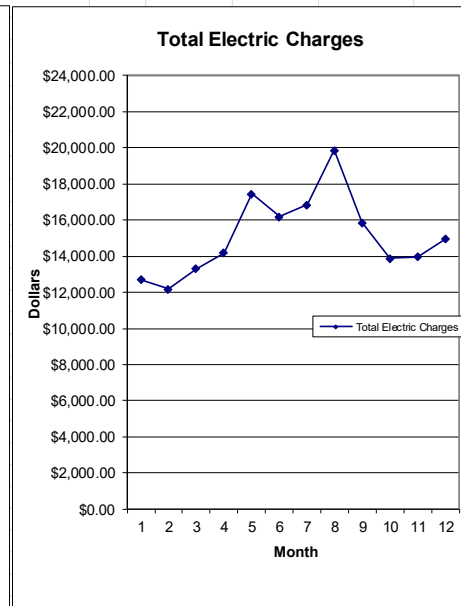
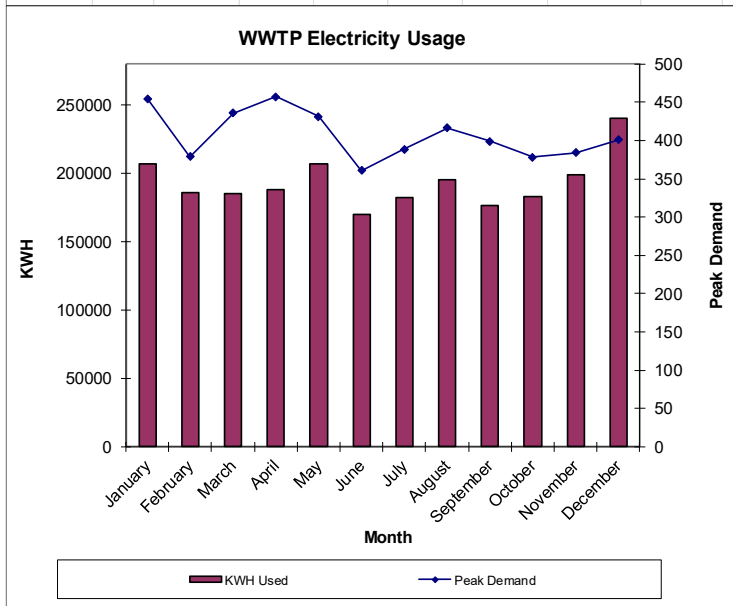


FLAMMABLE  
LIQUIDS

FLAMMABLE  
LIQUIDS

Sun Prairie Wastewater Treatment Plant - 3040 Bailey Road - Account #: 354050-12  
Energy Usage Summary 2025

Usage 8am-5pm																		
Date Ending	Billing Days/Month	KWH Used	On Peak KWH	Off Peak KWH	Renewable block, commitment, and customer charges	Solar and Primary meter and transformer Discounts	Power Cost adjustment	Peak Demand	Demand charge \$	Distribution Demand	Distribution Demand Charge	Total Demand Charges	Total Electric Charges	Daily Ave. Energy Used kWh/day	Ave Total Cost, \$/kWh	Waste water Flow (MGD)	BOD Average Removed per day (LBS)	Cost/lb BOD Removed
January	31	207269	63992	143277	\$ 696.00	-\$517.46	-\$5,326.81	454.59	\$5,455.08	603.90	\$905.85	\$6,360.93	\$12,712.11	6686	\$ 0.061	3.1400	9339	\$ 0.044
February	29	185768	56749	129019	\$ 696.00	-\$474.15	-\$3,733.93	378.81	\$4,545.72	603.90	\$905.85	\$5,451.57	\$12,179.82	6406	\$ 0.066	2.8200	9107	\$ 0.046
March	31	185195	45283	139912	\$ 696.00	-\$481.52	-\$2,907.56	435.78	\$5,229.36	603.90	\$905.85	\$6,135.21	\$13,323.07	5974	\$ 0.072	3.4200	9180	\$ 0.047
April	30	188291	53554	134737	\$ 738.00	-\$493.94	-\$3,163.29	457.38	\$5,488.56	603.90	\$905.85	\$6,394.41	\$14,197.63	6276	\$ 0.075	3.6800	9244	\$ 0.051
May	31	207208	58465	148743	\$ 738.00	-\$509.13	-\$663.07	431.64	\$5,179.68	603.90	\$905.85	\$6,085.53	\$17,464.79	6684	\$ 0.084	3.9600	9811	\$ 0.057
June	30	169938	41808	128130	\$ 738.00	-\$432.69	\$1,223.56	361.08	\$4,332.96	554.22	\$831.33	\$5,164.29	\$16,201.94	5665	\$ 0.095	3.7700	10142	\$ 0.053
July	31	182246	44146	138100	\$ 738.00	-\$469.92	\$965.90	388.44	\$4,661.28	498.42	\$747.63	\$5,408.91	\$16,858.84	5879	\$ 0.093	3.8300	9156	\$ 0.059
August	30	195056	45055	150001	\$ 738.00	-\$482.99	\$2,984.36	416.61	\$4,999.32	498.42	\$747.63	\$5,746.95	\$19,865.50	6502	\$ 0.102	3.9400	9393	\$ 0.070
September	30	176551	43100	133451	\$ 738.00	-\$433.44	\$123.59	399.06	\$4,788.72	498.42	\$747.63	\$5,536.35	\$15,853.59	5885	\$ 0.090	3.3100	8747	\$ 0.060
October	31	183006	52267	130739	\$ 738.00	-\$439.44	-\$2,122.87	378.09	\$4,537.08	498.42	\$747.63	\$5,284.71	\$13,880.58	5903	\$ 0.076	3.0000	8774	\$ 0.051
November	30	199039	52206	146833	\$ 738.00	-\$453.93	-\$2,905.97	383.94	\$4,607.28	487.98	\$731.97	\$5,339.25	\$13,962.19	6635	\$ 0.070	2.8600	9095	\$ 0.051
December	31	240413	82911	157502	\$ 738.00	-\$514.69	-\$4,904.42	400.77	\$4,809.24	487.98	\$731.97	\$5,541.21	\$14,953.46	7755	\$ 0.062	2.8400	9922	\$ 0.049
Sum/MIN	365	2319980	639536	1680444	8730	\$ (5,703.30)	-\$20,430.51	361.08	\$58,634.28	488	\$731.97	\$5,164.29	\$ 181,453.52	76,250	\$0.946	40.57	111910	\$0.640
Ave	30	193332	53294.7	140037	727.5	(475.28)	-\$1,702.54	407	\$ 4,886.19	545	\$ 817.92	\$5,704.11	\$ 15,121.13	6354	\$0.079	3.381	9326	\$0.053
Max	31	240413	82911	157502	738	(432.69)	\$2,984.36	457.38	\$ 5,488.56	603.9	\$ 905.85	\$6,394.41	\$ 19,865.50	7755	\$0.102	3.960	10142	\$0.070



Cost per lb BOD removed	<b>\$0.053</b>
Average kWh per day	6356
Total charges per kWh	\$0.078
kWh per 1000 PE	57885
MWh/MG	1.88
kWh/1000lb of BOD/yr	682
MG/Year	1,234
kWh/MG/Year	1880
\$/MG/Year	\$147.04
kWh/person/year	58
Sun Prairie Population 2025	40079

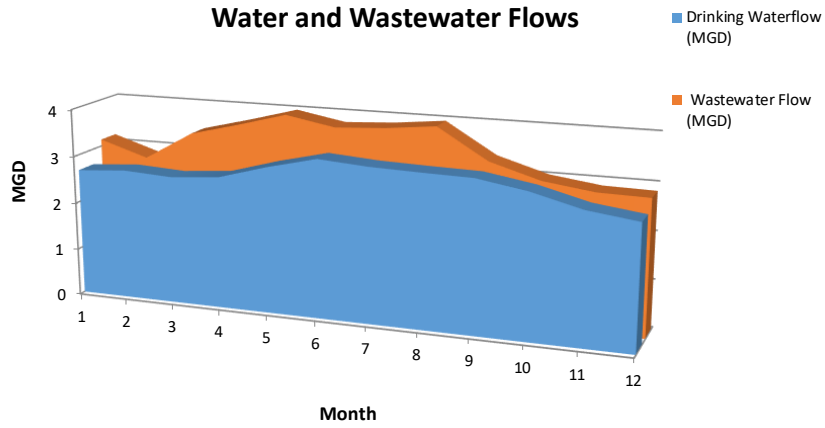
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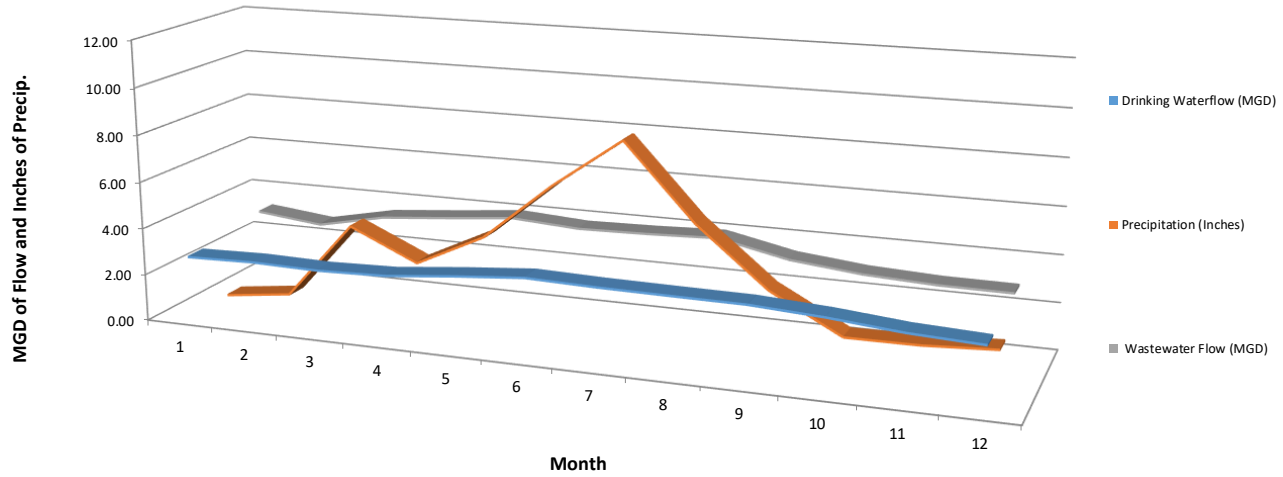
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### Water and Wastewater Flows

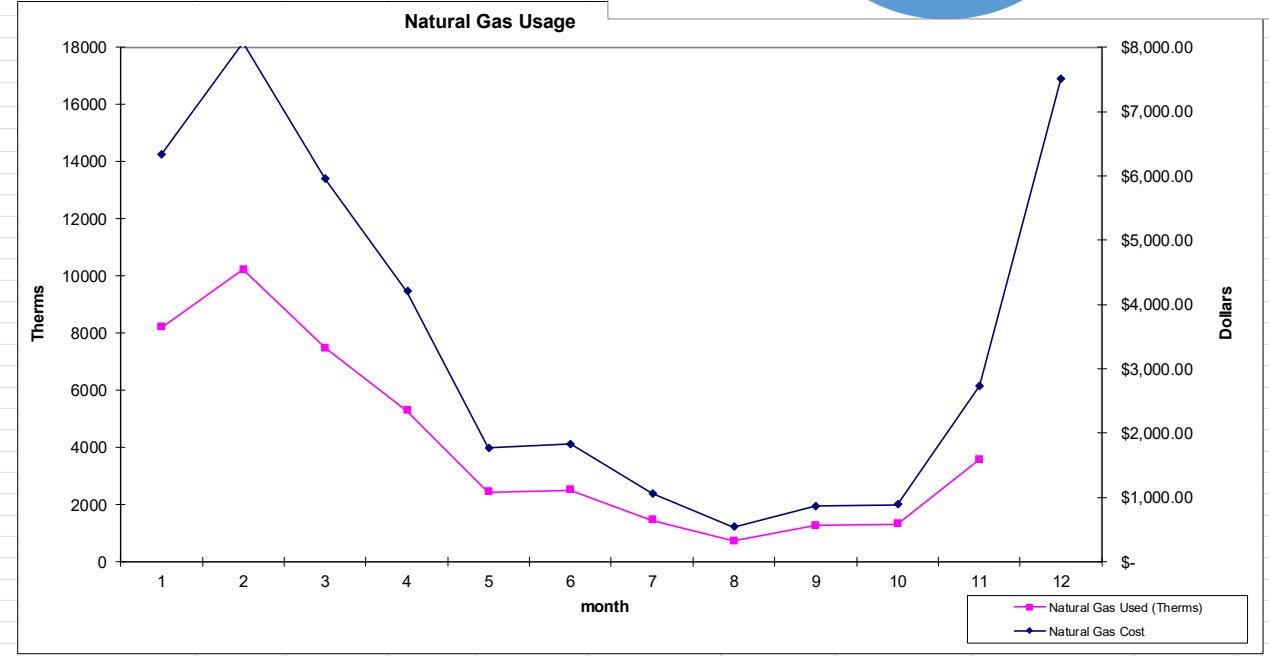
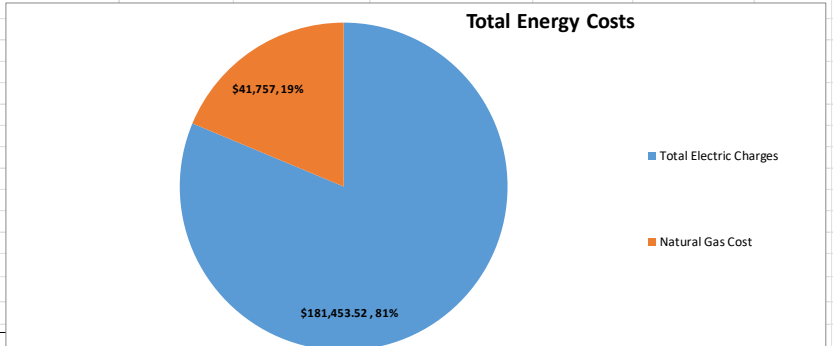


	Drinking Waterflow (MGD)	Precipitation (Inches)
1	2.674	0.11
2	2.749	0.47
3	2.693	3.8
4	2.778	2.48
5	3.072	3.9
6	3.319	6.36
7	3.244	8.49
8	3.212	5.31
9	3.189	2.87
10	3.014	1.27
11	2.744	1.29
12	2.609	1.46
<b>Total</b>	<b>35.30</b>	<b>37.81</b>

### Water, Wastewater, and Precipitation Flow

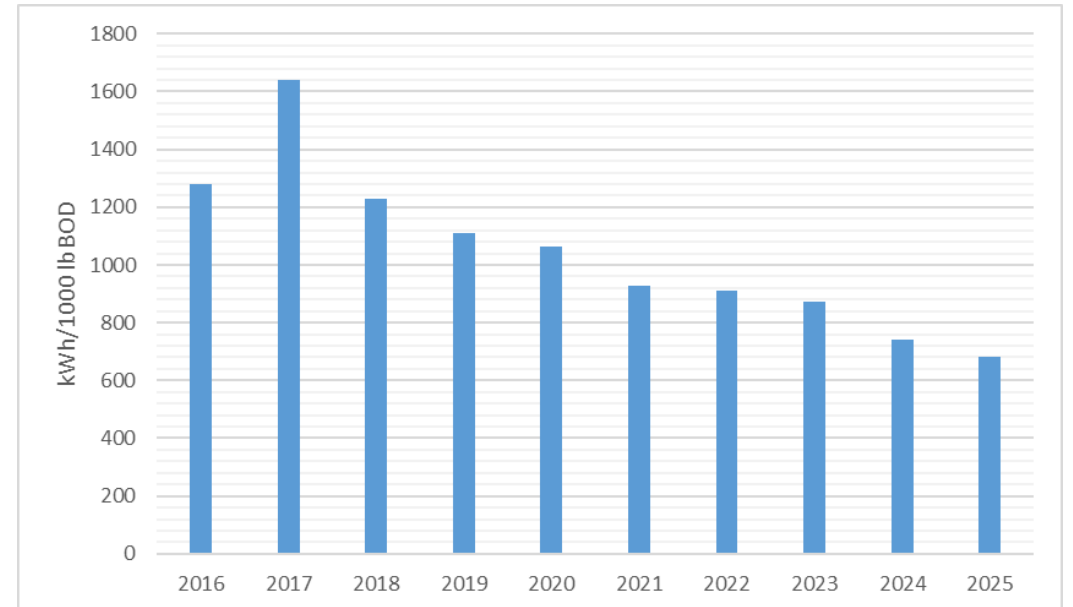
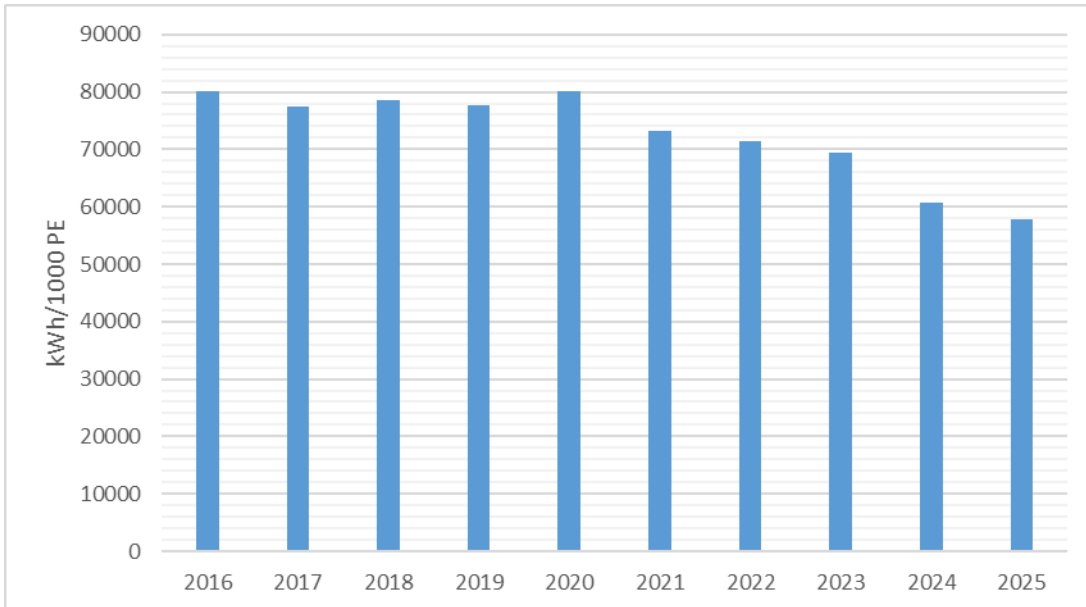


Billing Dates	Natural Gas Used (Therms)	Natural Gas Cost	Therms /day	Cost / Therm
January	8205.9	\$ 6,335.23	265	\$0.77
February	10225.7	\$ 8,078.57	353	\$0.79
March	7469.4	\$ 5,950.93	241	\$0.80
April	5289.9	\$ 4,201.49	176	\$0.79
May	2432.3	\$ 1,766.46	78	\$0.73
June	2506.1	\$ 1,828.29	84	\$0.73
July	1452.7	\$ 1,057.10	47	\$0.73
August	730.8	\$ 537.20	24	\$0.74
September	1262.8	\$ 867.72	42	\$0.69
October	1322.6	\$ 886.16	43	\$0.67
November	3580.1	\$ 2,733.86	119	\$0.76
December		\$ 7,513.50	0	#DIV/0!
Sum	44478	\$41,757	1472	#DIV/0!
Ave	4043	\$3,480	123	#DIV/0!
Max	10225.7	\$8,079	353	#DIV/0!



# ENERGY CONSUMPTION AND MONITORING

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Population				34926	35895	36394	37304	38387	39149	40079
Cost per lb BOD removed	<b>\$0.091</b>	<b>\$0.088</b>	<b>\$0.084</b>	<b>\$0.074</b>	<b>\$0.073</b>	<b>\$0.067</b>	<b>\$0.072</b>	<b>\$0.064</b>	<b>\$ 0.054</b>	<b>\$ 0.053</b>
Average kWh per day	6780	6799	7096	7387	7754	7277	7298	7307	6559	6356
Total charges per kWh	\$0.070	\$0.074	\$0.066	\$0.066	\$0.068	\$0.073	\$0.079	\$0.073	\$ 0.072	\$ 0.078
kWh per 1000 PE	80045	77339	78488	77672	80225	73198	71406	69490	60736	57885
MWh/MG	1.69	1.64	1.77	1.76	1.96	2.31	2.29	2.15	1.66	1.88
kWh/1000lb of BOD/yr	1279	1640	1229	1110	1065	929	909	873	742	682
MG/Year	1,466	1,509	1,461	1,545	1,450	1,144	1,163	1,241	1445	1234
kWh/MG/Year	1693	1640	1773	1759	1957	2309	2290	2148	1657	1880
\$/MG/Year	\$118.89	\$120.98	\$117.84	\$116.11	\$133.41	\$167.69	\$181.17	\$157.31	\$ 119.01	\$ 147.044
kWh/person/year	<b>80.04</b>	<b>77.34</b>	<b>78.49</b>	<b>77.67</b>	<b>80.22</b>	<b>73.20</b>	<b>71.41</b>	<b>69.49</b>	<b>60.74</b>	<b>57.89</b>



# Plant Historical Chart



1.56  
1.18  
1.11  
1.47  
1.27  
1.18  
1.33  
1.26  
1.06  
2368.07

# MONITORING TRENDS







0.9 – 1.1 MG/L DO

	Influent flow calc.	Effluent flow calc.	Process Sidestream Lift Station Flow	Disc Filter Influent Total Phosphorus	Total Phosphorus Final Effluent	DiscFilter Inf. TSS	Eff. TSS	DiscFilter Floc TSS	DiscFilter #1 BW Pump	DiscFilter #2 BW Pump	DiscFilter #1 Total BW	DiscFilter #2 Total BW	Polymer	Ferric Sulfate
	MGD	MGD	kGal	mg/l	mg/l	mg/l	mg/l	mg/l	Hrs/Day	Hrs/Day			Gal/Day	Gal/Day
Thursday, January 1, 2026	2.752	2.664	289	0.203	0.065		1.8		6.7	5.6	472	447	3.4	86
Friday, January 2, 2026	2.868	2.901	285						6.9	5.8	485	460	3.2	90
Saturday, January 3, 2026	2.899	2.753	293						6.9	6.1	485	465	3.1	91
Sunday, January 4, 2026	3.088	3.061	294	0.232	0.055		1.6		7.4	6.7	492	469	3.4	94
Monday, January 5, 2026	2.898	2.972	292	0.182	0.045	2.3	1.5		7.2	6.1	490	460	3.1	89
Tuesday, January 6, 2026	3.293	3.403	301	0.191	0.052		1.6	6.0	7.9	7.3	513	494	4.2	110
Wednesday, January 7, 2026	3.058	3.168	298	0.185	0.048		1.2		7.9	6.8	506	480	3.4	96
Thursday, January 8, 2026	3.388	3.604	307	0.234	0.059		1.3		8.8	7.4	491	469	3.5	105
Friday, January 9, 2026	3.338	3.477	307						8.4	8.3	542	530	4	104
Saturday, January 10, 2026	3.280	3.313	301						7.9	7.1	540	516	3.1	101
Sunday, January 11, 2026	3.378	3.372	303	0.197	0.049		1.7		7.8	7.4	553	536	3.5	104
Monday, January 12, 2026	3.164	3.222	307	0.178	0.047		1.9		7	6.4	543	531	3.9	97
Tuesday, January 13, 2026	3.077	3.184	304	0.173	0.057		1.6	8.0	6.9	6.4	546	535	3.4	99
Wednesday, January 14, 2026	3.048	3.036	298	0.185	0.041	2.2	1.5		6.7	6	531	511	3.2	96
Thursday, January 15, 2026	3.040	3.000	299	0.212	0.043		2.1		6.7	6.6	497	503	3.5	95
Friday, January 16, 2026	2.976	2.969	294						6.5	5.8	520	503	3.7	92
Saturday, January 17, 2026	3.020	2.960	294						6.8	6	515	493	3.1	94
Sunday, January 18, 2026	3.109	3.082	295		0.051		1.6		7	6.2	533	495	3.5	95
Monday, January 19, 2026	3.123	3.109	299	0.248	0.055	3.8	2.1		6.8	6.3	547	518	3.4	96

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## BFP - CLEAN FILTRATE

- Less solids and phosphorus to deal with in plant



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# SIDE STREAM PUMP STATION

- Backwash from tertiary process – disc filters is sent to the sidestream pumpstation and any excess Ferric ties up phosphorus coming from the BFP
- Send elutriate from fermenter to the WAS holding tanks and release Phosphorus prior to GBT (filtrate high in P and preventing struvite issues in the digesters)
- Flow combines and then sent to primary clarifiers
- Typically see a 1-2 mg/L drop in TP through the primaries





200 SEMI LOADS ANNUALLY

15% BIOSOLIDS





# Restacking Biosolids



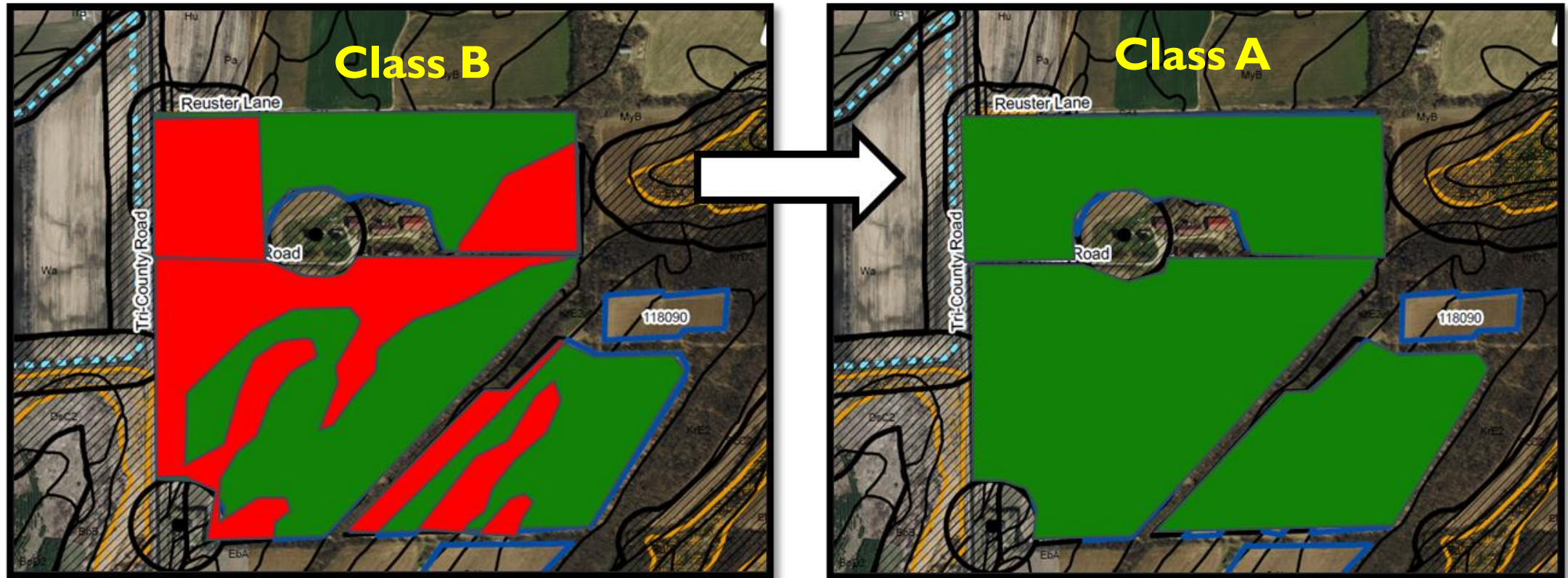
FARMING PRACTICES HAVE CHANGED –  
(SOIL LOSS, COMPACTION AND LACK OF  
ORGANIC MATTER A MAJOR ISSUE)

NOT CONDUCIVE TO CLASS B BIOSOLIDS APPLICATION

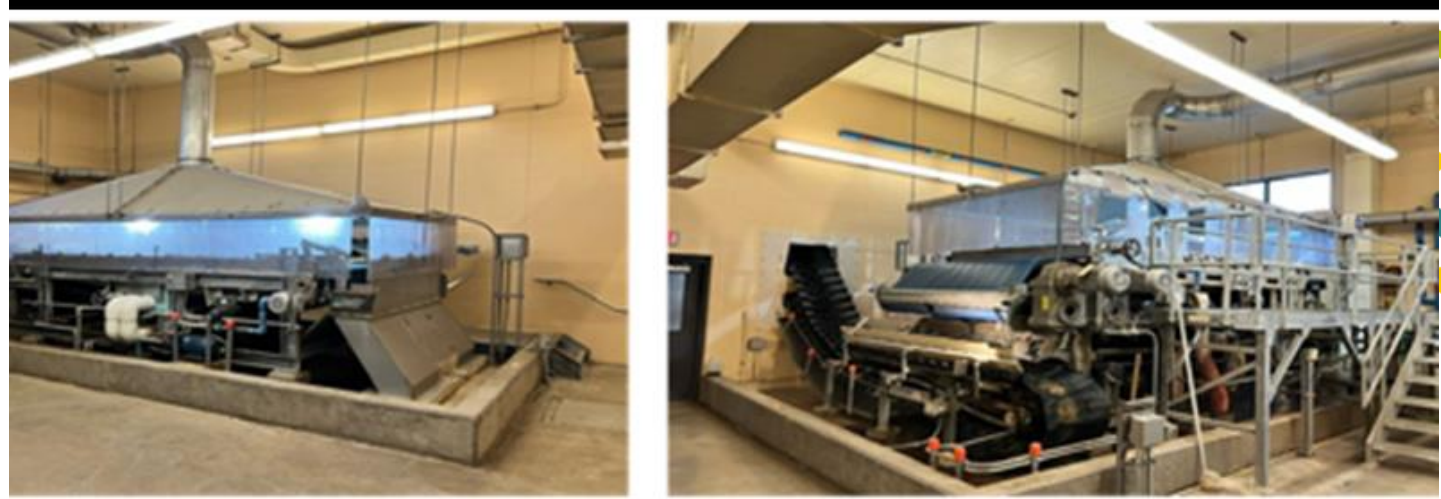
- No till
- Minimum till
- Strip till



# CLASS A BIOSOLIDS



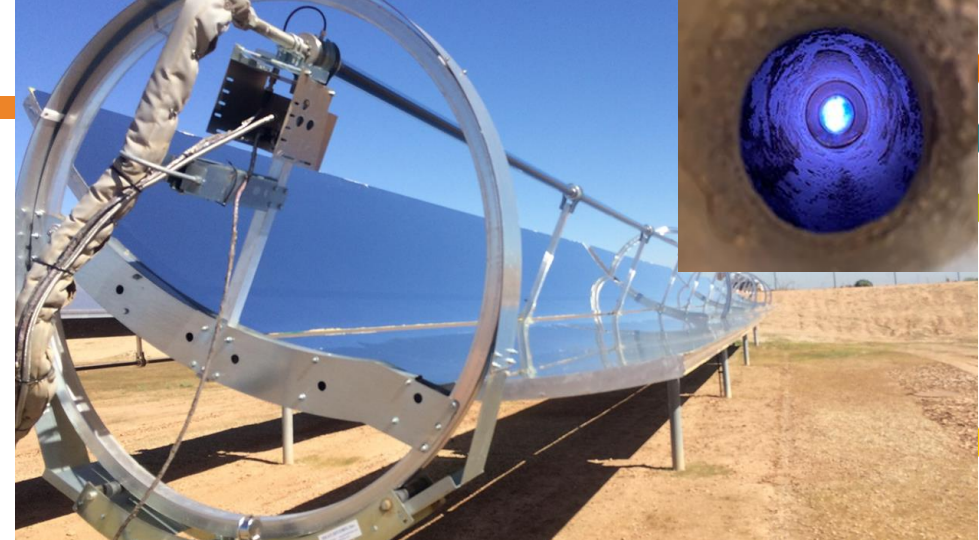
**SINGLE POINTS OF FAILURE**



**NOT EFFICIENT**



Using the Sun to dry biosolids, produce hot water, and electricity and using biogas



SUNSTAINABLE  
BIOSOLIDS



HUBER  
TECHNOLOGY


STRAINPRESS®  
Huber Technology Inc. 2014  
10000  
10000  
10000

HUBER  
TECHNOLOGY

STRAINPRESS



**WARNING**  
Moving machine parts  
Advancing start  
Risk of injury: crushing your hand  
between rollers or between  
rollers.

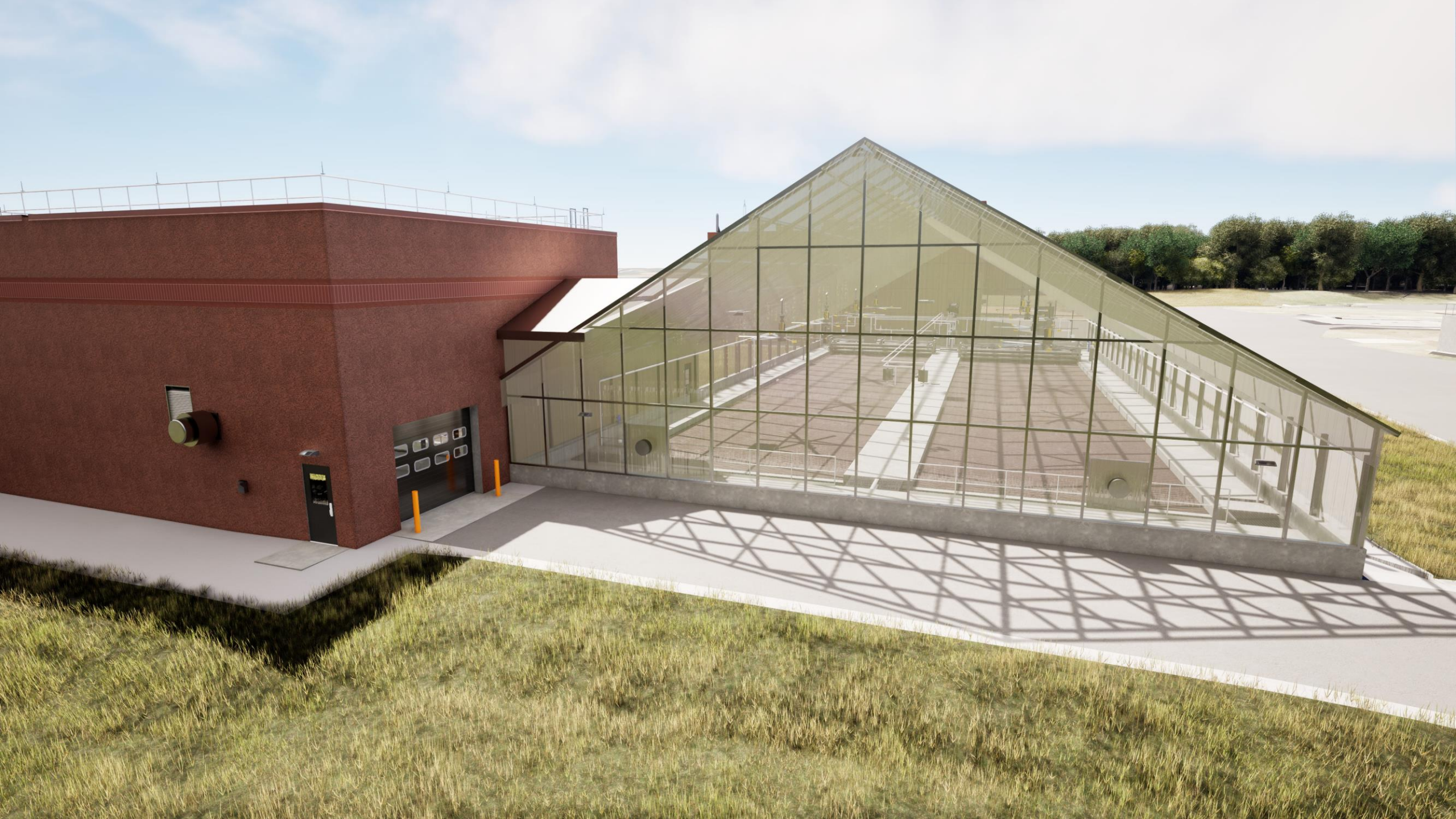


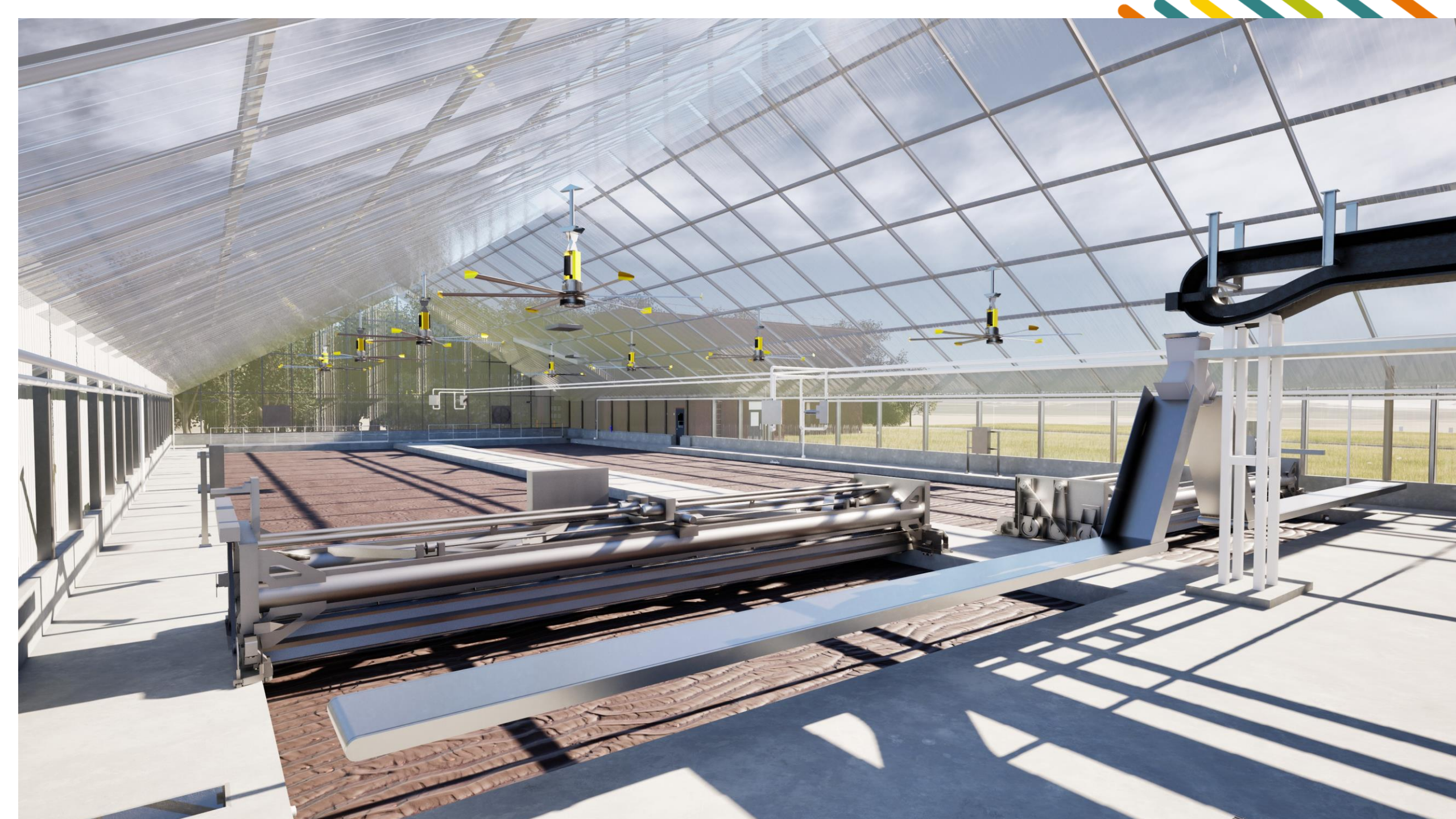
# CLASS A PROCESS

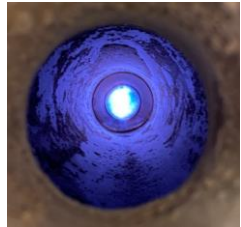
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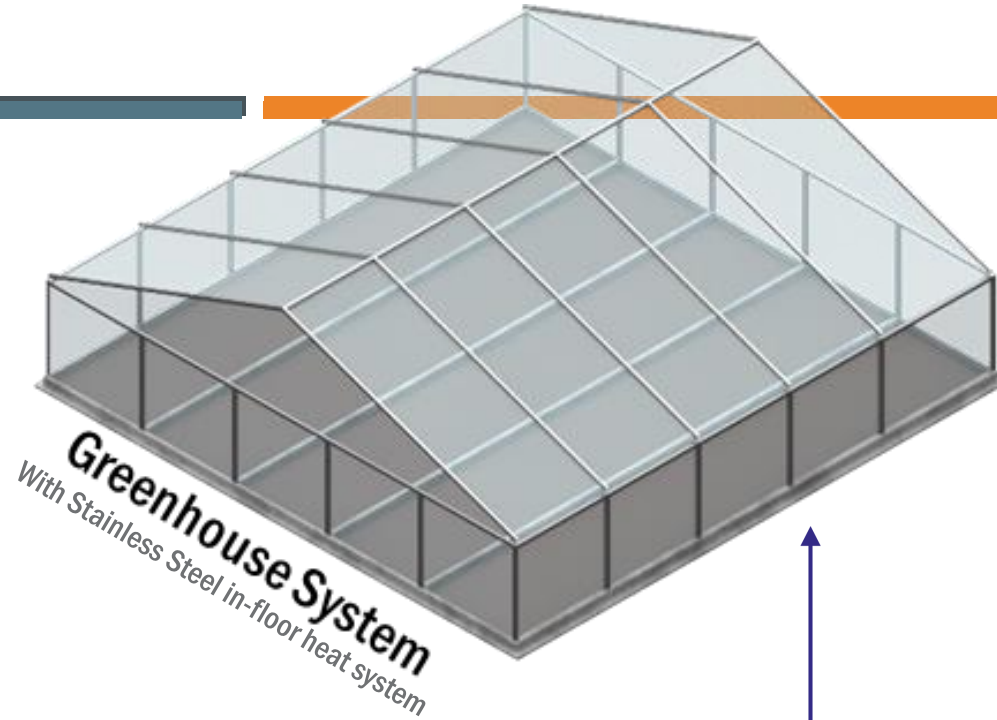




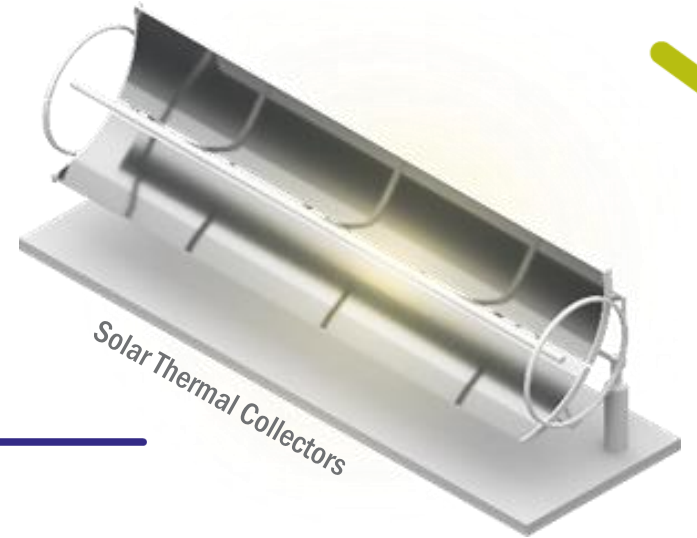




Biogas



**Greenhouse System**  
With Stainless Steel in-floor heat system



Solar Thermal Collectors

# MAKE HOT WATER TO DRY BIOSOLIDS

And use the sun



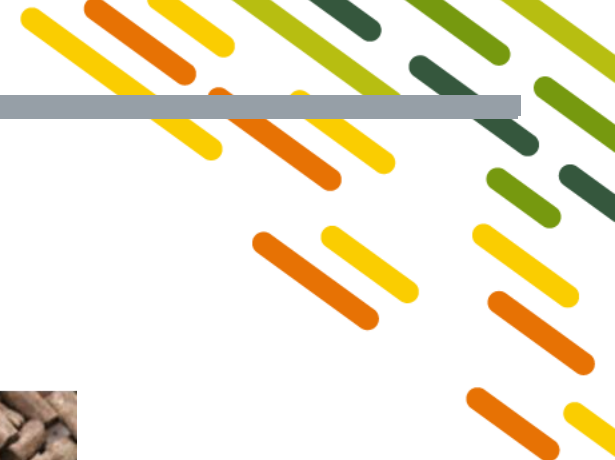




PELLETIZED CLASS A BIOSOLIDS STORAGE

# CLASS A EQ BIOSOLIDS

## UNIFORM SIZE AND DENSITY



# THANK YOU

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