MUIR BEACH COMMUNITY SERVICES DISTRICT

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January 28, 2016
Meeting of the Board of Directors
Information Addendum as of January 27, 2016

Item:	Topic: Description	Action
01	**Update to Item 13 of the District Manager's Report:** *This is an informational update on activities to resolve the **2002 Well** issues described in the Manager's Report for the 1/28/16 Meeting of the Board of Directors.* *On Wednesday, 1/27/16, I met with Josh Moore, Pump Systems Consultant, of Weeks Drilling to review the problems with the District's 2002 well identified in the report. Accompanying me were Leighton Hills, former District Manager, and Harvey Pearlman, Water Manager. Weeks Drilling constructed both the 2002 well and the 2008 back-up well. We reviewed the sequence of events since 1/8/16 to Josh and our attempts to flush and remove the bacteria that were showing up in the sample test results.* *We discussed how the well was constructed and the history of the District's experience drawing water from this area. Josh described some typical scenarios of well failure that might be the cause of the problem including breaks which might allow intrusion into the well or persistent bacteria which might not have been removed from our initial flushing and chlorinating.* *As next steps in identifying the issue, Josh suggested the following:* *1.) Video the well to see if failures in the pipe wall could be identified. This would include removing and inspecting the pump to clean it.* *2.) If the video did not reveal a problem, the next step would be increased development, i.e. a more intensive cleaning and disinfecting regime that would include baling and swabbing first and possibly high pressure air cleaning.* *3.) An additional method for further testing would be packing sections which would isolate different parts of the well for individual testing to see what area is causing intrusion. If a particular section were the problem it could then be selectively sealed.*	*_ Proceed with the suggested steps by Weeks Drilling to identify the problem with the well once their proposal is submitted and reviewed.* *_ Update the Water Board with this plan and continue to keep them informed.* *_ Continue the regular monitoring and testing schedule of the system's treated water.*

4.) Finally, depending on the problem revealed by the above procedures, the well could be relined with a new internal pipe for restoration.

Given that we took the well offline immediately after the initial test results and have been only using the backup well, I explained that we would like to resolve this issue as quickly as possible. I asked Josh to supply a proposal to video the well and to put us in the queue to get the work done ASAP. I hope to receive his proposal this week and proceed.

I will update the Water Board with this plan and keep them informed. The backup well continues to supply the District's needs and our regular monitoring and testing regime persists.

**Please note: For reference, these were the test results that we reported to the Water Board:*

Initial Tests that indicated contamination:

Date Collected: 1/7/2016
Sample Point: ***2002 Well***
Total Coliforms: 387.3 per 100 ML Water
Escherichia Coli: 8.6 per 100 ML Water

Date Collected: 1/7/2016
Sample Point: ***SystemWater (Treated)***
Total Coliforms: Absent
Escherichia Coli: Absent
"Sample meets bacteriological standards for drinking water"

Tests after flushing of 2002 well:

Date Collected: 1/11/2016, 12:15pm
Sample Point: ***2002 Well***
Total Coliforms: 111.9 per 100 ML Water
Escherichia Coli: <1 per 100 ML Water

Date Collected: 1/11/2016, 12:30pm
Sample Point: ***2002 Well***
Total Coliforms: 90.8per 100 ML Water
Escherichia Coli: 1.0 per 100 ML Water

Date Collected: 1/11/2016, 12:40pm
Sample Point: ***2002 Well***
Total Coliforms: 81.3 per 100 ML Water
Escherichia Coli: <1 per 100 ML Water

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	Reference Tests of 2008 well and tanks: *Date Collected: 1/11/2016, 12:40pm* *Sample Point:* ***2008 Well*** *Total Coliforms: <1 per 100 ML Water* *Escherichia Coli: <1 per 100 ML Water* *Date Collected: 1/11/2016* *Sample Point:* ***Overlook Tank*** *Total Coliforms: Absent* *Escherichia Coli: Absent* *"Sample meets bacteriological standards for drinking water"* *Date Collected: 1/11/2016* *Sample Point:* ***Lower Tank*** *Total Coliforms: Absent* *Escherichia Coli: Absent* *"Sample meets bacteriological standards for drinking water"* _____ ***Tests taken after direct chlorination of 2002 well:*** *Date Collected: 1/19/2016* *Sample Point:* ***2002 Well*** *Total Coliforms:70.8 per 100 ML Water* *Escherichia Coli: 3.1 per 100 ML Water* _____ ***Reference Test of creek water:*** *Date Collected: 1/19/2016* *Sample Point:* ***Creek Water*** *Total Coliforms: >2419.6 per 100 ML Water* *Escherichia Coli: 204.6 per 100 ML Water*	