

**SEWAGE TREATMENT SYSTEM (STS) DESIGN FOR:**  
**RACHEL KONERMAN**  
**9882 WEIK ROAD**  
**COLERAIN TOWNSHIP**  
**CINCINNATI, OH 45252**  
**Par#510-0320-0059-00**  
0.73 AC

Designed By:  
Evans Engineering  
4240 Airport Rd., Suite 211  
513-321-2168  
Design Date: 8.19.2022  
Site Visit: NOVEMBER 2022

**Design Details:**  
Proposed Jet J-500-PLT-RAD aerobic treatment unit (ATU) with UV disinfection (Jet Model 952), re-aeration device, and WIFI Telemetry.

**Design Rational:**  
This design is for an existing 3 bedroom home with 0 additional rooms that could be classified as a future bedroom, per following

- At least 70 square feet,
- Contains a closet or area that could easily be finished as a closet,
- Has multiple means of ingress/egress, sole ingress cannot be through another bedroom, and;
- Has a door or opening that can easily be finished with a door.
- For every two bedroom-like-rooms that have 3 of the 4 items listed above, one will be considered a bedroom.

Daily Design Peak Flow is 360 GPD. The peak flow should not be reached on a routine basis. Average flows of 216 GPD can be accommodated routinely with typical residential wastewater strength as specified in Ohio Administrative Code (OAC) 3701-29 for households. Insufficient suitable soils are available on site for any type of soil absorption system, and therefore a NPDES permitted direct discharge system will be used. Owner must obtain NPDES discharge permit.

\*The site conditions at this property do not allow for an onsite STS to be installed due to insufficient area containing suitable soils, site encumbrances, and required setbacks.



**System Installation, Operation And Maintenance (O&M)**  
All system devices and components must be operated and maintained in accordance with the Ohio Department of Health (ODH) product approval, Hamilton County Public Health Operation Permit Terms and Conditions. System devices and components must be installed per ODH product approval, Hamilton County Installation Manual and this design. Where conflicts exist, consult Evans Engineering for guidance before proceeding.

Jet O&M Manual  
<https://www.jetincorp.com/residential-wastewater-treatment-plant-manuals.php>

Jet Model 952 UV O&M Manual  
<https://odh.ohio.gov/know-our-programs/sewage-treatment-systems/pretreatment-comp/p-jet-952uv-install>

Jet installation manual:  
<https://keelervault.com/jet-j-500-800-plt-installation>

Polylok installation manual:  
<https://www.polylok.com/20-distribution-and-valve-box-8-hole-7-hole-6-hole-prod-117.html>

This installation will require an electrical inspection(s) and approval by IBI (513) 381-6080, <http://www.inspectionbureau.com/>  
Means for O&M is provided by the driveway which is within standard distances and elevations for a service truck.

**Changes and Use of This Design**  
This plan is the sole ownership of the designer and may not be altered, changed, used or manipulated without approval of designer and HCPH. Evans Engineering is available to make adjustments and address questions about the system design. It is the responsibility of the contractor to verify that the system can be installed as designed, based on their preliminary lay-out of the job. It is the responsibility the installer and property owner to inform the designer of any field or other conditions that may affect the installation, operation or maintenance of the STS, including site disturbances that may affect the performance of a soil absorption component. If design changes are needed, redesign fees may apply.

**System Protection**  
It is the owner and installation contractor's responsibility to locate underground utilities. If utilities interfere with the designed system, construction shall not proceed without approval from designer and HCPH. No clearwater connections (downspouts, pool/spa water, footer tiles, cisterns, etc) shall be connected to this STS. All system components must meet the horizontal isolation distances specified in OAC 3701-29-06(G)(3).

**System Cost Information**  
The property owner has been informed of system options and briefed on cost factors. According to OAC 3701-29-10(B)(5), designers of STS systems must include approximate installation costs and operational costs of STS options to assist the homeowner in the selection of the STS options. Evans Engineering estimates costs as follows :  
\$30,000 Installation cost  
\$1,000 annual operational cost\*  
\*This is a general estimate of costs for this system. It is not a bid to install or service the STS. Contact a licensed installer and service provider or distributor for actual bids.

**Disclaimer**  
This plan set is not a site plan to be used for constructing anything other than the Sewage Treatment System. If an accurate legal site plan is required, contact a professional surveyor. This plan offers no guarantee as to the accuracy of information provided. This plan offers no guarantees for site stability. If site stability may be an issue, a geotechnical engineer should be consulted. Plan is only as accurate as the information provided by the property owner to the designer. Easements, right-of-ways, hidden objects or information not communicated to the designer invalidates the design. It is the property owner's responsibility to review this plan and information provided to verify all site conditions and design assumptions are correct. If conflicts are found or additional information must be supplied, the owner shall contact the designer and installation shall not proceed until the approval is granted. This design shall in no way be taken as guarantee that the system will function in a satisfactory manner for any given period of time, or that the Evans Engineering or any of its agents or employees assume any liability for damages, consequential or direct, which are caused, or which may be caused by a malfunction of the STS.

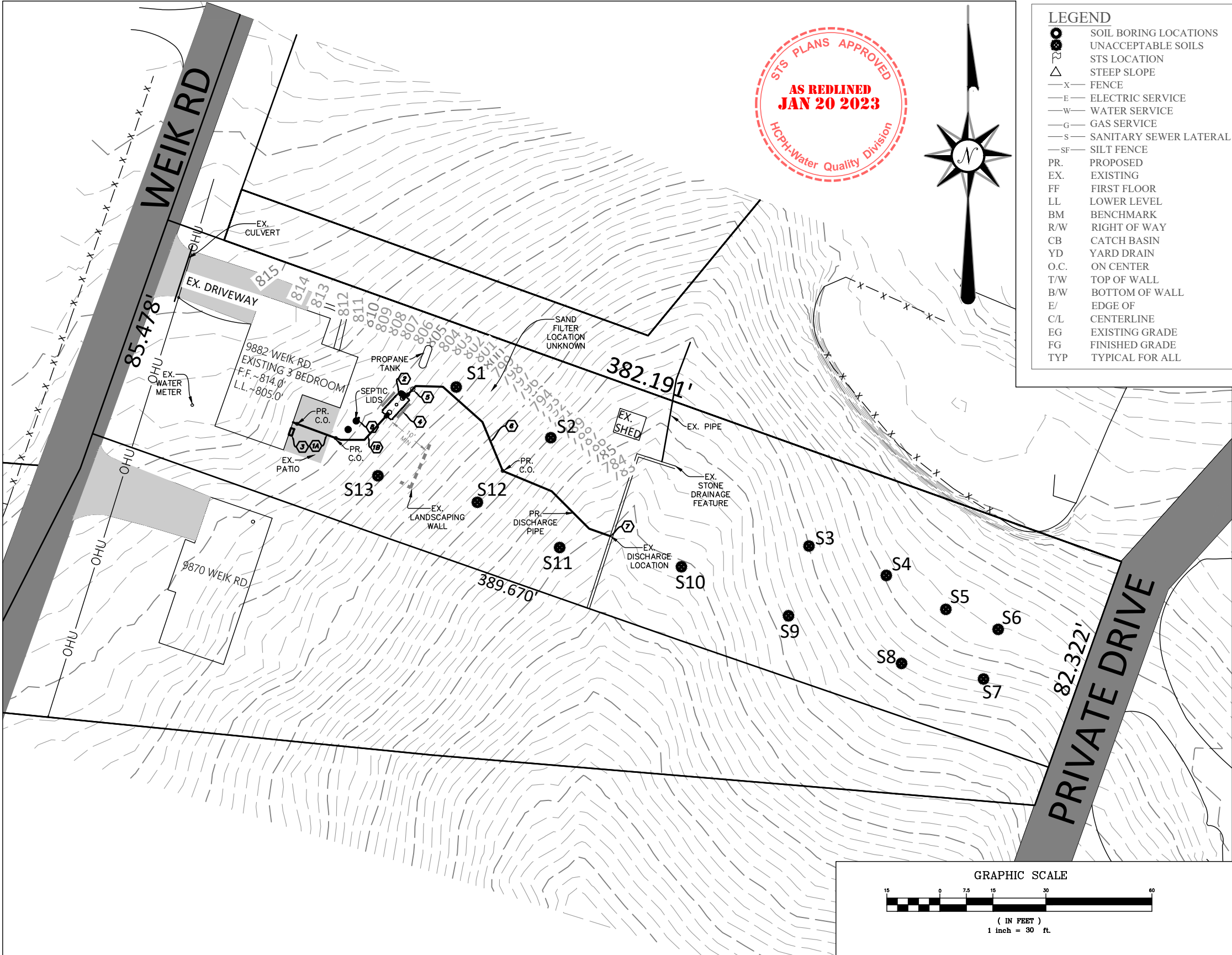
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NO. & DESCRIPTION	BY	DATE						
<div>EVANS ENGINEERING 4240 AIRPORT ROAD, SUITE 211 CINCINNATI, OHIO 45226 (513) 321-2168</div> <div></div>								
<div>WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM</div> <div>COVER SHEET</div> <div>9882 WEIK ROAD, COLERAIN TOWNSHIP CINCINNATI, OH 45252</div>								
SCALE:	HORIZ.	VERT.						
	VARIES	N/A						
JOB NO.	22-179							
DATE	January 12, 2023							
SHEET NO.								
COVER								

WEIK RD. SEPTIC - KONERMAN - REPLACEMENT SYSTEM

9882 WEIK RD, CINCINNATI, OH 45252  
510-0320-0059-00

DIRECT DISCHARGE NOTES:

- 1) UNLESS OTHERWISE NOTED, ALL TREATMENT SYSTEM COMPONENTS AND ONSITE DISCHARGE COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL STATE AND FEDERAL REGULATIONS/ GUIDELINES AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 2) UNLESS OTHERWISE NOTED, ALL PIPING IS SCHEDULE 40 PVC PIPING (ASTM D2665/D1785).
- 3) ANY MODIFICATIONS MADE BY THE INSTALLER MUST BE APPROVED BY THE DESIGNER AND THE HEALTH DEPARTMENT PRIOR TO IMPLEMENTATION.
- 4) ANY MODIFICATIONS MADE BY THE INSTALLER MUST BE NOTED ON THE FINAL AS-BUILT DRAWING
- 5) ALL COMPONENTS TO MAINTAIN A MINIMUM 10' HORIZONTAL SEPARATION FROM PROPERTY LINES, R.O.W., BUILDINGS, DRIVEWAY/HARDSCAPES, UTILITIES, INTERMITTENT STREAMS/SWALES, HORIZONTAL CLOSED LOOP GEOTHERMAL SYSTEMS, IRRIGATION LINES, AND GWRS. MUST MAINTAIN 50' HORIZONTAL ISOLATION DISTANCE TO ALL STREAMS, RIVERS, WETLANDS, WELLS, AND VERTICAL GEOTHERMAL SYSTEMS.
- 6) WATER FROM THE ROOF, FOUNDATION DRAINS, FLOOR DRAINS, CISTERN OVERFLOWS, SUBSURFACE DRAIN TILES, STORM WATER DRAINS, SUMP PUMPS AND CLEAR WATER DRAINS SHALL NOT BE DISCHARGED INTO, ONTO, OR TOWARDS ANY PART OF THE STS. CONTRACTOR TO VERIFY CONNECTION TO STS DOES NOT EXIST.
- 7) VERTICAL ELEVATIONS AND HORIZONTAL FIELD DIMENSIONS, INCLUDING EXISTING INVERTS, WILL BE VERIFIED BY INSTALLER PRIOR TO INSTALLATION OF THE SANITARY SYSTEM.
- 8) SOIL SAMPLES PERFORMED BY MR. DAN MICHAEL, CLEARCREEK ENVIRONMENTAL, LEBANON, OHIO.

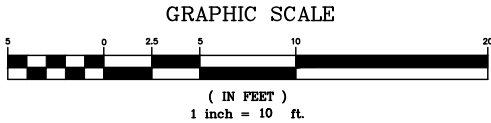
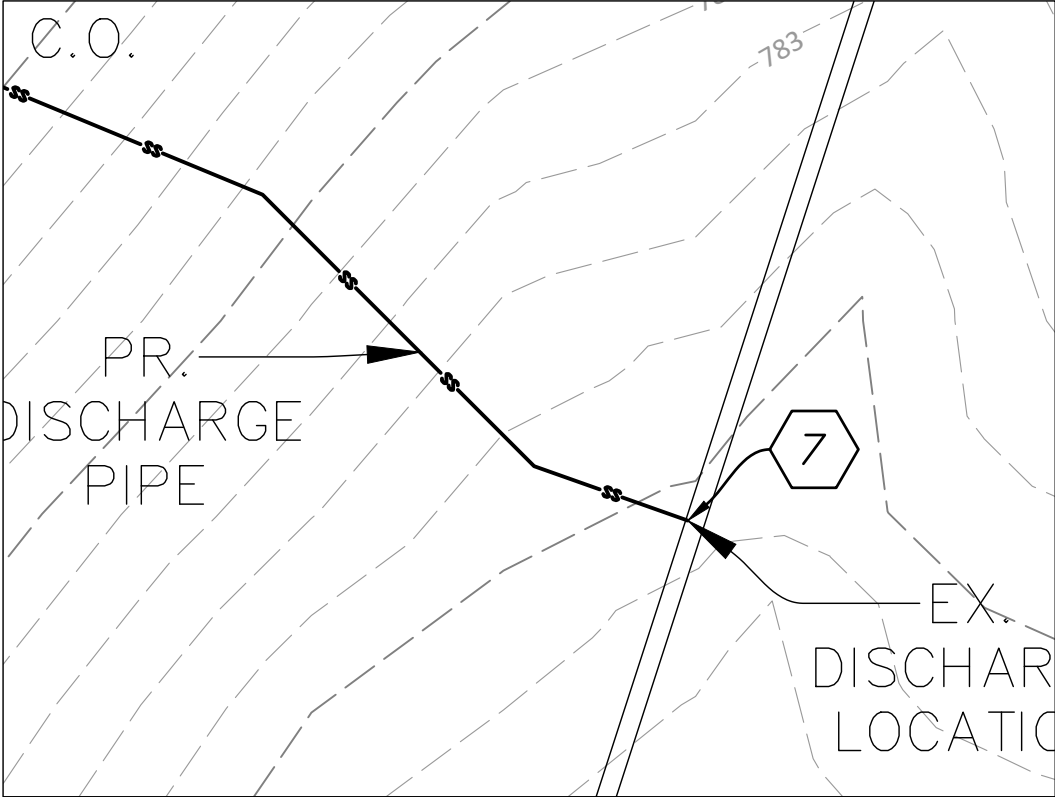


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WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM SYSTEM LAYOUT 9882 WEIK ROAD COLERAIN TOWNSHIP CINCINNATI, OH 45252		
SCALE:	HORIZ.	VERT.
	1"=30'	N/A
JOB NO.	22-114	
DATE	January 12, 2023	
SHEET NO.		
C-1		



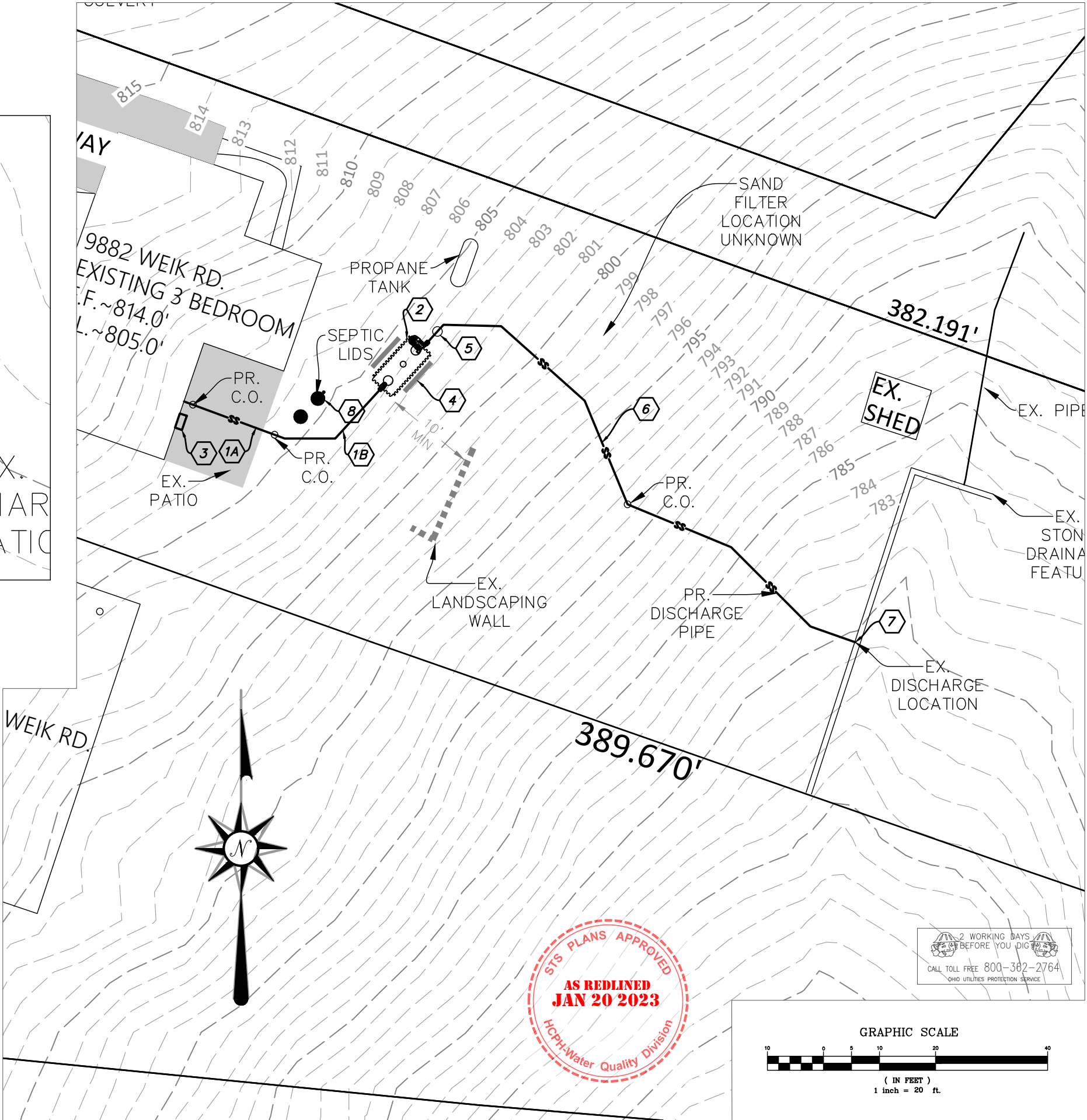
WEIK RD. SEPTIC - KONERMAN -  
REPLACEMENT SYSTEM

9882 WEIK RD, CINCINNATI, OH 45252  
510-0320-0059-00



KEY LEGEND

- 1A** IF CURRENT SEWER IS FAILING OR NOT 4" SCH 40 PVC, REPLACE SEWER WITH 4" SCH 40 PVC @ 1% MIN AND SLEEVE LINE UNDER PAVEMENT WITH 6" SCH 40 PVC AND 5' BEYOND. INSTALL TRAFFIC RATED CLEANOUT WITHIN PAVEMENT AT HOUSE EXIT.
- 1B** PROPOSED BUILDING SEWER. ADD CLEANOUT(S) WHERE SHOWN. CONFIRM CONDITION OF EXISTING SEWER EXIT AND CONNECT IF IN GOOD CONDITION AND 4" SCH 40 PVC.
- 2** PR. JET J-500-PLT-RAD WITH UV; SEE C-3
- 3** PR. CONTROL PANEL. MOUNT PANEL TO POST OR HOUSE 4' -5' ABOVE THE GROUND AT CONTRACTOR/OWNER'S DISCRETION; SEE C-3
- 4** PR. ANTI-BUOYANCY BLOCKS. SEE C-3
- 5** PR. SAMPLE PORT. SEE C-3
- 6** PR. DISCHARGE PIPE. 4" SCH 40 PVC @ 1% MIN. ZIG ZAG DOWNSLOPE WITH 22.5 DEGREE ELBOW FITTINGS OR GREATER AND PROVIDE NON-CORROSIVE ANIMAL GUARD AT OUTLET.
- 7** PR. DISCHARGE LOCATION. OUTLET ABOVE EXISTING STONE DRAINAGE FEATURE
- 8** EXISTING SEPTIC TANK, ABANDON PER OAC 3701-29-21 AND HCPH PERMITTING AND REPORTING REQUIREMENTS
- CLEAN OUT PLACEMENT BASED ON CONDITION OF EXISTING SEWER



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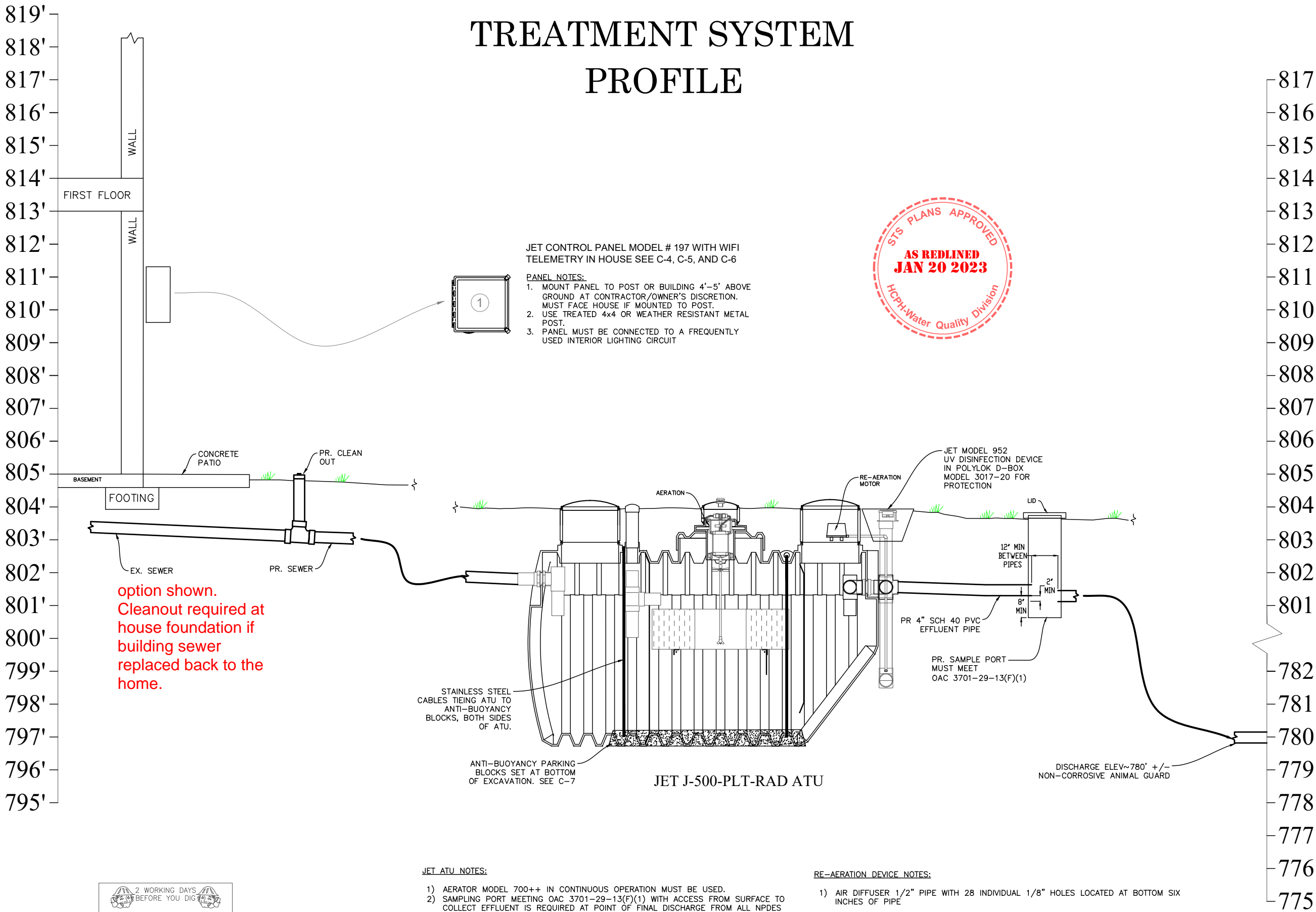
WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM  
**SYSTEM LAYOUT**  
9882 WEIK ROAD, COLERAIN TOWNSHIP  
CINCINNATI, OH 45226

SCALE:	HORIZ.	VERT.
	1"=20'	N/A
JOB NO.	22-179	
DATE	January 12, 2023	

SHEET NO.

C-2

# TREATMENT SYSTEM PROFILE



**JET ATU NOTES:**

- 1) AERATOR MODEL 700++ IN CONTINUOUS OPERATION MUST BE USED.
- 2) SAMPLING PORT MEETING OAC 3701-29-13(F)(1) WITH ACCESS FROM SURFACE TO COLLECT EFFLUENT IS REQUIRED AT POINT OF FINAL DISCHARGE FROM ALL NPDES SYSTEMS
- 3) WATERTIGHT CONNECTIONS AT ALL PENETRATIONS
- 4) BED TANK IN 6" MIN #8 (3/4") CRUSHED LIMESTONE, SAND, AND/OR PEA GRAVEL.
- 5) BACKFILL WITH #8 (3/4") OR #57 (1") CRUSHED LIMESTONE, TOPSOIL, SAND LOAM TOPSOIL, OR PEA GRAVEL AND PER MANUFACTURER INSTRUCTIONS

**RE-AERATION DEVICE NOTES:**

- 1) AIR DIFFUSER 1/2" PIPE WITH 28 INDIVIDUAL 1/8" HOLES LOCATED AT BOTTOM SIX INCHES OF PIPE

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WEIK ROAD RD SEPTIC - KONERMAN -  
REPLACEMENT SYSTEM  
**TREATMENT SYSTEM  
PROFILE**  
9882 WEIK ROAD/COLERAIN TOWNSHIP  
CINCINNATI, OH 45232

SCALE	HORIZ	VERT.
	VARIES	N/A

JOB NO.	22-179
DATE	January 12, 2023

**SHEET NO.**

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## Jet Inc. Model 197 Control Panel Installation and Users Manual

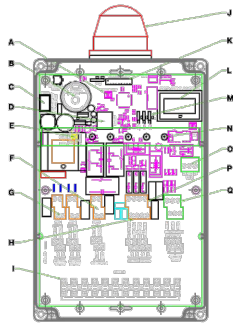
The Jet Incorporated Aerator control panel monitors and controls the operation of Jet system aerators and additional components. The panel can be configured to control single or dual aeration systems. A single aerator system controls the operation of one aerator. A dual aerator system can control two aerators, or one aerator and one re-aeration compressor.

In addition to the aerator control circuits, the control panel also contains the following circuits or features:

- Two aerator/compressor control circuits
- Two auxiliary available output circuits
- Three auxiliary input circuits with normally open or normally closed selection
- One power indicator LED, and four additional error indicator LED's
- An alarm buzzer with circuit board provision for an alternate or externally mounted buzzer
- A 9-position DIP switch for selection of configuration options
- User accessible reset switch and circuit board master reset switch
- Alarm mode Auto-Dialer power and control interface
- Circuit board mounted power switch and fuse
- Dry contact for Jet Wi-Fi messenger or cellular.

### Control Panel Features

- A. Master Reset Button
- B. Internal Horn
- C. On/Off Switch
- D. Optional Dialer Interface
- E. External Reset Button
- F. Pump Power Supply Contacts
- G. Aerator Power Supply Contacts
- H. Alarm Power Supply Contacts
- I. Ground Buss
- J. Central Alarm Beacon
- K. DIP Switch Array
- L. Event Counter (Optional)
- M. Auxiliary Alarm Settings (NC/NO)
- N. Indicator Light Array
- O. Optional Wi-Fi Alarm Contacts
- P. Auxiliary Output Contacts
- Q. Auxiliary Input Contacts



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## Safety Instructions

**WARNING:** Hazardous voltage can shock, burn or cause death.

**TO AVOID SERIOUS OR FATAL PERSONAL INJURY OR MAJOR PROPERTY DAMAGE, READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN THE MANUAL FOR THE CONTROL PANEL.**



This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.

- Warns of hazards that **WILL** cause serious personal injury, death or major property damage.
- Warns of hazards that **CAN** cause serious personal injury, death or major property damage.
- Warns of hazards that **CAN** cause personal injury or property damage.

**BOLD FACE FONT INDICATES SPECIAL INSTRUCTIONS THAT ARE VERY IMPORTANT AND MUST BE FOLLOWED.**



**THIS MANUAL IS INTENDED TO ASSIST IN THE INSTALLATION AND OPERATION OF THIS UNIT. THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS CONTROL PANEL.**

### MAINTAIN ALL SAFETY DECALS.



Install, ground and wire according to local and National Electrical Code Requirements. Disconnect and lockout electrical power before installing or servicing the control panel. Electrical supply must match nameplate specifications inside of the control panel. Incorrect voltage can cause fire, damage control panel and void the warranty.



All single-phase pump motors and aerators attached to model 197 Control Panels must be equipped with an automatic thermal protector, which opens the motor's electrical circuit when an overload condition exists. This can cause the pump to start unexpectedly.

### Important Precaution:

A qualified technician must perform all electrical work. Always follow the National Electric Code (NEC), or the Canadian Electrical Code, as well as local, state and provincial codes. Code questions should be directed to your local electrical inspector. Failure to follow electrical codes and OSHA safety standards may result in personal injury or equipment damage. Failure to follow manufacturer's installation instructions may result in electrical shock, fire hazard, personal injury or death, damaged equipment, provide unsatisfactory performance and may void manufacturer's warranty.

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## Wiring at the Jobsite

1. All cable and conduit should be installed from the tank to control panel location by the system installer.



**USE ONLY NON-METALLIC CONDUIT WITH THE MODEL 197 CONTROL PANEL. METALLIC CONDUIT IS NOT APPROVED FOR INSTALLATION WITH THE MODEL 197 CONTROL PANEL.**

2. Use only UL listed Direct Burial and non-metallic conduit and wiring for control and aerator installation.
3. Cable should be carefully measured; cables and wiring must not be spliced. Spliced connections could result in aerator or alarm sensing malfunctions.
4. When ordering and measuring cable be sure to:
  - a. Leave ample cable in aerator mounting casting to install aerator at desired depth
  - b. If direct burial cable is used it must be encased in conduit from the aerator mounting casting to the edge of the concrete tank. It should not cross over any access covers or panels
  - c. If direct burial cable is used leave slack in the line to allow for possible settling in the trench or tank
  - d. Above grade entrance to the house is recommended if the control panel is mounted inside the dwelling. If direct burial cable is used, conduit should be in place from the beginning of the foundation to the entrance of the dwelling.
5. Jet recommends burying cable and conduit at least two feet deep to prevent accidental damage to the external wiring
6. Proper procedures and solvents must be used to protect the integrity of the external wiring.

## Control Panel Installation

The control panel should be given to the electrician on site for installation. The installer or distributor must make sure that the control panel settings are correct for the type of system and components being installed. Refer to control panel settings section for more information on desired system configurations.

1. Mount the control panel in a location that will be easily accessible, clearly visible from at least 50 feet and out of reach from children. The panel is weatherproof and can be mounted outdoors. If outdoor installation is required consideration should be taken to minimize the impact of climate on the panel. If possible, do not mount the panel in direct sunlight.

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- a. To mount panel remove the panel cover by removing the four Phillips head screws, the panel can then be mounted with the four screw points adjacent to the corner screw receivers for the panel cover.
- b. Additional mounting brackets are supplied if larger mounting hardware is desired.

2. After mounting the control panels, determine the location of conduit and wiring for the control panel. Make sure to check local codes and regulations regarding power requirements.
3. The Jet model 197 control panel is not equipped with knockouts for electrical conduit connections. Pilot holes must be drilled in the enclosure to allow conduit access into the panel. For best results use a GreenLee® punch for the conduit access holes. Make sure the holes are the proper size for the type of conduit selected. Ideally, conduit should enter from the bottom of the enclosure to increase protection from water infiltration into the panel. Be sure to avoid damaging the internal components of the control panel when drilling conduit access holes.

### Refer to the Conduit Location Template for conduit entry locations.

4. Attach all conduit and cable connectors to the control panel. Be sure to follow the manufacturer's instructions for proper connection installation.

**ONLY UL APPROVED WATERTIGHT HUB AND FITTINGS CAN BE USED WHEN ATTACHING CONDUIT AND WIRING TO THE CONTROL PANEL. Jet recommends using Carlon or T&B liquid tight non-metallic conduit and fittings for field installations. Sample instructions have been provided, refer to the proper model connector fitting instructions provided by the manufacturer for exact installation instructions.**

5. Assure that all connections are properly installed and watertight.
6. Pull all cables and wiring through the conduit and connectors into the control panel. Make sure to allow sufficient wiring to make all connection within the control panel.
7. Make all of the appropriate connections to the control panel terminal blocks as required for the system. If several connections are required, it may be useful to label the inbound and outbound wiring according to the system design to aid in future maintenance and troubleshooting.
8. The control panel is designed to operate on up to four separate circuits, depending on the system configuration and local regulatory requirements. Each individual circuit should be a separate 115-volt, single phase, 60 Hertz AC circuit. Alarm, aerator, and compressor circuits should not exceed 15 amp breakers from the central breaker panel. The pump circuit may operate on either 115V or 220V circuit with a 15 amp breaker.
9. Power supply wiring should be at least #14 AWG solid copper wires.
10. A grounding conductor should be installed from the ground buss bar to the main breaker panel in the dwelling. All system component grounds should then be connected to the grounding buss.



**Failure to connect system components or the model 197 to proper ground will void any product warranties.**

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11. Individual power sources should be connected to the control panel according to the wiring diagram provided on page 13 of this manual.
12. Additional alarm return and external relay contacts are provided to monitor and control additional components of the system:
  - a. Auxiliary Inputs – there are three additional alarm inputs that can be operated in either a normally closed (N/C) or normally open (N/O) state. The state can be reversed by moving the jumper directly above each alarm input to the desired setting. The N/O operates on 12 volts AC low amperage circuit.
    - Auxiliary 1: Pump on/off switch (float).
    - Auxiliary 2: Pump high water alarm switch (float).
    - Auxiliary 3: UV audible alarm/pump lockout.
  - b. Auxiliary Relay Outputs – there are two additional 120 volt relay outputs designed to control external relays for operation of external components. These outputs are 120 volt low amperage and are not designed to carry any significant electrical load, or to directly control external pumps or other devices
  - c. Smaller gauge wire (#16 or #18 AWG) may be used for additional alarm and relay inputs depending on the proximity of the system components and the panel.
13. If an integrated pump control is desired the model 197 control panel is equipped with an internal pump control relay. The pump should always be operated on an independent circuit. The pump control relay is designed to supply continuous power to the pump circuit provided there is not an active alarm condition. In the event of an alarm state, the pump control relay will deactivate power to the pump circuit.
14. Make sure all power supply connections have been fastened securely; recommended torque for terminal connections is 4 to 5 ft/lbs.
15. Perform an initial power supply test on all available circuits. Ensure that power from the dwelling is sufficient to properly operate all system components. All circuits should have 120 volts or equivalent available.



**All wiring must be in accordance with local and national electric codes. Contact your local electrical inspector for more information regarding proper wiring procedures.**

16. Typically the aerator and system components will not be installed at the time of initial wiring for the system control. The current sensing ability of the panel will create an alarm condition if there are no components active during standard operation. The control panel should be left in the off position until the entire system has been installed.

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## SAMPLE HUB AND CONNECTOR INSTALTION INSTRUCTIONS

## Carflex Fittings Installation Instructions

### LT43C-CAR, LT43F thru J, LT20C-CAR, LT20F thru J.

1. Cut the end of the Carflex conduit or Carflex® X-Flex® tubing square.
2. Install compression nut and sealing gland ring over the end of the conduit or tubing.
3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action.
4. Screw fitting body into compression nut.
5. When installation is complete; use a wrench, tighten compression nut one-quarter (1/4) turn past hand-tight. Do not over tighten fitting.

\*To prevent damage to conductors, conduit and fittings, do not twist Carflex during installation.

### LT43D-New, LT43E-New, LT20D-New, LT20E-New.

1. Cut the end of the Carflex conduit or Carflex® X-Flex® tubing square.
2. Install compression nut over the end of the conduit or tubing.
3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action. (Be sure conduit is fully inserted to the bottom of the fitting shoulder).
4. Screw compression nut onto fitting body.
5. Use a wrench, and tighten compression nut one (1) full turn past hand-tight. Do not over tighten fitting.

\*To prevent damage to conductors, conduit and fittings, do not twist Carflex during installation.



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## Control Panel Settings and Functions

The Jet Model 197 control panels are designed to be used with several system configurations. The primary selection of control panel operation is selected by the array of DIP switches located at the top of the circuit board. Refer to the following chart, which outlines the function of the separate DIP switches and their corresponding system controls:

Aerator Timer Control			
Switch One *	Switch Two *	Switch Three *	Aerator Run Time *
Off	Off	Off	Continuous Run
On	Off	Off	On 50 min. / Off 10 min.
Off	On	Off	On 45 min. / Off 15 min.
On	On	Off	On 40 min. / Off 20 min.
Off	Off	On	On 35 min. / Off 25 min.
On	Off	On	On 30 min. / Off 30 min.
On	On	On	Continuous Run
Switch Four		Inactive	
Auxiliary Output Control			
Switch Five	Switch Six	Auxiliary Alarm Function	
Off	Off	All Outputs Inactive	
On	Off	Output One Active	
Off	On	Outputs One and Two Active	
On	On	All Outputs Active	
Multiple Aerator Controls			
Switch Seven		Toggle multiple aeration alarm sensing	
Off	Single Aerator System		
On	Dual Aerator System		
Switch Eight		Toggle high/low current sensing	
Off	Aerator 2 circuit high current sensing for Aerator		
On	Aerator 2 circuit low current sensing for Compressor		
Test Mode Control			
Switch Nine	On/Off	Toggle Test Mode	

\*DIP switches one, two and three will be fused in the ON position for 197 controls used with NSF Listed J-1500 series treatment systems, which must have continuous aeration.

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### Aerator / compressor monitoring and control

The aerator 1 circuit is always active and is intended to operate an aerator motor. The aerator 2 circuit is enabled by DIP switch settings and can be configured to operate an aerator motor or a compressor. DIP switch settings also configure the hourly on-time duty cycle of the aerator circuits, which can range for 30 minutes on / 30 minutes off, to continuous run (note – NSF listed J-1500 series systems must operate on continuous run). The current of each aerator circuit is controlled by an independent relay. A current transformer in each aerator circuit is used to monitor the aerator / compressor current. While in normal operation mode, in the event of an over current or under current condition of any of the critical treatment components (aerator / compressor) the system will shut down the affected circuit and enter an automated reset program. The automated reset program will attempt to re-start the affected circuit after a five minute delay cycle. If the circuit then functions properly the system returns to normal status, if the circuit does not function properly then the program enters another five minute delay cycle. If after the second five minute delay cycle the circuit is will not function properly the program enters a one hour delay cycle. If the circuit cannot function properly after the one hour delay cycle the power control relay for the corresponding aerator circuit is turned off, and the panel enters the alarm condition, which is indicated by a flashing LED and central alarm beacon, and an audible signal. If so equipped, the panel will also signal an auto-dialer or modem to transmit the alarm condition. The over-current or under-current conditions can be distinguished by different flash rates of the LED and beep rate of the buzzer. While in test mode, the automated reset program will be deactivated. The control panel may be left in test mode if instantaneous alarm function is required.

### Pump motor control

The pump motor control circuit is always active, and the pump motor control relay will be on. In the event of an alarm condition, the pump circuit will turn off power to the pump.

### Auxiliary output control

The active auxiliary output circuits are selectable with the DIP switches. Relays in the auxiliary output circuits control switching of 120VAC to the output terminal blocks. The 120VAC is fused on the circuit board and switched by the circuit board power switch. As currently configured, auxiliary output 1 is intended for control of the alarm signal beacon mounted to the top of the enclosure, and causes the beacon to flash in an alarm condition. If Auxiliary outputs 2 & 3 are enabled, the outputs are on during normal operation and off in an alarm condition.

### Auxiliary inputs

The auxiliary inputs are intended for sensing the open or closed condition of additional system components and sensing switches. Typically the auxiliary inputs are expected to be connected to float switches for sensing water levels. Each auxiliary input circuit

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QA-SAL-132

REV 1/23/2019

REVISIONS

NO. & DESCRIPTION	BY	DATE

**EVANS ENGINEERING**  
4240 AIRPORT ROAD, SUITE 211  
CINCINNATI, OHIO 45226  
(513) 321-2168



WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT  
SYSTEM

**PANEL DETAILS**  
9882 WEIK ROAD, COLERAIN TOWNSHIP,  
CINCINNATI, OH 45222

SCALE:	HORIZ	VERT.
	VARIES	N/A
JOB NO.	22-179	
DATE	January 12, 2023	

**SHEET NO.**

C-4





has a jumper selection for normally closed or normally open operation. The sensing signal at the auxiliary input terminal block is a current limited 12VAC. Note: Auxiliary contact three is interlocked with the pump relay and will deactivate the pump circuit. Do not use this contact for high water floats in pump tanks.

#### Indicator LEDs

There is a blue power indicator LED that is lit when power is applied and the microcontroller is running. There is a one red LED for indication of aerator over or under current conditions. There are three red LEDs for indication of input error conditions on the auxiliary inputs. In normal operation, with no error conditions present, only the blue power indicator LED will be on. Auxiliary alarm circuits should be properly labeled on the wiring diagram or control panel cover.

#### Alarm buzzer

The alarm buzzer sounds when an error condition exists. There is circuit board provision for an externally mounted or alternate model buzzer. When power is initially turned on, the buzzer will sound for ½ second to confirm that the buzzer is operational. For purposes of testing or servicing, the buzzer can be silenced for alarm conditions by DIP switch setting.

#### Reset switch and master reset switch

The user accessible reset switch has dual functionality. If no alarm condition exists, and the reset switch is held down for at least two seconds, the microcontroller will perform a self-reset. If an alarm condition has been triggered, the reset switch will clear the alarm state. However, if the error condition is still present, the alarm may immediately re-trigger. After the third reset press with a continuing alarm condition, the buzzer will be silenced, but the LED error conditions will not be cleared and no further operation is possible until the panel is reset by the master reset switch or by removal and reapplication of main power. The circuit board mounted master reset switch causes a microcontroller reset.

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#### Dialer interface

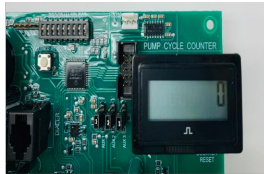
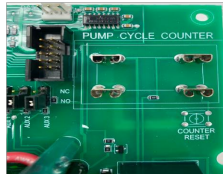
The circuit board has a connector configured to provide power and a triggering signal to select models of commercial, automatic telephone voice dialers. If an Auto-Dialer is installed on the model 197 Control Panel use wire ties to secure RJ-10 cable to LED array mounting posts to **ensure there is no contact between the RJ-10 cable and 197 control panel printed circuit board or components.**

#### Wi-Fi Interface

The circuit board has an input/output dry contact location for low-voltage alarm leads to communicate any alarm condition to the Jet Wi-Fi module. Complete Wi-Fi module wiring instructions are included with each 197W unit.

#### Optional Pump Cycle Counter

The circuit board is designed with blade style contacts to allow connection of a pump cycle counter. The cycle counter will record each time power is supplied to the pump circuit.



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### Start Up Check List

These procedures should be performed by the Jet installer after all of the system components and aerators have been connected to the system. This test should only be conducted after the electrician has completed the panel installation and before occupation of the dwelling. Refer to the control panel settings and functions section to review that the proper DIP switch configuration is appropriate for the system installed.

- ✓ Make sure that the settings and pump controls are appropriate for the system configuration and comply with local regulations.
- ✓ Check the system wiring to ensure the installation instructions have been followed correctly.
- ✓ Check to make sure all aerator, pump, and auxiliary connections are watertight. Ensure there is no exposed wiring prior to turning on the system.
- ✓ Set the control panel power switch to the "Off Position", and then turn power on at the main breaker panel for all of the system circuits.
- ✓ Turn on the control panel power, the self-test should alarm for two seconds then all alarms should return to normal state. The blue indicator light should now indicate that there is power to the panel and circuits.
- ✓ Check to make sure all system components are operational. If a pump is connected to the system, it may not immediately function depending on additional float and timer control settings.
- ✓ Test all inbound and outbound power with a multi-meter. All circuits should have between 105 and 132 volts AC power supplied to the aerator, compressor, and pump circuits.
- ✓ If aerator circuits are set for timer intervals, the cycle will begin with the on aerator condition. To observe aerator timer intervals additional time will need to be spent on site, or use the "Test Mode" to accelerate the timer cycles.
- ✓ If tests are not satisfactory, recheck and correct the system wiring as needed.
- ✓ Once all checks are completed, return the "Test Mode" to its normal position and reset the control panel with the "Master Reset" switch.
- ✓ Make sure to correct distributor information is on the front of the panel and complete the control panel warranty card with the appropriate information.

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### Troubleshooting Guide

Problem	Probable Cause	Solution
No Power to Panel	<ul style="list-style-type: none"><li>No power from main breaker panel</li><li>Internal panel power switch in off position</li></ul>	<ul style="list-style-type: none"><li>Check wiring and main breaker panel</li><li>Check on/off switch</li></ul>
Aerator Alarm After Start Up	<ul style="list-style-type: none"><li>Aerators not connected and running</li><li>DIP aerator selection incorrect</li><li>Aerator/Compressor DIP setting incorrect</li></ul>	<ul style="list-style-type: none"><li>Check aerator(s) and connections</li><li>Confirm DIP settings are correct for system design</li></ul>
Auxiliary Alarm After Start Up	<ul style="list-style-type: none"><li>Alarm settings incorrect (NO/NC)</li><li>Alarm or float condition is active</li></ul>	<ul style="list-style-type: none"><li>Check alarm setting jumpers for proper NO/NC</li><li>Check external devices and floats</li></ul>
No Power to Aerators	<ul style="list-style-type: none"><li>Inbound power inactive</li><li>Timer setting in "Off" cycle</li></ul>	<ul style="list-style-type: none"><li>Check connections and main breaker panel</li><li>Reset panel to override "Off" cycle</li></ul>
No Power to Pump	<ul style="list-style-type: none"><li>Inbound power inactive</li><li>Alarm condition active</li></ul>	<ul style="list-style-type: none"><li>Check connections and main breaker panel</li><li>Resolve alarm conditions</li></ul>
Auxiliary Outputs Inactive	<ul style="list-style-type: none"><li>DIP settings incorrect</li><li>Excessive load on external device</li></ul>	<ul style="list-style-type: none"><li>Check DIP settings</li><li>Confirm power requirements for external device</li></ul>
Aerator Timer Not Functioning	<ul style="list-style-type: none"><li>Incorrect DIP settings</li></ul>	<ul style="list-style-type: none"><li>Check DIP settings</li></ul>
Aerator Reset Not Functioning	<ul style="list-style-type: none"><li>External reset locked out</li><li>External toggle not contacting button</li></ul>	<ul style="list-style-type: none"><li>Reset panel with Master Reset button</li><li>Adjust depth of external toggle</li></ul>
Aerator Alarm with Compressor	<ul style="list-style-type: none"><li>DIP not set to compressor function</li></ul>	<ul style="list-style-type: none"><li>Check DIP setting</li></ul>
Alarms not Functioning	<ul style="list-style-type: none"><li>Automated reset program active (Normal Function)</li></ul>	<ul style="list-style-type: none"><li>Toggle test mode "ON" if instant alarms desired</li></ul>

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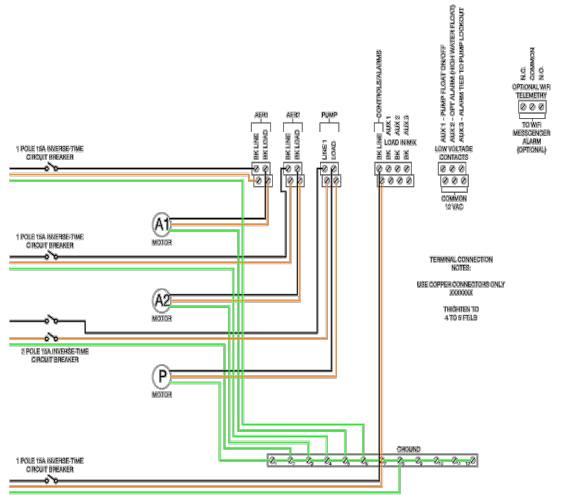
QA-SAL-132

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### Electrical Wiring Diagram

Refer to the wiring diagram below when connecting aerators, compressors, pumps, and auxiliary equipment to the Jet model 197 control panels. (Note: The location of the terminal blocks has been re-formatted for this manual and does not exactly correspond to the location of the terminal blocks on the circuit board)



WIRING DIAGRAM-MODEL 197 CONTROL PANEL

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### 1-YEAR LIMITED WARRANTY

Jet Inc. warrants all new system components supplied by Jet against defective materials and workmanship, under normal service for one year commencing upon date of shipment from the factory. To make a claim under this warranty, you should notify your Jet Distributor or notify Jet Inc., Customer Service Department by phone at 1-800-321-6960 or by mail at 750 Alpha Drive, Cleveland, Ohio 44143. If a component or part is proven defective during this warranty period there shall be no charges for labor or materials required for the repair or replacement of the defective component. Jet shall have the option to require the defective part be returned, freight prepaid, for evaluation at the factory before allowing a claim. All components must be returned by an authorized Jet distributor who is in good standing with Jet Inc. Jet Inc. may, at its option, elect to repair or replace the defective components, or refund the purchase price of the defective component(s). The system owner shall assume all responsibility for freight charges to and from Jet Inc. This warranty does not cover system components or parts that have been (I) damaged due to disassembly by unauthorized persons, improper installation, misuse, or lightning, (II) subjected to external damage, (III) damaged due to improper or altered wiring, or overload protection, or (IV) damaged by failure to follow the suggestions outlined in any associated product documentation or Owners Manuals. Items normally consumed in service such as fuses, filter cartridges, spin plates, grease, oil, etc. are not warranted. This warranty applies only to the Jet system components supplied by Jet Inc. and does not include any of the wiring, plumbing, drainage, or any other part of the disposal system.

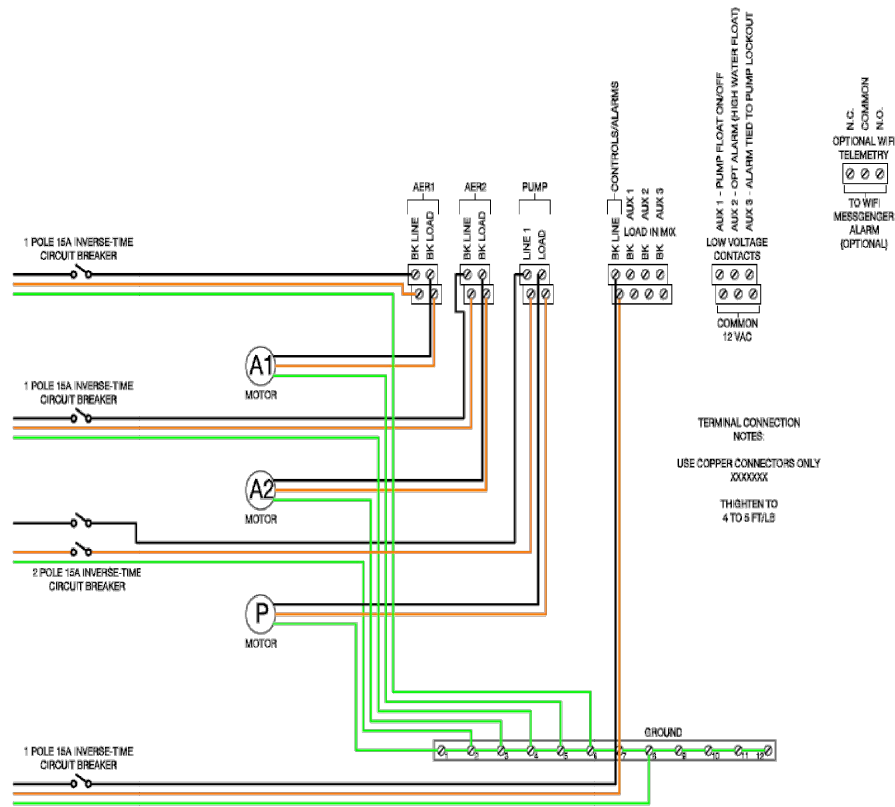
JET INC. SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGES CAUSED BY DEFECTIVE COMPONENTS OR MATERIALS, OR FOR LOSS INCURRED BECAUSE OF THE INTERRUPTION OF SERVICE, OR ANY OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES OR EXPENSES ARISING FROM THE MANUFACTURE, SALE, USE OR MISUSE OF THE COMMERCIAL TREATMENT PLANT. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY WARRANTY IMPLIED BY LAW, INCLUDING FITNESS IS IN EFFECT ONLY FOR THE ONE YEAR WARRANTY PERIOD SPECIFIED ABOVE. (SOME STATES DO NOT ALLOW EXCLUSIONS OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.)

Jet Inc. reserves the right to revise, change, or modify the construction and design of the Jet system components or any component part or parts thereof supplied by Jet, without incurring any obligation to make such changes or modifications in present equipment. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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QA-SAL-132

REV 7/31/2013



WIRING DIAGRAM-MODEL 197 CONTROL PANEL

REVISIONS

NO. & DESCRIPTION

BY

DATE

EVANS ENGINEERING  
4240 AIRPORT ROAD, SUITE 211  
CINCINNATI, OHIO 45226  
(513) 321-2168



WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM

PANEL DETAILS

9682 WEIK ROAD, COLERAIN TOWNSHIP, CINCINNATI, OH 45222

SCALE: HORIZ. VERT.

VARIES N/A

JOB NO. 22-179

DATE January 12, 2023

SHEET NO.

C-5



# JET® WiFi Messenger Alarm Quick Start

## Before You Begin

Mount and wire your alarm according to installation instructions.

### NOTE:

- Cellular WiFi hotspots are not recommended for use with this WiFi alarm, as intermittent or unreliable notification service can result.
- WPA2 Security must be enabled on the wireless router for WiFi connections.

This quick start manual covers setup using a WPS connection to your wireless network.



## STEP 1: WiFi Network Setup (WPS)



- Press the WPS button on your wireless router (often the back side of router).
- Press the WPS button on the JET WiFi Messenger Alarm (the blue network status light will flash continuously).



The blue network status light will illuminate steadily when the JET WiFi Messenger Alarm is successfully connected to the wireless network.

E1

## STEP 3: Alarm Notification Setup

**Notification Setup**

At least one email address or one phone number must be provided to receive notification messages.

IP Address: 192.168.1.148

MAC Address: A1B5C3D2E7C2

Battery Status: New (B1-F5 to refresh)

Network Name (SSID):

WPA2 Security Key:

No Security

Device Name:

Email Address 1:

Email Address 2:

Text Message Phone Number 1: Example: 123-456-7890

Text Message Phone Number 2: Example: 123-456-7890

Submit

- On the JET WiFi Messenger Alarm setup page, fill in the appropriate data:
  - Device Name:** Enter a unique device name for each JET WiFi Messenger Alarm being installed.  
**EXAMPLE:** "123 Main St Hometown OH 12345" Maximum 30 characters including spaces.
  - Email Addresses:** Fill in the email addresses which will be receiving notifications from the JET WiFi Messenger Alarm.
  - Enter the phone number of the device (or devices) that will receive the text message.**

**Note:** A minimum of one email address or text message phone number must be entered to receive alarm notifications.

- Click Submit to save your notification data.

## STEP 4: Setup Testing

- Press and release the "TEST" button on the JET WiFi Messenger Alarm. The alarm horn will sound and the alarm light will activate while the "TEST" button is being held.
- Verify that an alarm notification is received via email or text.

**Note:** It may take several minutes for the message to appear in your email inbox or message folder, depending upon email server traffic or other circumstances. If you have not received a notification within 5 minutes, verify the email address and/or cellular phone information is entered correctly and that any email filters are set to allow messages from **mywifialarm@mywifialarm.com**.

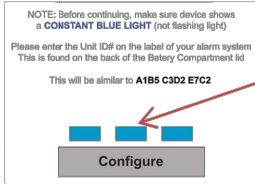
While using a WiFi connection, a signal strength rating will also be sent with the alarm and power restored notifications.

5.0 - 10.0 Great!  
3.0 - 4.9 Good. No signal loss is expected.  
2.0 - 2.9 Marginal. You may experience occasional signal loss.  
0.0 - 1.9 Weak. Move alarm closer to wireless router.

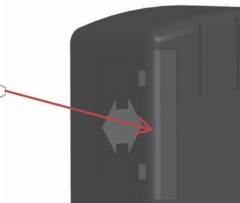
E3

## STEP 2: Verification

- After the alarm is successfully connected to the wireless network, allow 2 minutes before proceeding.
- Using your internet connected device (i.e. Laptop, Desktop, etc.), open a new web browser window or tab.  
**Note:** you must be connected to the same router as your JET WiFi Messenger Alarm.
- Type the following into the address field at the top of your web browser: [www.mywifialarm.com](http://www.mywifialarm.com) or scan QR code.
- Follow the registration link.
- After reading and accepting the terms of the JET WiFi Messenger Alarm, enter your alarm's Unit ID# located on the back of the battery compartment cover. (DO NOT ENTER THE COLONS). Click Configure.



**WARNING!**  
USE ALKALINE BATTERY  
ONLY. NON-ALKALINE  
BATTERY MAY REDUCE  
PRODUCT PERFORMANCE.  
UNIT ID#:  
A1B5C3D2E7C2



- If the JET WiFi Messenger Alarm has not been verified, the DEVICE REGISTRATION screen will open and you will be required to enter an email address to receive a verification link. Enter your email address and press the Request Verification Code button.  
**Note:** All future alarm notifications will be sent to this verification email address in addition to the email addresses entered on the JET WiFi Messenger Alarm's setup page.
- An email will be sent to the verification email address entered with a link to the Notification Setup page. Click this link to access the Notification Setup page. This email must be received and opened by the same device used for the steps above.
- If the JET WiFi Messenger Alarm has already gone through the verification process, the web browser will immediately be redirected to the Notification Setup page.

E2

## Troubleshooting Guide

### Network status light flashes:

- One Flash Every Five Seconds:** No WiFi can be found. Verify wireless router is powered and functioning. Verify alarm is within range of wireless router.
- Two Flashes Every Five Seconds:** An IP address cannot be obtained. Cycle the power to your wireless router. Enable DHCP in your router set up (see router manufacturer's user's manual).
- Three Flashes Every Five Seconds:** Email is unable to be sent. Verify the internet connection is functioning. Verify the email address is valid.

### Alarm webpage is not found:

- Alarm is not connected to a wireless network. Connect to the wireless network according to the setup instructions.
- Your internet connected device (laptop, desktop, tablet, smartphone, etc.) is not connected to the same wireless network as the alarm. Connect your device to the same wireless network as the alarm.
- The correct Unit ID# was not entered into the browser: [www.mywifialarm.com](http://www.mywifialarm.com). Follow the registration link. Re-enter the correct Unit ID# for your alarm.

### Notification emails or text messages are not received:

- Email address or cellular information was not set up correctly. Verify email addresses are valid and/or cell numbers are entered correctly.
- Internet access is not functioning. Repair the internet connection.
- Notification email has been blocked. Unblock or allow emails from **mywifialarm@mywifialarm.com** in your email account.
- The JET WiFi Messenger Alarm terms and conditions have not been accepted and/or a verification email has not been sent. Follow steps in the "Verification" section.

## Congratulations!

Your JET WiFi Messenger Alarm is now configured and ready to be used.

(Remember to test your alarm on a regular basis to ensure proper operation)

01/25/2019

E4

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REVISIONS

NO. & DESCRIPTION

DATE

**EVANS ENGINEERING**  
4240 AIRPORT ROAD, SUITE 211  
CINCINNATI, OHIO 45226  
(513) 321-2168



WEIK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM

**PANEL DETAILS**

9882 WEIK ROAD, COLERAIN TOWNSHIP,  
CINCINNATI, OH 45242

SCALE:	HORIZ.	VERT.
	VARIES	N/A
JOB NO.	22-179	
DATE	January 12, 2023	

SHEET NO.

C-6



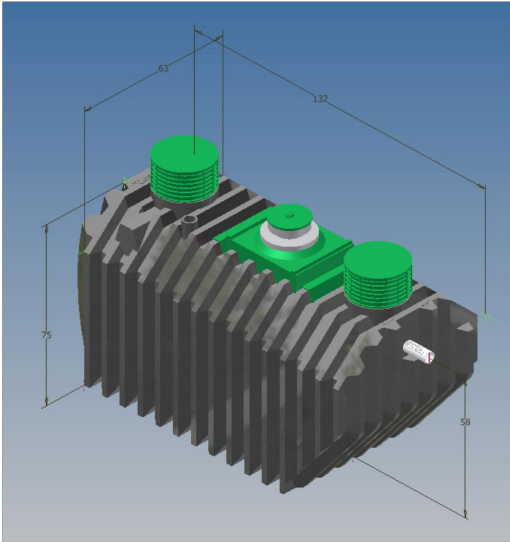
# Installation - Tank & Aerator J-500PLT – 800 PLT Series

## NSF LISTED PLANTS

These instructions apply to J-500PLT – 800PLT plants. This series includes a 500, 750 and 800 GPD plant.

J-500 PLT – 800 PLT plants have been tested and meet NSF Standard 40 criteria for a Class I NSF Listing.

J-500 PLT – 800 PLT media installation is done by the distributor before the tank is delivered. There are 2 different sets of media that can be installed depending on total flow.



QA-SAL-167 REV 04/23/2013

## TANK INSTALLATION

### IMPORTANT NOTES:

#### DO NOT:

1. Install tank in water saturated clay or in a high water table.
2. Install tank under areas where there is motorized traffic.
3. Backfill with clay soil

#### ALWAYS:

1. Completely fill the tank with water after installation.
2. Refill the tank with water immediately after pumping.

Only residential wastewater should be permitted to enter the system. The plant is not designed to receive flow from footer drains or roof downspouts or other storm water sources. The system should be located in an area which provides protection of the air intake from snow, ice or debris which may accumulate.

It is important that all local and state laws and plumbing codes regarding the plant installation process be followed. Appropriate installation permits are required for all installations. Items such as the connection of plumbing fixtures to the tank inlet line, position of inlet and discharge lines, grade and any other aspects of plant or plant related plumbing should be checked with the appropriate contractors to make sure all work conforms to local and state regulations. A pre-construction conference with all interested parties is strongly suggested.

This system is not designed to be installed above ground. Special procedures are required for above ground or partially buried installations.

Location of the tank must be in accordance with Health Department regulations in accordance with site design plans. Ideal location will be on ground which will not flood, which provides adequate fall and allows installation of lines which are as short and straight as possible.

There are many considerations in proper installation of a tank and the most important of which is that the tank installation meets the Health Department's regulations.

Jet systems may only be installed by authorized installers, who must be present during all phases of installation.

#### ANTI-FLOTATION DEVICE:

Note: It may be necessary to secure the tank with anti-flotation devices. Refer to the J-500-800PLT Bouyancy Tech Sheet.

#### EXCAVATION:

1. Verify the excavation is free of sharp stones and debris. The excavation should be level.
2. Allow for 9" to 24" of earth cover over the top of the tank. (approx. 7'-8" depth)
3. There should be sufficient over dig to allow for at least 12" of clearance on all four sides of the tank. (approx. 7"x13")
4. Verify there is a solid earthen pad to sit the tank on. Consider using a compacted mixture of sand and gravel (6" minimum in soil and 12" minimum in rocky terrain). Clay soils are not suitable for supporting the tank.

#### TANK SETTING:

1. Verify the tank is free of damage that may have occurred during transportation.
2. Verify rubber gasket and plastic tee has been installed in the inlet and outlet ports on the tank.
3. Place the tank in the excavation site and level to within 1" end to end and side to side.
4. Install extension risers if necessary, be sure to seal with mastic sealing and appropriate hardware.

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5. If required, attach additional aerator risers to the center cover. Seal with mastic sealing and appropriate hardware.
6. Install inlet and outlet sewer lines and seal in place. Sewer lines should be 4" diameter PVC.
7. Cover all openings.

#### BACKFILLING TANK:

1. Fill 1/3 of the tank with water before backfilling begins to ensure tank will not shift during process.
2. Begin to backfill under the sloped clarifier.
3. The sloped clarifier wall must be supported to reinforce the tank walls. A mixture of sand and/or gravel must be used to backfill the inlet and outlet side walls of the tank. Jet recommends the backfill mixture consist of material no larger than 1/4" in diameter. The backfill should be added while compacting every 12" to ensure all void space under the sloped walls and around the inlet side walls has been completely filled.
4. Once the tank has been backfilled to the center line (above the sloped wall) the upper half of the tank can be backfilled with suitable native, preferably loose, soil; **Never backfill with clay soils.** Be sure the backfill is free of rocks and sharp objects.
5. Tamp and compact backfill mixture under the inlet and outlet pipes.
6. Fill the tank with water to the outlet.
7. Test for Proper Drainage - Be sure tank is full to the flow line. Fill bathtub, laundry sinks, and any other fixtures that drain into system. Then, simultaneously drain all these fixtures and flush toilets. Observe any rise in water level of tank. If the water rises over 3" and does not go down immediately, inform contractor that aerator cannot be installed until this situation is corrected.
8. Backfill the rest of the excavation to a maximum of 24" above the top of the tank with earth fill material. The final grade should slope away from the tank to help with surface runoff.

#### AERATOR INSTALLATION

##### IMPORTANT

- When installing the aerator be extremely careful of aspirator shaft. It has a very critical straightness tolerance. Don't ever let it touch anything except liquid. Also remember that the fit between coupling and aspirator shaft is quite close. Be careful not to burr or dirty the ends of either part.
- Jet aerators have been carefully designed and built to give years of trouble-free operation. To assure this long, trouble-free life, it is absolutely necessary to carefully follow the aerator installation and handling instructions.
- Life of the aerator depends on a straight shaft. Never lift aerator by the shaft or subject the shaft to any bending, bumping, or strain. Never let the shaft contact anything but liquid.
- You can eliminate well over 50% of your service calls if you always inspect the system and test for proper drainage at installation time.
- Jet Floodproof model aerators are sealed to protect them from water damage by flooding. It is, however, not designed to operate under water. Do not disassemble it or remove plugs or bolts.
- The "Control Panel Installation and Users Manual" contain a wiring diagram and detailed wiring instructions. An electrical specification and requirements chart, is located on the inside of each Control Panel.

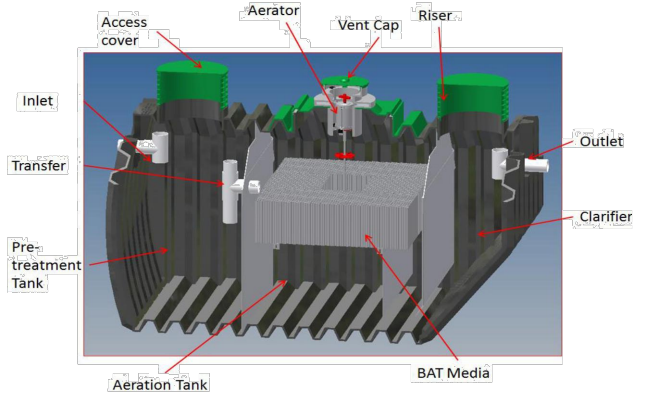
#### INSTALLATION STEPS

1. Turn Off Power - Turn the aerator Control Panel switch to "OFF". Next turn power that controls this circuit at main panel "OFF".
2. Check Aerator/Flow Line Measurements - Location of aerator to flow line is very important. Measure distance from ledge in the aerator riser to liquid level in tank. Tank must be full to flow line. If it is between 25" to 27", aerator location is correct. If it is not, aerator riser may not be installed correctly.
3. Check Vent Position - Check position of vent cap in cover. It must be installed in center of cover as shown in illustration. If vent cap is not centered, the outside-air-hose will bend and air to the aerator will be cut off.

QA-SAL-167 REV 04/23/2013

#### EFFLUENT TESTING:

1. Effluent Sample Means - Collection and assessment of effluent samples is required for all NSF Listed plants. There are four sample taking means from which samples may be taken. One of these methods must be chosen prior to plant installation and necessary arrangements made during installation to incorporate this method into the overall system. For information on "Collecting & Assessing Samples" see "Plant Inspection & Service" instructions. The means are as follows:
  - a. Final Outlet Samples - Can be taken at the final outlet point if it is accessible. The final outlet must be elevated sufficiently to allow a free-flowing sample to be taken.
  - b. Sample Cross Samples - The cross must be as close as possible to the discharge end of the tank. One horizontal arm of the cross should act as the first section of the discharge line from the tank. The other horizontal arm acts as a continuation of the discharge line. One vertical arm of the cross extends downward and the other extends up to grade. The arm to grade should be covered with a removable cover.
  - c. Distribution Box Samples - To use this method the box must have an inlet line high enough above the box floor so that a free-flowing sample can be taken. Also the top of the box must be slightly above grade and covered with a removable cover. If the box doesn't meet these qualifications it must be modified so that it does or this method of sample collection cannot be used.
  - d. Baffled Outlet Samples -- A sample from inside the plant outlet baffle may be taken. The outlet must have an open top and the plant discharge line must lead directly to it. It must also be accessible from grade and covered with a removable cover. Baffles are usually constructed with a plastic tee.



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QA-SAL-167 REV 04/23/2013

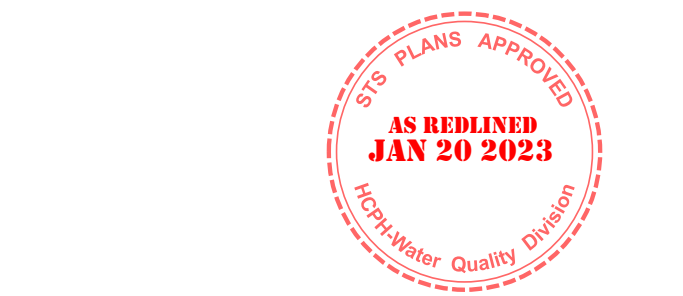
12. Place 4 1/2" Outside-Air-Hose on hose adapter attached to aerator.  
**IMPORTANT:** Hose must be in place to insure fresh air for optimum treatment and plant performance. If one or more risers are used, a longer hose is required. Remove the air hose from the top of the aerator and cut a piece from a bulk coil (sold separately) and install it. It must be long enough to fit completely on the plastic hose adapter (top, center of aerator - over shaft) and go straight up into the center of the vent. Be sure hose is properly installed in vent cap. It must not be bent or kinked when the riser cover is replaced. After the riser cover is in place, remove the vent cap and check position of hose. It should be in the vent body but not close enough to the vent lid to restrict air flow.
13. Perform Electrical Test. The control panel installation and user's manual is provided with every Jet control panel. Read these before proceeding.
  - a. Check to be sure the Control Panel installed is the correct one for the system and ensure that it includes an autodialer and pump lockout feature to disable discharge in the event of an alarm condition if required by local and state codes.
  - b. Check the wiring to be sure all the above instructions have been followed. If necessary, have the electrical contractor correct the work.
  - c. Set the Control Panel switch to the "OFF" position. Turn the power to the Control Panel circuit "ON" at the main panel. With the aerator installed and operational, there should be no audible or visual alarms.
  - d. Test for power to the panel. Use a multi-meter to confirm proper voltage to the panel and components. Operating voltages for the control circuit and aerator are 120 volts +/- 10%.
  - e. Check each circuit for proper polarity by placing one prod of the multi-meter on terminal and the other prod to the common wire in the Control Panel.
  - f. If the Control Panel is equipped with an auto dialer, program the autodialer according to the instructions provided. Trigger an alarm to confirm that the autodialer is functional and the land line has been activated.
  - g. Test the power to the pump circuit. If equipped with lock-out feature, initiate an alarm condition and confirm that the pump circuit power has been disabled. Return the alarm condition to normal setting.
  - h. If these tests or checks are not satisfactory, correct the wiring or contact an electrician.
  - i. When all checks are completed, make sure the Control Panel switch is in the "ON" position. Close and secure the Control Panel cover.
14. Observe Aerator Operation. It should be quiet and free from excessive vibration. Heavy vibration indicates shaft damage, install a new shaft and return the shaft that is damaged to the factory.
15. Install aerator riser cover.
16. Final Steps.
  - a. Completely fill in label on front of Control Panel cover.
  - b. Remove the red "Notice to Occupant" tag from Control Panel.
  - c. Fill in "Installation and Service Record" card.
  - d. Explain "Owner's Manual" to owner and wire manual to the Control Panel. Instruct owner to fill in "Owner Warranty Registration" card and mail it.
  - e. Record all installation information including address, date of start up, permit number, and status of contracts on the "Install Checklist".
  - f. Complete start up inspection and checklist and submit copies to Jet Inc. and the local administrative authority.

#### TANK PUMPING:

1. Always pump down the pre-treatment tank first. The transfer tee in the baffle wall between the pre-treatment and treatment tank will allow water to move freely into the pre-treatment tank.
2. After the pumping of the pre-treatment tank is complete, pump remaining liquid from the treatment tank and the clarifier.
3. Fill the tank with water immediately after pumping, starting with the pre-treatment.

5

QA-SAL-167 REV 04/23/2013



## Jet J-500-800PLT BUOYANCY

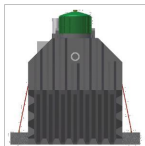
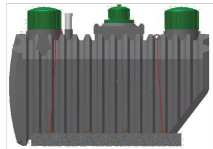
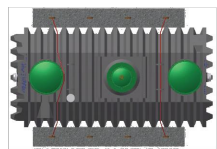


When the J-500-800PLT is to be installed in areas where high water tables are common, additional anti-buoyancy measures should be installed. Jet recommends using concrete anchors placed beside the tank in the excavation and secured to the tank with properly rated corrosion resistant straps. Straps may be routed through the lifting lugs on the tank to ensure they will not shift during installation and backfilling.

Use the chart below to determine the amount of additional hold down weight needed for the burial depth of the installation and soil density from a registered soil scientist's report. When installed, the total weight of the anchor and the soil above the anchor must be greater than the weight shown in the table. For maximum effectiveness, the anchors should be installed as low as possible in the excavation.

\*An asterisk in the table indicates that no additional weight is required.  
Note: the table shows the required weight to hold a tank in place if it is filled with water. Do NOT leave a plastic tank empty if high water level is a concern.

Soil Density (lb per cubic ft)	80	90	100	110	120	135
Depth of Soil Over Tank (in)	Extra Weight Needed (lbs)					
6	1327.7	1106.424	885.1472	663.8709	442.5945	221.3182
8	737.6296	442.5945	147.5595	*	*	*
10	147.5595	*	*	*	*	*
12	*	*	*	*	*	*
14	*	*	*	*	*	*



REV 03/13/2015

750 Alpha Drive Cleveland, Ohio 44143 • www.jetincorp.com • 800.321.6960

QA-SAL-166

## REVISIONS

NO. & DESCRIPTION

BY

DATE

**EVANS ENGINEERING**  
4240 AIRPORT ROAD, SUITE 211  
CINCINNATI, OHIO 45226  
(513) 321-2168



WEEK ROAD RD SEPTIC - KONERMAN - REPLACEMENT SYSTEM

## PANEL DETAILS

9842 WEIK ROAD, COLERAIN TOWNSHIP,  
CINCINNATI, OH 45242

SCALE:	HORIZ	VERT
	VARIABLES	N/A
JOB NO.	22-179	
DATE	January 12, 2023	

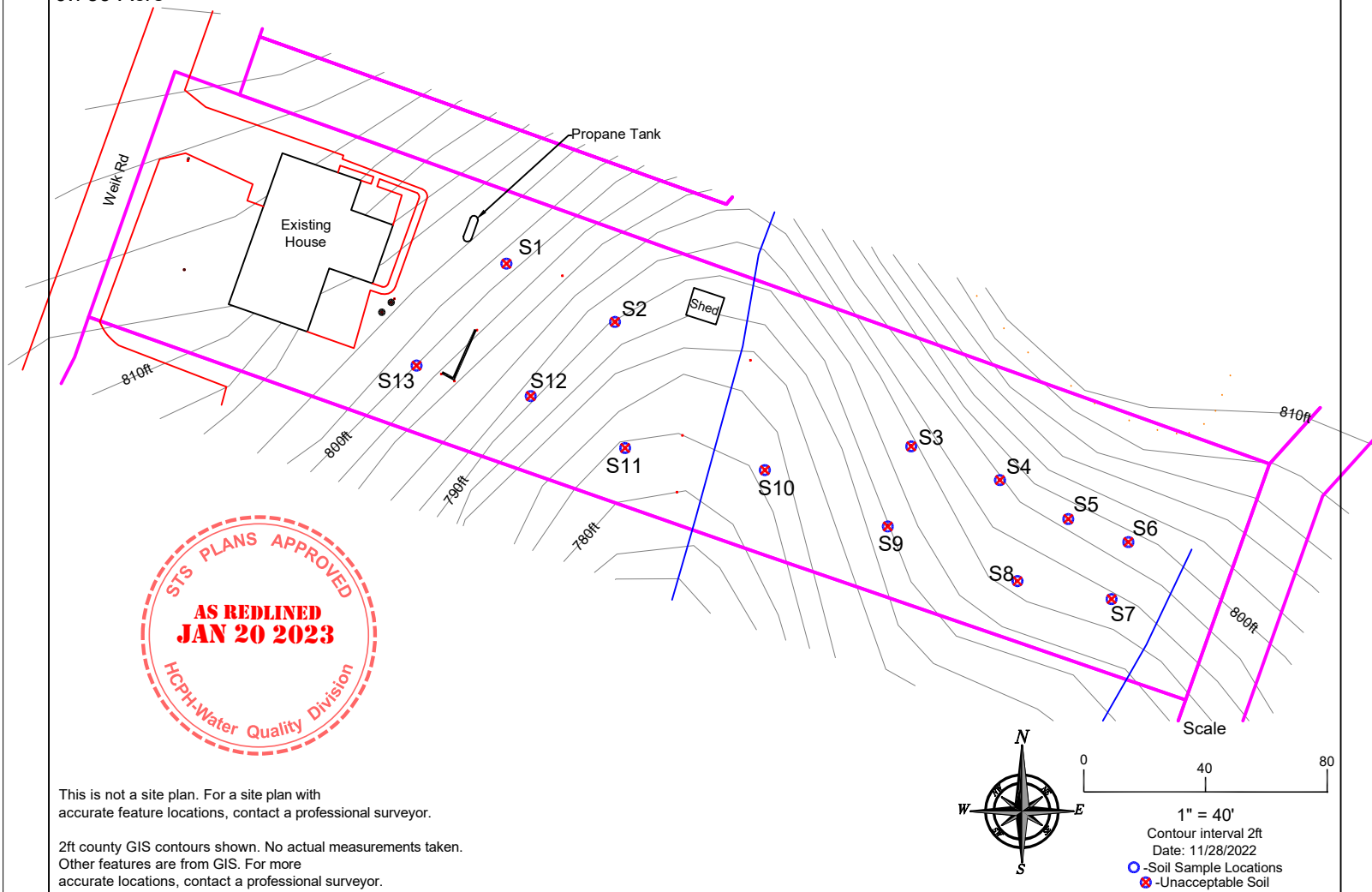
SHEET NO.

C-7



Konerman Property  
9882 Weik Rd  
Cincinnati, OH 45252  
0.739 Acre

Suggested System: No acceptable soil for an onsite  
system could be located. Suggest Direct Discharge.



# Soil and Site Evaluation for Sewage Treatment and Dispersal

County: Hamilton  
 Township/Sec.: Colerain  
 Property Address/Location: 9552 Weik Road  
Cincinnati, OH 45252  
 Parcel # / Subdiv. Lot #: #51003200059  
 Applicant Name: Konerman  
 Address: c/o Evans Engineering  
4240 Airport Road, Cincinnati, OH Suite 211, 45226  
 Phone #: 513-321-2168  
 Lot #: \_\_\_\_\_  
 Test Hole #: S1 to S13  
 Latitude/Longitude: \_\_\_\_\_  
 Method:      Pit      Auger   X   Probe

Land Use/Vegetation: grass  
 Landform: upland  
 Position on Landform: side slope  
 Percent Slope: 22 to 30%  
 Shape of Slope: linear  
 Coord. Method/Accuracy: GPS - 1ft.



Date: 11/28/2022 Certification Stamp or Certification# #30586  
 Evaluator: Dan Michael  
903 North Broadway Signature: Dan Michael, CPS  
Lebanon, OH 45036  
 Phone #: 513-934-1040

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)										
Horizon	Depth (inches)	Matrix color	Redoximorphic Features		Texture			Structure			Consistence	
			Concentrations	Depletions	Class	Approx. % clay	Approx. % Fragments	Grade	Size	Type (shape)		
Ap	0 - 4	10YR 4/2 dark grayish brown			silty clay loam	35%	1%	2- moderate	m	gr	friable	
Bt1	4 - 8	10YR 4/4 dark yellowish brown			silty clay	48%	2%	2- moderate	co	SBK	very firm	very high in clay
Bt2	8 - +	2.5Y 4/4 olive brown			clay	60%	0%	1- weak	co	SBK	very firm	very high in clay

Limiting Conditions	Depth to (in.)	Descriptive notes	Remarks/Risk Factors:
Perched Seasonal Water Table	> 40 in.		
Ground Water/Aquifer	>50 in.		
Highly Permeable Material (range)	>50 in.		
Bedrock	30 in. +	Fractured - Karst (circle one)	
Highly Weathered Soil	N/A		
Flow Restrictive Layer	4 in.	High Clay	
Fractured Glacial Till	>50 in.		
Other High Risk Limiting Condition:	>60 in.		

Note: The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08



Soil Characteristics			Hydraulic Linear Loading Rate (gpd/ft)									
			Slope 0-4%			Slope 5-9%			Slope >10%			
Texture	Structure		Infiltrative Distance, (Inches)			Infiltrative Distance, (Inches)			Infiltrative Distance, (Inches)			Row
	Shape	Grade	8 - 12	12- 24	24- 48	8 - 12	12- 24	24- 48	8 - 12	12- 24	24- 48	
COS, S, LCOS,LS	--	0SG	4.0	5.0	6.0	5.0	6.0	7.0	6.0	7.0	8.0	1
FS, VFS, LFS, LVFS	--	0SG	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	2
CSL, SL	--	0M	3.0	3.5	4.0	3.6	4.1	4.6	5.0	6.0	7.0	3
	PL	1	3.0	3.5	4.0	3.6	4.1	4.6	4.0	5.0	6.0	4
		2, 3										5
	PR/BK/GR	1	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	6
		2, 3	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	7
FSL, VFSL	--	0M	2.0	2.3	2.6	2.4	2.7	3.0	2.7	3.2	3.7	8
	PL	1,2,3										9
	PR/BK/GR	1	3.0	3.5	4.0	3.3	3.8	4.3	3.6	4.1	4.6	10
		2,3	3.3	3.8	4.3	3.6	4.1	4.6	3.9	4.4	4.9	11
L	--	0M	2.0	2.3	2.6	2.4	2.7	3.0	3.2	3.2	3.7	12
	PL	1,2,3	-	-	-	-	-	-	-	-	-	13
	PR/BK/GR	1	3.0	3.5	4.0	3.3	3.8	4.3	3.6	4.1	4.6	14
		2,3	3.3	3.8	4.3	3.6	4.1	4.6	3.9	4.4	4.9	15
SIL	--	0M	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	16
	PL	1,2,3										17
	PR/BK/GR	1	2.4	2.7	3.0	2.7	3.0	3.3	3.0	3.5	4.0	18
		2,3	2.7	3.0	3.3	3.0	3.5	4.0	3.3	3.8	4.3	19
SCL, CL, SICL	--	0M										20
	PL	1,2,3										21
	PR/BK/GR	1	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	22
		2,3	2.4	2.9	3.4	2.7	3.0	3.3	3.0	3.5	4.0	23
SC, C, SIC	--	0M										24
	PL	1,2,3										25
	PR/BK/GR	1										26
		2,3	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	27

Table 3. Soil Infiltration Loading Rates.

9552 Weik Road Lot# Soil#-S1 to S13

Soil Characteristics			Soil Infiltration Loading RRate (gpd/ft2)		
Texture	Structure		CBOD5		Row
	Shape	Grade	>25mg/L (septic tank effluent)	<=25mg/L (pretreated effluent)	
COS, S, LCOS,LS	--	0SG	0.8	1.6	1
FS, VFS, LFS, LVFS	--	0SG	0.4	1	2
CSL, SL	--	0M	0.2	0.6	3
	PL	1	0.2	0.5	4
		2, 3	0	0	5
	PR/BK/GR	1	0.4	0.7	6
		2, 3	0.6	1	7
FSL, VFSL	--	0M	0.2	0.5	8
	PL	1,2,3	0	0	9
	PR/BK/GR	1	0.2	0.6	10
		2,3	0.4	0.8	11
L	--	0M	0.2	0.5	12
	PL	1,2,3	0	0	13
	PR/BK/GR	1	0.4	0.6	14
		2,3	0.6	0.8	15
SIL	--	0M	0	0	16
	PL	1,2,3	0	0	17
	PR/BK/GR	1	0.4	0.6	18
		2,3	0.6	0.8	19
SCL, CL, SICL	--	0M	0	0	20
	PL	1,2,3	0	0	21
	PR/BK/GR	1	0.2	0.3	22
		2,3	0.4	0.6	23
SC, C, SIC	--	0M	0	0	24
	PL	1,2,3	0	0	25
	PR/BK/G	1	0	0	26
		2,3	0.2	0.3	27