



## **MADRAS CITY COUNCIL WORK SESSION**

Monday, December 11, 2023 at 12:00 PM

City Council Chambers, 125 SW "E" Street, Madras, OR 97741

Telephone (541) 475-2344 [www.ci.madras.or.us](http://www.ci.madras.or.us)

This meeting is open to the public. However, Council does not take public comments at Work Sessions and no formal decisions will be made.

### **Join via Zoom:**

<https://us02web.zoom.us/j/2912614668?pwd=MIJ3ZzhOYzg0ZkhwOTZ0REgrWTFYdz09>

Passcode: **5414752344**

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### **Join via teleconference:**

From a cell phone: **971-247-1195**

From a land line phone: **1-877-853-5257**

Meeting ID: **291 261 4668#**

Participant ID: **#**

Passcode: **541 475 2344#**

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## **AGENDA**

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- I. Call Work Session to Order**
- II. Roll Call**
- III. Work Session Topic(s)**
  1. Wastewater Treatment Plant
- IV. Additional Discussion**
- V. Adjourn Work Session**

**CITY OF MADRAS**  
**Work Session Report**

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**Meeting Date:** December 11, 2023

**To:** Mayor and City Council Members

**From:** Michele Quinn, Public Works Manager

**Through:** Jeff Hurd, Public Works Director

**Subject:** **WASTEWATER TREATMENT PLANT**

**TYPE OF ACTION REQUESTED:**

Discuss

**OVERVIEW:**

At the December 11, 2023, City Council Work Session, the Utility Manger will provide a report to the Council on the overall operations of the wastewater treatment facilities. The report is intended to inform the Council about the operations of plants, future needs and challenges. The staff's intention is to inform the Council about the day-to-day operations of the wastewater department and long term maintenance needs and goals.

**STAFF ANALYSIS:**

NA

**FISCAL INFORMATION:**

NA

**SUPPORTING DOCUMENTATION:**

Powerpoint

**STRATEGIC GOAL:**

# **CITY OF MADRAS**

## **UTILITY FACILITIES**

**Presented by Dan Hall Utilities Manager and Michele Quinn Public Works Manager**



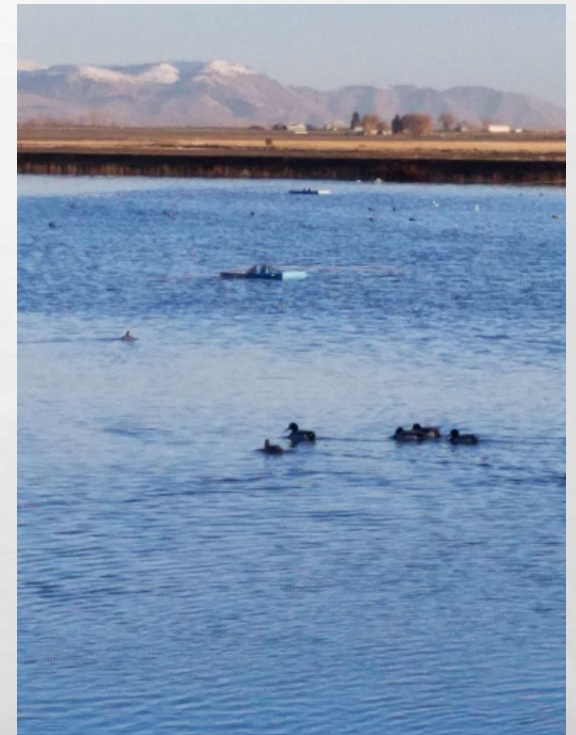


**Constructed in 1975**

# **NORTH PLANT**

**LAGOON SYSTEM**





**North Plant lagoons**



**North Plant krofta unit**



**North plant chlorine contact chamber**



**North plant intermediate pump**





**North plant aerator project**



**Constructed in 2001  
and expanded in 2008**

# **SOUTH PLANT**

**SEQUENCING BATCH REACTOR (SBR)**



# **GOLF COURSE STORAGE POND**

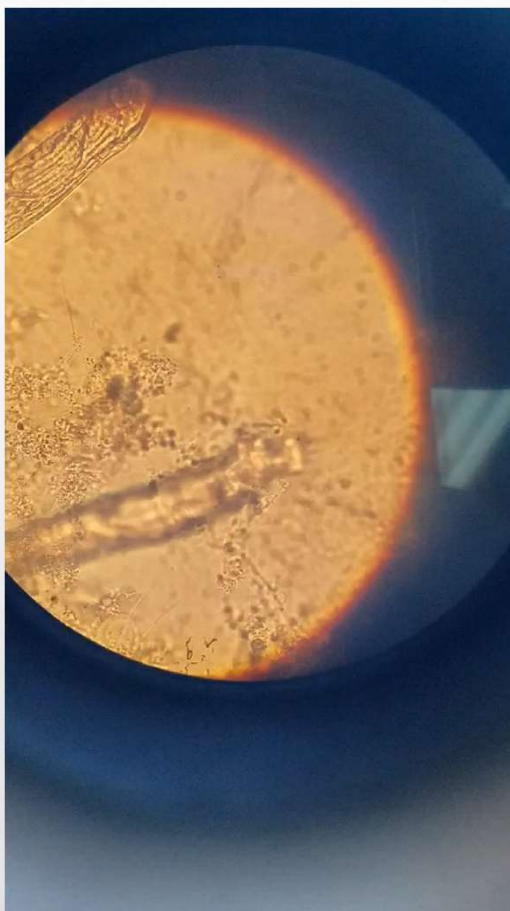




**Golf Course Storage Pond**



**South plant main office and operations**



**South plant bacteria colony**



**South Plant head works (heliclean)**



**Mixer service on SBR #1**





**Maintenance of diffuser banks**



**Mixer repair in the sludge holding tank (SHT)**



**Sludge drying beds**



**Draining and cleaning the post equalization basin**



**South plant filter bay**



**Installation of new VFD on effluent pumps**



**South plant effluent pump rebuild**

# UPPER STORAGE POND



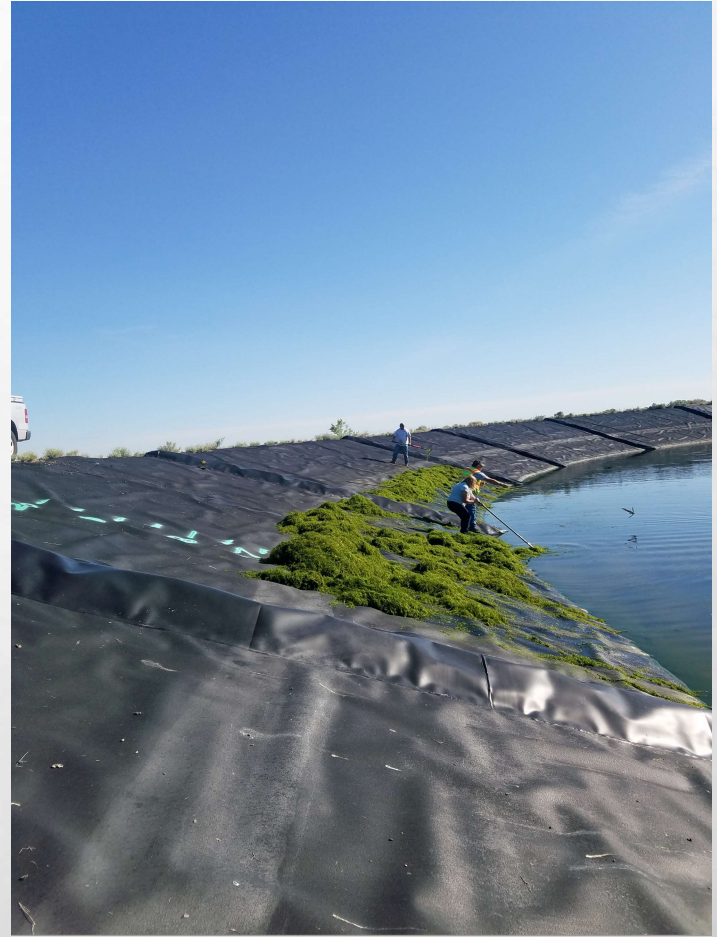
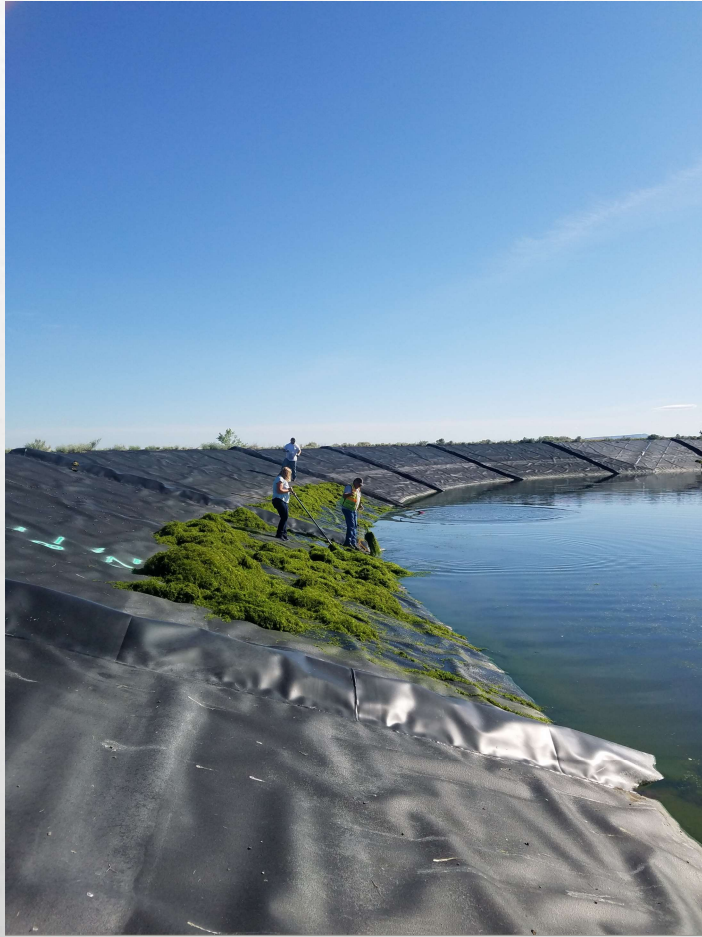




South Plant Upper Storage Pond Table to Determine Volume of Water at Any Given Depth of Pond

Height	Elevation in Feet	Acre Feet	Acre Feet to Get Rid of at Depth of Pond	Gallons to Get Rid of at Depth of Pond
Bottom	2789	13.38		
1	2790	13.62		
2	2791	13.86		
3	2792	14.09	Empty	
4	2793	14.33	14.21	4,631,101.76
5	2794	14.57	28.66	9,339,825.41
6	2795	14.81	43.35	14,126,170.95
7	2796	15.05	58.28	18,990,138.37
8	2797	15.29	73.45	23,931,727.68
9	2798	15.52	88.85	28,950,938.88
10	2799	15.76	104.50	34,047,771.96
11	2800	16.00	120.38	39,222,226.94
12	2801	16.24	136.50	44,474,303.79
13	2802	16.48	152.85	49,804,002.54
14	2803	16.71	169.45	55,211,323.17
15	2804	16.95	186.28	60,696,265.69
16	2805	17.19	203.35	66,258,830.10
17	2806	17.43	220.67	71,899,016.39
18	2807	17.67	238.21	77,616,824.57
19	2808	17.91	256.00	83,412,254.64
20	2809	18.14	274.03	89,285,306.59
21	2810	18.38	292.29	95,235,980.43

**South Plant Storage pond  
25 acres**



**Upper storage pond algae growth**



**Upper storage pond algaecide treatment**

# **CITY OF MADRAS COLLECTION SYSTEM**

- **Over 800 manholes and growing**
- **60 miles of gravity mainline**
- **10 miles of pressure mainline**
- **1000 active sewer customers (that number continues to grow)**
- **5 pump stations**



**Aging manhole**



**New infrastructure**



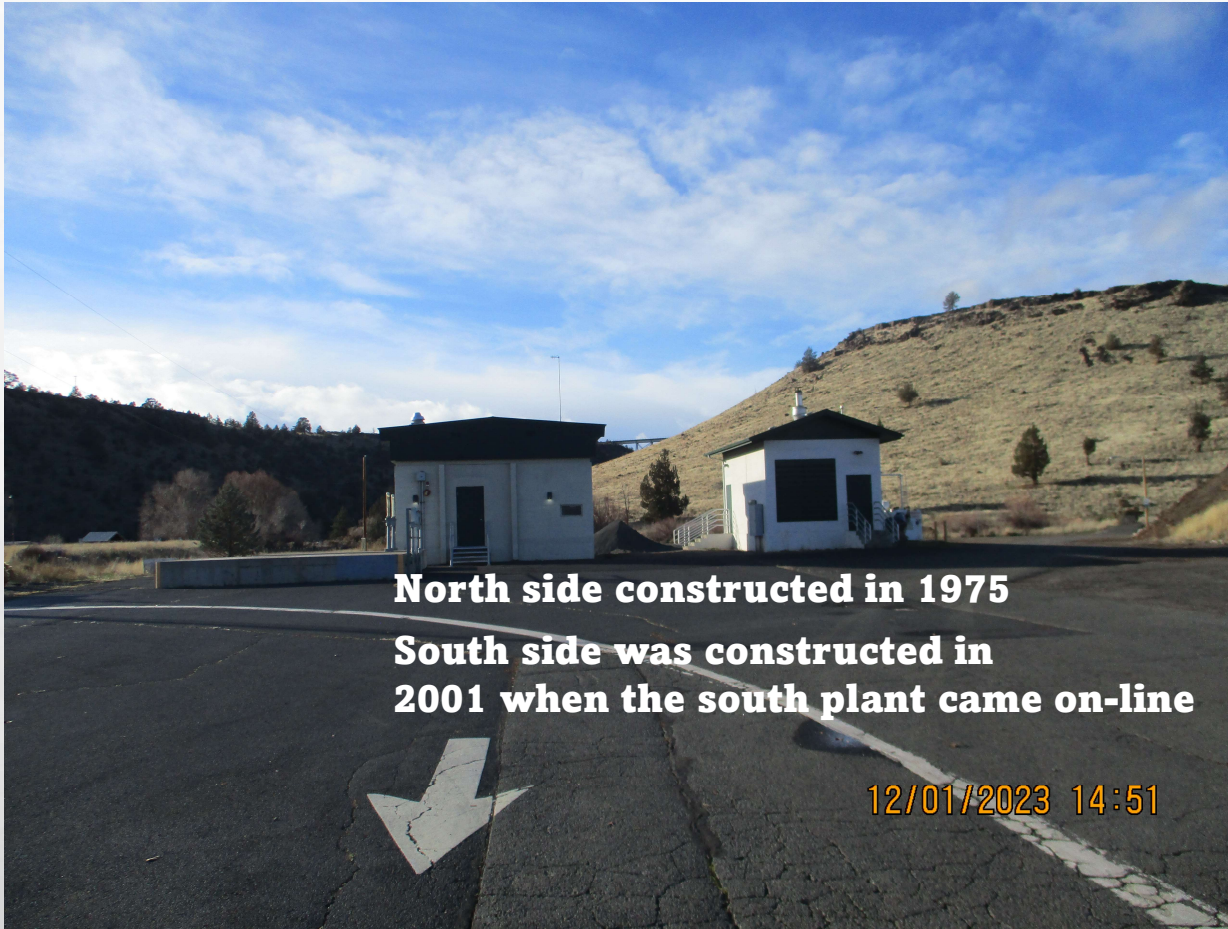


**Mainline extension project**

# **B STREET**

**PUMP STATION**





**North side constructed in 1975  
South side was constructed in  
2001 when the south plant came on-line**

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**B Street pump station**





**B Street north pumps**



**B Street south pump check valves**

# DEMERS PUMP STATION

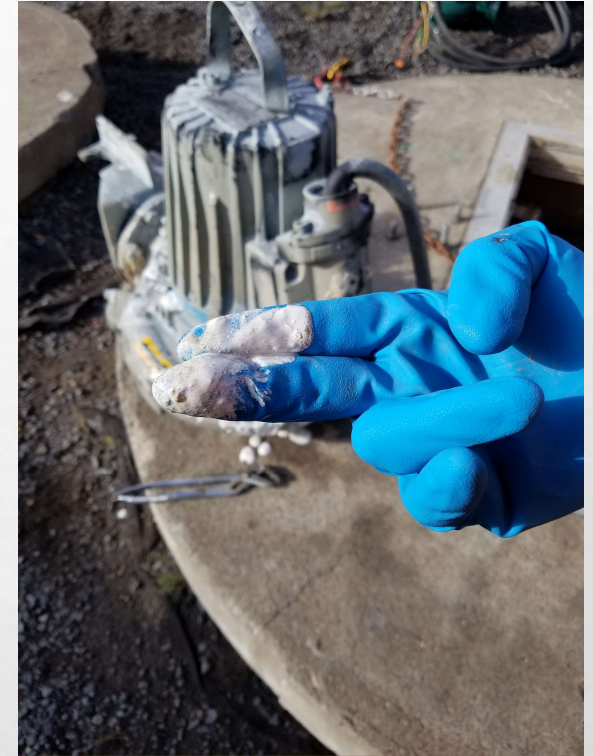




**Demers pump station constructed in 1989**



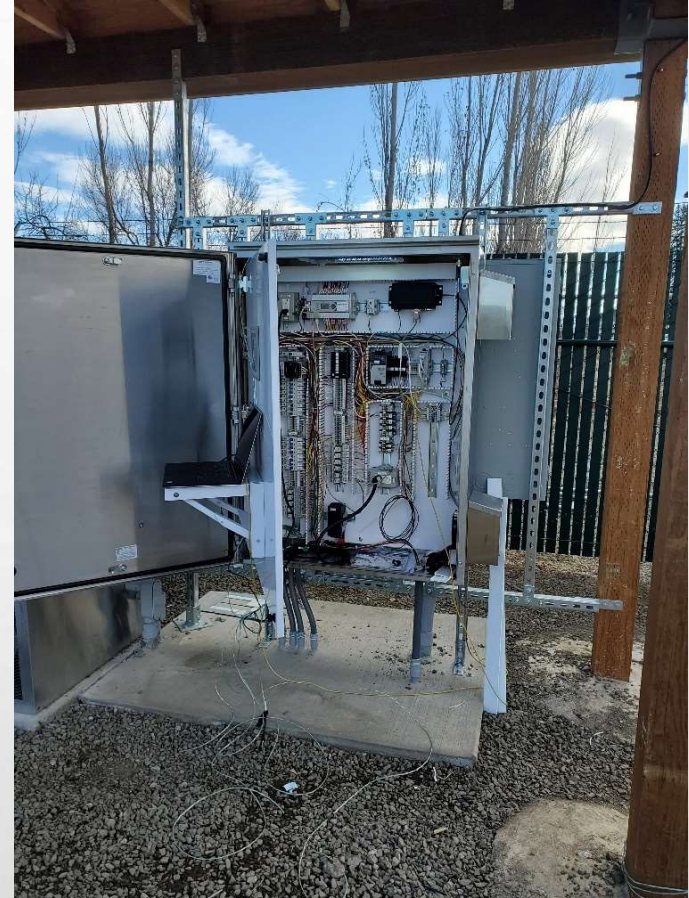
**Demers lift station**



**Demers pump station influent toxicity concerns**

# **GOLF COURSE PUMP STATION**





**Golf Course lift station built in 2022 as a result of the Willowbrook subdivision**



**Lift station discharge valves**

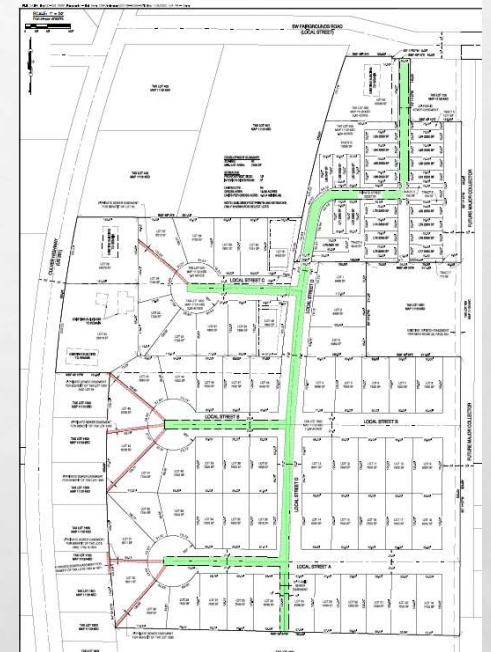


# FUTURE CAPACITY CONCERNS

**Development will drive all capacity concerns as town continues to grow.**

- **Hwy 97 and Cedar – mainline capacity**
- **Culver Hwy and G Street – mainline capacity**
- **North plant capacity**
- **South plant capacity**

**This will all be analyzed with the update of the Wastewater master plan**



# Questions?