

Dutch Creek Village HOA
Annual Membership Meeting
April 26, 2014

Facility Improvements Report
Pool Complex Electrical Upgrade – Fall 2013
Frank McKinney

Last summer (2013) Eric Friesen, our Pool Manager, asked Mike Romero of Patio Pool (our pool maintenance contractor) to investigate why the in-pool underwater lights were not working. He found that the wiring had been changed to a non-GFCI and the on/off timer had been by-passed. The lights were still tripping the circuit breaker. He recommended replacing the four (4) underwater light fixtures. This issue highlighted an on-going concern with the general condition of the pool electrical system.

The Dutch Creek Village (DCV) pool complex is more than 30 years old and over the years several modifications have been made that involves changes to the electrical systems.

A concern now exist that that the DCV pool complex electrical systems are not all in good working condition and parts of the pool electrical systems may not meet the building code. Some external junction boxes are damaged and need repair or reconfiguration to meet safety requirements. Furthermore, the elements of the electrical systems are not label so that a reasonable informed individual can operate the system.

In late summer of 2013 the DCVHOA Board of Directors decided to engage a licensed electrician to review the condition of the electrical systems at the pool complex and to make appropriate recommendations for needed repairs and upgrades to bring the system up to the National Electrical Code and the Jeffco building code. The inspection found the electrical wiring in the pool equipment room to be in poor condition as a result of the corrosive environment of the room. In addition, the numerous modifications that have been installed over the years do not for the most part meet the electrical code. The electrician also noted that the load center (ie the CB panel) was a Federal Pacific System model which has a history of bad circuit breaker performance which is a safety concern and under some conditions can result in a fire. It was highly recommended that the load center be replaced.

The electrician doing the inspection provided a cost estimate to upgrade the system. As is our policy, we also obtained cost estimates from two additional Licensed Electrical Contractors. We ultimately selected Dutch Creek Electric, a local contractor, to do the upgrade.

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The replacement of the load center required the electrical feed lines to be disconnected from the electrical power meter. This highlighted the issue that the Xcel power meter was installed too close to the gas meter and also did not have the required unobstructed access because of the building roof overhang. It was necessary to relocate the meter and install a new electrical power disconnect at the east end of the pool house. This required trenching from the new disconnect to the existing Xcel electrical feed lines and splicing in new electrical feed lines at a point located near the fence west of the parking lot. All of the work involving the power meter and feed line relocation was done with the concurrence of, and support from Xcel Energy.

The load center was then replaced with a Siemens 200 Amp (Model No. PW2040B1200CU) weather proof unit better suited for the pool house environment. All existing electrical circuits within the equipment room were removed and replaced with new conduit, wiring, switches and power receptacles as required. Ground Fault Circuit Interruption (GFCI) protection has been provided for all circuits except the gate alarm box located on the northeast corner of the pool house. New motion sensor lights have been installed on the pool house and the bathrooms upgraded with weatherproof 8 foot fluorescent light fixtures, each containing four 48 inch fluorescent bulbs.

The four pool underwater lights have not worked for some time and after a review of the requirements for pool lighting and determining that the existing pole lights are adequate to meet this requirement, the Board of Directors decided to discontinue their use. The in-pool light fixtures will remain in place but the electrical wiring has been removed such that the lights cannot be activated without approval of the Board and the work being done by a licensed electrician qualified in pool lighting.

The new electrical service entrance was grounded per the existing electrical code as were all of the circuits in the pool house. The pool structure (ie the rebar in the structure) was not specifically covered in the building code and was referred to the building inspection for recommendations. The Jeffco building inspectors had a group discussion on this requirement and finally recommended grounding the pool structure to the ground lug on the pool circulation pump using a solid #4 copper wire.

The total cost of the pool house electrical upgrade is \$7,812.00. The following table provides a more detail breakdown of the electrical upgrade cost. This work was funded from the Replacement and Repair Reserve.

Upgrade Items	Cost
Trench, splice and relocate main feed to east end of building	\$1,209.00
Install new main disconnect on exterior of building. Install new 200 Amp load center with all new grounding system and all required circuits to be GFI protected.	\$3,011.00
Remove old electrical circuits and replace with new systems	\$2,532.00
Remove existing lighting and install new wiring system and new weatherproof 8 foot fluorescent light fixtures, each containing four 48 inch fluorescent bulbs.	\$1,060.00
Upgrade Total	\$7,812.00

A special thanks to Mike Tagliavore of Dutch Creek Electric for his conscientious effort in implementing these electrical upgrades to ensure they met the National Electrical Code while provide the Homeowners' Association with a safe and functional pool facility.