SAM Board Meeting

Wet Weather Storage Expansion

JUNE 8, 2020

Project Goals

The goals of the Wet Weather Storage Expansion Project primarily are:

- To provide more time to perform maintenance on the pumps
- To provide more time to perform maintenance on ancillary features like air / vacuum relief vales, surge tanks etc.
- The ability to hold portion of the peak daily flow and release it back into collection system when plant influent flows are low during night.

Additional advantages is that it serves as a storage tank under wet weather flow conditions.

Storm Events

DATE	PRECIPITATION	STORM EVENT
December 11-12, 2014	**4.12 inches**	5-year/2-day OR 10-year/24-hour
March 3, 2016	**1.84 inches**	5-year/6-hour
December 10, 2016	**1.74 inches**	5-year/6-hour
January 19-20, 2017	**3.26 inches**	5-year/24-hour OR 15-year/12-hour

Flows

Date	Portola	Montara	Princeton	Vallemar	Influent Flow	Influent Flow Max	Influent Flow Max Time
12/11/2014	2.431	0.882	0.592	0.784	6.273	10.06	22
12/12/2014	3.004	1.391	0.444	0.758	6.188	8.89	0.02
1/19/2017	1.396	0.495	0.36	0.588	3.946	5.28	9.09
1/20/2017	2.542	0.924	0.609	0.702	6.705	9.55	5.56
6/1/2020	0.429	0.121	0.091	0.134	1.202	2.26	11.4

Risk Scoring System

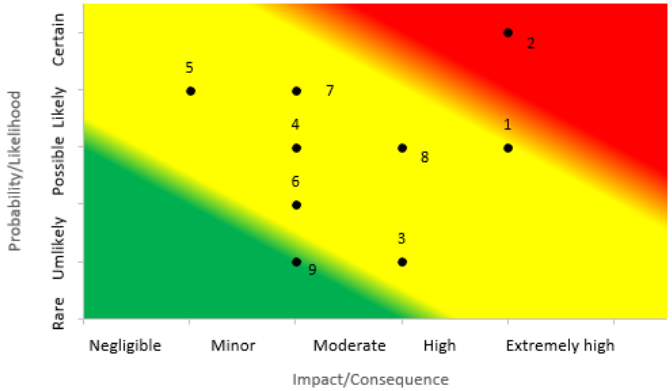
IMPACT / CONSEQUENCE	
Extremely High	5
High	4
Moderate	3
Low	2
Negligible	1

PROBABILITY / LIKELIHOOD	
Very likely (>51% chance)	5
Likely (30-50% chance)	4
Possible (11-29% chance)	3
Unlikely (6-10% chance)	2
Very unlikely (<5% chance)	1

ASSESSMENT CRITERIA	
Low Impact / Low Probability	Need not pay attention to these risks
Low Impact / High Probability	Moderate threat to operations / can manage these risks if and when they occur
High Impact / Low Probability	High impact on operations / take all possible preventative measures / contingency plans in place to minimize severity of impact should risk manifest
High Impact / High Probability	Severely negative effect on operations / should give this risk most attention

Risk Matrix

	Triggering event for a Wet Weather Storage	Impact/ Consequence	Probability/ Likelihood	Risk Score	Assessment
1	Portola PS Pump Failure	4	3	12	High Impact / Medium Probability
2	Major Rainstorm	4	5	20	High Impact / High Probability
3	Force Main Failure	3	1	3	Medium Impact / Low Probability
4	Electrical Malfunction at Portola PS MCC	2	3	6	Low Impact / Medium Probability
5	Earthquake	1	4	4	Low Impact / High Probability
6	Tsunami	2	2	4	Low Impact / Low probability
7	Wildfire	2	4	8	Low Impact / High Probability
8	Influent PS Failure	3	3	9	Medium Impact / Medium Probability
9	Excessive Flow from South	2	1	2	Low Impact / Low Probability



Conclusions

- •. Additional Wet Weather storage of 200,000 gallons bringing the total wet weather storage at Portola to 400,000 gallons
- • Changing the pumps at Portola to a higher capacity will not address issues for Pump failures/ Electrical issues at Portola PS during storm season.
- •Changing the pumps at Portola will not address issues if the Influent pumps fail at WWTP.

Recommendations

- . Approve additional wet weather storage of 200,000 gallons bringing the total wet weather storage at Portola to 400,000 gallons

- In future consider increasing the capacity to a total of 600,000 gallons