Zero-depth entrance	$1,440,000
Permanent water amenities (allowance)	$ 100,000
Splash pad amenities at zero-depth entrance	$ 100,000
Bathhouse/restroom modifications (may be required by code)	$ 40,000
Parking lot expansion	$ 120,000
Tables, chair, trash receptacles, umbrellas	$ 20,000
Site fencing	$ 40,000
Climbing tower with one water slide	$ 300,000
Second slide	$ 200,000
Total estimated construction cost	$2,360,000
Design fees	?

Attached is a site plan of a potential expansion and illustrations of amenities. Also attached is an informational summary sheet from the last aquatic task force relative to the expansion issue.

Memorandum No. 07-175

TO: **City Commissioners**

FROM: **City Manager Jeff Weldon**

RE: **Continued discussion of Memorial Pool expansion**

DATE: **August 8, 2007**

Pursuant to your last commission meeting regarding expansion options for Memorial Pool, we were awaiting the latest assessment report from our pool contractor, MC & R on the wading pool and main pool inspections conducted on his visit of July 18. Having received that report, I forwarded it you electronically and have also attached it to this memo. Options for improvements/modifications to the wader are dependent upon whether or not a zero-depth entrance is part of the scenario for an expanded facility.

With regard to the main pool inspection, we will be doing Item #3 and am awaiting a response from the contractor for scheduling him to return with dye testing and more caulking. It is possible some caulking works loose during the season. All other items have been done except Item 2 which references the attached drawing.

With regard to the water usage discussion from the last meeting, by the time of the meeting on Monday evening, we will have the results of the next monthly meter reading to make a valid comparison with the previous month.

The issue before you is to consider resuming discussions about possible next steps for a possible pool expansion program.

CITY OF YANKTON SD WADER INSPECTION

The wader is designed to drain to the pool surge tank and then the water is mixed with pool water, drawn up from the surge tank by the pool pumps, filtered and then returned back to a 8" cast iron line going to the pool. There is a 2" copper line on the 8" cast iron return to the pool that allows some filtered water to flow to the wader sprays (two pedestals). This water is chemically treated with the main pool system. The state does not allow this form or filtration on new installations anymore. A new wader or a renovation to a wader has to have its own filter and water treatment plant

The wader lost all of its water when it was first filled up this spring indicating a major leak. The wader was filled up again and kept full and now only loses 1/4" per day from the most recent test. Debris may have plugged the leak so now it is less.

7/17/2007
Return and supply valves were turned off by Jim the night before we arrived.
Water level of wader had gone down approx. 1/4" overnight approx 12hrs.

7/18/2007
MCR pressure tested the 3" bottom plumbing in the main drain sump in the center of the wader
This tested negative as it would not hold any pressure. There was water flow coming into the main drain sump from the 5" side outlet. This was plugged and we still could not hold pressure. This means this line leaks or there is a possibility that the two lines are teed together and one of them leaks.

This could mean the two pipes are teed together or that they bother are broken and when water pressure was introduced the water leaking out of one pipe leaked back into the other pipe.

MCR pressure tested the 5" side outlet in the main drain sump in the center of the wader and we had flow coming back into the bottom 3" plumbing.

The city personnel opened a valve just outside of the sewer manhole and water from the wader started flowing out of the pipe and into the sewer manhole. When this was opened sludge came out and it appeared as if the valve had not been opened for some time. We believe this was meant to be the drain valve for the wader and also meant to be left open so the rain water could drain out of the wader and flow to this sewer. The skimmers on the wader are possibly also teed into this line

The only means to drain the wader is to turn off the return line in the basement and allow the water to drain to the pool surge pit.

The only means of filling the wader is from a garden hose or from the return line for the sprays. Jim Schnook says it take the better part of a day to drain and fill the wader.
We did not drain the wader all the way down.
Since the wader did not lose a considerable amount of water as expected, we did not drain the wader all the way down.

MCR dye tested the wader tank and found one small spot that may have taken dye. The rest of the wader concrete appears to be good.

Option 1: Demolish the existing wader and install a zero depth entry water recreational pool. Install toys, slides, sprays, bubblers etc. to attract more people to the park.
This pool would have its own filtration and water treatment plant and would be separate from the main pool
Estimated pricing: $300,000-350,000

Option 2: Keep existing wader and replace all plumbing to the wader with new SCH 40 PVC.
install new skimmers, main drain, returns. Install a new separate filtration and water treatment plant
install a couple of toys and a slide.
Estimated pricing: $50,000-70,000

Option 3: Install a bypass valve or a booster pump on the pool return to allow more flow to the wader sprays. This would allow for a faster fill and a higher turnover for cleaner water. Install a new main drain line into the basement to 6" wader plumbing. Install a new 4" - 6" drain line to the sewer manhole for a faster drain down and using this as a winterizing drain for rain water to flow through.
Estimated Pricing: $10,000-15,000

Option 4: Do nothing and let it leak and operate as you have been.

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' x4' 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

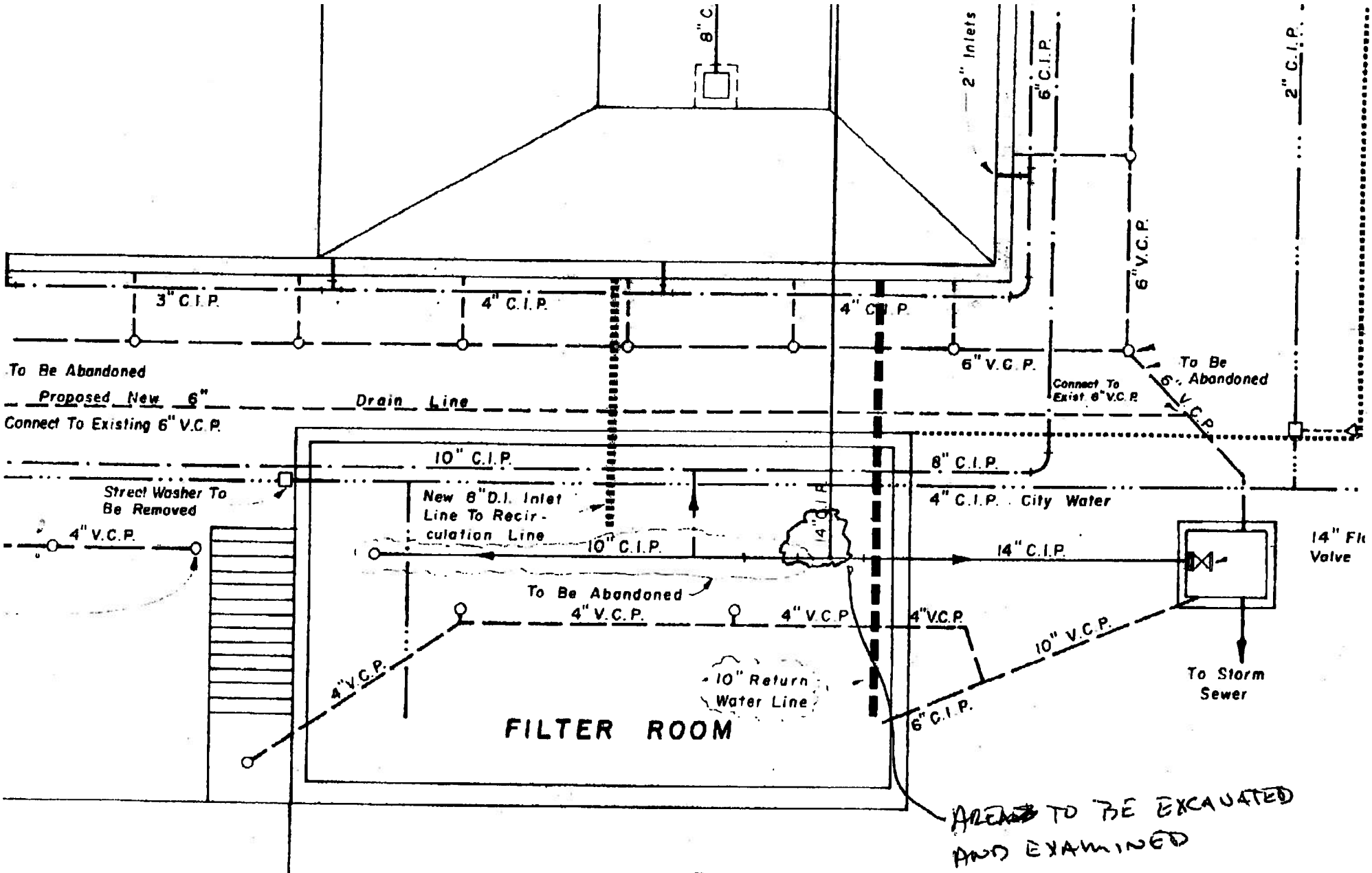
4. Keep tracking water loss for the rest of the year. Record rainfall, temperatures, wind velocity, patron usage
   Turn off pool equipment for an overnight leak test to see if the water loss is higher or lower with equipment off.

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.



MEMORIAL POOL

1977 RENO PLANS

MCTR POOLS, INC

LORRE COLBURN

Aquatics Task Force Options

Option #1 – Renovation in three phases.

Phase I- $200,000

- Sump pit
- Water Heater
- Bathhouse renovation
- Water Features

Phase II- $1,300,000

- Complete Bathhouse Renovation $150,000
- Pool liner
- Filter repair
- More Water Features

Phase III- No dollar amount given

- Addition of a zero depth entry
- Flume slide
- Water features
- Parking lot addition if attendance increased and more parking is needed
- Suggested to leave the Kiddy Pool open throughout Phase I and II

Option #2 – Building a Scaled Down Aquatics Center