



# WASTEWATER

S O L U T I O N S

## Service Provider Training

2025

Presented at 2025 Mega-Conference, October 19-22 2025

## TYPES OF SYSTEMS

# OFFLOT

- TREATS WASTEWATER AND DISCHARGES IT TO A STREAM OR DITCH, RATHER THAN DISPERSING IT ON-SITE
- DESIGNED FOR PLOTS OF SOIL THAT ARE TOO SMALL FOR AN ON-LOT
- POOR SOIL PERMEABILITY

# ONLOT

- THREE STAGE TREATMENT SYSTEM CONSISTING OF A TREATMENT TANK, A DISTRIBUTION SYSTEM, AND A SOIL ABSORPTION AREA.
- PERC TEST DETERMINES IF SOIL SUITS A STANDARD SEPTIC SYSTEM
- TYPICALLY NEEDED FOR PROPERTIES OVER ONE ACRE

## TYPES OF SYSTEMS

### OFFLOT

- NPDES

### ONLOT

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

# OFFLOT



# OFFLOT



# OFFLOT

- AEROBIC TREATMENT UNITS USE MANY OF THE SAME PROCESSES AS A MUNICIPAL SEWAGE PLANT, BUT ON A SMALLER SCALE.
- MOST COMMON TYPE OF SYSTEM.
- TYPICALLY INSTALLED ON EXISTING HOMES WITH LESS THAN AN ACRE OF LAND.



# OFFFLOT SYSTEM COMPONENTS

**TRASH TANK**- ALLOWS SOLIDS TO SETTLE OUT AND OIL AND GREASE TO FLOAT ALLOWING WASTEWATER AND UNSETTLABLE SOLIDS TO FLOW OVER INTO AERATOR.

**CONTROLS**- HOUSE THE AIR COMPRESSOR AND CONTROL PANEL.

**AERATOR**- AN AEROBIC SYSTEM INJECTS OXYGEN INTO THE TREATMENT TANK. THE ADDITIONAL OXYGEN INCREASES NATURAL BACTERIAL ACTIVITY WITHIN THE SYSTEM THAT PROVIDES ADDITIONAL TREATMENT FOR NUTRIENTS IN THE EFFLUENT. IT IS THEN KILLED OFF WITH A UV DISINFECTION BULB.

**PUMP TANK**- DISCHARGES TREATED EFFLUENT THE OFFLOT LOCATION.



# OFFLOT TYPICAL SERVICE

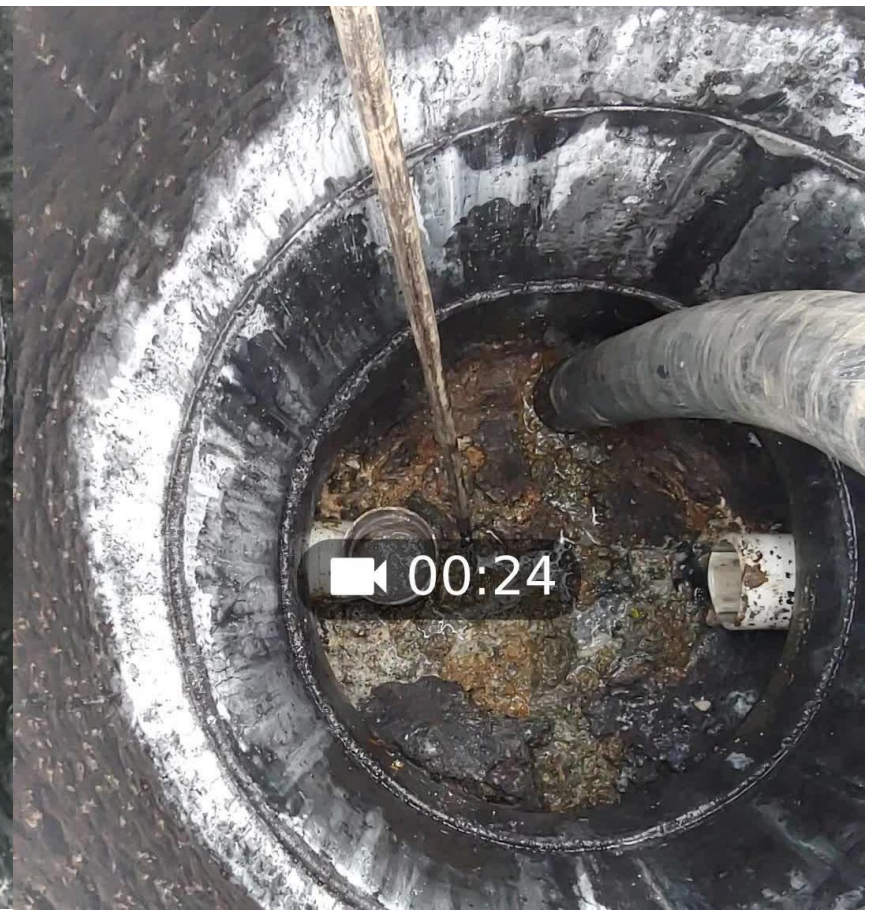
1. OPEN TRASH TANK – USE SLUDGE JUDGE TO DETERMINE IF TANK NEEDS PUMPED.
2. OPEN CONTROLS- CLEAN OR CHANGE FILTER IN AIR COMPRESSOR. OPEN CONTROL PANEL TURN BREAKERS OFF TO CLEAN UV. TURN BREAKERS BACK ON TO MAKE SURE LIFT PUMP IS OPERATIONAL. TEST AUDIBLE ALARM AND BULB ON GRAY BOX MOUNTED TO SIDE.
3. CLEAN BULB WHILE POWER IS OFF WITH CLEAN TOWEL.
4. PUMP TANK - CHECK FLOATS WITH A FLOAT HOOK
5. LEAVE A DOOR TAG.



# SERVICE TRASH TANK

TRASH  
TANK

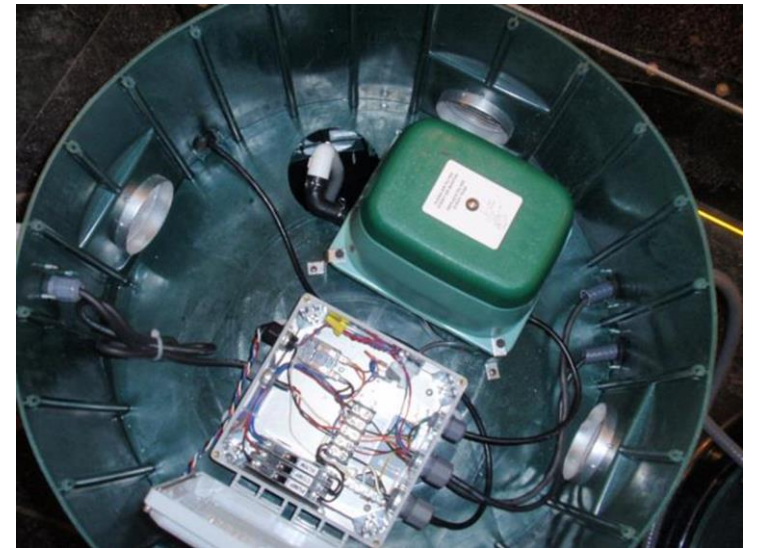
USE SLUDGE JUDGE TO  
DETERMINE THICKNESS OF  
SOLIDS LEVEL.



# TRASH TANK

# SERVICE CONTROL HOUSING

- CONTROL PANEL
- AIR COMPRESSOR
- ALARM BOX



# SERVICE AIR COMPRESSOR

## ▪ AIR COMPRESSOR

CHANGE OR REPLACE AIR FILTER



# SERVICE ALARM BOX

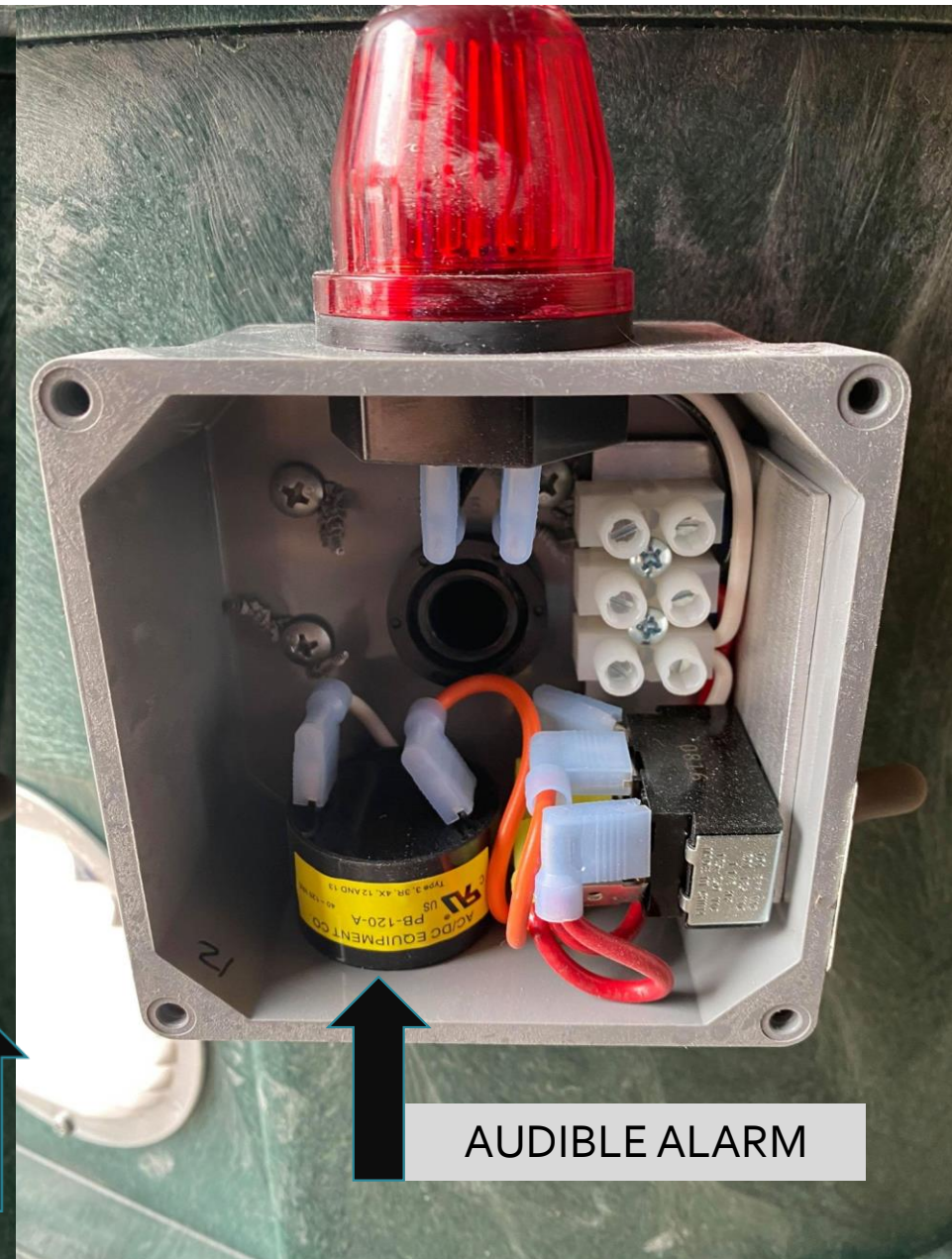
## ALARM BOX

TEST AUDIBLE ALARM & BULB BY USING TOGGLE SWITCH. RED LIGHT SHOULD BE ON AND HIGH PITCH CHIRPPING NOISE SHOULD COME FROM HOUSING.

### TOOLS

PHILLIPS HEAD TO REMOVE SCREWS TO REPLACE AUDIBLE ALARM IF NEEDED

ALARM BULB IF BURNED OUT



# SERVICE AERATOR

## ■ AERATOR

MAKE SURE BREAKERS ARE OFF.  
CLEAN BULB – SPRAY BLEACH ON A  
TOWEL AND WIPE BULB CLEAN.

### TOOLS

PHILLIPS HEAD DRILL

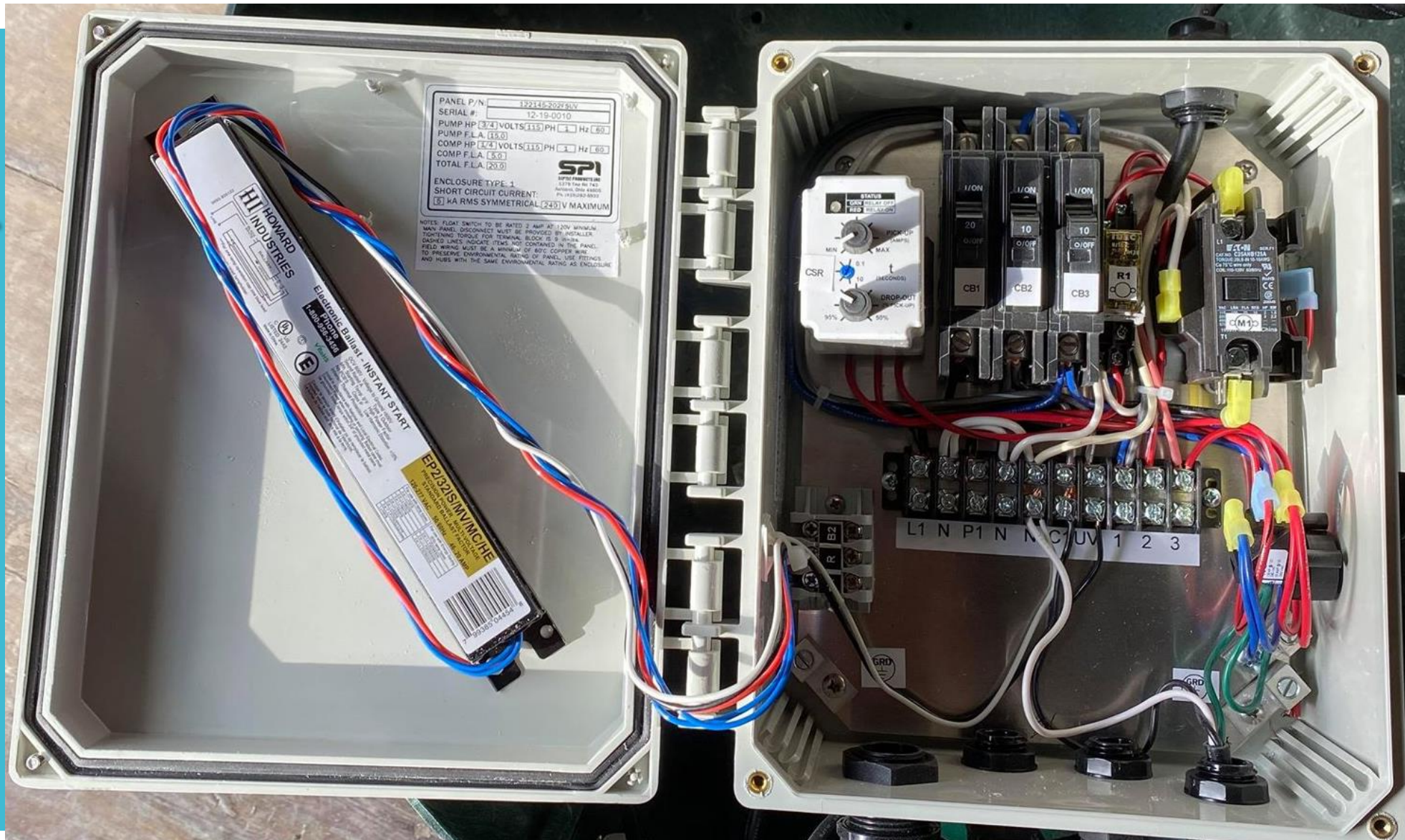
BLEACH

TOWEL

BULB



# OFFLOT CONTROL PANEL



# OFFLOT COMMON REPAIRS

1. REBUILD OR REPLACE HB-80 AIR COMPRESSOR.
2. REPLACE ULTRAVIOLET BULB
3. REPLACE STONE DIFFUSERS
4. REPLACE LIFT PUMP AND FLOAT TREE
5. REPLACE RISERS AND OR LIDS



# ONLOT



# ONLOT

- ONLOT SYSTEMS CONSISTS OF A TRASH TANK, AN AERATOR WITH OR WITHOUT AN ULTRAVIOLET BULB, AND A LIFT STATION TO DISTRIBUTE TREATED EFFLUENT TO ABSORPTION AREA.
- TYPICALLY INSTALLED ON EXISTING HOMES WITH MORE THAN AN ACRE OF LAND.



# ONLOT SYSTEM COMPONENTS

- **TRASHTANK** - ALLOWS SOLIDS TO SETTLE OUT AND OIL AND GREASE TO FLOAT ALLOWING WASTEWATER AND UNSETTLEABLE SOLIDS TO FLOW OVER INTO AERATOR
- **CONTROLS**-HOUSE THE AIR COMPRESSOR AND CONTROL PANEL.
- **AERATOR** - AN AEROBIC SYSTEM INJECTS OXYGEN INTO THE TREATMENT TANK. THE ADDITIONAL OXYGEN INCREASES NATURAL BACTERIAL ACTIVITY WITHIN THE SYSTEM THAT PROVIDES ADDITIONAL TREATMENT FOR NUTRIENTS IN THE EFFLUENT
- **PUMP TANK**- DISCHARGES TREATED EFFLUENT THE FIELD.
- **FIELD** – MOUND, SPRAY FIELD, LEACH FIELD, DRIP, LPP



# ONLOT TYPICAL SERVICE

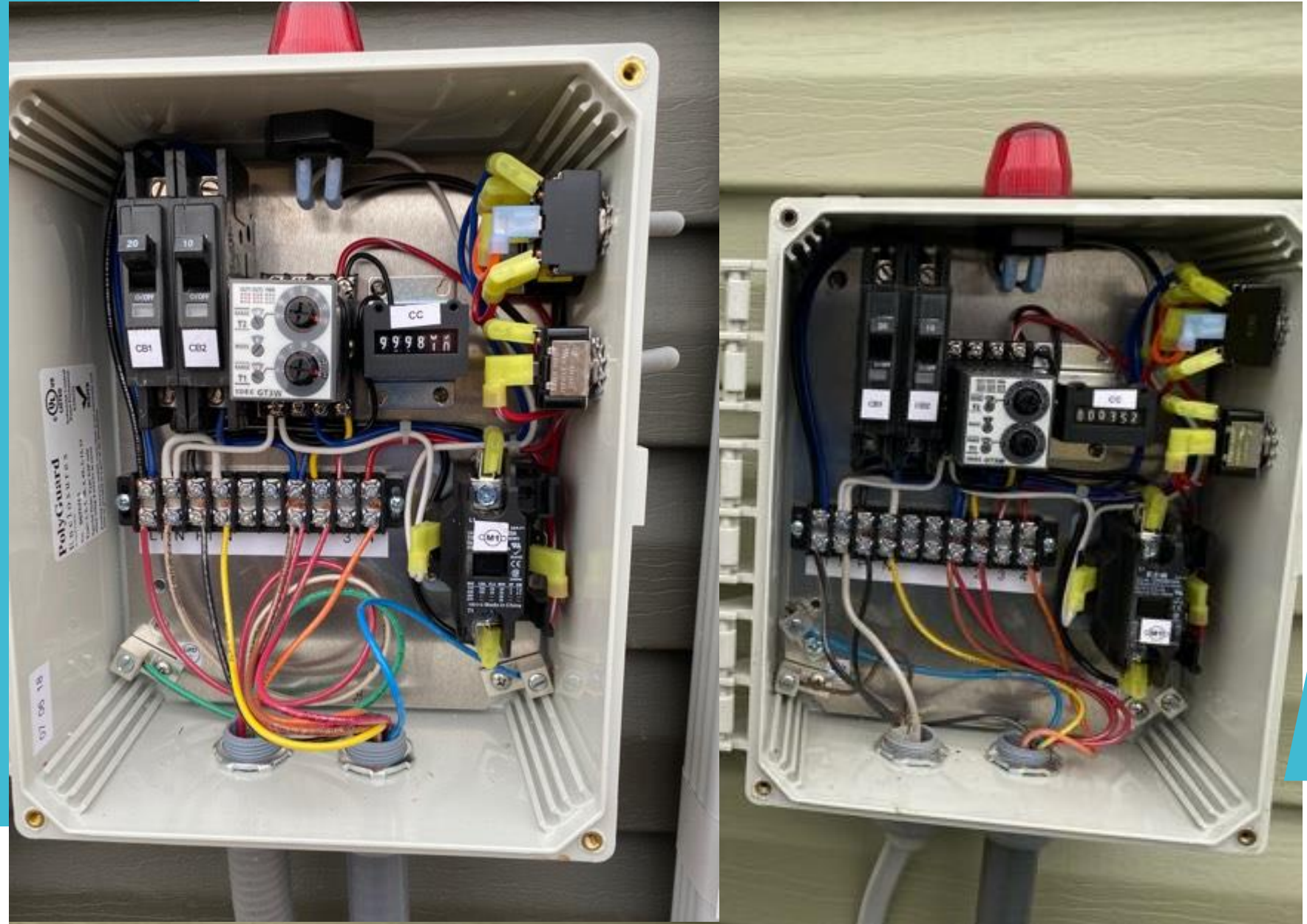
1. OPEN TRASH TANK – USE SLUDGE JUDGE TO DETERMINE IF TANK NEEDS PUMPED.
2. OPEN CONTROLS- CLEAN OR CHANGE FILTER IN AIR COMPRESSOR. OPEN CONTROL PANEL TURN BREAKERS OFF & TURN BREAKERS BACK ON TO MAKE SURE LIFT PUMP IS OPERATIONAL. TEST AUDIBLE ALARM AND BULB ON GRAY BOX MOUNTED TO SIDE.
3. CLEAN BULB WHILE POWER IS OFF WITH CLEAN TOWEL.
4. PUMP TANK - CHECK FLOATS WITH A FLOAT HOOK
5. INSPECT/FLUSH FIELD
6. LEAVE A DOOR TAG.



# ONLOT CONTROL PANEL

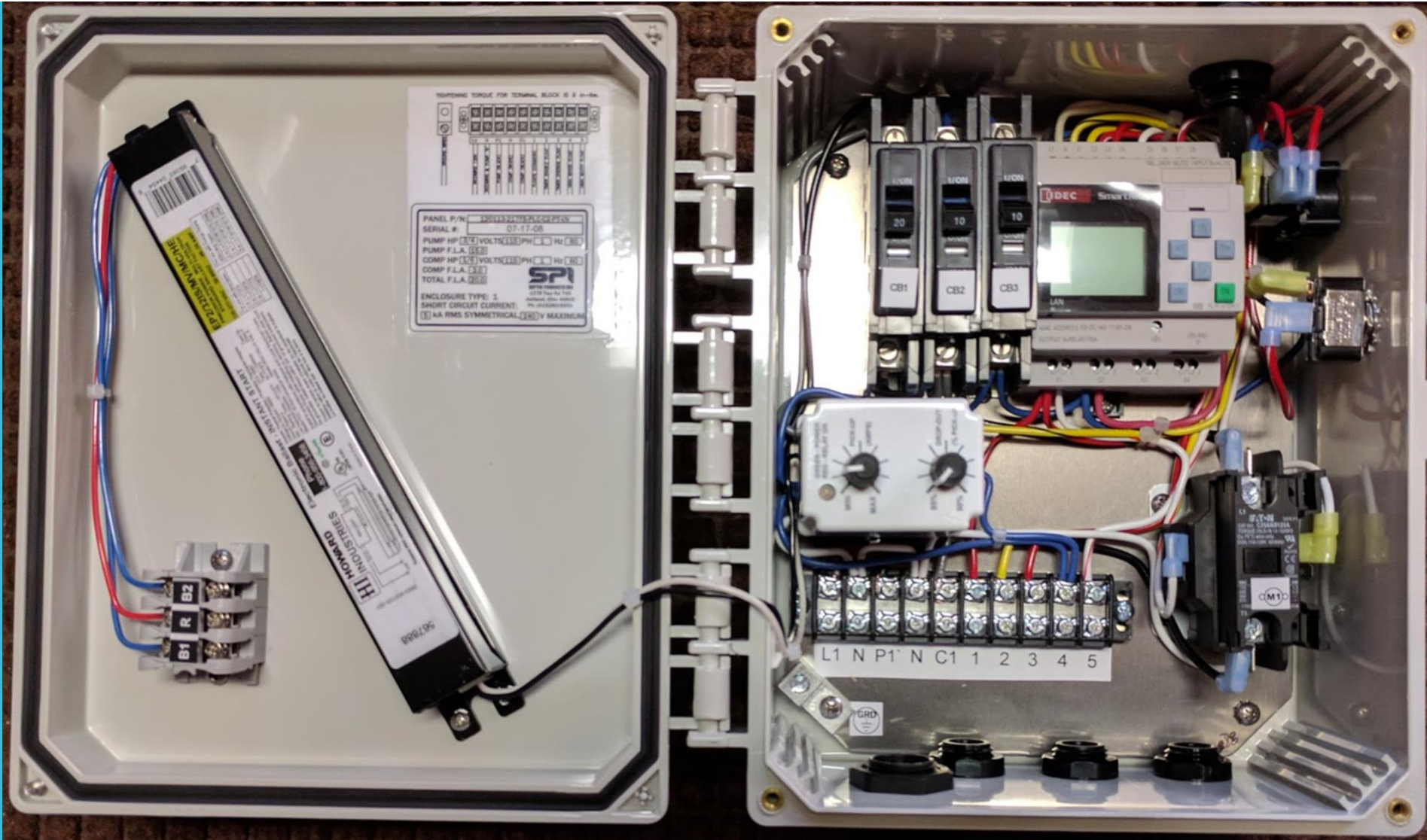
WITHOUT UV

- TURN BREAKERS OFF & TURN BREAKERS BACK ON TO TEST EVENT COUNTER
- TEST AUDIBLE ALARM AND BULB USING TOGGLE SWITCH MOUNTED TO SIDE OF PANEL.
- HOLD TOGGLE SWITCH TO FLUSH LATERALS.



# ONLOT CONTROL PANEL

WITH UV



# ONLOT COMMON REPAIRS

1. REBUILD OR REPLACE HB-80 AIR COMPRESSOR.
2. REPLACE DIFFUSERS
3. REPLACE UV BULB
4. REPLACE LIFT PUMP AND FLOAT TREE
5. REPLACE RISERS AND OR LIDS IF BROKEN.



TYPES OF SOIL  
ABSORPTION  
FIELDS

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

TYPES OF SOIL  
ABSORPTION  
FIELDS

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

# MOUND



# MOUND



# MOUND



- MOUNDS HAVE ANYWHERE FROM 2-6 LATERALS.
- THEY NEED FLUSHED AT LEAST ONCE A YEAR.
- UNSCREW THE CAPS AND KICK ON THE PUMP FOR 3-5 MIN.

# MOUND



- Inspect the mound and downslope areas for odors, wet spots or surfacing sewage.

TYPES OF SOIL  
ABSORPTION  
FIELDS

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

# LEACH



- Inspect the field for odors, wet spots or surfacing sewage.

TYPES OF SOIL  
ABSORPTION  
FIELDS

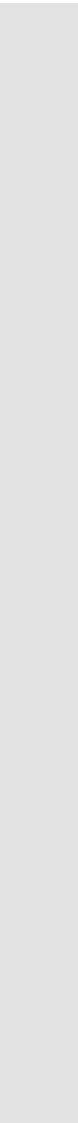
- MOUND
- LEACH
- **LPP**
- DRIP
- SPRAY



- Inspect the field for odors, wet spots or surfacing sewage.

# LPP

- › Inspect the field for odors, wet spots or surfacing sewage.



TYPES OF SOIL  
ABSORPTION  
FIELDS

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

# DRIP



- Inspect the field for odors, wet spots or surfacing sewage.

# DRIP



- Replace Drip Filter at every service.

TYPES OF SOIL  
ABSORPTION  
FIELDS

- MOUND
- LEACH
- LPP
- DRIP
- SPRAY

# SPRAY DISTRIBUTION



# SPRAY DISTRIBUTION

- **TRASH TANK**- ALLOWS SOLIDS TO SETTLE OUT AND OIL AND GREASE TO FLOAT ALLOWING WASTEWATER AND UNSETTLEABLE SOLIDS TO FLOW OVER INTO AERATOR.
- **CONTROLS**- HOUSE THE AIR COMPRESSOR AND CONTROL PANEL.
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- **FILTER TANK**- 3 FT POLYLOK FILTER THAT PREVENTS ANY SUSPENDED SOLIDS BIGGER THAN  $\frac{1}{64}$  OF AN INCH TO FLOW OVER INTO PUMP TANK.
- **PUMP TANK**- DISCHARGES TREATED EFFLUENT TO THE ABSORPTION FIELD



# SPRAY DISTRIBUTION TYPICAL SERVICE

1. OPEN TRASH TANK – USE SLUDGE JUDGE TO DETERMINE IF TANK NEEDS PUMPED.
2. OPEN CONTROLS- CLEAN OR CHANGE FILTER IN AIR COMPRESSOR. OPEN CONTROL PANEL TURN BREAKERS OFF TO CLEAN UV. TURN BREAKERS BACK ON TO MAKE SURE LIFT PUMP IS OPERATIONAL. TEST AUDIBLE ALARM AND BULB ON GRAY BOX MOUNTED TO SIDE.
3. CLEAN BULB WHILE POWER IS OFF WITH CLEAN TOWEL.
4. PULL FILTER OUT OF CANISTER. CARRY OVER TO TRASH TANK AND TIP IT OVER. RINSE ANY REMAINING SOLIDS WITH COLEMAN PUMP.
5. PUMP TANK - CHECK FLOATS WITH A FLOAT HOOK
6. TURN ON OVERRIDE (OVR) BUTTON LOCATED IN THE CONTROL PANEL TO TEST SPRAY HEAD(S). BE SURE THEY ARE ROTATING AND CHECK TO MAKE SURE THERE IS NO DEBRIS BLOCKING NOZZLE.
7. CHECK FOR DAMAGES TO SPRAY HEAD MANIFOLD
8. CHECK FOR PONDING WATER IN ABSORBTION AREA.
9. LEAVE DOOR TAG



# TYPES OF SPRAY HEADS

KRAIN



SPRAY RAIN



# K-RAIN SPRAY HEAD



# K-RAIN SPRAY HEAD MAINTENANCE

- CHECK FOR DEBRIS IN NOZZLE
- REPLACE HEAD IF DAMAGED
- ADJUST ROTATION IF NECESSARY
- ADJUST PRESSURE IF NECESSARY

## TOOLS

SMALL FLAT HEAD SCREWDRIVER  
SMALL HOOK TOOL



# SPRAY RAIN SPRAY HEAD



# SPRAY RAIN SPRAY HEAD MAINTENANCE

- CHECK FOR DEBRIS IN NOZZLE
- REPLACE HEAD IF DAMAGED
- ADJUST PRESSURE

## TOOLS

CHANNEL LOCKS

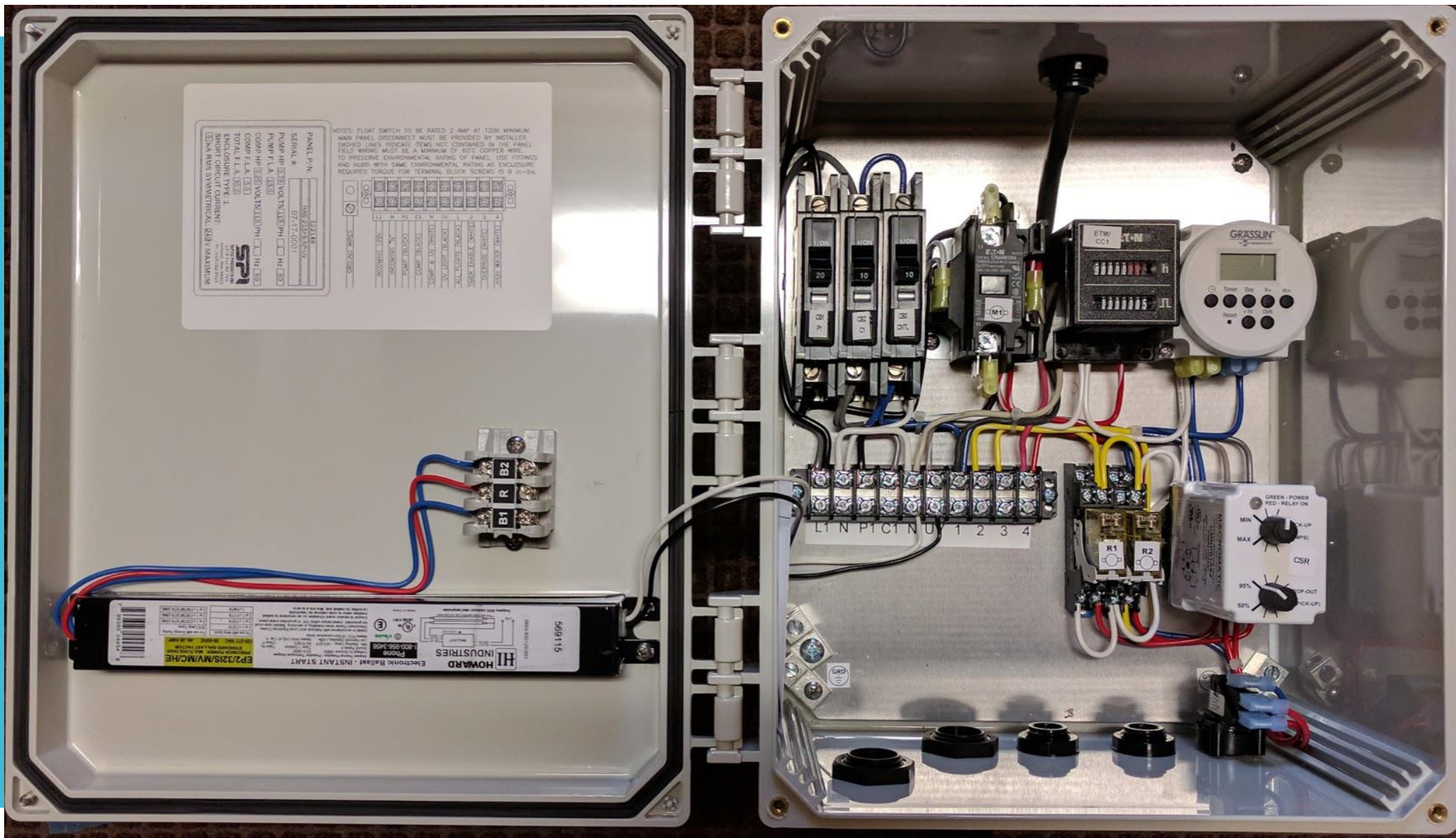
ALLEN HEAD

3/4 IN WRECH

CRESCENT WRECH



# SPRAY CONTROL PANEL



# EQUIPMENT TO CARRY ON SERVICE VEHICLES

## PARTS & SUPPLIES

- UV BULBS
- ALARM BULBS
- AIR COMPRESSORS (HB 80/  
HB 120)
- EP-40 LIFT PUMP ASSEMBLY  
WITH FLOATS
- FILTERS
- FLOATS
- SPRAY HEADS & NOZZLES
- BATTERY OPERATED DRILL W/  
PHILLIPS HEAD
- LID SCREWS
- TIMERS FOR SPRAY
- RUBBER GLOVES
- SCREWS

## TOOLS

- BATTERY OPERATED DRILL W/ PHILLIPS  
HEAD
- TEE BAR
- AIR HOSE TO FLUSH UV
- MINIATURE COLEMAN PUMP WITH HOSE
- EXTENSION CORD
- BATTERY OPERATED DRILL W/ PHILLIPS  
HEAD
- SMALL HOOK TOOL
- ¾ IN WRENCH
- ALLEN HEAD
- SMALL FLAT HEAD SCREWDRIVER
- BURNZOMATIC



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### Warranty and Pro-rated Warranty Procedures for Service Providers

#### Coverage Period

This Limited Warranty is effective for an initial period of 2 years beginning on the date of purchase as evidenced by purchaser's proof of purchase. An additional 3 year, prorated, warranty period will run upon the expiration of the first 2 years if the Plant is maintained by an authorized distributor through a continuous maintenance program.

#### How to make a warranty claim within first 2-Years

1. Notify Wastewater Solutions (330)-823-7536 of issue, take pictures if necessary.
2. System must have been registered with Wastewater Solutions within 30 days of installation or provide some proof of installation date.
3. Labor cost will not be covered under warranty.
4. Replacement part will be sent and billed to service provider.... Once warranty part is received with installation paperwork and defect is determined warrantable a credit will be issued to Service provider.

#### How to make a Pro-rated warranty claim within third to fifth year.

1. Notify Wastewater Solutions (330) 823-7536 of issue, take pictures if necessary.
2. System must have been registered with Wastewater Solutions within 30 days of installation or provide some proof of installation date.
3. Provide proof of a continuous maintenance contract with an authorized service provider after initial first two years.
4. Labor cost will not be covered under pro-rated warranty.
5. Replacement part will be sent and billed to service provider.... Once warranty part is received with installation paperwork and defect is determined warrant-able a credit will be issued to Service provider.
6. If system has proof of continuous maintenance contract, warranty proration is as follows 2-3 years homeowner pays 25% for parts, 3-4 years homeowner pays 50% for parts and 4-5 year homeowner pays 75% for parts.

**Note: Wastewater Solutions reserves the right to furnish rebuilt or replacement component part, which, in its judgment, is equivalent to the part replaced.**

## Hydro-Action® Limited Warranty

AKHA Manufacturing, LLC d/b/a Hydro-Action Industries ("Hydro-Action Industries") warrants to you, the purchaser, that each Hydro-Action Industries aerobic wastewater treatment plant ("Plant"), and its component parts, are free from defects in material and workmanship under the terms and conditions set forth in this Limited Warranty. No employee, dealer, agent or other person is authorized to make any warranty or representation with respect to the Plant, other than as is expressly contained in this Limited Warranty.

#### COVERAGE PERIOD

This Limited Warranty is effective for an initial period of 2 years beginning on the date of purchase as evidenced by purchaser's proof of purchase. An additional 3 year, prorated, warranty period will run upon the expiration of the first 2 years if the Plant is maintained by an authorized distributor through a continuous maintenance program.

#### HOW TO MAKE A WARRANTY CLAIM

If you believe that the Plant or a component part of the Plant is defective in material or workmanship, you must return it to an authorized Hydro-Action Industries dealer. The dealer will return the Plant or component part to Hydro-Action Industries at 2055 Pidco Drive, Plymouth, Indiana 46563. You must also provide to Hydro-Action Industries a written description of the nature of the defect. No claim will be processed unless you specify the nature of the defect. If a claim is being made during years 3, 4, or 5 of this Warranty, you must also provide proof that the Plant has been maintained by an authorized distributor through a continuous maintenance program. All claims must be made within 30 days of the discovery of the defect.

Upon receipt of the written description of the defect and Plant or component part, Hydro-Action Industries will examine the Plant or component part. If, in Hydro-Action Industries' reasonable judgment, the Plant or component part shows evidence of defects in material or workmanship, Hydro-Action Industries will replace or exchange the component part as set forth in the following schedule. Please note that Hydro-Action Industries reserves the right to revise, change or modify the construction and design of any Plant, or any component part of such Plant, without incurring any obligations to make changes or modifications in previously sold equipment. Hydro-Action Industries reserves the right to furnish a replacement component part, which, in its judgment, is equivalent to the part replaced.

For claims received within 30 days of the expiration of Year 1 and Year 2 of this Warranty, Hydro-Action Industries will replace or exchange the component part at no cost to you.

If the Plant has been maintained by an authorized distributor through a continuous maintenance program:

For component parts of the Plant manufactured by someone other than A.K. Industries, Inc., Hydro-Action Industries will sell such parts to you under the following schedule: (1) claims received within 30 days of the expiration of Year 3 of this Warranty, Hydro-Action Industries will replace or exchange the component part for a cost to you of 25% of the manufacturer's list price of such part and Hydro-Action will pay 75% of the cost; (2) for claims received within 30 days of the expiration of Year 4, Hydro-Action will replace such part for a cost to you of 50% of the manufacturer's list price and Hydro-Action will pay 50% of the cost; and (3) for claims received within 30 days of the expiration of Year 5, Hydro-Action will replace such part for a cost to you of 75% of the manufacturer's list price and Hydro-Action will pay 25% of the cost.

For claims received during years 3, 4, and 5 of this Limited Warranty or within 30 days of the expiration of Year 5, Hydro-Action Industries will replace or exchange any component part manufactured by AK Industries, Inc. at no cost to you.

#### WHAT IS NOT COVERED

This Limited Warranty does not cover any defects resulting from damage resulting from transit, accidents, misuse, alterations, or acts of God. This Limited Warranty does not apply to Plants or components parts that have not been fully paid for or for which acceptable payments terms have not been arranged. No warranty is made as to the field performance of any systems. This Limited Warranty does not include any costs of labor. This Limited Warranty does not apply to consumables, including, but not limited to, stones, filters, etc. This Limited Warranty does not cover Plants that have been: (1) flooded by external means; (2) disassembled by unauthorized persons; (3) improperly installed; or (4) subjected to external damage or damage due to altered or improper wiring or overload protection.

#### CONDITIONS AND LEGAL REMEDIES

This Limited Warranty is governed by the laws of the State of Indiana. The sole remedy under this Limited Warranty is the replacement or exchange of parts. **Hydro-Action Industries SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS LIMITED WARRANTY IS MADE IN LIEU OF ANY OTHER EXPRESS OF IMPLIED WARRANTIES. Hydro-Action Industries DISCLAIMS ANY IMPLIED WARRANTIES ARISING IN CONNECTION WITH THE SALE OF THE PLANT, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

Some states do not allow the disclaimer of warranties or the exclusion or limitation of incidental or consequential damages and so the above limitations may not apply to you.



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330-823-7435

330-823-7536

### Service Provider Duties and Responsibilities Agreement

As a Service Provider for Hydro-Action I agree to uphold by the following duties and responsibilities set forth:

1. Service Provider agrees to service all systems in accordance to the O & M instructions recommended by the manufacturer supplied with this Agreement.
2. Service Provider agrees to repair all systems to manufacturers standards and if issue cannot be resolved then the service provider should get additional instruction from Wastewater Solutions. Additional expense to homeowner or service provider may incur.
3. Recordkeeping -All service reports and service contracts should be submitted to the county in which the system is located. These should be submitted within 30 days after inspection and /or contract engagement unless the county has different reporting requirements. Service provider agrees be able to produce a copy to manufacturer or WWS, LLC upon request.
4. In case of an alarm event so the homeowner will know who to call; It is recommended to have a weatherproof sticker with company name and phone number attached to system alarm box, without covering Wastewater Solutions information.
5. Service Providers must respond to alarm events within 48 hours after being contacted by the homeowner.
6. Service Providers must maintain a service provider license through the county they are authorized as a territory.
7. Service providers must buy all warranty repair and replacement parts for Hydro-Action systems from Wastewater Solutions Inc; Failure to do so could terminate service provider contract.

Wastewater Solutions LLC.  
Ohio Distributor for Hydro Action Inc.

\_\_\_\_\_  
Service Provider

\_\_\_\_\_  
Counties

Name \_\_\_\_\_  
Title \_\_\_\_\_

Name \_\_\_\_\_  
Title \_\_\_\_\_



THANK YOU  
FOR  
ATTENDING!



**WASTEWATER**  
S O L U T I O N S

**SERVICE PROVIDER TRAINING**

2025

PLEASE FILL OUT AND SUBMIT ALL PAPERWORK TO RECEIVE YOUR CERTIFICATE