

Light - Heigel & Associates Swimming Pool Installation Checklist

- 1.) Location of pool must be so that any overhead service entrance cables are 22.5' from the water level in any direction. If installing a diving board or platform a distance of 14.5' must be maintained.
- 2.) If underground pool, consideration for any underground utilities should be taken. No non-pool related underground wire within 5' of pool wall unless in approved conduit.

INSTALLATION REQUIREMENTS

- 3.) Pool Wiring:
 - a.) Feeder wires and branch circuit wires need to be installed in conduit.
 - b.) Conduit must be of the following type: RMC, IMC, LFNMC, PVC.
- 4.) Bonding:
 - a. All metal parts of structure & equipment must be bonded
 - b. Exception, isolated parts < 4" in any dimension and do not penetrate the pool structure < 1".
 - c. Bonding with a 8 AWG or larger conductor
- 5.) Grounding:
 - a.) Grounding conductors must be insulated
 - b.) No splices in conductors must land in terminals
- 6.) Lighting:
 - a.) Underwater Wet-Niche:
 - 1.) Installed where top of fixture lens is not less than 18" below water line.
 - 2.) Bonded and secured to shell requiring a tool for fixture removal
 - 3.) Low voltage lines from UL listed transformer separate from line voltage.
 - 4.) Over 15V must be GFCI protected
 - 5.) Connections in Wet-Niche must be potted
 - 6.) Metal parts in contact with pool water need to be corrosion-resistant
 - 7.) Junction boxes for pools must be UL listed for use
 - b.) Dry-Niche:
 - 1.) Provided with a means for drainage of water
 - 2.) One equipment-grounding conductor for each conduit entry
 - c.) No-Niche:
 - 1.) UL listed for use
 - 2.) Installed in forming shells connected by means of a bracket
- 7.) Receptacles:
 - 1.) Receptacles for circulation and sanitation systems of pools need to be located more 3' but not less than 5' from pool wall and be a single rec. GFCI protected with ground and be of a locking type.
 - 2.) Permanently installed pools require a receptacle at least 10' but no more than 20' from pool wall.
 - 3.) All exterior receptacles within 20' of pool walls need to be GFCI protected.
- 8.) Lighting outlets:
 - 1.) Existing lights less than 5' from pool wall and at least 5' above the water level need to be GFCI protected
 - 2.) New installation above the pool or within 5' of pool wall need installed at least 12' above the water line.
 - 3.) Indoors lights with a totally enclosed fixture or identified for use can be 7'6" above the water if GFCI protected.
 - 4.) Switches other than ones UL listed need to be at least 5' from pool wall.
- 9.) Entrapment protection
 - 1.) All pool and spa suction outlets shall conform to ANSI/ASME A112.19.8M or be a drain grate of at least 12"x12" or larger or an approved channel drain.

Spas and Hot Tubs

- 10.) Spas and hot tubs follow same rules as pools except for:
- a.) Factory assembled units can connect to power source with a 15" cord to a GFIC outlet
 - b.) Bond all metal parts within 5" of spa or hot tub
 - c.) GFCI protection to spa or hot tub not required if pumps, heaters, lights, and other electrical equipment is protected by self contained GFCI UL listed from factory
 - d.) No wall switches within 5" of hot tub or spa

REQUIRED BARRIERS

- 11.) Barriers are designed to provide protection against potential drowning by restricting access to swimming pools, hot tubs, and spas.
- a.) The barrier must be at least 48" to the top above the finish grade
 - b.) Openings in barrier shall not allow a 4" diameter sphere to pass through
 - c.) Access gates for pedestrians shall have a self locking device and be of a self closing type
 - d.) The release mechanism for the gate must be at least 54" from the bottom of the gate or be located at least 3" below the pool side of the top of the gate
 - e.) If a wall of a dwelling serves as part of the barrier all doors that directly access the pool need to be equipped with an audible alarm.
 - f.) Where an above ground pool serves as the barrier the ladder or steps need to be capable of being locked, secured, or removed to prevent access.
 - g.) Barriers shall be constructed and located away from structures, equipment, or similar objects to prevent them from being used to climb on or over the barriers
 - h.) **Barrier exceptions – hot tubs or spas with a safety cover complying with ASTM F 1346 shall be exempt from these provisions.**
- 12.) Decks
- a.) Decks built 30" high above grade require guards
 - b.) Plans for deck need to be submitted for approval at time of permit application.
 - c.) Deck footing must be a minimum of 40" deep
 - d.) Access to decks around pools must meet above barrier requirements
 - e.) Decks can not cantilever on above ground pool walls without proof from the manufacturer That the pool is capable of supporting the deck.
- 13.) Portable or storable pools
- a.) Cord connected pumps shall have a double insulated cord and ground that grounds all internal non-accessible metal parts.
 - b.) Electrical equipment needs protected by GFCI circuit
 - c.) Lights for storable pools need to be UL listed with no exposed metal parts

**Light-Heigel
Pool,Spa and Hot Tub
Addition Plan and Inspection Procedure**

1) –Definitions:

- a. A swimming pool is define as a structure intended for swimming or bathing that contains water at a depth of 24” or greater.
- b. A storable or portable pool is constructed on or above ground with a maximum water depth of 42”
- c. TYPE OF WORK OR IMPROVEMENT- check addition
- d. ENERGY-write N/A to the left of the check boxes
- e. RESIDENTIAL FEE SCHEDULE-Use price list for your municipality
 - i. Plan Review – Limited Review use Additional Review price
 - ii. Electrical Inspection-
 - iii. Final Inspection-

i.) Plan Review

- a. Submit site plan with location of pool, existing building and location of electric service lines to home. (Note if overhead or underground):
- b. Location doors of home if they will have direct access to pool
- c. Location any existing lights, and switches with in 5’ of pool wall or new lighting being added.
- d. Location of any existing or new receptacles with in 20’ of pool wall
- e. Deck plans if applicable

ii.) Electrical Inspection

- a. Check installation of all circuits associated with pool installation
- b. Check for GFIC protection of all pool circuits per the NEC
- c. Assure bonding of all metal parts of pool

iii.) Final Inspection

- a. Do an operation check on pump and associated pool equipment.
- b...Check receptacles with in 20’ of pool wall for Gfic protection
- d. Insure all barriers are in place and are at least 48” high.
- e. Check access to pool by gate has a locking device or stairs can be disabled to gain access to pool