



April 12, 2022
2221940

Elkland Borough Council
105 Parkhurst Street
Elkland, Pennsylvania 16920

Attn: Rick Collins
President

RE: Elkland Community Swimming Pool
Borough of Elkland
Evaluation Report

President Collins and Honorable Council:

Operators of the Elkland Community Swimming Pool noted a loss of 164,000 gallons of water during the 2021 swimming season. That is one and two-thirds (160 percent) times the volume of the pool. At normal operation, public pools can expect 10 to 20 percent water loss due to operations, cleaning, evaporation, splashing, and “tracking”. This high percentage of unaccounted for water leads the operators to believe there are substantial leaks. In addition, several mechanical equipment issues created operation problems during the season.

LaBella Associates was requested to conduct a preliminary assessment of the pool, evaluate the mechanical equipment and prepare preliminary cost estimates to repair deficiencies noted. This investigation was limited in scope to visual inspection of the site. Additional in-depth examination is called for if the Borough desires to develop renovation plans further.

During our appraisal we noted several code and regulation issues that should be addressed prior to opening the pool. A certified Pesticide Applicator must be employed by the Borough. Updated electrical inspection is required. All three filters need to be repaired to ensure proper cleaning of the pool. The skimmers need to be repaired to ensure proper removal of scum, debris and other floating material.

The following report presents our preliminary findings and evaluations.

Section numbers [§_] cited below are from the Pennsylvania Code regulating Public Swimming pools (28 Pa. Code Chapter 18) or Pennsylvania Pesticide Control Act (7 Pa. Code Chapter 128) requirements addressing the issue shown.

WATER USE:

The swimming pool requires 100,000 gallons of water to fill it at the beginning of each season. Water use at the pool is measured by a master meter in the filter room. When the pool was closed, the master meter indicated that 264,000 gallons were used during the 60-day swimming season. Assuming the following water use during the season it appears that the pool is losing 2,233 gallons of water each day of operation.



Filling		92,300 gallons
Staff personal use	4 EA x 10 gal/day x 64 days	2,560 gallons
Swimmer personal use	10 EA x 12 gal/day x 60 days	7,200 gallons
Makeup and operational use	177 gal/day x 64 days	11,328 gallons
Unaccounted/lost water		<u>150,612 gallons</u>
		264,000 gallons

150,612 gallons/64 days of operation = 2,233 gallons/day

At a cost of \$0.50/100-gallons of water, this loss costs the Borough over \$753 each season.

To find the location of the leaks will require extensive investigation and effort beyond the scope of this preliminary evaluation. Costs of leak locating, using visual observation, dyes, and air testing, could cost between \$9,000 and \$20,000. Cost of repairing the leaks will depend on where they are found. Leaks in the crawl spaces are accessible and can be repaired relatively easily, but leaks under the pool walkways will require extensive excavation. Some of the leaks might be able to be corrected using pipe lining techniques or new pipe repair technology.

POOL CONDITIONS:

- Cracks on pool surface in the Kiddie pool [§18.3].
Estimated cost to resurface 1,000 sf @ \$110/sf = \$110,000
- Side tiles at top of pool are loose and many come off [§18.41]. Some were replaced and other have been painted instead.
Estimated cost to resurface 500 sf @ \$75/sf = \$37,500
- Coping tiles along the perimeter of the top of the pool are loose and can be pulled off by swimmers [§18.41].
Estimated cost to replace 200 square feet of tiles @ 125/sf = \$25,000
- Sidewalks around pool have heaved causing tripping hazards (§18.41).
- Concrete around skimmer baskets have stress cracks in the structure and on the walking surface around the top [§18.41].
Estimated cost of rebuilding drainage system and walks 1,200 square feet @ \$25/sf = \$300,000
- Blue Slide - corrosion on bracing of stairs. It is recommended to replace entire structure with chlorine/corrosion resistant FRP stairs, structure, and platform [§18.3, §18.41].
Estimated cost = \$27,000
- Red Slide – flange on upper section is cracked and needs to be replaced. This piece could break when a swimmer is in it [§18.3, §18.41].
Estimated cost = \$22,500

BATHHOUSE CONDITIONS:

- Bathhouse needs a new roof. The existing roof appears to be original and is more than 20-years old. Shingles show extensive deterioration [18.3].
Estimated cost to reroof 2,375 square feet @ \$4.00/sf = \$9,500
- Facia on pool side is rotting and needs to be replaced [18.3].
Estimated cost to replace 55 linear feet of facia @ \$115/sf = \$6,325



3. Handicapped shower in the Boys locker room does not work. The cold-water feed is connected to both sides of the mixing valve [§18.62]. This appears to be causing deadheading.

Estimated cost to repair mixing valve = \$300

4. Water heater was never installed.

Estimated cost to install commercial grade water heater = \$1,000

5. Water fountain does not function. – cause unknown.

Estimated cost to replace unit = \$1,800

MECHANICAL EQUIPMENT CONDITIONS:

1. The pool needs to have an electrical inspection before it is opened. It appears that there has not been an inspection in the last 3 years as required by the code [§18.88].

Estimated cost to bring electrical system up compliance with code = \$20,000

2. Mechanical spaces do not have GFI outlets [§18.81].

Estimated cost to bring electrical system up to code = 1,200

3. There are 15 Skimmer Baskets and supply ports.

- a. 6 baskets are not operational
- b. 6 recirculation ports are not operational
- c. A trash pump is used to skim the pool manually

Estimated cost to replace filtration collection system = \$5,000

4. Pool Drains

- a. The pool was observed to have water in the deep end, approximately one-third full.
- b. There are two drains in the bottom of the pool.
 - i. Borough personnel say the drains do not work. They empty the pool with a trash pump and dump the water over the bank.
 - ii. The drain line inside the equipment room was observed to be fully open and dripping water into the tunnel space.

Estimated cost to replace pool drain system piping = \$15.00 per foot. Length unknown

5. The perimeter drain does not work. The system should be tested to determine where blockage or damage is.

Estimated cost to test system = \$3,200

Estimated cost to replace the complete collection system 318 linear feet @ \$32/lf = \$10,176

6. There is no ventilation in the CO₂ room.

Estimated cost of ventilation system for CO₂ room = \$6,500

7. CO₂ system leaks somewhere, but the operators have not been able to locate it.

Estimated cost to “chase” leak and repair = \$900

8. CO₂ system analyzer and control unit does not work efficiently.

9. Estimated cost to replace = \$1,500

10. There is no ventilation in the filter room, which contains the chlorine storage and disinfection equipment.

Estimated cost of ventilation system for CO₂ room = \$8,000

11. Chlorine room should have gas detection and alarm system.

Estimated cost of system = \$3,200



12. Chlorination system does not have secondary containment.
Estimated cost of secondary containment = \$ 2,500
13. Chlorination control system does not work properly. It will not maintain feed rates as programmed. Operators have to manually adjust chlorine feed rate daily.
Estimated cost to replace = \$1,500
14. Northern most filter feed line is severed. Filter is off-line and needs to be replaced to provide proper filtration.
Estimated cost to replace Hayward Swimclear 4-cartridge filter = \$3,525
15. The drains on the other two filter units are stripped and held in place with 2x4s. They should be replaced.
Estimated cost to replace two Hayward Swimclear 4-cartridge filter = \$7,050
16. Filter drains discharge directly on to the ground in the north crawl space under the CO₂ room.
Estimated cost to pipe to proper drain = \$1,500
17. Piping is a mixture of PVC and iron. There is corrosion evident on the metal valves and fittings in the filter room.
Estimated cost to clean and paint = \$700
18. The piping drains discharge directly onto the ground in the crawl space.
Estimated cost to pipe to proper drain = \$1,000
19. Water was seen in the crawl space under the Girls locker room.
Resolving #4 of Miscellaneous below may solve this problem
20. There is no backflow prevention system to prevent cross contamination of the public water supply [§18.73].
Estimated cost to install backflow preventer = \$22,000

MISCELLANEOUS ISSUES

1. Cable lines crossing property (between parking lot and Bathhouse entrance) are a hazard. The lines hang 7'-6" above grade and are supported on a temporary, unstable, plastic pole. Should that pole be knocked down the cables will be at neck level or lower.
These cables should be properly supported by the utility at NO COST to the Borough
2. Pool has no Winter cover. Deteriorated cover was disposed of and never replaced.
Estimated cost to purchase new commercial grade pool cover = \$10,000
3. Internet cable for security cameras was direct buried from southwest corner of Bathhouse to bank to the north. From there it is just laid on the ground.
 - a. Cable does not appear to "direct bury" type.
 - b. Cable is exposed at bank where it could be hit by mower.
 - c. Unburied cable over bank is a security risk.*Estimated cost to install direct-burial cable = \$2,300*
4. Water draining from a spring in the hill to the south is "day lighting" at the southeast corner of the perimeter fence. This water is seeping into the ground and appears to be causing settlement of the walk along the south side of the Bathhouse. The walk has settled 2" to 3" at the building face.
Estimated cost to install drain to move water away from foundation = \$6,000



5. The ground along the north face of the Bathhouse by the CO2 room has settled 1-inch. We suspect this settlement is due to water discharged in the crawl space that is causing soil consolidation.

Estimated cost to install foundation drain to daylight over bank = \$3,200

6. Pursuant to the Pennsylvania Pesticide Control Act the Borough needs to have a Pesticide application business license in Category (D) – Aquatic Pest Control 24 Swimming Pools to use chlorine as a disinfectant at the pool [128.31(a)].
7. In addition, the Borough must employ a Pesticide Applicator certified in the 24 Swimming Pool category [§128.32]. The certified applicator needs to be physically present want adjustments are made in the disinfectant rates [128.31(e)].

It is recommended that the Borough have an employee take the Certified Pool Operator (CPO) on-line training course to meet these requirements and gain added knowledge in pool operation = \$500

There is extensive work needed to bring the Elkland Community Swimming Pool into compliance with current codes before it is opened. The costs presented above are preliminary estimates and can be further refined with more investigation and testing. More detailed analysis may develop suitable alternatives at lower costs.

As always, LaBella Associates stands ready to assist the Borough Council in providing the facilities and infrastructure the residents want for a safe, happy, healthy life in Elkland.

Respectfully submitted,

LaBella Associates

Bradley B. Upson
Resident Project Representative

xc: Josh Symonds, WWTP Chief Operator