

CITY OF YANKTON SD POOL LEAK DETECTION

7/18/2007

Met with a group of city employees and discussed leak detection for the main pool

Discussed different methods of trying to find the rest of the leak.

MC&R suggested digging a hole in the basement next to the sump pump to try to find out which direction the water was coming from. Renovation plans in 1977 show there is a 14" tee fitting in close proximity of the sump pit. If this is excavated we may find a 14" tee fitting that was plugged off that could be leaking. City would consider this.

Tried to locate just where the deck drains are draining to. Put water down the deck drain next to stair well and water did not come out anywhere. Checked stairway drain and manhole in storage equipment room and found nothing. Opinions differ on just where these drains go to. Plans show the drains are separated when pool was redone in 1977. Plans do not show just where the drains go after renovation.

The water in the sump pit was drained and the water next the sump pit where concrete was broken out was drained. We observed the water flow coming from the sump pit area to the hole west of the sump pit. Flow was east to west. MCR suggested to keep the sump pit pumped out so area ground water would recess.

MCR recommendations:

1. Pump out sump pit and keep area dewatering
2. Excavate area next to sump pit to locate 14" tee fitting and to try to determine direction of water flow.
Approx. area 4' x 4' x 4' deep. Check for water flow direction and potential leaks on 14" tee
3. Dive again to dye test suspicious spots for tank leakage in sealant and drains
4. Keep tracking water loss for the rest of the year. Record rainfall, temperatures, wind velocity, patron usage
Turn off pool equipment for an overnight leak test to see if the water loss is higher or lower with equipment off.
5. Use a camera to inspect the main drain line to sewer manhole to try to detect any leaks, pull an underwater camera through the main drain line to try to detect any leaks.
6. Plug all four main drains at bottom of pool. Run filter system for 24 hrs with no main drain and skimmers only.
Plug Main drain line in surge tank. Open 14" valve in sewer manhole to verify no water loss from plugs.
Record water loss
7. Plug gutter line to surge tank and run system on main drain only for 24hrs and record water loss.

Note: These are all items that the city can do themselves but if you want us to do them let us know and we will quote pricing
A faxed drawing of plumbing for drain will be forthcoming.

Sincerely,
Lorre Colburn
MC&R Pools, Inc.