City of Red Wing Pond Inspections

-Madison ErieCity of Red WingField and Lab TechnicianRed Wing WWTP

Pond Information

- The City of Red Wing has 75 Stormwater ponds
- We maintain approximately 60
- Ponds are on an inspection and survey schedule, our MS4 permit requires us to inspect 20% annually
- Once a pond shows over 20% infill, we monitor and make a plan to clean out the pond

Time of year to Inspect and Survey:

- Pond inspections can be done throughout the year
- Dry Ponds are surveyed spring-fall
- Wet Ponds are surveyed during the winter, when the ponds have a layer of thick ice

General Pond Inspection

- Cartegraph
- Inspection form
- -Rating system
- -Based on the inspection, a percentage is calculated and if/when the percentage falls below 70% a maintenance plan is made.
- Pictures
- Observations/notes

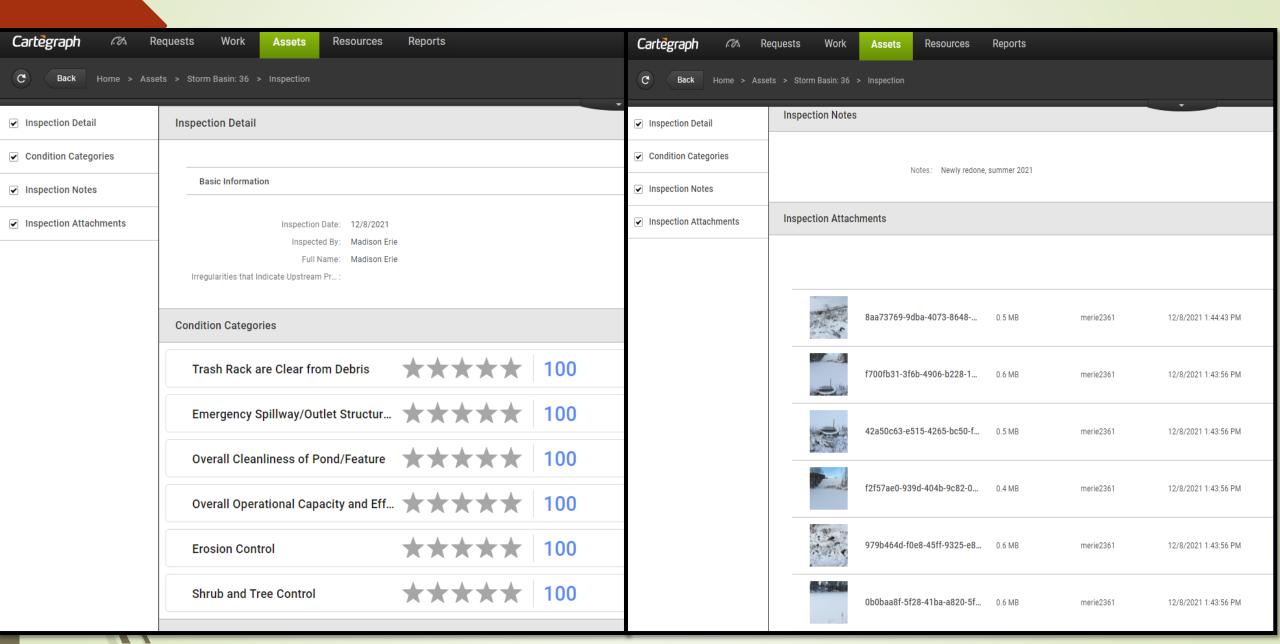
What we look for:

- Debris/trash?
- How do the outlet structures look?
- Cleanliness of the pond (sheen? Odor? color?)
- Overall Operation (Is the pond doing its job?)
- Is there erosion? If so, where?
- Vegetation control (unwanted Trees/shrubs, how big?)
- Any observations that may be important

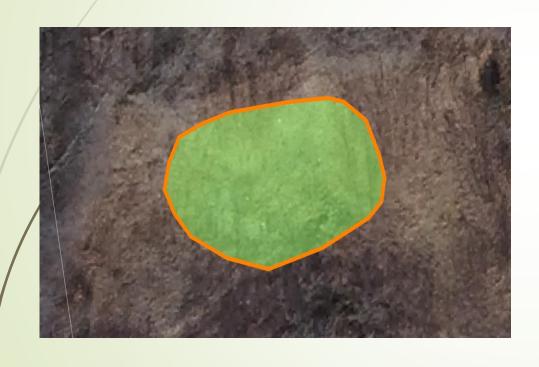
Signs of trouble:

- Infill is above 50%.
- Large areas of erosion that affect the structure
- Large unwanted vegetation taking over
- Emergency Spillway is full of sediment
- Outlet structures are clogged or damaged
- Pictures are taken to document issues so our maintenance crews know what to focus on.

Example of Inspection form:



What a survey looks like:



A B C D E F G H I TO OF ICE AVERAGE T.O.S Elevation Total set 2 4000;234496.653,648803.689,682.604,44	_													
2 4000,234496.653,648803.689,682.604,44 4000 682.347 682.2405 1.2 681.0405 2.3 679,405 1.9 3 4001,234491.965,648805.182,682.347,44 4001 682.347 682.2405 1.2 681.0405 2.6 80.2405 0.8 5 4002,234488.2513,648810.294,682.171,44 4003 682.171 682.2405 1.1 681.1405 2.6 80.2405 0.9 6 4004,234470.921,648805.769,682.293,44 4004 682.329 682.2405 1.1 681.1405 2.6 80.2405 0.9 9 4005,234478.971,648819.560,682.034,44 4005 682.034 682.2405 1.1 680.405 2.2 680.2405 0.9 9 4007,234467.352,648828.129,682.014,44 4006 682.034 682.2405 1.1 680.405 2.2 680.2405 0.9 10 4008,334461.676,648817.624,682.068,44 4008 682.046 682.2405 1.1 680.8405 2.2 680.0405 0.9 11 4007,234448.814,666,648806.089,682.407,44 4009 682.047 682.2405 1.1 680.8405 2.2 679,3405 1.2 12 4010,234437.99,648819,236,682.348,44 4011 682.246 682.2405 1.6 680.6405 2	4	Α	В	С	D	E	F	G	Н	I	J	K	L	М
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6 4004,234470.921,648805.769,682.329,44 4004 682.329 682.2405 1.4 680.8405 1.7 677.5405 3.3 7 4005,234475.128,648814.459,682.034,44 4006 682.034 682.2405 1.1 680.9405 2.2 680.0405 0.9 8 4006,234478.071,648819.860,682.034,44 4006 682.034 682.2405 1.1 680.1405 2.2 680.0405 0.9 9 4007,234467.352,648828.129,682.014,44 4007 682.014 682.2405 1.1 680.8405 2.2 680.0405 0.9 10 4008,234461.676,648817.624,682.068,44 4008 682.068 682.2405 1.4 680.8405 2.5 679.7405 1.1 11 4009,234458.666,648806.089,682.307,44 4010 682.302 682.2405 1.6 680.6405 2.7 679.5405 1.2 12 4010,234437.799,648819.236,682.248,44 4011 682.248 682.2405 1.6 680.6405 2.7 679.5405 1.1 13 4011,234448.831,648828.435,682.248,44 4011 682.248 682.2405 1.6 680.6405 2.7 679.5405 1.1 14 4012,234458.420,648838.448,682.160,44 4012 682.246 682.2405 1.6 680.6405 2.5 679.7405 1.1 15 4013,234458.420,648838.448,682.160,44 4013 682.16 682.2405 1.6 680.6405 2.5 679.7405 1.1 16 4014,234450.253,648847.121,682.186,44 4014 682.186 682.2405 1.6 680.6405 2.8 679.4405 1.2 17 4015,234442.091,648839.660,682.335,44 4015 682.235 682.2405 1.6 680.6405 3.4 678.8405 2.4 18 4016,234420.91,648839.660,682.335,44 4016 682.235 682.2405 1.6 680.6405 3.4 678.8405 2.4 18 4016,234432.775,648831.923,682.235,44 4016 682.235 682.2405 1.6 680.6405 3.4 678.8405 2.4 18 4016,234432.775,648831.923,682.235,44 4016 682.235 682.2405 1.6 680.6405 3.6 679.405 1.1 19 4017,234424.690,648848.691,660,682.334 4018 682.136 682.2405 1.6 680.6405 3.6 679.405 1.3 14 4019,234434.831,648858.919,682.126,44 4018 682.136 682.2405 1.6 680.6405 2.5 679.7405 1.1 14 4012,234440.691,648878.988,682.389,44 4016 682.136 682.2405 1.6 680.6405 2.5 679.7405 1.1 14 4012,234440.831,648858.919,682.126,44 4018 682.136 682.2405 1.6 680.6405 2.5 679.7405 1.1 14 4012,234440.831,648858.919,682.126,44 4018 682.136 682.2405 1.6 680.6405 2.5 679.7405 1.1 14 4012,234440.831,648868.489,682.279,44 4020 682.132 682.2405 1.6 680.6405 2.5 679.7405 1.1 14 4022,234440.831,648868.692.83,44 4026 682.236 682.2405 1.1 680.8405 2.2 680.0405 0.8 14 4022,2344	4	4002,2344	88.420,6488	308.075,682	2.187,44		4002	682.187	682.2405	1.2	681.0405	2	680.2405	0.8
7 4005,234478.071,648819.860,682.082,44	5	4003,2344	82.513,6488	310.294,682	2.171,44		4003	682.171	682.2405	1.1	681.1405	2	680.2405	0.9
8 4006,234478.071,648819.860,682.034,44 4006 682.034 682.2405 1.1 681.1405 2 680.2405 0.9 9 4007,234467.352,648828.129,682.014,44 4007 682.014 682.2405 1.3 680.9405 2.2 680.0405 0.9 10 4008,234461.676,648817.624,652.068,44 4009 682.068 682.2405 1.4 680.8405 2.5 679.7405 1.1 11 4009,234458.666,648806.089,682.407,44 4000 682.202 682.2405 1.6 680.6405 2.7 679.5405 1.1 13 4011,234437.995,648819.236,682.302,44 4010 682.2405 1.6 680.6405 2.7 679.5405 1.1 14 4012,234451.957,648834.223,682.224,44 4011 682.2405 1.6 680.6405 2.8 679.7405 1.4 15 4012,234451.957,648834.2121,682.160,44 4014 682.166 682.2405 1.6 680.6405 2.8 679.7405 1.1 16 4014,234452.051,648837.121,682.186,44 4014 682.126 682.2405 1.6 680.6405 2.8 679.405 1.2 <td>6</td> <td>4004,2344</td> <td>70.921,6488</td> <td>305.769,682</td> <td>2.329,44</td> <td></td> <td>4004</td> <td>682.329</td> <td>682.2405</td> <td>1.4</td> <td>680.8405</td> <td>4.7</td> <td>677.5405</td> <td>3.3</td>	6	4004,2344	70.921,6488	305.769,682	2.329,44		4004	682.329	682.2405	1.4	680.8405	4.7	677.5405	3.3
9 4007,234467.352,648828.129,682.014,44 4007 682.014 682.2405 1.3 680.9405 2.2 680.0405 0.9 10 4008,234461.676,648817.624,682.068,44 4008 682.068 682.2405 1.4 680.8405 2.5 679.7405 1.1 11 4009,234458.666,648806.089,682.407,44 4009 682.407 682.2405 1.7 680.5405 2.9 679.3405 1.2 4010,234437.799,648819.236,682.302,44 4010 682.302 682.2405 1.6 680.6405 2.7 679.5405 1.1 13 4011,234444.831,648828.345,682.248,44 4011 682.248 4012 682.2405 1.6 680.6405 1.8 680.4405 1.8 680.4405 0.8 14 4012,234451.957,648834.223,682.224,44 4012 682.246 4012,234451.957,648834.223,682.224,44 4013 682.166 682.2405 1.6 680.6405 1.8 680.64	7	4005,2344	75.128,6488	314.459,682	2.082,44		4005	682.082	682.2405	1.3	680.9405	2.2	680.0405	0.9
10 4008,234461.676,648817.624,682.068,44	8	4006,2344	78.071,6488	319.860,682	2.034,44		4006	682.034	682.2405	1.1	681.1405	2	680.2405	0.9
11 4009,234458.666,648806.089,682.407,44 4009 682.407 682.2405 1.7 680.5405 2.9 679.3405 1.2 12 4010,234437.799,648819.236,682.302,44 4010 682.302 682.2405 1.6 680.6405 2.7 679.5405 1.1 13 4011,234451.957,648834.223,682.248,44 4011 682.248 682.2405 1.6 680.6405 3.6 679.2405 1.4 14 4012,234451.957,648834.223,682.224,44 4011 682.248 682.2405 1.6 680.6405 3.6 679.2405 1.1 15 4013,234458.420,648838.448,682.160,44 4013 682.166 682.2405 1.6 680.6405 2.8 679.7405 1.1 16 4014,234450.253,648847.121,682.186,44 4014 682.235 682.2405 1.6 680.6405 2.8 679.4405 1.2 17 4015,234422.091,648839.660,682.235,44 4015 682.235 682.2405 1.6 680.6405 3.6 678.2405 1.1 19 4017,234424.690,6488846.077,662.339,44 4016 682.233 682.2405 1.5 680.6405 <td< td=""><td>9</td><td>4007,2344</td><td>67.352,6488</td><td>328.129,682</td><td>2.014,44</td><td></td><td>4007</td><td>682.014</td><td>682.2405</td><td>1.3</td><td>680.9405</td><td>2.2</td><td>680.0405</td><td>0.9</td></td<>	9	4007,2344	67.352,6488	328.129,682	2.014,44		4007	682.014	682.2405	1.3	680.9405	2.2	680.0405	0.9
12 4010,234437.799,648819.236,682.302,444	10	4008,2344	61.676,6488	317.624,682	2.068,44		4008	682.068	682.2405	1.4	680.8405	2.5	679.7405	1.1
13 4011,234444.831,648828.435,682.248,44	11	4009,2344	58.666,6488	306.089,682	2.407,44		4009	682.407	682.2405	1.7	680.5405	2.9	679.3405	1.2
14 4012,234451.957,648834.223,682.224,44 4012 682.240 682.2405 1.6 680.6405 3 679.2405 1.4 15 4013,234458.420,648838.448,682.160,44 4013 682.16 682.2405 1.4 680.8405 2.5 679.7405 1.1 16 4014,234450.253,648847.121,682.186,44 4014 682.186 682.2405 1.6 680.6405 2.8 679.4405 1.2 17 4015,234422.091,648839.660,682.235,44 4016 682.293 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4016 682.293 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.6 680.6405 3 679.2405 1.1 20 4018,234435.131,648852.213,682.339,44 4018 682.126 682.2405 1.6 680.6405 3 679.2405 1.4 219,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 <td>12</td> <td>4010,2344</td> <td>37.799,6488</td> <td>319.236,682</td> <td>2.302,44</td> <td></td> <td>4010</td> <td>682.302</td> <td>682.2405</td> <td>1.6</td> <td>680.6405</td> <td>2.7</td> <td>679.5405</td> <td>1.1</td>	12	4010,2344	37.799,6488	319.236,682	2.302,44		4010	682.302	682.2405	1.6	680.6405	2.7	679.5405	1.1
15 4013,234458.420,648838.448,682.160,44 4013 682.16 682.2405 1.4 680.8405 2.5 679.7405 1.1 16 4014,234450.253,648847.121,682.186,44 4014 682.186 682.2405 1.6 680.6405 2.8 679.4405 1.2 17 4015,234442.091,648839.660,682.235,44 4016 682.235 682.2405 1 681.2405 3.4 678.8405 2.4 18 4016,234432.775,648831.923,682.293,44 4016 682.233 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.6 680.6405 3 679.2405 1.3 20 4018,234435.131,648852.213,682.154,44 4018 682.126 682.2405 1.6 680.6405 3 679.2405 1.4 21 4020,234443.833,648865.919,682.125,44 4019 682.125 682.2405 1.6 680.6405 2.5 679.7405 1. 22 4020,2344416.516,648855.668,682.258,44 4021 682.315 682.2405 1.6 680.6405 2.7	13	4011,2344	44.831,6488	328.435,682	2.248,44		4011	682.248	682.2405	1	681.2405	1.8	680.4405	0.8
16 4014,234450.253,648847.121,682.186,44 4014 682.186 682.2405 1.6 680.6405 2.8 679.4405 1.2 17 4015,234442.091,648839.660,682.235,44 4015 682.235 682.2405 1 681.2405 3.4 678.8405 2.4 18 4016,234432.775,648831.923,682.293,44 4016 682.293 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.6 680.6405 3 679.2405 1.3 20 4018,234435.131,648852.213,682.154,44 4018 682.124 682.2405 1.6 680.6405 3 679.2405 1.4 21 4019,234443.833,648858.919,682.126,44 4019 682.126 682.2405 1.5 680.6405 2.5 679.7405 1 22 4020,234436.516,648856.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.516,648861.386,682.319,44 4021 682.319 682.2405 1.6 680.6405 2.7	14	4012,2344	51.957,6488	34.223,682	2.224,44		4012	682.224	682.2405	1.6	680.6405	3	679.2405	1.4
17 4015,234442.091,648839.660,682.235,44 4015 682.235 682.2405 1 681.2405 3.4 678.8405 2.4 18 4016,234432.775,648831.923,682.293,44 4016 682.293 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.7 680.5405 3 679.2405 1.3 20 4018,234435.131,648852.213,682.154,44 4018 682.154 682.2405 1.5 680.6405 3 679.2405 1.4 11 11 11 11 11 11 11 11 11 11 11 11 11	15	4013,2344	58.420,6488	338.448,682	2.160,44		4013	682.16	682.2405	1.4	680.8405	2.5	679.7405	1.1
18 4016,234432.775,648831.923,682.293,44 4016 682.293 682.2405 0.9 681.3405 2 680.2405 1.1 19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.7 680.5405 3 679.2405 1.3 20 4018,234435.131,648852.213,682.154,44 4018 682.154 682.2405 1.6 680.6405 3 679.2405 1.4 21 4019,234443.833,648858.919,682.126,44 4019 682.126 682.2405 1.5 680.7405 2.5 679.7405 1 22 4020,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.542,648861.386,682.319,44 4021 682.319 682.2405 1.6 680.6405 2.7 679.5405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.9405 2.4	16	4014,2344	50.253,6488	347.121,682	2.186,44		4014	682.186	682.2405	1.6	680.6405	2.8	679.4405	1.2
19 4017,234424.690,648846.077,682.339,44 4017 682.339 682.2405 1.7 680.5405 3 679.2405 1.3 20 4018,234435.131,648852.213,682.154,44 4018 682.154 682.2405 1.6 680.6405 3 679.2405 1.4 21 4019,234443.833,648858.919,682.126,44 4019 682.125 682.2405 1.5 680.7405 2.5 679.7405 1 22 4020,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.542,648861.386,682.125,44 4021 682.319 682.2405 0.6 681.6405 2.5 679.7405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1.9 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.9405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 <td>17</td> <td>4015,2344</td> <td>42.091,6488</td> <td>339.660,682</td> <td>2.235,44</td> <td></td> <td>4015</td> <td>682.235</td> <td>682.2405</td> <td>1</td> <td>681.2405</td> <td>3.4</td> <td>678.8405</td> <td>2.4</td>	17	4015,2344	42.091,6488	339.660,682	2.235,44		4015	682.235	682.2405	1	681.2405	3.4	678.8405	2.4
20 4018,234435.131,648852.213,682.154,44 4018 682.154 682.2405 1.6 680.6405 3 679.2405 1.4 21 4019,234443.833,648858.919,682.126,44 4019 682.126 682.2405 1.5 680.7405 2.5 679.7405 1 22 4020,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.542,648861.386,682.319,44 4021 682.319 682.2405 0.6 681.6405 2.5 679.7405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1.9 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.5405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 68	18	4016,2344	32.775,6488	331.923,682	2.293,44		4016	682.293	682.2405	0.9	681.3405	2	680.2405	1.1
21 4019,234443.833,648858.919,682.126,44 4019 682.126 682.2405 1.5 680.7405 2.5 679.7405 1 22 4020,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.542,648861.386,682.319,44 4021 682.319 682.2405 0.6 681.6405 2.5 679.7405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.5405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 3.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.5 <td>19</td> <td>4017,2344</td> <td>24.690,6488</td> <td>346.077,682</td> <td>2.339,44</td> <td></td> <td>4017</td> <td>682.339</td> <td>682.2405</td> <td>1.7</td> <td>680.5405</td> <td>3</td> <td>679.2405</td> <td>1.3</td>	19	4017,2344	24.690,6488	346.077,682	2.339,44		4017	682.339	682.2405	1.7	680.5405	3	679.2405	1.3
22 4020,234434.782,648865.474,682.125,44 4020 682.125 682.2405 1.6 680.6405 2.7 679.5405 1.1 23 4021,234426.542,648861.386,682.319,44 4021 682.319 682.2405 0.6 681.6405 2.5 679.7405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.5405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 3.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.5 679.7405 0.8 29 4027,234410.781,64886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 </td <td>20</td> <td>4018,2344</td> <td>35.131,6488</td> <td>352.213,682</td> <td>2.154,44</td> <td></td> <td>4018</td> <td>682.154</td> <td>682.2405</td> <td>1.6</td> <td>680.6405</td> <td>3</td> <td>679.2405</td> <td>1.4</td>	20	4018,2344	35.131,6488	352.213,682	2.154,44		4018	682.154	682.2405	1.6	680.6405	3	679.2405	1.4
23 4021,234426.542,648861.386,682.319,44 4021 682.319 682.2405 0.6 681.6405 2.5 679.7405 1.9 24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.9405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5<	21	4019,2344	43.833,6488	358.919,682	2.126,44		4019	682.126	682.2405	1.5	680.7405	2.5	679.7405	1
24 4022,234416.516,648855.668,682.258,44 4022 682.258 682.2405 1.7 680.5405 2.7 679.5405 1 25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.9405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 0.8 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5<	22	4020,2344	34.782,6488	365.474,682	2.125,44		4020	682.125	682.2405	1.6	680.6405	2.7	679.5405	1.1
25 4023,234408.594,648868.494,682.279,44 4023 682.279 682.2405 1.3 680.9405 2.4 679.8405 1.1 26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 0.8 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.	23	4021,2344	26.542,6488	361.386,682	2.319,44		4021	682.319	682.2405	0.6	681.6405	2.5	679.7405	1.9
26 4024,234418.214,648873.388,682.132,44 4024 682.132 682.2405 1.4 680.8405 3.4 678.8405 2 27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 1.1 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.2405 1.5 680.7405 2.5 679.74	24	4022,2344	16.516,6488	355.668,682	2.258,44		4022	682.258	682.2405	1.7	680.5405	2.7	679.5405	1
27 4025,234428.640,648878.908,682.085,44 4025 682.085 682.2405 1.4 680.8405 2.2 680.0405 0.8 28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 1.1 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.	25	4023,2344	08.594,6488	368.494,682	2.279,44		4023	682.279	682.2405	1.3	680.9405	2.4	679.8405	1.1
28 4026,234417.966,648890.905,682.012,44 4026 682.012 682.2405 1.7 680.5405 2.6 679.6405 0.9 29 4027,234410.781,648886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 1.1 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	26	4024,2344	18.214,6488	373.388,682	2.132,44		4024	682.132	682.2405	1.4	680.8405	3.4	678.8405	2
29 4027,234410.781,64886.661,682.125,44 4027 682.125 682.2405 1.7 680.5405 2.5 679.7405 0.8 30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 1.1 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	27	4025,2344	28.640,6488	378.908,682	2.085,44		4025	682.085	682.2405	1.4	680.8405	2.2	680.0405	0.8
30 4028,234402.092,648882.390,682.367,44 4028 682.367 682.2405 1.4 680.8405 2.5 679.7405 1.1 31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.240 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	28	4026,2344	17.966,6488	390.905,682	2.012,44		4026	682.012	682.2405	1.7	680.5405	2.6	679.6405	0.9
31 4029,234403.401,648893.843,682.189,44 4029 682.189 682.2405 1.7 680.5405 2.5 679.7405 0.8 32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	29	4027,2344	10.781,6488	386.661,682	2.125,44		4027	682.125	682.2405	1.7	680.5405	2.5	679.7405	0.8
32 4030,234415.487,648900.004,682.199,44 4030 682.199 682.2405 1.5 680.7405 2.7 679.5405 1.2 33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	30	4028,2344	02.092,6488	382.390,682	2.367,44		4028	682.367	682.2405	1.4	680.8405	2.5	679.7405	1.1
33 4031,234402.835,648905.742,682.248,44 4031 682.248 682.2405 1.5 680.7405 2.5 679.7405 1 34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	31	4029,2344	03.401,6488	393.843,682	2.189,44		4029	682.189	682.2405	1.7	680.5405	2.5	679.7405	0.8
34 4032,234394.831,648910.414,682.743,44 4032 682.743 682.2405 1.2 681.0405 1.4 680.8405 0.2	32	4030,2344	15.487,6489	900.004,682	2.199,44		4030	682.199	682.2405	1.5	680.7405	2.7	679.5405	1.2
	33	4031,2344	02.835,6489	905.742,682	2.248,44		4031	682.248	682.2405	1.5	680.7405	2.5	679.7405	1
35 4033,234405.192,648914.681,682.586,44 4033 682.586 682.2405 1.5 680.7405 5.6 676.6405 4.1	34	4032,2343	94.831,6489	910.414,682	2.743,44		4032	682.743	682.2405	1.2	681.0405	1.4	680.8405	0.2
	35	4033,2344	05.192,6489	14.681,682	2.586,44		4033	682.586	682.2405	1.5	680.7405	5.6	676.6405	4.1

Pond Survey Video

- https://www.youtube.com/watch?v=6iYCjYApXao
- Equipment:
- -Measuring rod
- -lce auger
- -Spray paint
- -Picture of pond
- -clipboard
- -pen
- -GPS survey equipment

What if...

- If there is a sediment holding problem, we know the pond is over its capacity and plan to dredge the pond.
- If there is a structural failure, we would make a plan to rebuild the pond.
- -We are able to catch a problem early by inspections and maintenance.
- If a new development comes into the area near one of the ponds, then the inspection frequency would increase.
- Construction project near a pond? We monitor and if changes to the pond are made or capacity is changed, we discuss cleaning out the pond or rebuilding it completely.

Questions?

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