APPENDIX K

WATER TEST

PREPARED BY FLAIR FOUNTAINS

2016

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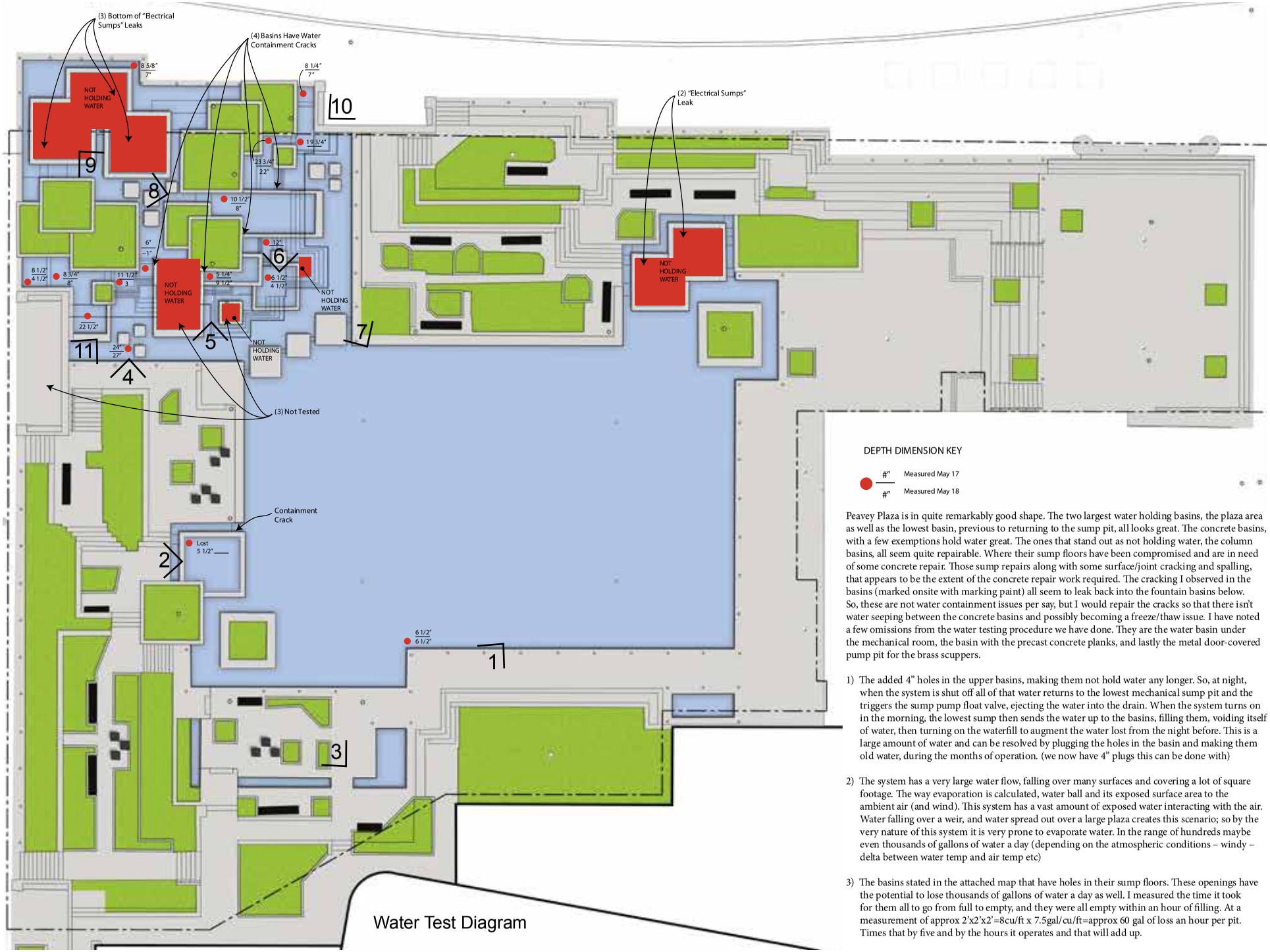

DEPTH DIMENSION KEY

#" Measured May 17
#" Measured May 18

Peavey Plaza is in quite remarkably good shape. The two largest water holding basins, the plaza area as well as the lowest basin, previous to returning to the sump pit, all looks great. The concrete basins, with a few exemptions hold water great. The ones that stand out as not holding water, the column basins, all seem quite repairable. Where their sump floors have been compromised and are in need of some concrete repair. Those sump repairs along with some surface/joint cracking and spalling, that appears to be the extent of the concrete repair work required. The cracking I observed in the basins (marked onsite with marking paint) all seem to leak back into the fountain basins below. So, these are not water containment issues per say, but I would repair the cracks so that there isn't water seeping between the concrete basins and possibly becoming a freeze/thaw issue. I have noted a few omissions from the water testing procedure we have done. They are the water basin under the mechanical room, the basin with the precast concrete planks, and lastly the metal door-covered pump pit for the brass scuppers.

1) The added 4" holes in the upper basins, making them not hold water any longer. So, at night, when the system is shut off all of that water returns to the lowest mechanical sump pit and the triggers the sump pump float valve, ejecting the water into the drain. When the system turns on in the morning, the lowest sump then sends the water up to the basins, filling them, voiding itself of water, then turning on the waterfill to augment the water lost from the night before. This is a large amount of water and can be resolved by plugging the holes in the basin and making them old water, during the months of operation. (we now have 4" plugs this can be done with)

2) The system has a very large water flow, falling over many surfaces and covering a lot of square footage. The way evaporation is calculated, water ball and its exposed surface area to the ambient air (and wind). This system has a vast amount of exposed water interacting with the air. Water falling over a weir, and water spread out over a large plaza creates this scenario; so by the very nature of this system it is very prone to evaporate water. In the range of hundreds maybe even thousands of gallons of water a day (depending on the atmospheric conditions – windy – delta between water temp and air temp etc)

3) The basins stated in the attached map that have holes in their sump floors. These openings have the potential to lose thousands of gallons of water a day as well. I measured the time it took for them all to go from full to empty, and they were all empty within an hour of filling. At a measurement of approx 2'x2'x2'=8cu/ft x 7.5gal/cu/ft=approx 60 gal of loss an hour per pit. Times that by five and by the hours it operates and that will add up.


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