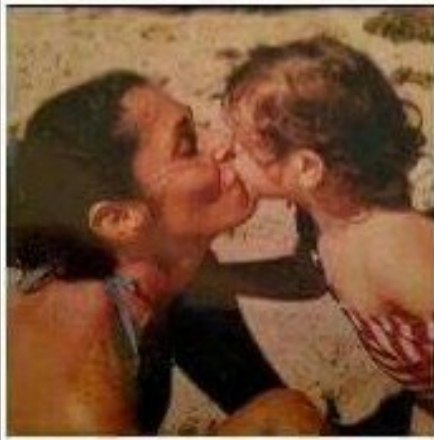


Rachel Rosoff Fatality At Heritage Point Pool

John Cavaroc, Ph.D., P.E.

3-2-2023





Michelle Rosoff

May 16, 2017

Rachel, i love and miss you so so much. This world is not the same without you. I want you back so bad. Love Mommy



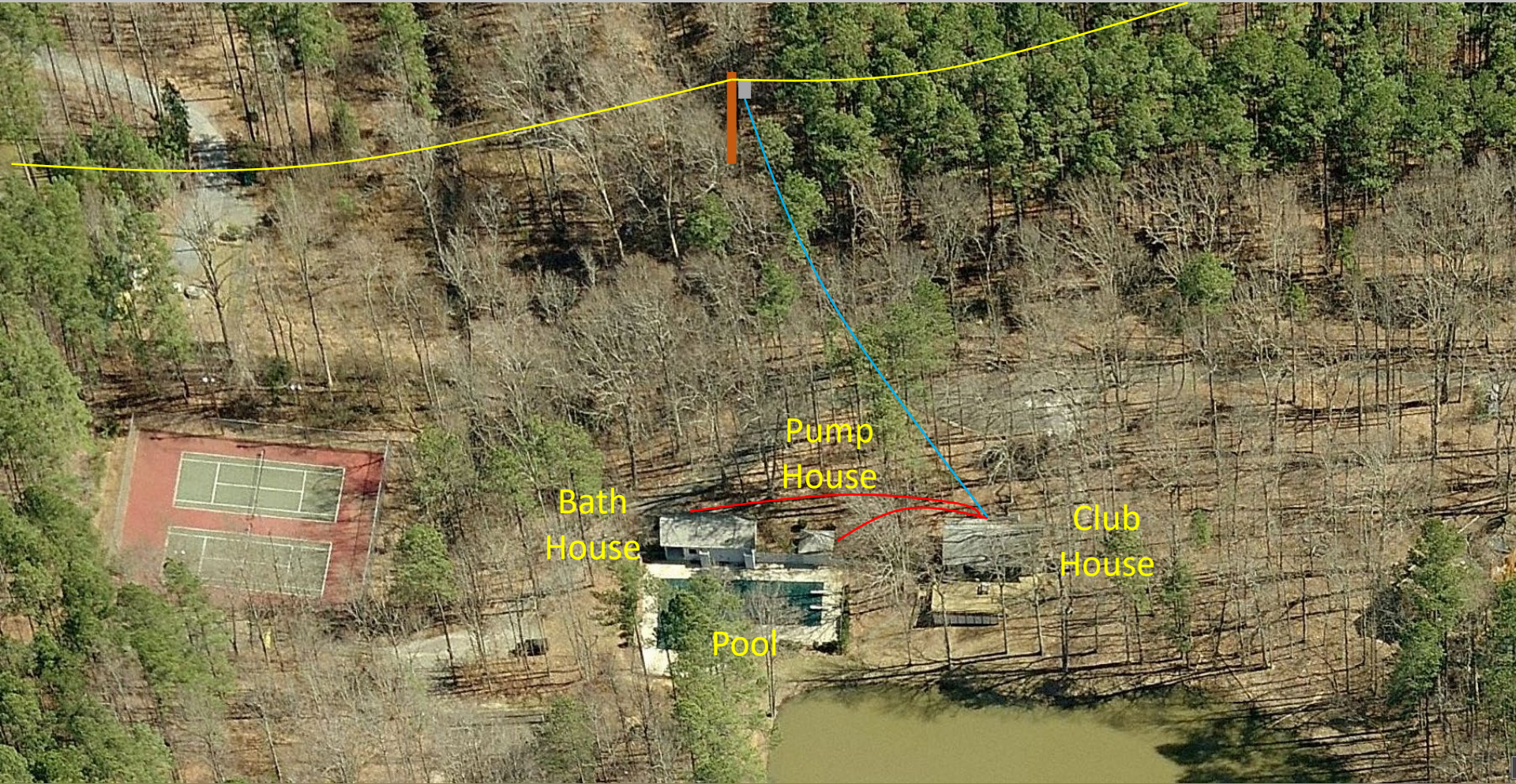
PicGrid





2D





Bath
House

Pump
House

Club
House

Pool



Bath
House

Pump
House

Club
House

Bath House

Pump House



Bath
House

Pump
House





Club
House

Pump
House

Bath
House





CAUTION
LOW OVERHANG

0101010







Pump
House

Bath
House









HeritagePoint
POOL
Please Shower Before Using Pool-Spa
PRIVATE - NO PETS
NO TRESPASSING

HeritagePoint
Pool-Spa
10000
10000
10000

SURVEILLANCE
CAMERAS
IN USE



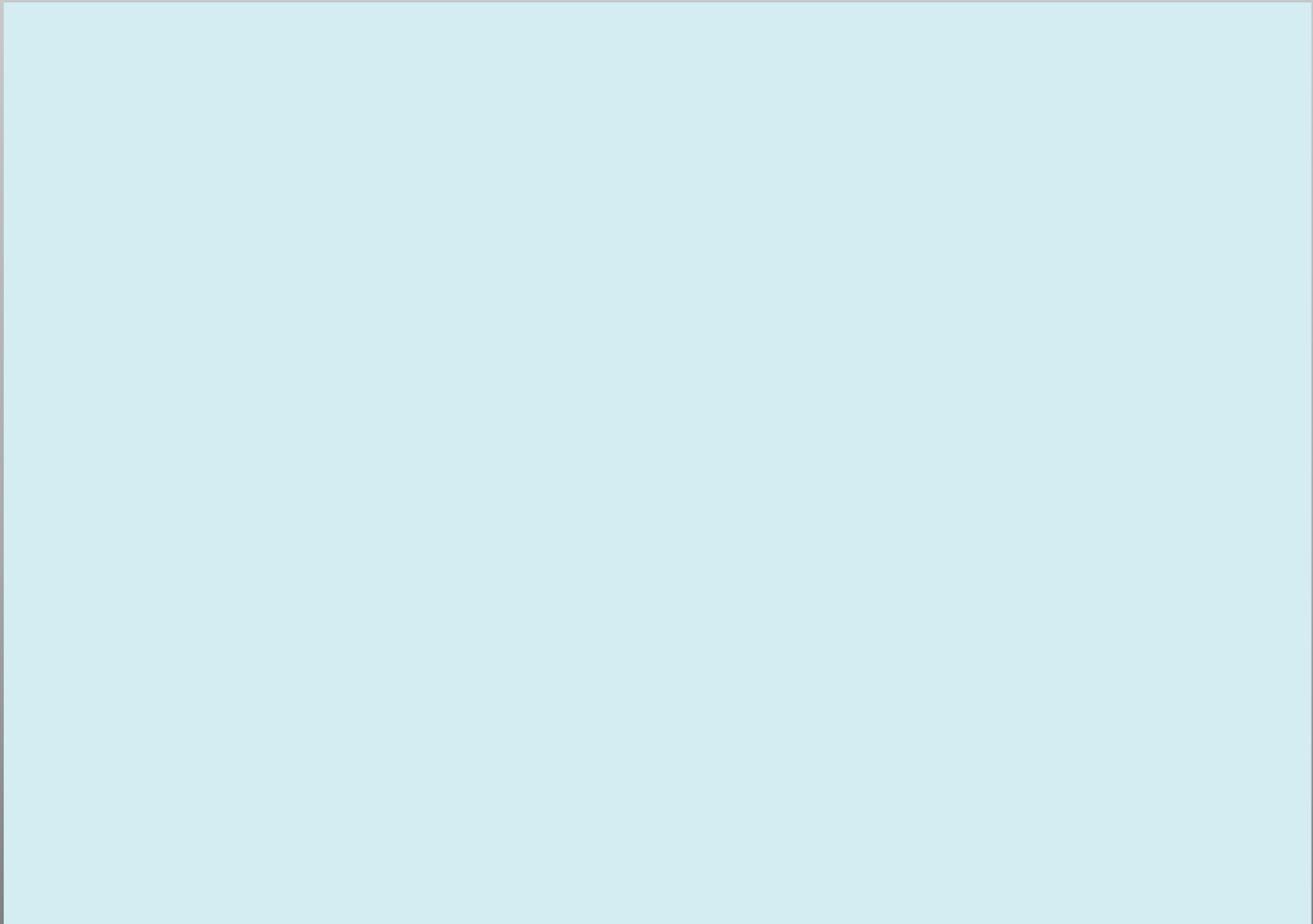


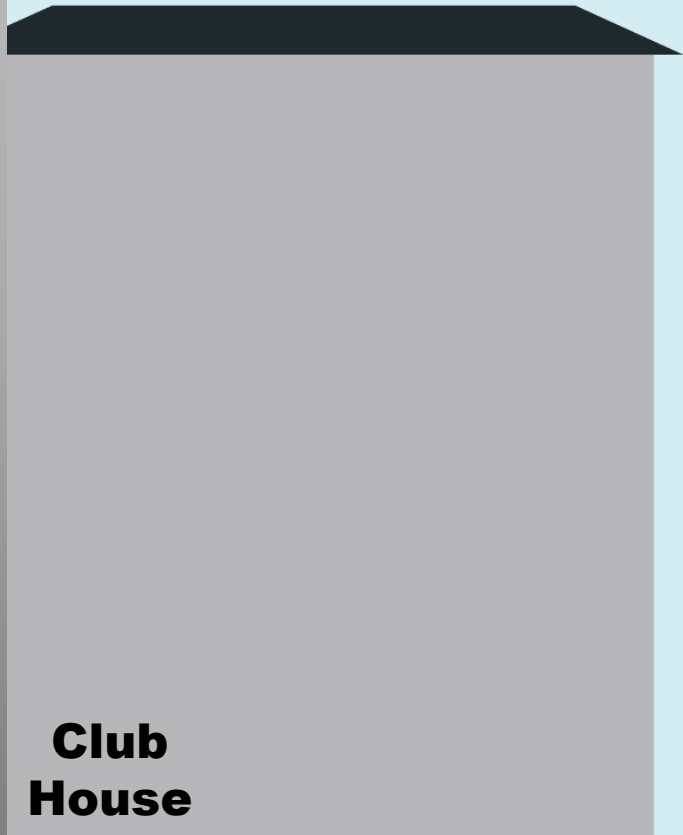
CALCIUM CHLORIDE FLAKES
Weight: 50pounds (22.68kg)

Chemical Adjustment Guide

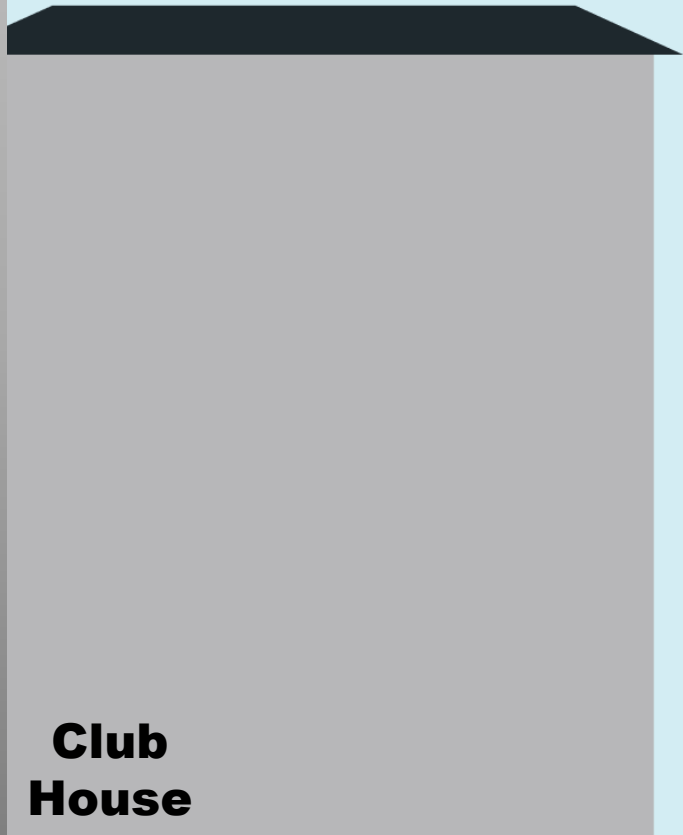
Parameter	Normal Range	High	Low
pH	7.0 - 8.5	> 8.5	< 7.0
Alkalinity	100 - 150 mg/L	> 150	< 100
Hardness	100 - 200 mg/L	> 200	< 100
Calcium	100 - 200 mg/L	> 200	< 100
Magnesium	10 - 20 mg/L	> 20	< 10
Total Dissolved Solids (TDS)	100 - 200 mg/L	> 200	< 100

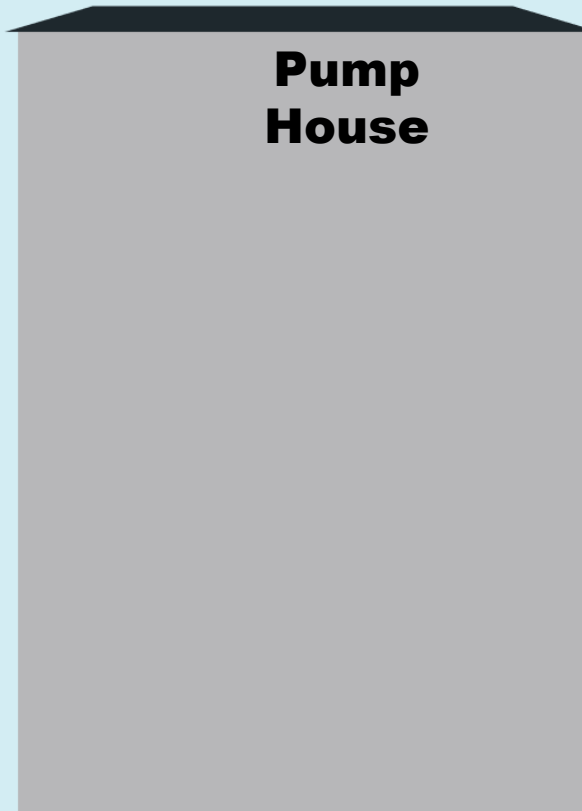
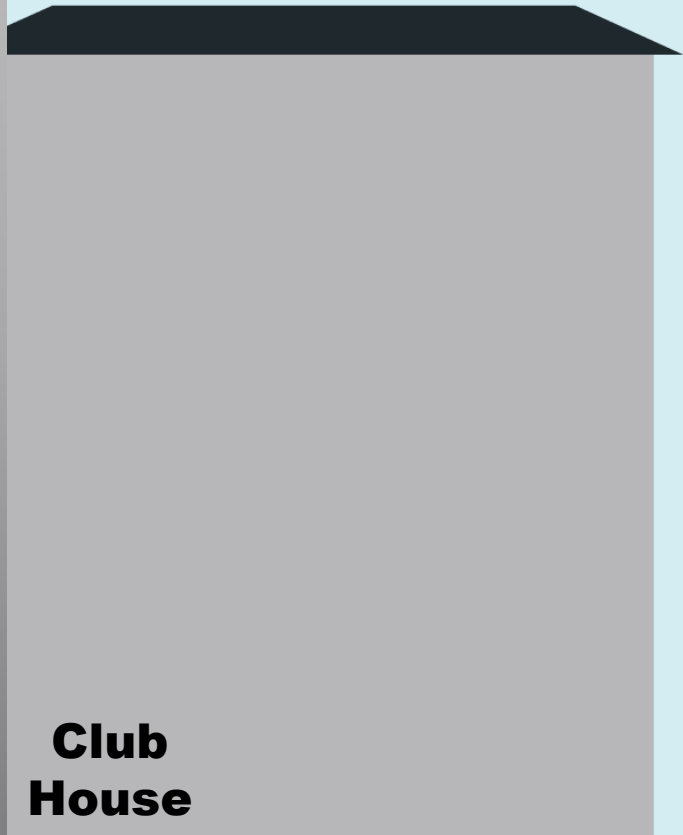
DO NOT

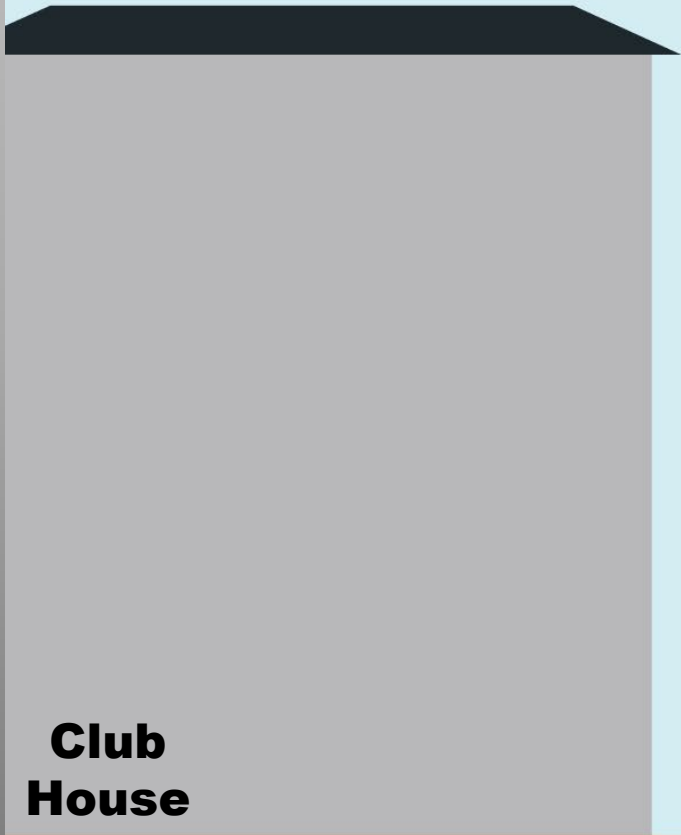




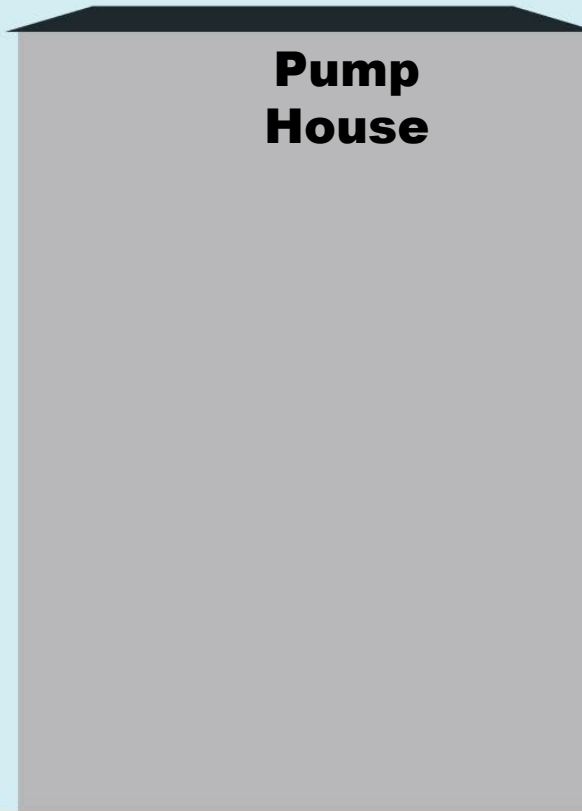
**Club
House**







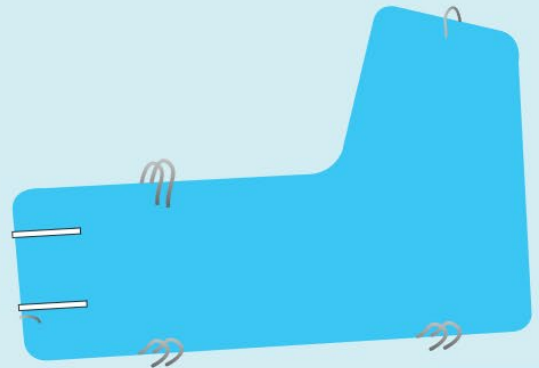
**Club
House**

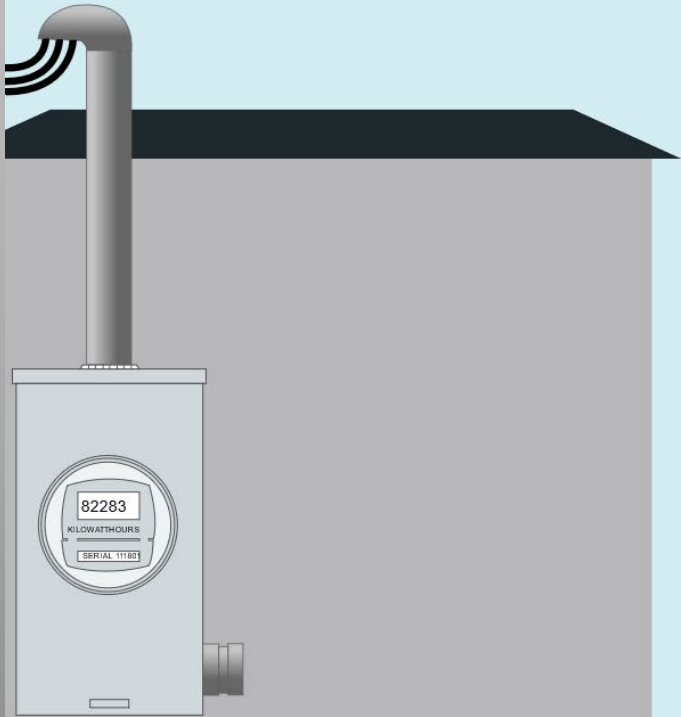


**Pump
House**

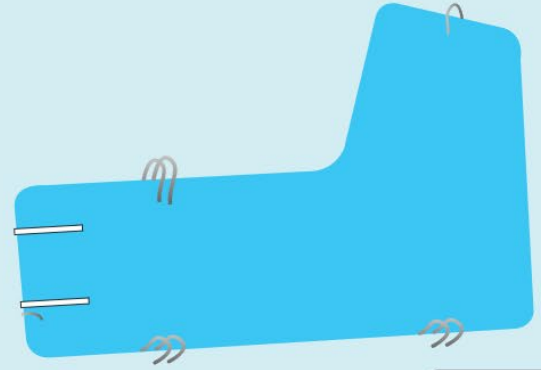


**Bath
House**



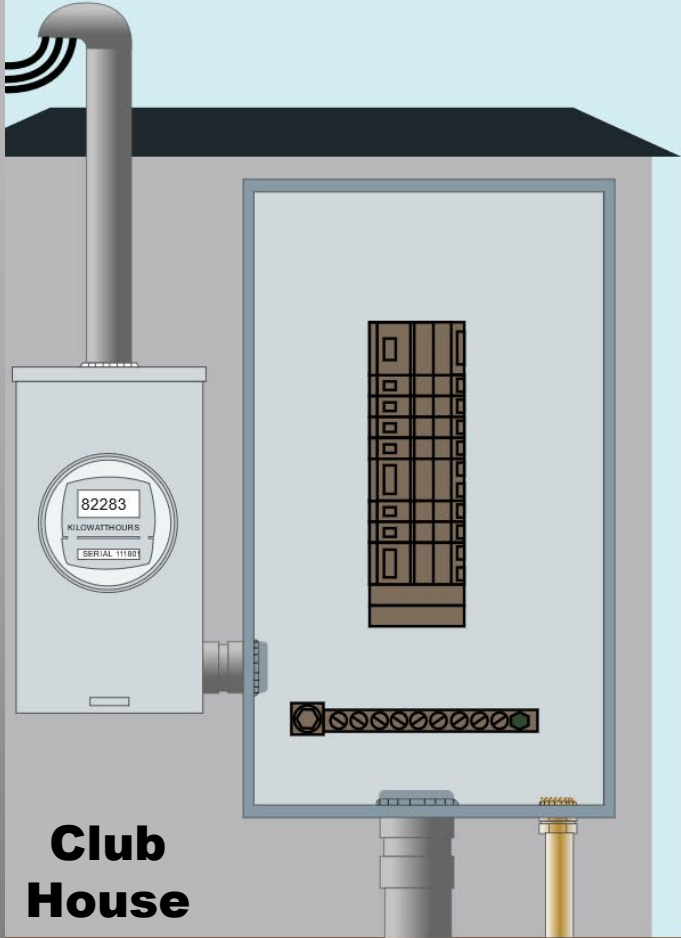


**Club
House**

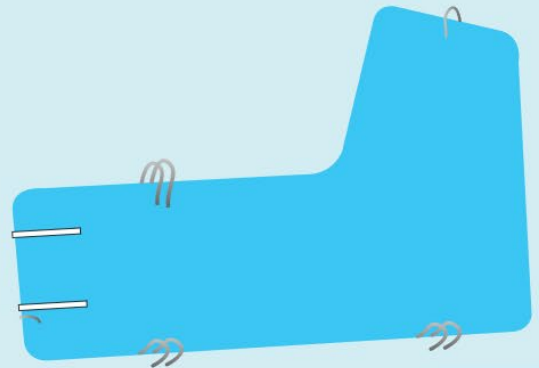


**Pump
House**

**Bath
House**



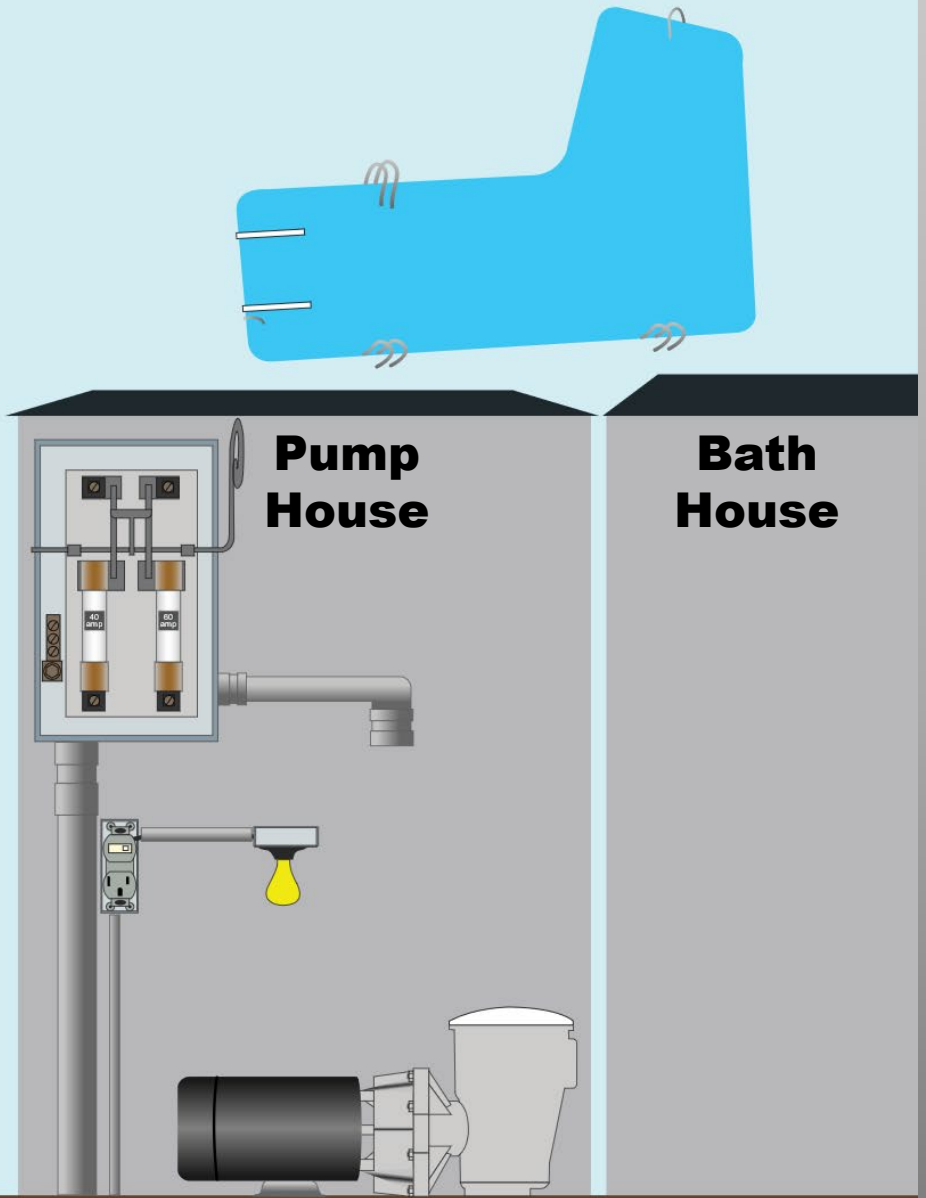
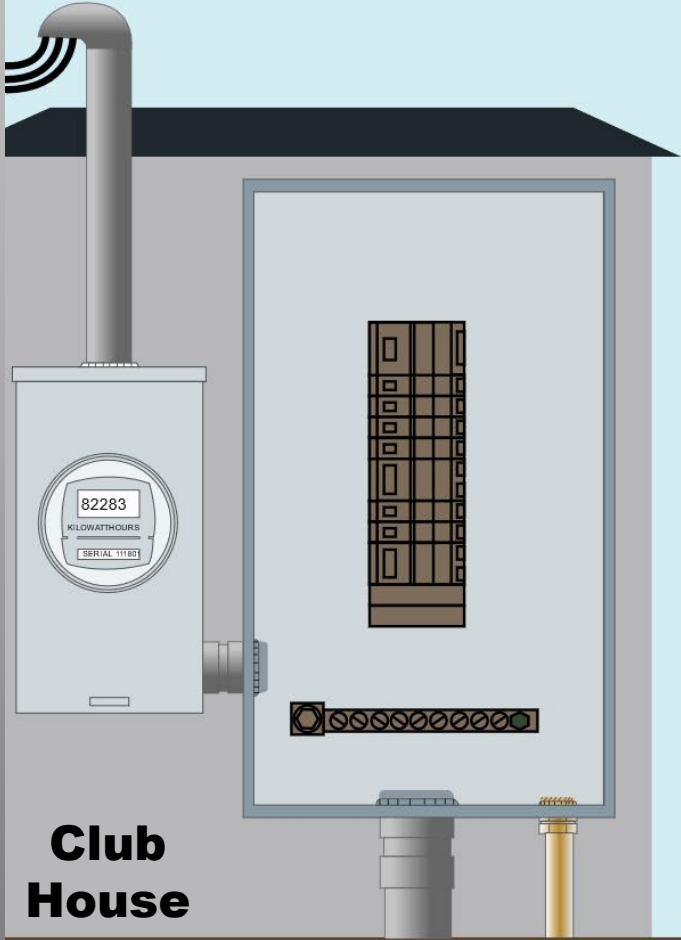
Club House

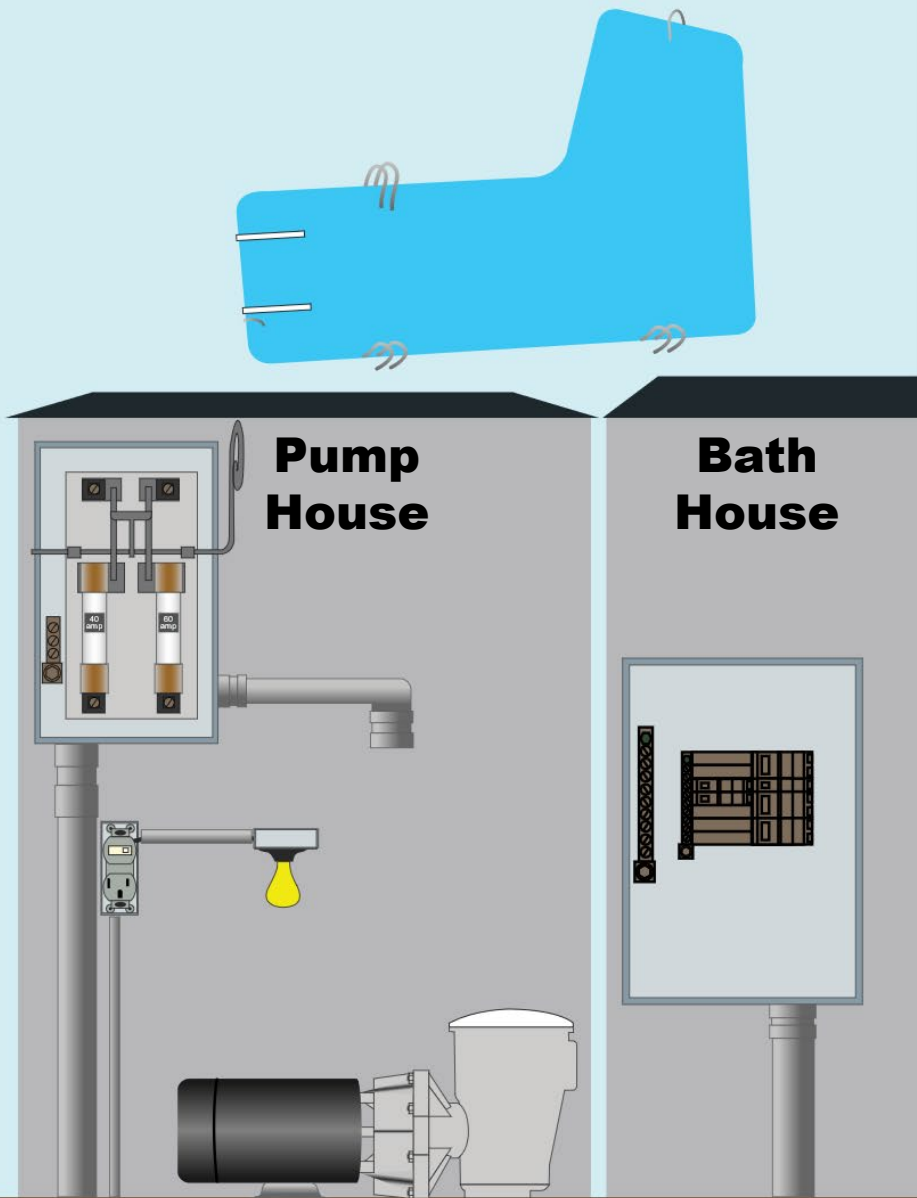
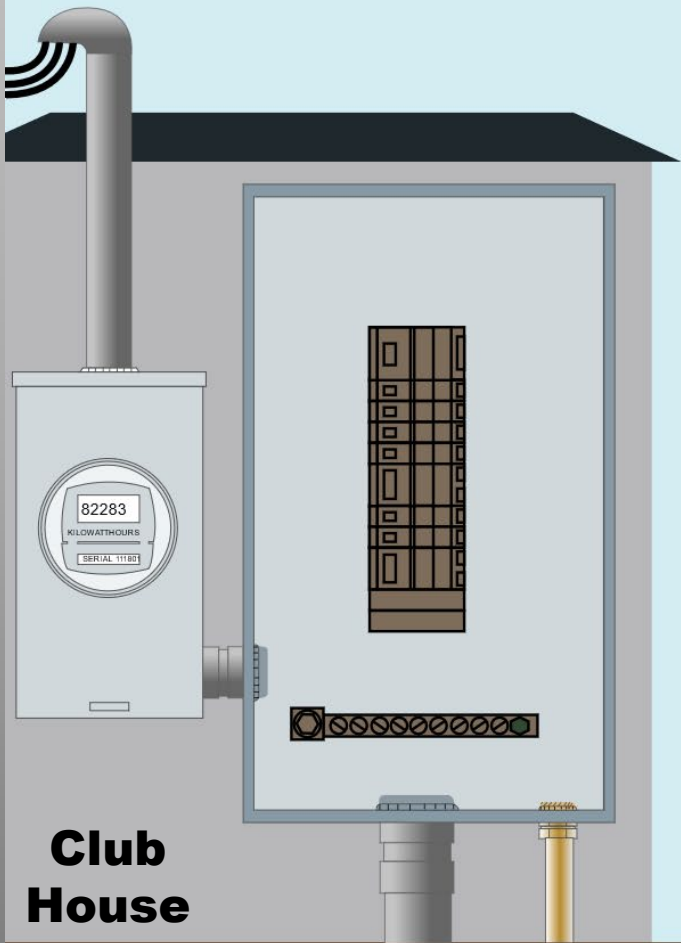


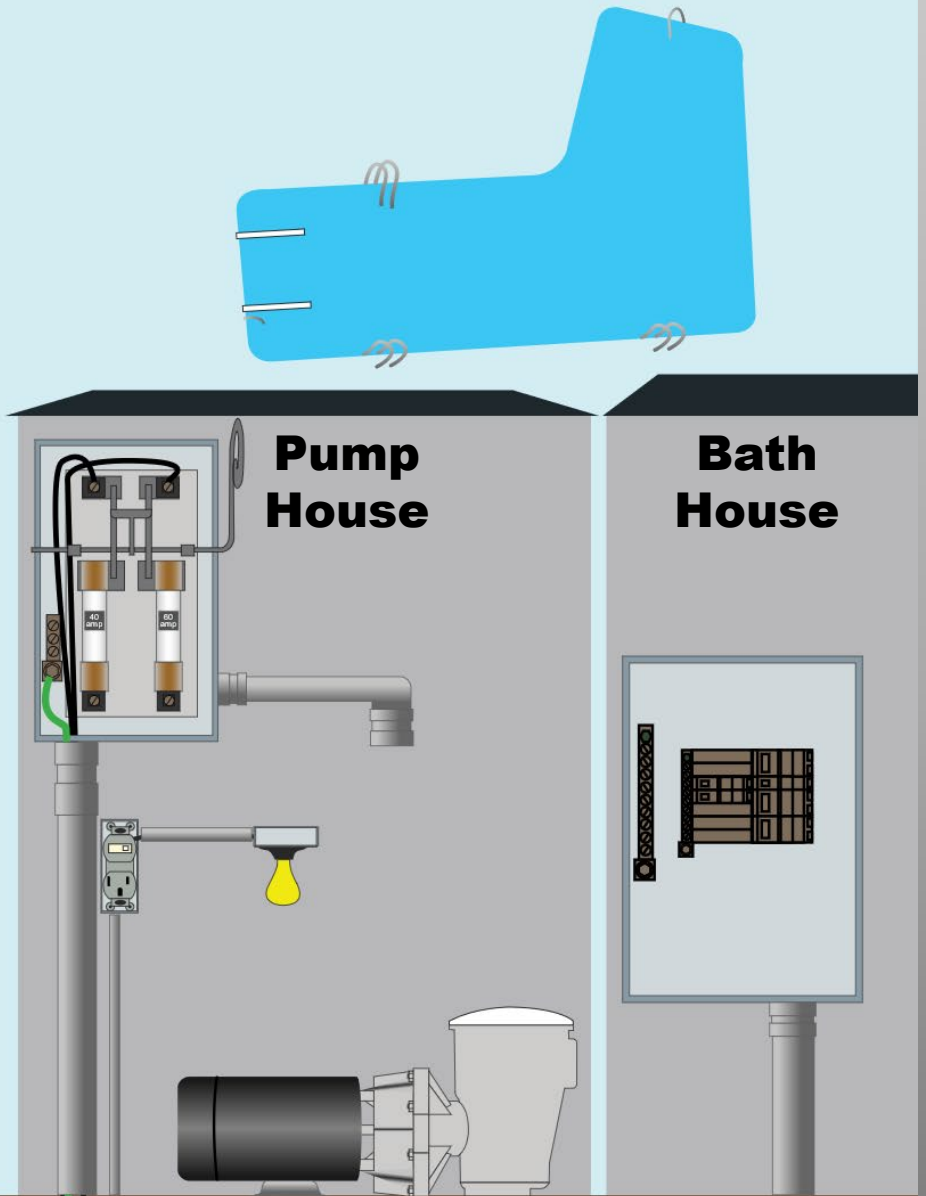
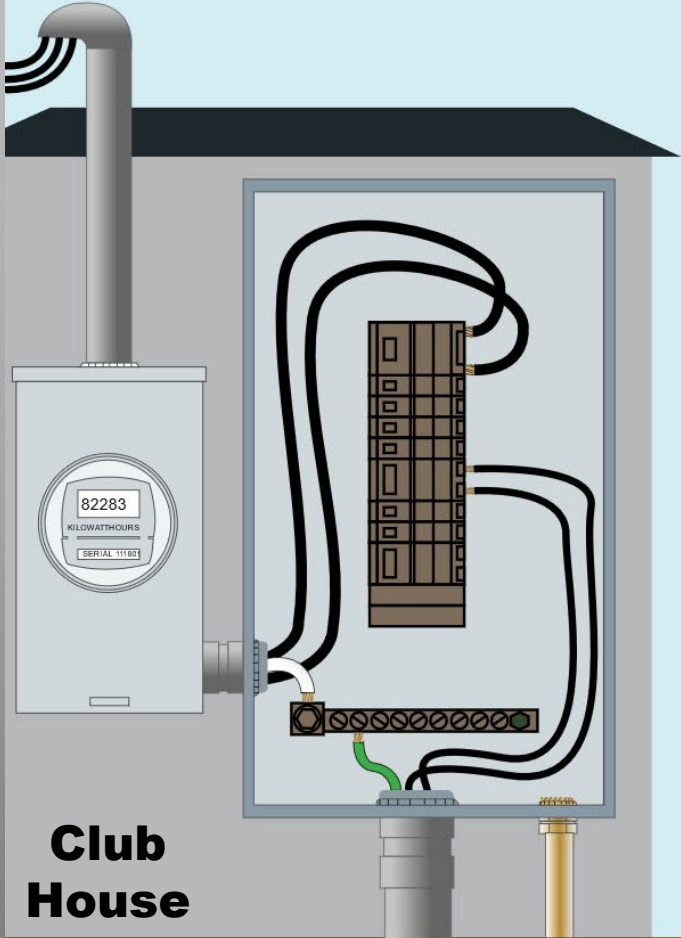
Pump House

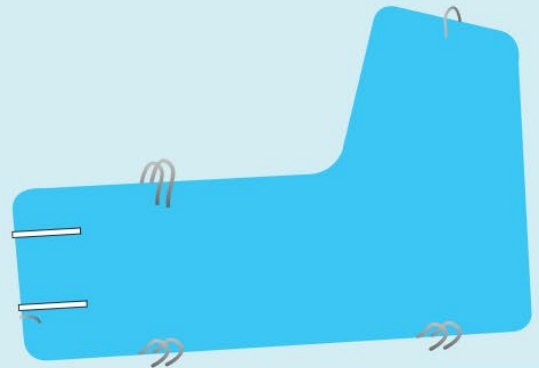
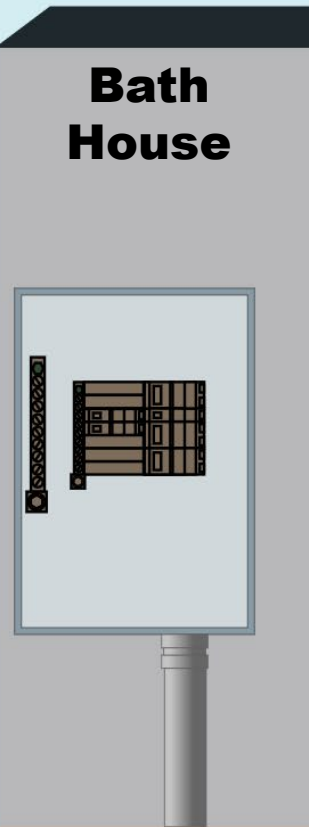
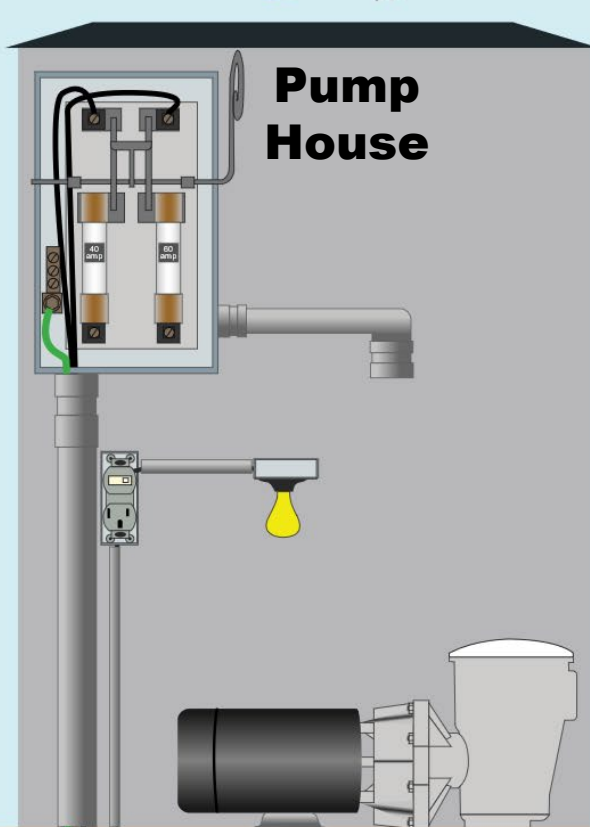
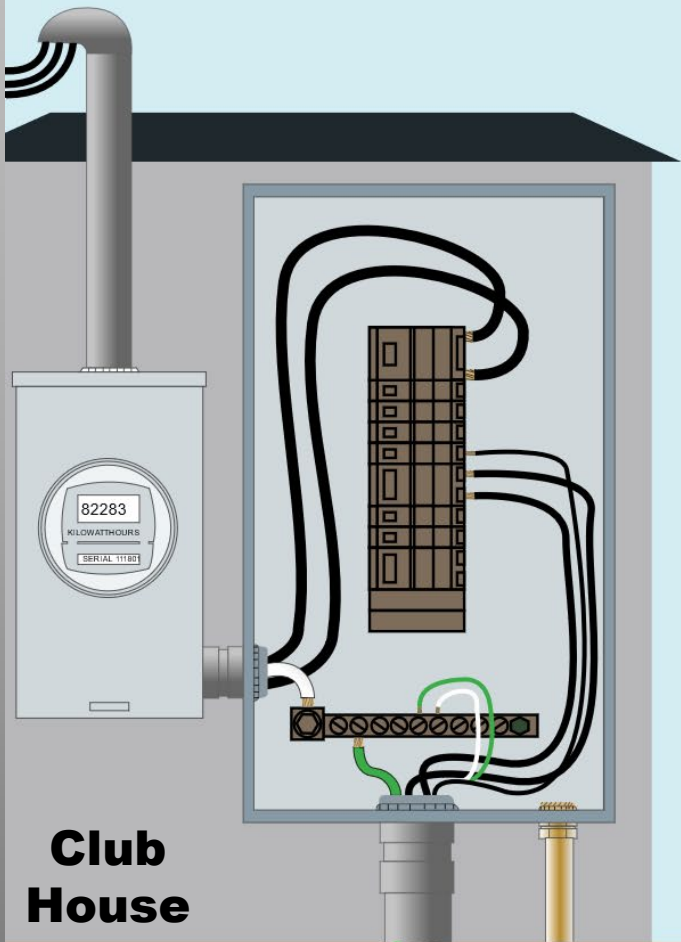


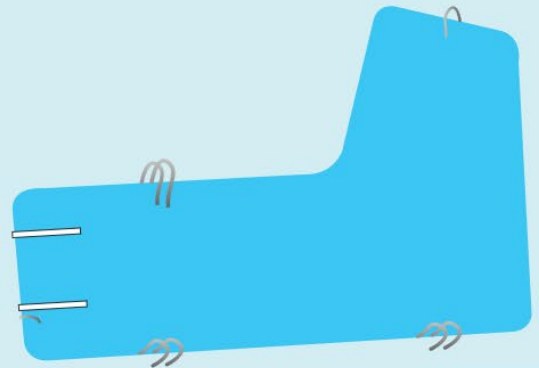
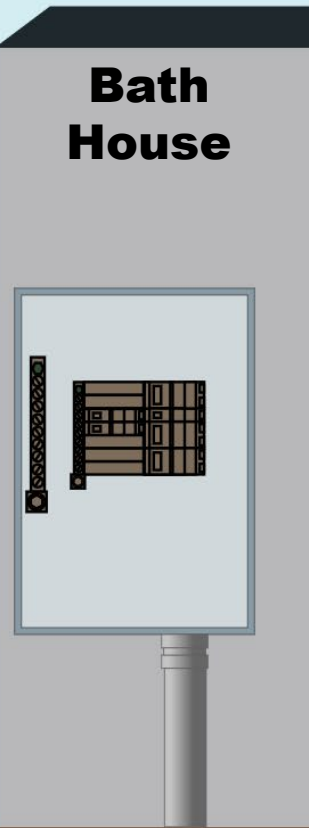
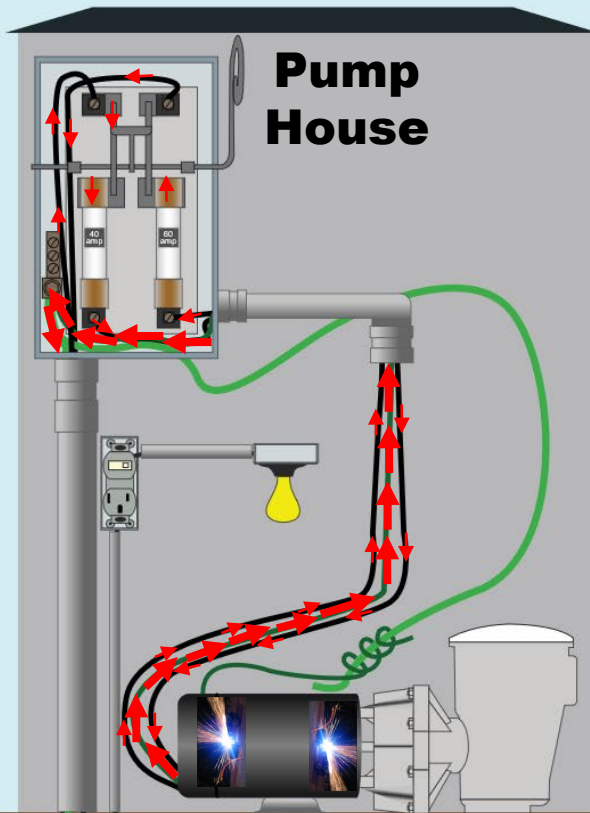
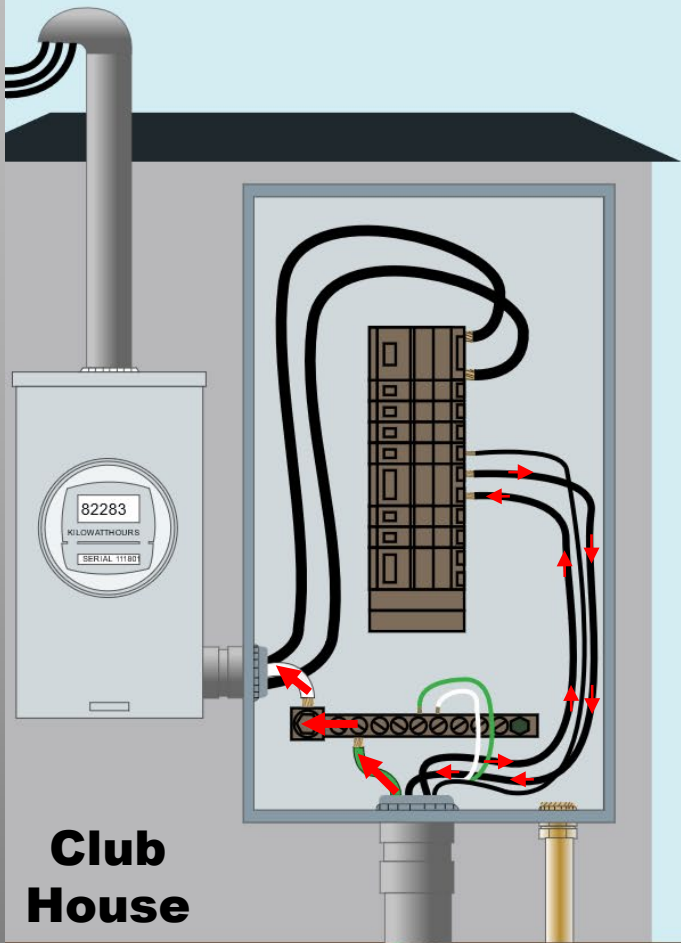
Bath House



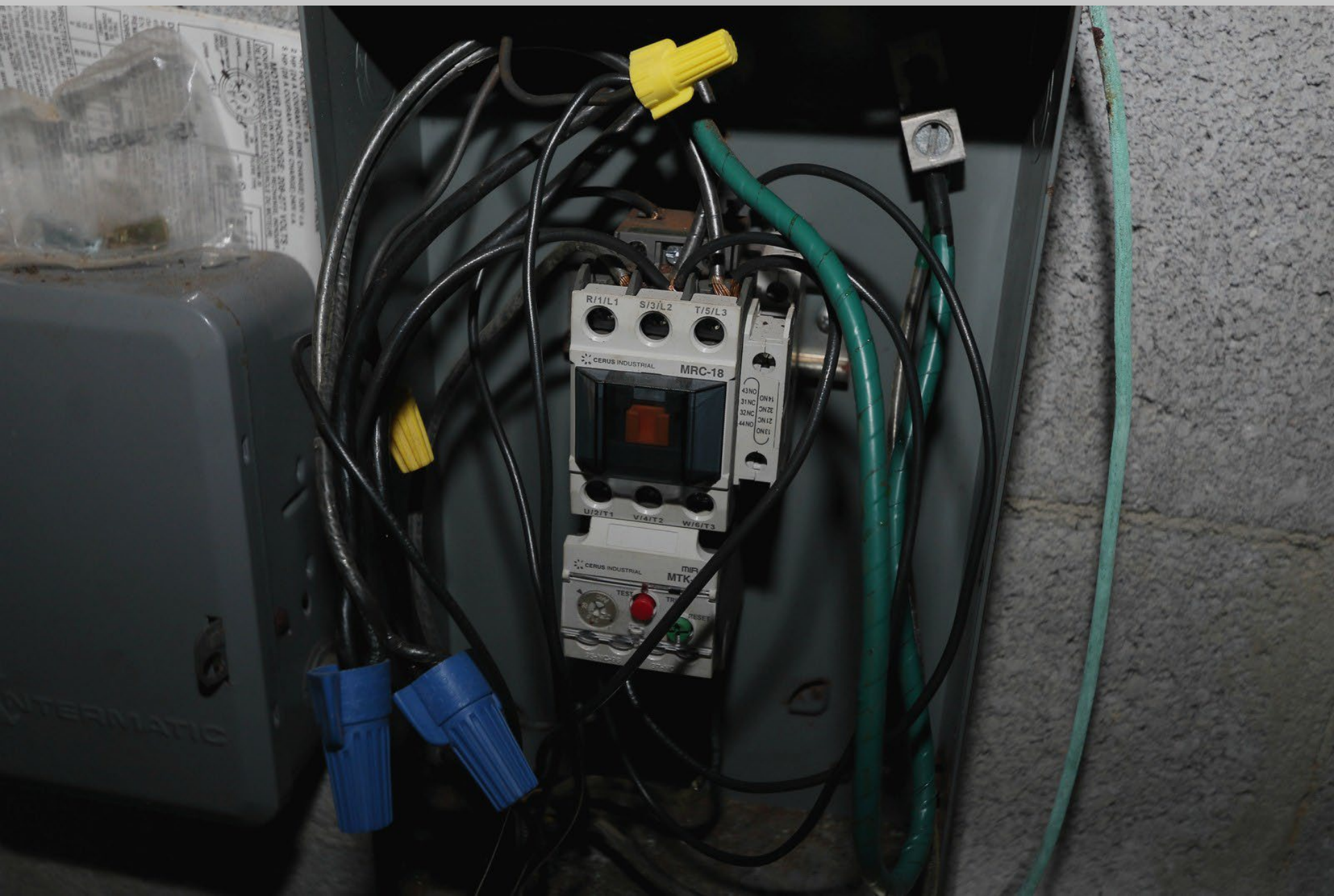








Date	Activity	Contractor
April 21, 2010	Install motor controller	Contractor 1
June 15, 2011	Repair/replace section of pump house feeder	Contractor 1
July 21, 2015	Replace 50uF run capacitor with 30uF	Contractor 2
September 2, 2016	Tropical Storm Hermine	
September 3, 2016	Incident	

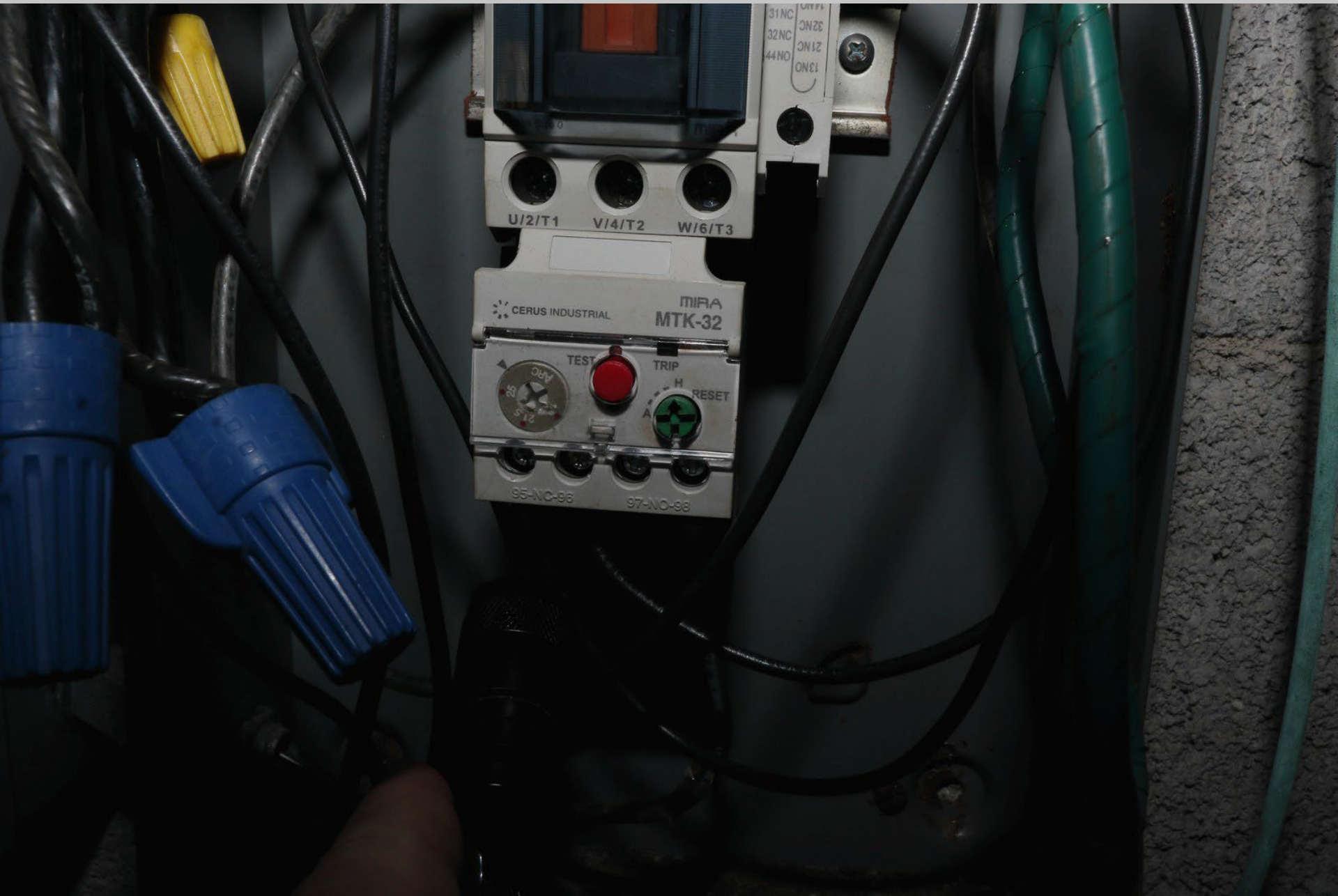


R/1/L1 S/3/L2 T/5/L3
CERUS INDUSTRIAL MRC-18
43 NO ON V1
31 NC ON Z2
32 NC ON L2
44 NO ON E1
U/2/T1 V/4/T2 W/6/T3

CERUS INDUSTRIAL MTK
TEST TRIP RESET

2. NOT FOR A CONDUIT...
3. NOT FOR A CONDUIT...
4. NOT FOR A CONDUIT...
5. NOT FOR A CONDUIT...
6. NOT FOR A CONDUIT...
7. NOT FOR A CONDUIT...
8. NOT FOR A CONDUIT...
9. NOT FOR A CONDUIT...
10. NOT FOR A CONDUIT...
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13. NOT FOR A CONDUIT...
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43. NOT FOR A CONDUIT...
44. NOT FOR A CONDUIT...
45. NOT FOR A CONDUIT...
46. NOT FOR A CONDUIT...
47. NOT FOR A CONDUIT...
48. NOT FOR A CONDUIT...
49. NOT FOR A CONDUIT...
50. NOT FOR A CONDUIT...

INTERNATIO



U/2/T1 V/4/T2 W/6/T3

CERUS INDUSTRIAL MIFA MTK-32

TEST TRIP
25 20 15 10 5
OFF ON A H RESET

95-NC-86 97-NO-88

31NC
32NC
44NO
13NO
21NC
32NC
44NO



Pump
House

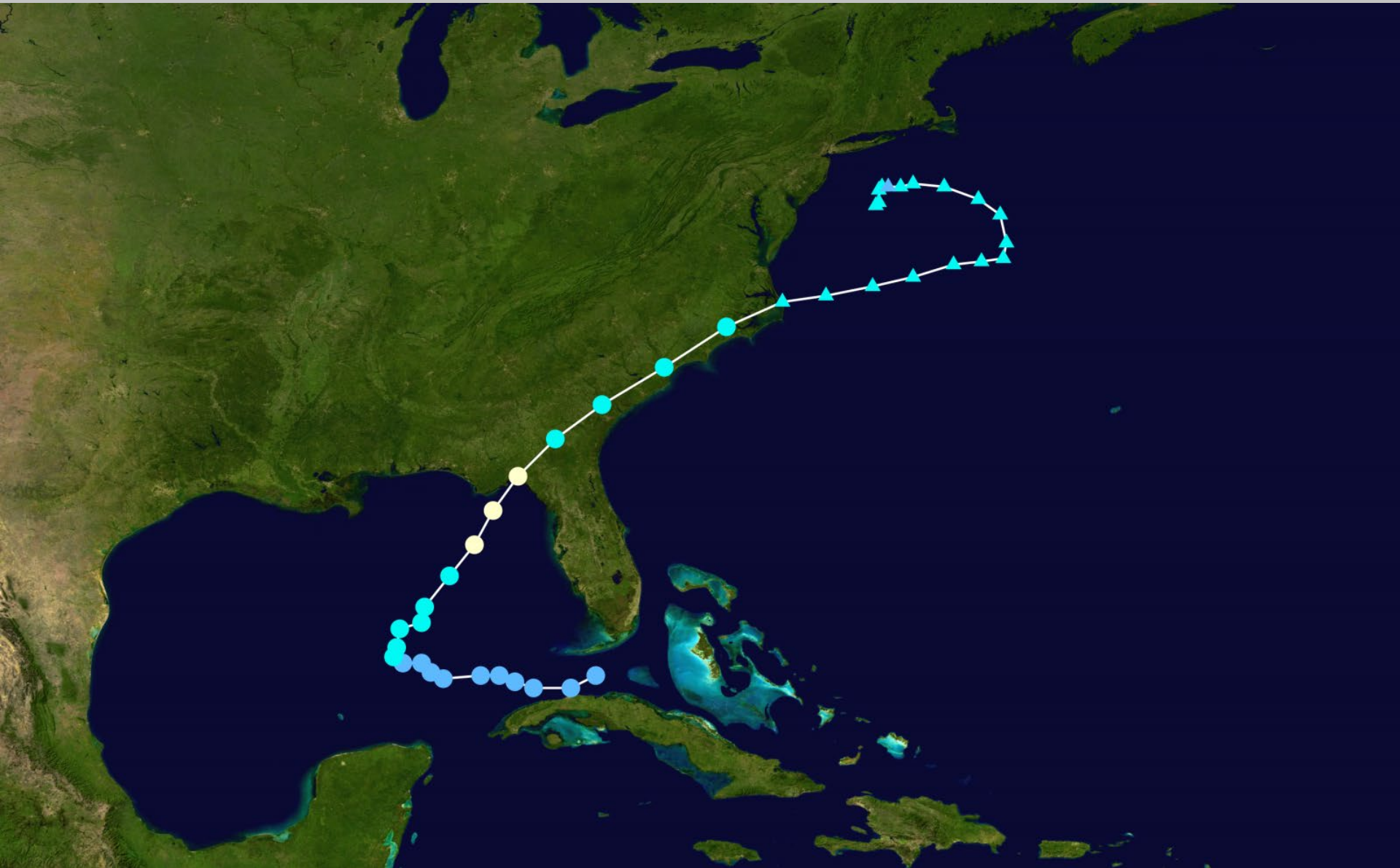
Bath
House



Junction Box







Great! And the check?

10:10 AM

Where would I find that

10:11 AM

Turn it and it should pop off

10:11 AM

I got in

10:12 AM

Where would the checks be

10:12 AM

In the log book where you write down the numbers

10:13 AM

Did you find it

10:19 AM










CHALLENGER™
PAC-FAB 5 HP
SANFORD, NC MADE IN U.S.A.
CITY OF INDUSTRY, CA LABEL 35-5460

CFII-N1-5FE
1-17-G97 / 34-5210
SELF PRIMING PUMP
SUITABLE FOR SWIMMING POOLS,
SPAS, OR HOT TUBS.

 **EMERSON™** 1081 POOL MOTOR

CAT. NO. EB850

MODEL K63VZEPS-4763

HP 5.0 S.F. 1.00 RPM 3450

VOLTS 208-230 HZ 60



SF. AMPS 21.0-19.4 PH 1 DUTY CONT

MFG# L10 C FRAME 56Y INS CLASS B

THERMALLY PROTECTED AUTO CODE G AMB°C 50

PROT. CODE 08181

MADE IN MEXICO


 156060  E22922

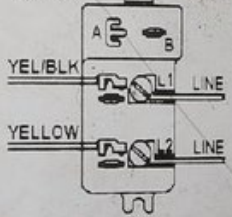
SUITABLE FOR FIELD WIRING
USE COPPER CONDUCTORS ONLY

WARNING: MOTOR MUST BE GROUNDED IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRIC CODES. COMPONENT COVER MUST BE IN PLACE BEFORE OPERATING TO PREVENT ELECTRICAL SHOCK OR INJURY

CONNECTIONS

GREEN/VERDE
SCREW


 — GROUND



YEL/BLK — L1 — LINE

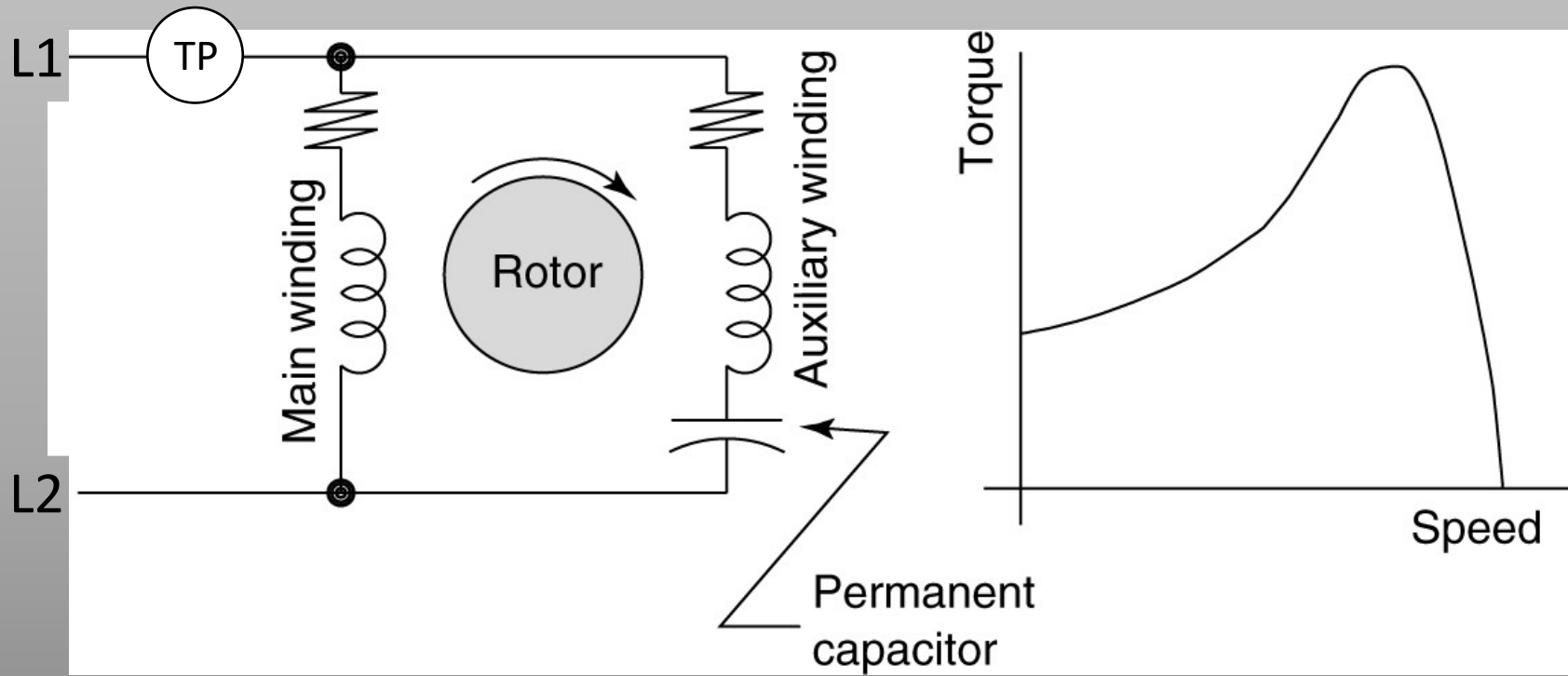
YELLOW — L2 — LINE

MOTOR IS NON-REVERSIBLE
CCW ROTATION SHAFT END



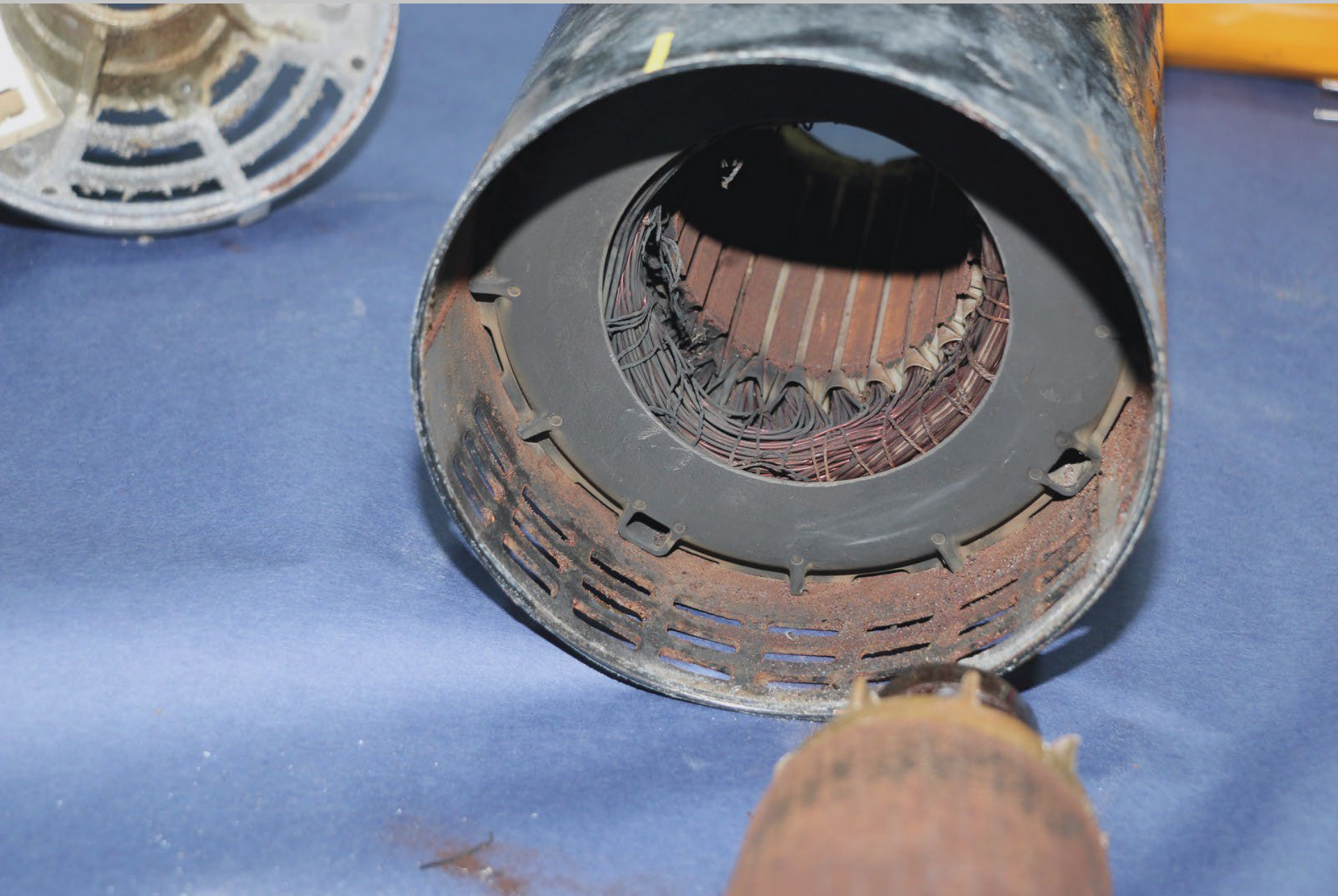
EB850





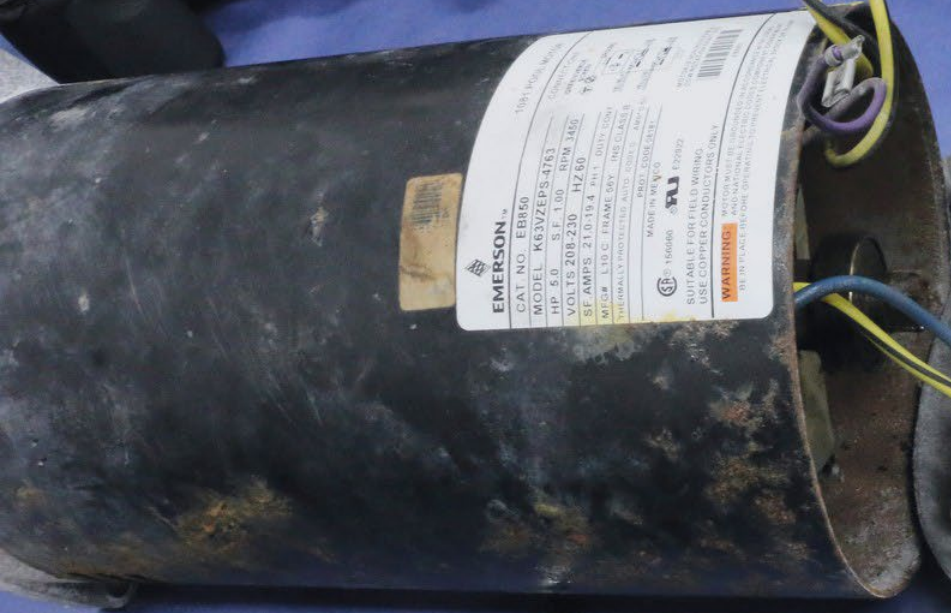
L1 to L2	Open
L1 to GND	Open
L2 to GND	0.522 Ω











EMERSON
CAT. NO. EB850
MODEL K63VZEP3-3763
HP 5.0 S.F. 1.00 RPM 1452
VOLTS 208-230 1/2 50
SF AMPS 21.0-19.5
MFC# L10 C FRAME 6Y - INS CLASS
YOU CANNOT PROTECT THIS MOTOR FROM
OVERHEATING
MADE IN MEXICO
E37932
SUITABLE FOR FIELD WIRING.
USE COPPER CONDUCTORS ONLY.
WARNING MOTOR MUST BE DISCONNECTED FROM ELECTRICAL SUPPLY BEFORE ATTEMPTING TO REPAIR OR SERVICE. ALWAYS USE PROPER LOCKOUT/TAGOUT PROCEDURES.
SEE INSTRUCTIONS FOR SAFETY INFORMATION.



THERMALLY PROTECTED AUTO CODE C

PROT. CODE

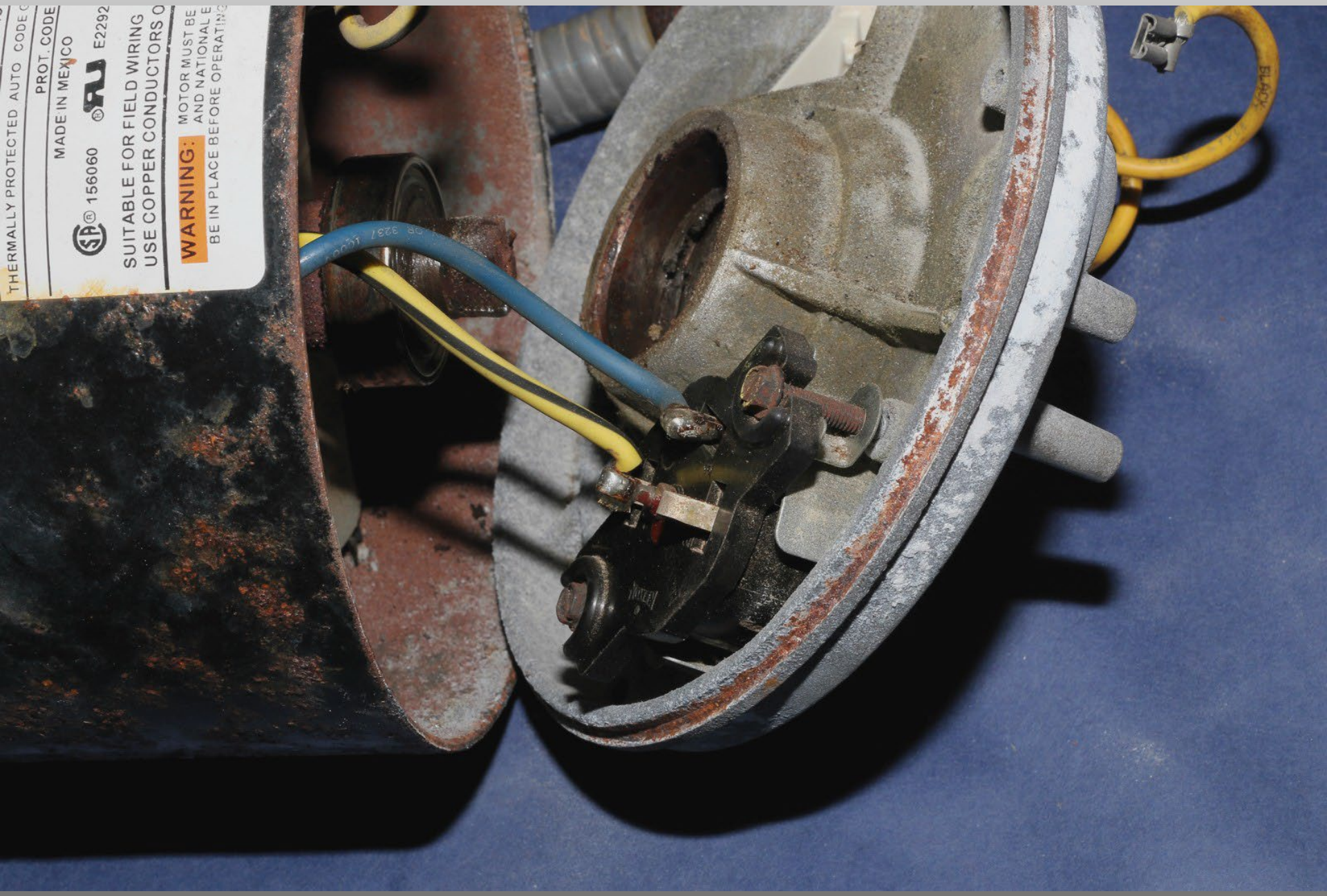
MADE IN MEXICO



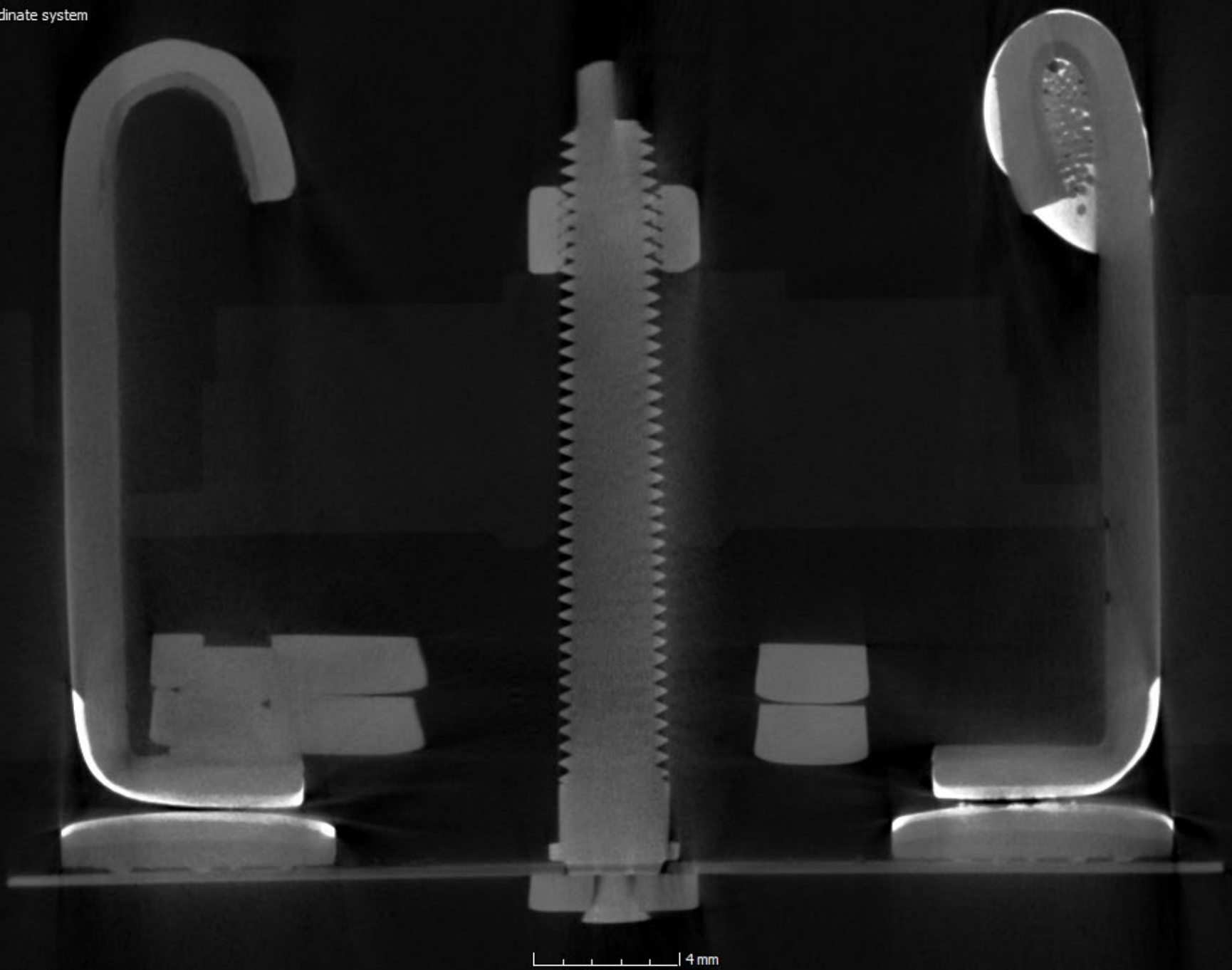
E2292

SUITABLE FOR FIELD WIRING
USE COPPER CONDUCTORS O

WARNING: MOTOR MUST BE
AND NATIONAL E
BE IN PLACE BEFORE OPERATING





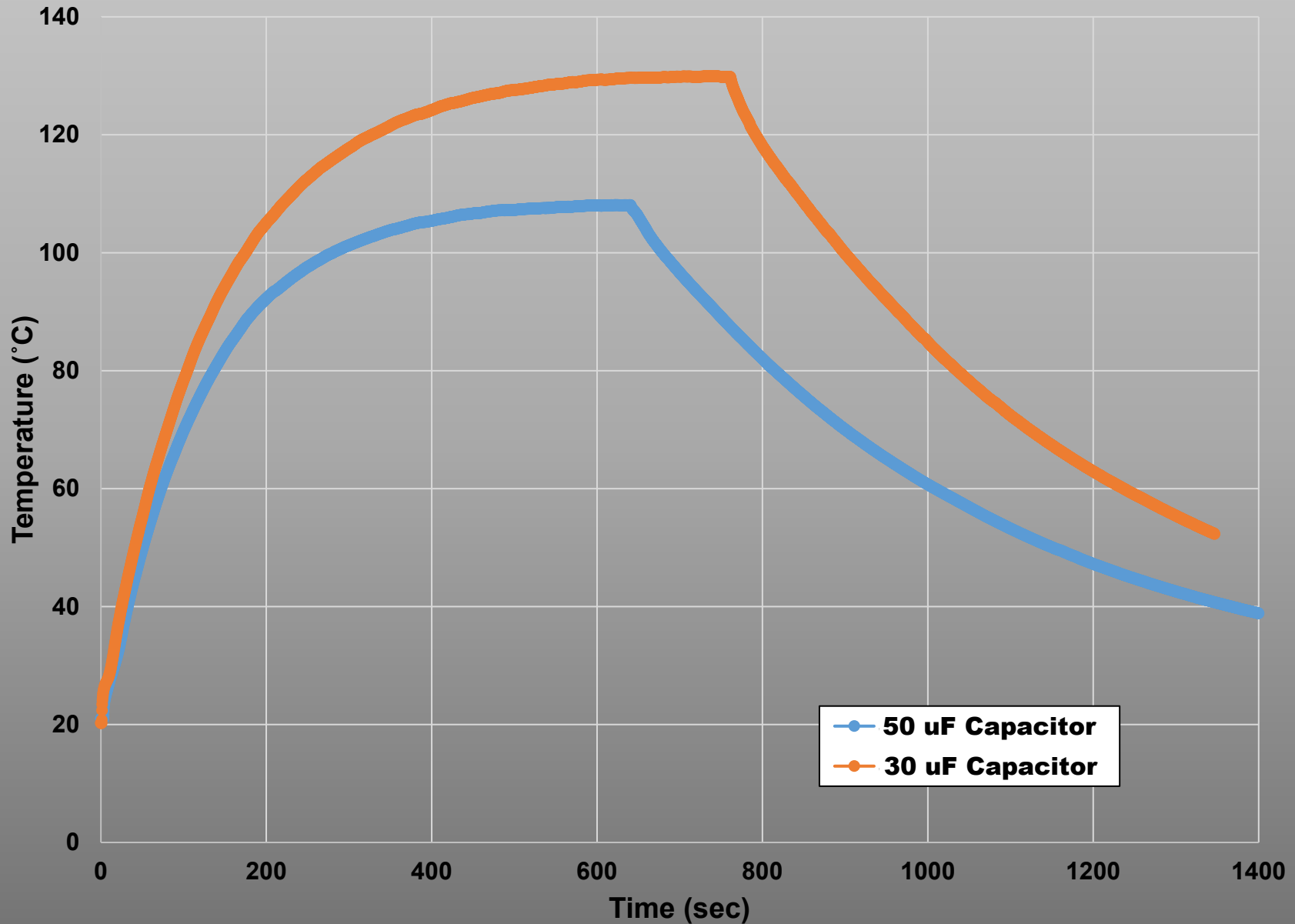


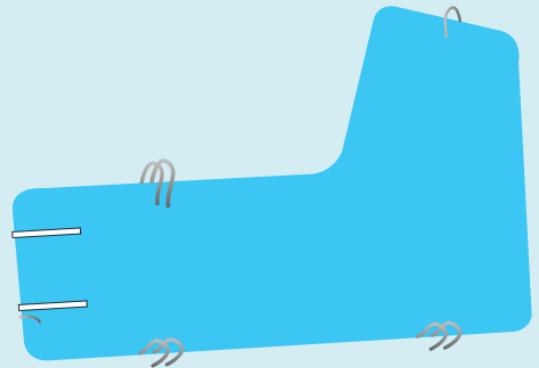
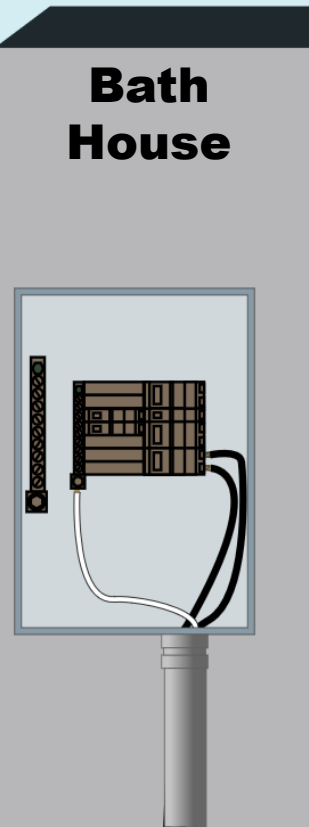
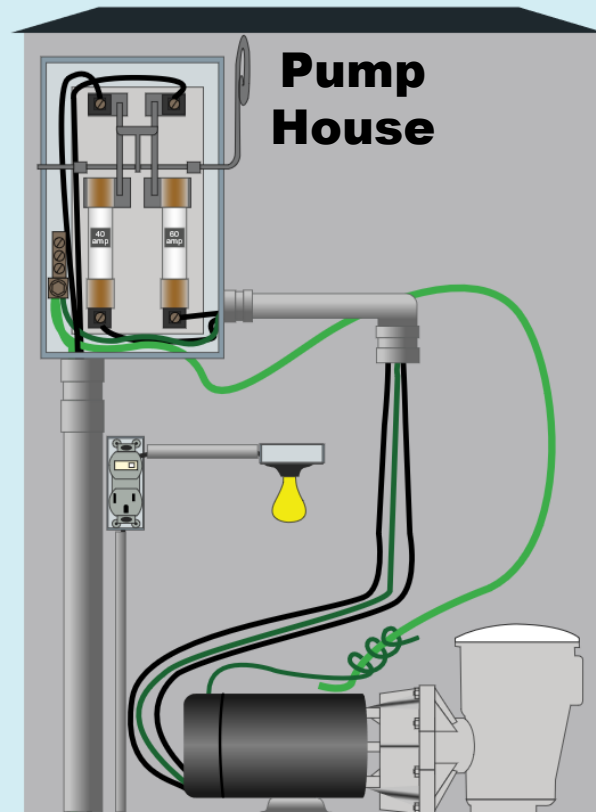
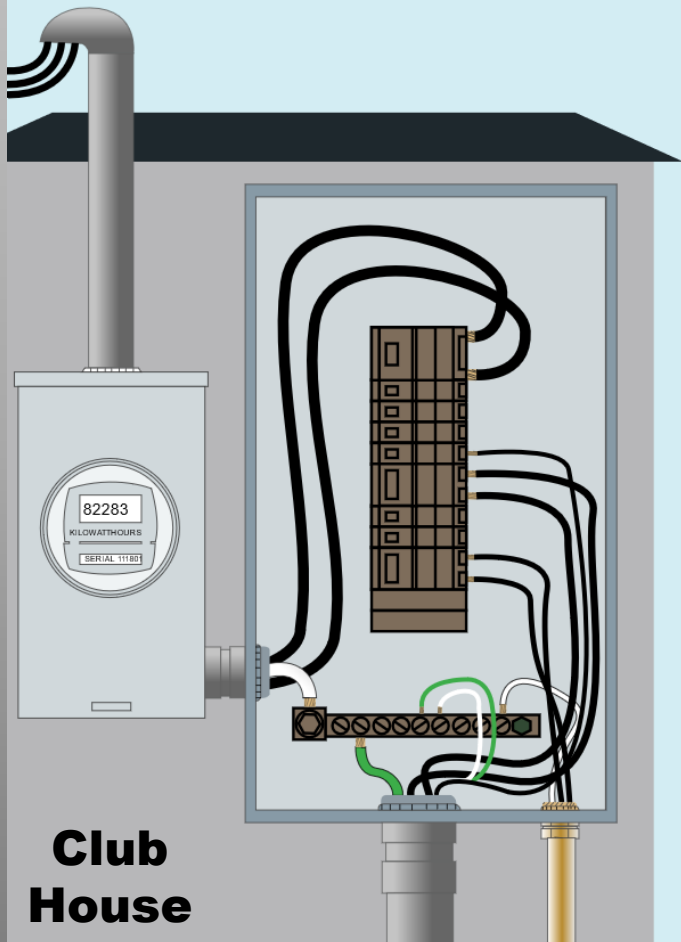
4 mm

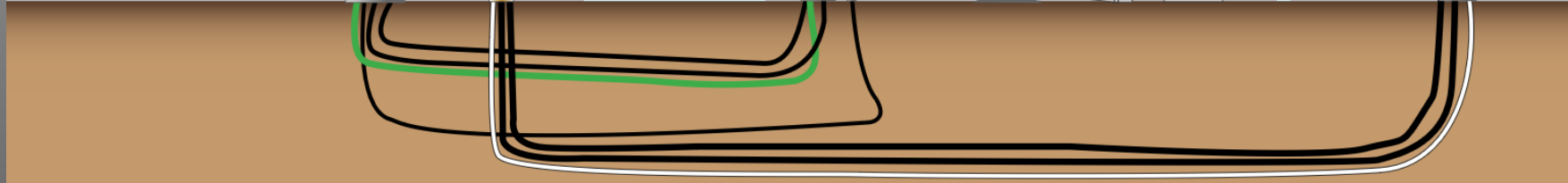
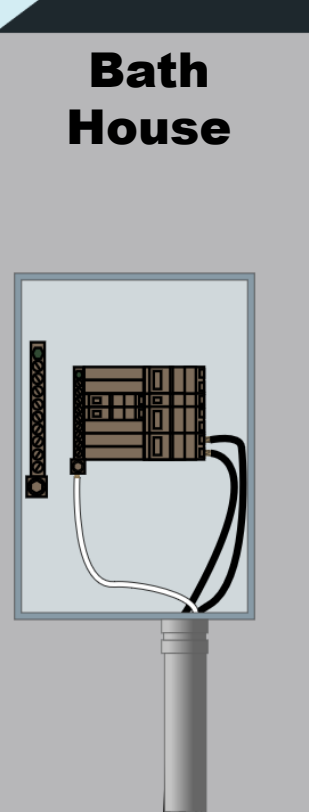
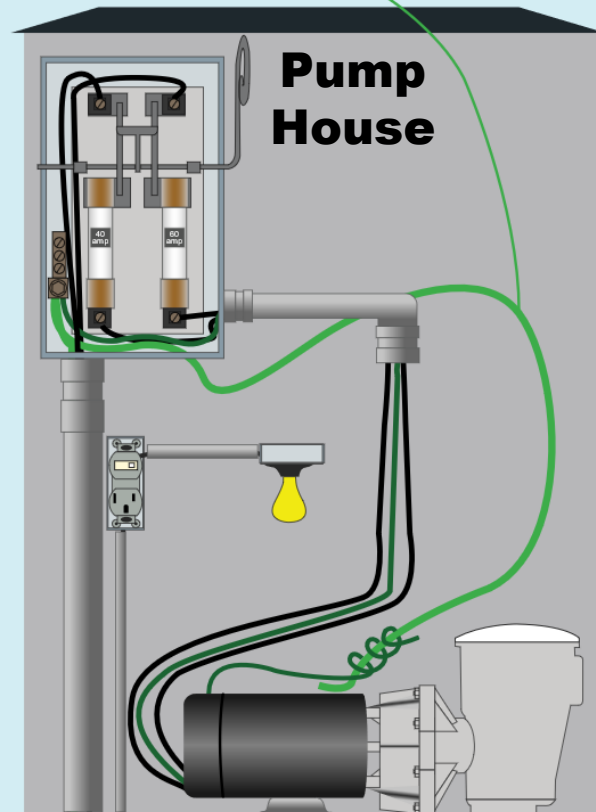
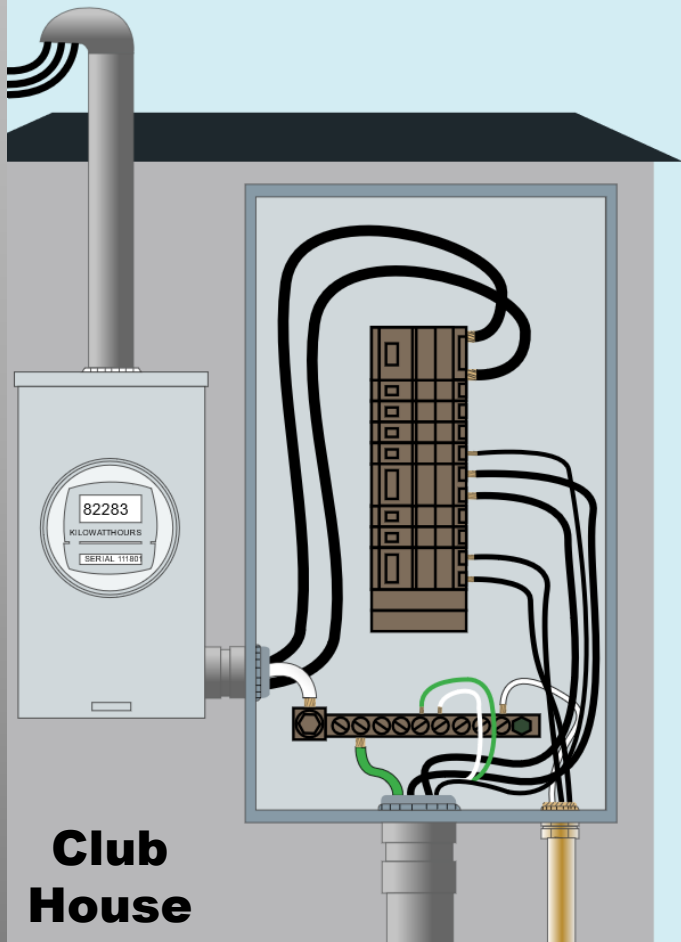
5.5 mm

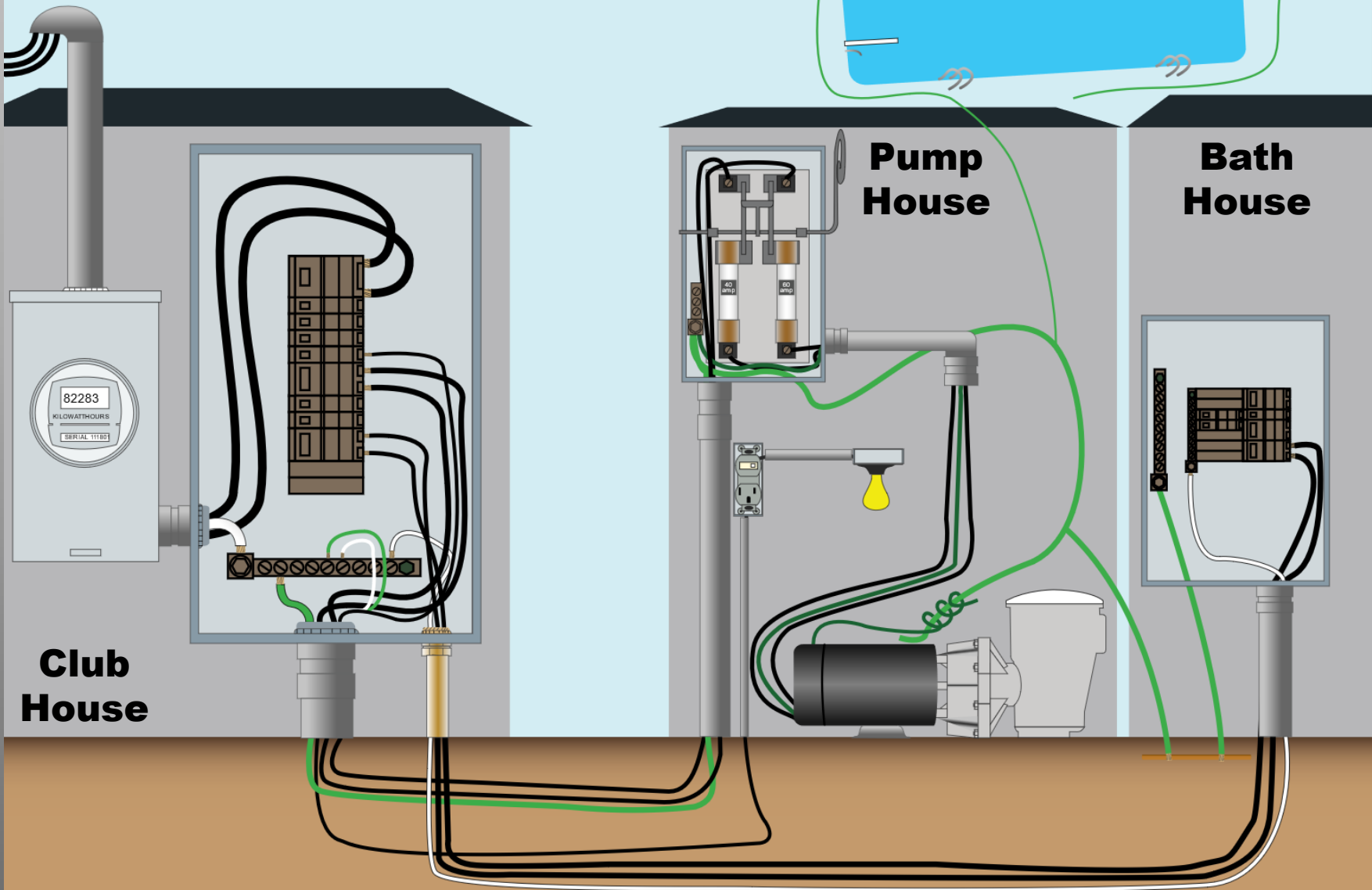


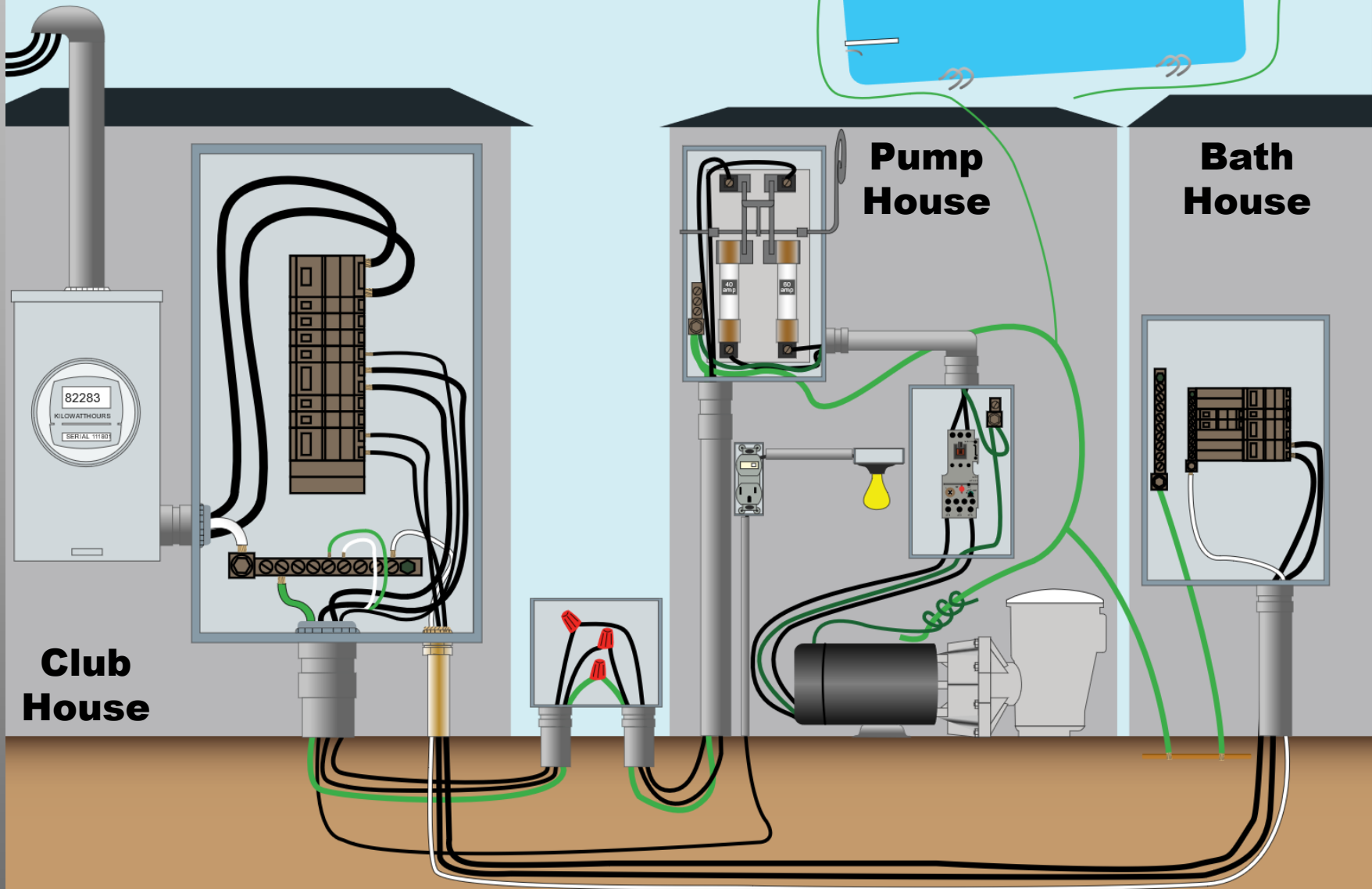
Thermal Stabilization and Cool Down Comparison

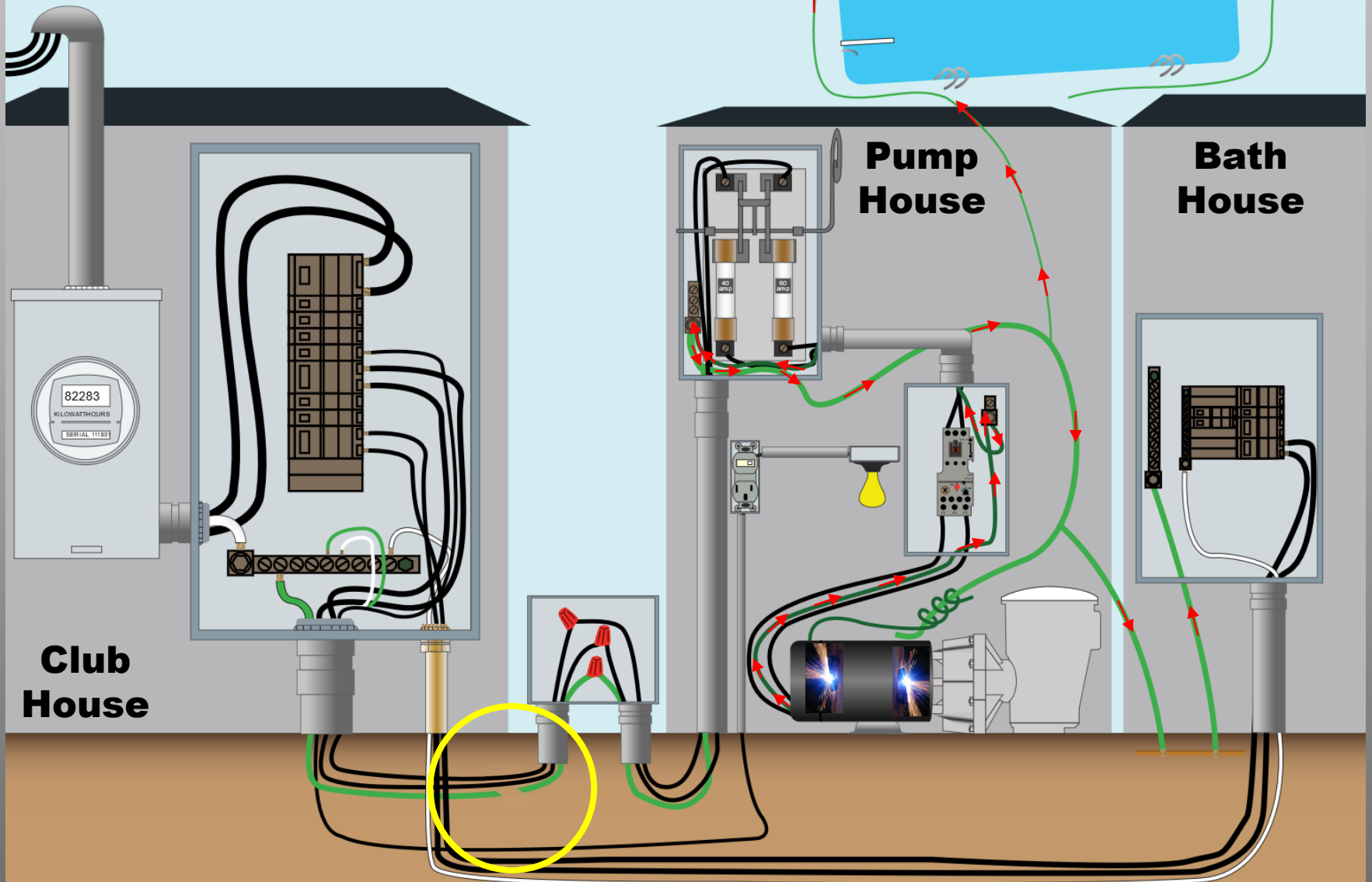


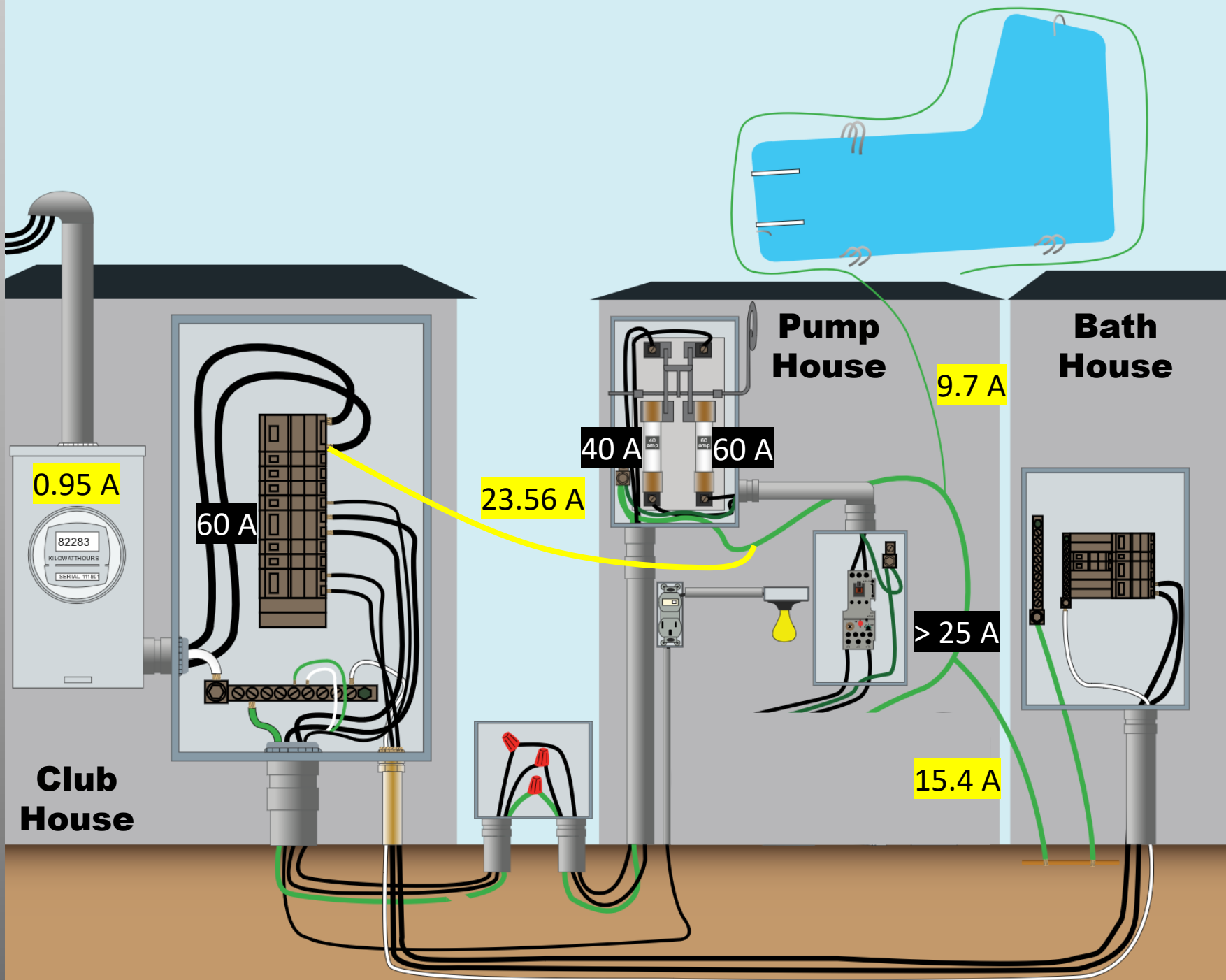




















15.4 A

9.7 A

6.085 Ω

9.010 Ω

6.768 Ω

27.190 Ω

15.363 Ω

6.867 Ω



0.3 V @ 6"
3.0 V @ 12"

NO-DIVING

3 FT

NO-DIVING

2 FT

2 FT NO-DIVING

3 FT

NO-DIVING

3 FT

NO-DIVING

NO-DIVING

3 FT

NO-DIVING

3 FT

Section	Description
110.3 (B)	motor starter installed in 2010 incorrect size, should be MRC32A
110.3 (B)	pump house - 50uF capacitor replaced with 30uF capacitor
110.7	damage to cable
110.11, 300.6, 310.9	chemicals stored in pump house
110.12	damage to cable
110.12	work was not neat and workman like uncapped, abandoned wires no 90 on conduit underground 1991 cable, conduit installed
110.14 (B)	motor bonding jumper not properly spliced
110.26 (A)(1) and (3)	pump house - motor controller insufficient working space
200.6 (B), 250.119	black with white stripe EGC in feeder 200.6(B), should be green 250.119
225.30	pump house - branch circuit and feeder supply pump house
225.31	pump house - no disconnecting means for lighting branch circuit
240.24 (A)	Disconnect, panelboard too high
250.32 (A)	pump house - no grounding electrode
250.4 (A)(3)	pump house and bath house - bonding jumper not installed in pump house fused disconect or bath house panelboard
300.5	pump house and bath house - direct burried cables lacking 24" minimum of cover
300.5 (D)(4)	pump house - schedule 40 pvc used at junction box, should be schedule 80
430.52 (C)(1)	pump house - fuse size 60A (Class RK5 time delay current limiting dual element) and 40A (Class RK5 time delay dual element current limiting) [motor FLA 19.4, FLC 28 (Table 430.248) - fuse should be 50A]
680.25 (A)	installed feeder, not in conduit
680.25 (B)	installed 3-wire feeder
G.S. 153A-357 (a)(4)	no permit or inspection
Title 21 NCAC 18B .0909(a)	no permit or inspection



*Rachel Anna
Rosoff*

April 10, 1999

September 3, 2016