TRAVIS COUNTY WATER CONTROL & IMPROVEMENT DISTRICT 17

3812 ECK LANE • AUSTIN, TEXAS 78734
PHONE (512) 266-1111 • FAX (512) 266-2790

MEMORANDUM

December 2, 2011

To: ALL BUILDERS AND PLUMBERS PERFORMING WORK WITHIN WCID 17

Re: GRINDER PUMP SYSTEM INSTALLATION AND STARTUP INSPECTION

1. Inspections are $250.00 for Residential and $500.00 for Commercial. These fees must be paid prior to the inspection. Any re-inspections will be charged at $50.00 each, and this fee will be charged against the permit inspection deposit.

2. Grinder pump systems must pass inspection before a home may be occupied. Only one inspection should be required unless the installation is incorrect in some way and requires a re-inspection. Installation should strictly follow your E/One representative's instructions.

3. Start up and inspections are conducted by WCID 17 Staff under the supervision of Hud Bonin. **TO SCHEDULE AN INSPECTION, CALL HUD BONIN AT 512-748-2104.** The system should be complete and ready to run when calling to schedule.

4. The plumber, electrician and builder must all be present at the inspection, but it is not necessary to have a manufacturer's representative there.

5. Note that the systems specified by WCID 17 have a check valve installed internal to the tank (on the pump) and do not require an additional check valve to be installed outside the wet well.

6. **All Commercial establishments and Residential establishments with four or more bathrooms must install a dual pump system.**

11-15-10

WCID 17 Grinder Pump Start-Up

Inspection Date: _____ Serial Number: #1_____

#2_____

Address / Project: _____ Result: (Circle One) PASS FAIL

Plumber: _____ WCID 17 Tech: _____

Rec'd by: _____ *Inspection Fees = $250 Residential; $500 Commercial*
Reinspection Fees = $50.00 per reinspection

Please answer the following questions by checking "yes" or "no" in the boxes provided below.

1. All miscellaneous debris removed from inlet pipe and basin before start up? (Must be Clean)	Yes ☐	No ☐
2. Stand and retaining rings mounted to pump?	Yes ☐	No ☐
3. Ballast installed as indicated on Figure 1 in installation manual? (Call office for verification.) Discharge assembly to be installed as in Figure 1 on page 3.	Yes ☐	No ☐
4. *All valves (residential/main) opened before start-up?*	Yes ☐	No ☐
5. Basin installed 8" above finished grade? NOTE: (1) Fiberglass Basin Extension NOT TO EXCEED 12" may be installed to grinder pump station to achieve required height.	Yes ☐	No ☐
6. Center of the inlet pipe a minimum of 30" from the bottom of the basin?	Yes ☐	No ☐
7. Mushroom vent installed? (Must be 10' min. from operable window.)	Yes ☐	No ☐
8. Inlet grommet installed correctly inside? (Figure 3)	Yes ☐	No ☐
9. Supply cable installed as shown in Figures 3 and 5 in the installation manual with 1" PVC electrical conduit? "Conduit to be inspected at start-up."	Yes ☐	No ☐
10. Conduit buried 18" maximum from finished grade?	Yes ☐	No ☐
11. Supply cable secured properly and gasket installed? (Figure 1)	Yes ☐	No ☐
12. Cord Grip Connector installed properly?	Yes ☐	No ☐
13. Check pump 6 times. If there are double pumps, put switch on both/fast for one (1) of the run times.	Yes ☐	No ☐
14. Equalizer installed correctly? (Figure 1)	Yes ☐	No ☐
15. All conduits sealed to prevent moisture damage to electrical components?	Yes ☐	No ☐
16. Verify yellow nylon rope is attached to pump and secure at the top of the fiberglass basin?	Yes ☐	No ☐
17. All Electrical, Operational, and Start-Up Test performed as shown on Pages 8, 9 and 10 in the installation manual?	Yes ☐	No ☐
18. Control box 48" above finished grade? (Bottom of box)	Yes ☐	No ☐
19. Red light on control box must be seen from the road from front of the house?	Yes ☐	No ☐
20. 30 AMP breaker in front of panel box (dedicated circuit.)	Yes ☐	No ☐
21. Penetration to electric panel on bottom only?	Yes ☐	No ☐
22. Only 6" of electric line left in panel as slack. EQC must reach top of wet well not to exceed 24" past the lid.	Yes ☐	No ☐

1. AMPS @ Start-Up_____ Volts @ Start-Up _____

2. AMPS @ Start-Up_____ Volts @ Start-Up _____
(Between 5 – 8) (Between 216 – 264)

***ALL CORRECTIONS MUST BE MADE AND REINSPECTED WITHIN 10 DAYS OF THIS INSPECTION NOTICE

***If you answered NO to any of the above questions, please contact an EI[2] representative at 1-800-374-7008. Failure to report and/or repair problems will result in loss of warranty

RESIDENTIAL GRINDER PUMP SEWER SYSTEM
SERVICE AGREEMENT

This Agreement Concerning Grinder Pump Sewer Systems is entered into by and between Travis County Water Control and Improvement District No. 17 (the "District") and _____ ("Customer") for sanitary sewer service to the property located at _____("Property").

RECITALS

WHEREAS, the District owns, operates and maintains a centralized sanitary sewer system from which Customer desires to obtain sewer service; and

WHEREAS, the elevation and/or slope of the Property in relation to the location of the District's sanitary sewer system requires Customer's installation of a pressure sewer system commonly known as a grinder pump system ("System") in order to transport Customer's sewage to the District's sanitary sewer system; and

WHEREAS, the District's sanitary system is regulated by the rules and regulations of the Texas Commission on Environmental Quality ("TCEQ"); and

WHEREAS, the rules and regulations of the TCEQ require that the District only allow the use of a System by a Customer under terms and conditions set forth in a service agreement; and

WHEREAS, Customer desires to connect to the District's sanitary sewer system to receive sewer service from the District;

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the District and Customer agree as follows:

1. As a condition to initiation and continuation of sanitary sewer service to Customer by the District:

    a. The District shall have the right to prior approval of the design of the System, including size, materials and equipment, prior to installation of the System by Customer. It shall be the responsibility of the Customer to obtain from the District's engineer the design requirements for the System for the Property. A specific pump may be specified by the District's representative. The design requirements shall be determined by the District's engineer and shall be in accordance with the rules of the TCEQ (30 Texas Administrative Code 317.2) for sewage collection systems, as those rules are amended from time to time. The final design provided by

the Customer shall be submitted to the District's representative at least five (5) business days in advance of desired installation.

b. District shall have the right to inspect the installed System prior to initiation of service to the Property. Customer shall give the District at least two (2) business days notice requesting an inspection. Customer agrees to correct any deficiencies.

c. Customer agrees that the District shall have the right to stop any discharges from the System in order to prevent contamination of state waters.

d. District and Customer concur that this agreement hereby contracts for the District's representative to maintain and repair only the grinder pump portion of the System on behalf of the Customer and Customer shall pay to the District all costs incurred in such maintenance and repair.

e. Customer agrees that the District and its representatives shall have the right to enter the Customer's property to operate, maintain and repair the grinder pump on behalf of the Customer.

2. The District and Customer agree that, although the System is owned by Customer, the System shall be regarded as an integral component of the District's sanitary sewer system and not as a part of the home plumbing for the Property as required by the Rules of the TCEQ.

3. Customer agrees to pay all fees and charges set by the District as set forth in the District's Rate Order and Rules and Regulations regarding design, installation and operations and maintenance of the System as may be amended from time to time.

4. Customer acknowledges and agrees that failure of Customer to pay all costs associated with the operation and maintenance of the grinder pump portion of the System as set forth in the District's Rate Order and Rules and Regulations or failure of Customer to allow the District and its representatives to enter Customer's property, as set forth in Section 1.e. above, shall be grounds for the disconnection of water and wastewater service to the Property.

5. This Agreement shall be performable in Travis County, Texas, which county shall be the exclusive place for venue for any disputes arising under the Agreement.

6. Any amendments to this Agreement must be in writing and signed by both the District and the Customer.

7. This Agreement is not assignable by Customer. Upon termination of service to the Property, any new customer desiring to receive water and/or wastewater service from the District shall be required to execute their own service agreement.

8. CUSTOMER AGREES TO INDEMNIFY AND HOLD HARMLESS THE DISTRICT, ITS OFFICERS, DIRECTORS, EMPLOYEES OR REPRESENTATIVES FROM ANY CLAIMS OR DAMAGES ASSOCIATED WITH OR ARISING FROM DESIGN, OPERATION OR MAINTENANCE OF THE GRINDER PUMP SYSTEM.

9. Customers with grinder pump stations acknowledge that they will be assessed a certain extra monthly fee to offset the cost of maintaining grinder pump maintenance equipment and personnel.

10. This agreement is for maintenance and repairs to the grinder pump(s) only. It is NOT an agreement to perform any routine maintenance, electrical repairs, odor control, cleaning or pumping of the System. When these services are required, the customer must pay the current rate for all services performed by either a professional company or WCID 17.

11. The System will be powered by Customer's home electrical service. In the event that power service to the System is disrupted, Customer shall be responsible for taking measures to prevent the backup of wastewater on the Property.

ENTERED INTO this the _____ day of _____, 201__.

DISTRICT:

TRAVIS COUNTY WATER CONTROL
AND IMPROVEMENT DISTRICT NO. 17

By: _____
Deborah S. Gernes
General Manager

CUSTOMER:

By: _____
Printed Name: _____

PRIVATELY OWNED COMMERCIAL GRINDER PUMP SEWER SYSTEM SERVICE AGREEMENT

This Agreement Concerning Commercial Grinder Pump Sewer Systems is entered into by and between Travis County Water Control and Improvement District No. 17 (the "District") and _____("Customer") for sanitary sewer service to the property located at _____("Property").

RECITALS

WHEREAS, the District owns, operates and maintains a centralized sanitary sewer system from which Customer desires to obtain sewer service; and

WHEREAS, the elevation and/or slope of the Property in relation to the location of the District's sanitary sewer system requires Customer's installation of a pressure sewer system commonly known as a grinder pump system ("System") in order to transport Customer's sewage to the District's sanitary sewer system; and

WHEREAS, the District's sanitary system is regulated by the rules and regulations of the Texas Commission on Environmental Quality ("TCEQ"); and

WHEREAS, the rules and regulations of the TCEQ require that the District only allow the use of a System by a Customer under terms and conditions set forth in a service agreement; and

WHEREAS, Customer desires to connect to the District's sanitary sewer system to receive sewer service from the District;

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the District and Customer agree as follows:

1. As a condition to initiation and continuation of sanitary sewer service to Customer by the District:

    a. The District shall have the right to prior approval of the design of the System, including size, materials and equipment, prior to installation of the System by Customer. It shall be the responsibility of the Customer to obtain from the District's engineer the design requirements for the System for the Property. A specific pump may be specified by the District's representative. The design requirements shall be determined by the District's engineer and shall be in accordance with the rules of the TCEQ (30 Texas Administrative Code 317.2) for sewage collection systems, as those rules are amended from time to time. The final design provided by the Customer shall be submitted to the District's representative at least five (5) business days in advance of desired installation.

b. District shall have the right to inspect the installed System prior to initiation of service to the Property. Customer shall give the District at least two (2) business days notice requesting an inspection. Customer agrees to correct any deficiencies.

c. Customer agrees that the District shall have the right to stop any discharges from the System in order to prevent contamination of state waters.

d. District and Customer concur that this agreement hereby contracts for the District's representative to maintain and repair only the grinder pump portion of the System on behalf of the Customer and Customer shall pay to the District all costs incurred in such maintenance and repair.

e. Customer agrees that the District and its representatives shall have the right to enter the Customer's property to operate, maintain and repair the grinder pump on behalf of the Customer.

2. The District and Customer agree that, although the System is owned by Customer, the System shall be regarded as an integral component of the District's sanitary sewer system and not as a part of the plumbing for the Property as required by the Rules of the TCEQ.

3. Customer agrees to pay all fees and charges set by the District as set forth in the District's Rate Order and Rules and Regulations regarding design, installation and operations and maintenance of the System as may be amended from time to time.

4. All commercial lift and grinder stations connected to the WCID 17 wastewater system require regular professional maintenance and cleaning. This WCID 17 grinder pump service agreement refers ONLY to the grinder pump(s) and does not cover such things as routine maintenance, electrical repairs, cleaning, pumping or odor control These items are the responsibility of the owner, and may be accomplished by a commercial professional or WCID 17 upon request. When these services are required, the Customer must pay the current rate for all services performed. Lack of proper maintenance can cause odor problems and pump malfunctions which can lead to costly backups, overflows and public health issues. Bypassing required alarms and controls is a violation of the state law and may lead to fines on the owner levied by the TCEQ agency. Routine maintenance is an integral part in preserving the integrity of WCID 17's sanitary wastewater system(s).

5. Customer acknowledges and agrees that failure of Customer to pay all costs associated with the operation and maintenance of the grinder pump portion of the System as set forth in the District's Rate Order and Rules and Regulations or failure of Customer to allow the District and its representatives to enter Customer's property, as set forth in Section 1.e. above, shall be grounds for the disconnection of water and wastewater service to the Property.

6. This Agreement shall be performable in Travis County, Texas, which county shall be the exclusive place for venue for any disputes arising under the Agreement.

7. Any amendments to this Agreement must be in writing and signed by both the District and the Customer.

8. This Agreement is not assignable by Customer. Upon termination of service to the Property, any new customer desiring to receive water and/or wastewater service from the District shall be required to execute their own service agreement.

9. CUSTOMER AGREES TO INDEMNIFY AND HOLD HARMLESS THE DISTRICT, ITS OFFICERS, DIRECTORS, EMPLOYEES OR REPRESENTATIVES FROM ANY CLAIMS OR DAMAGES ASSOCIATED WITH OR ARISING FROM DESIGN, OPERATION OR MAINTENANCE OF THE GRINDER PUMP SYSTEM.

10. Customers with grinder pump stations acknowledge that they may be assessed a certain extra monthly fee to offset the cost of maintaining grinder pump maintenance equipment and personnel.

11. The System will be powered by Customer's electrical service. In the event that power service to the System is disrupted, Customer shall be responsible for taking measures to prevent the backup of wastewater on the Property.

ENTERED INTO this the _____ day of _____, 201__.

DISTRICT:

TRAVIS COUNTY WATER CONTROL
AND IMPROVEMENT DISTRICT NO. 17

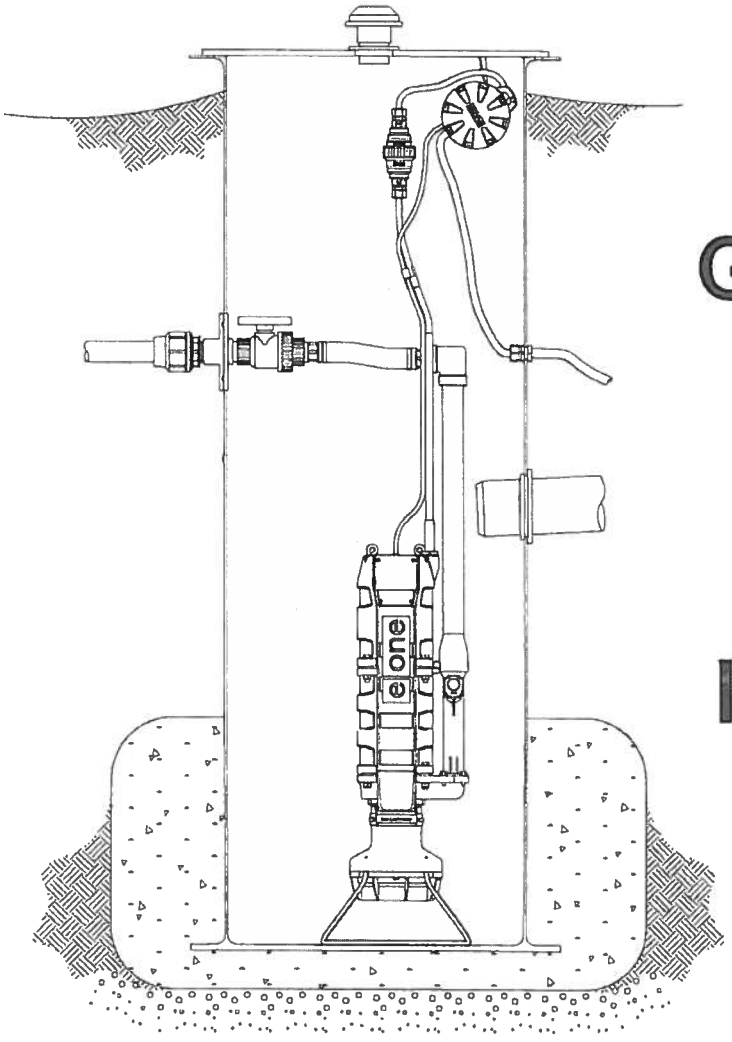
By: _____
Deborah S. Gernes
General Manager

CUSTOMER:

By: _____
Printed Name: _____

E/ONE EXTREME SERIES

gatorgrinder



Gatorgrinder

Typical Installation Instructions

11/15/10

The Gatorgrinder is a well-engineered system designed to provide low pressure sewer service to individual residences or buildings. Proper installation of this equipment will ensure years of trouble-free service.

PRODUCT DESCRIPTION

The Gatorgrinder station consists of a grinder pump, tank and pump alarm panel. The tank is a fiberglass basin complete with a gasket-sealed, fiberglass lid. Sewage enters the Gatorgrinder tank through the 4" (standard) inlet pipe where it is ground into fine particles by the grinder pump. The in-line pumping mechanism discharges the ground sewage to a force main, gravity main or a remote treatment site. The pump is a semi-positive displacement type capable of developing discharge pressures up to 80 psig. Ample tank storage capacity in conjunction with integral level sensing controls provides for economic, on-demand, operation of the grinder pump.

ITEMS REQUIRED FOR INSTALLATION

Prior to beginning installation of the Gatorgrinder station, a thorough review of these installation instructions is recommended. This will likely eliminate problems with inconvenient piping and cable locations or due to unavailable materials or equipment. In addition to the components furnished with each Gatorgrinder station, the following items will be needed to support installation:

- Supply voltage in accordance with the voltage specified on the Gatorgrinder nameplate.
- Bedding material (Section 2)
- Concrete ballast (Section 3)
- 4" inlet pipe (from residence or building sewer) (Section 5)
- 1-1/4" discharge pipe to force or gravity main (Section 6)
- Compactible backfill material (Section 9)

The following tools:

- 5" diameter hole saw
- 1-1/16" diameter hole saw
- Pipe thread sealant (suitable for PVC)
- Pipe wrenches
- Water pump pliers
- Electric drill, 1/2" chuck
- Common hand tools

INSTALLATION STEPS

The following instructions will provide the necessary information to properly install the Gatorgrinder system. **All applicable OSHA procedures must be followed during installation of this equipment.**

1. Station Unpacking

(Figure 1)

The Gatorgrinder alarm panel, grinder pump and tank are shipped to the job site separately. Inspect the tank (1)

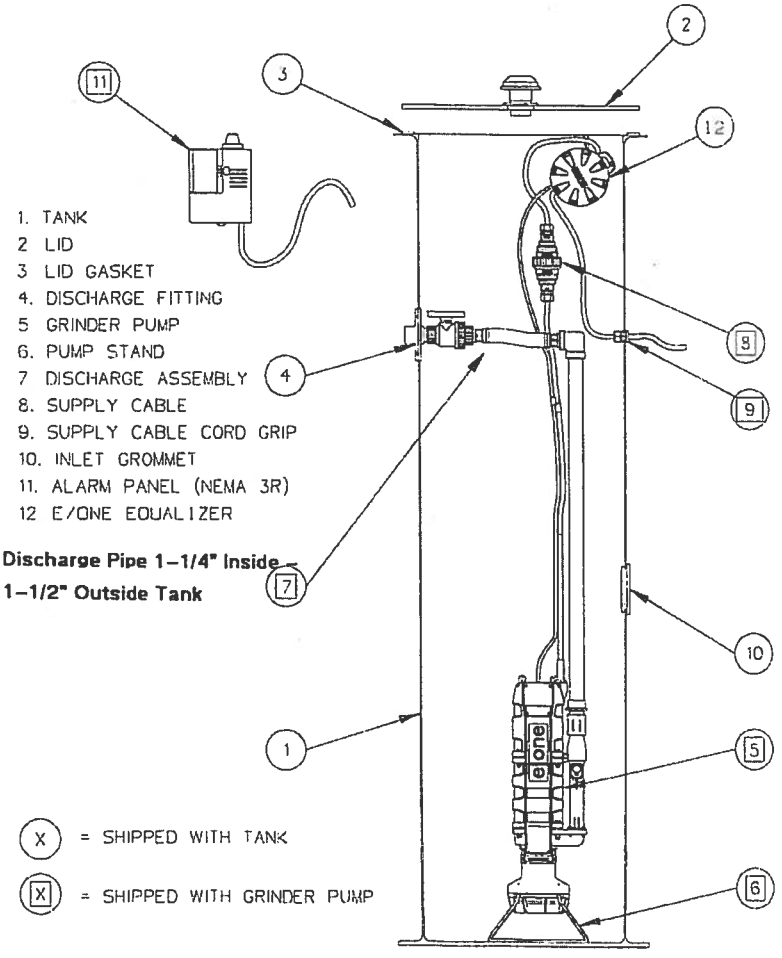


FIG. 1 - STATION COMPONENTS

and ensure that it sustained no damage during shipment. Proper handling of the fiberglass tank will ensure reliable performance. Do not drop the fiberglass tank or roll it on its side. Only a non-marring sling should be used to lift the fiberglass tank.

Ensure that all lifting equipment is rated for the load being lifted. Verify that the discharge fitting (4) is installed on the tank. Remove the fiberglass tank lid (2) and verify that the lid gasket (3) is installed.

The balance of the factory provided components were delivered with the grinder pump unit. Inspect the shipping cartons for signs of any damage sustained during shipment.

If damage is suspected on any of the Gatorgrinder components, do not proceed with installation. Notify your E/One distributor of any damage discovered.

Open the shipping cartons and verify that the grinder pump (5), pump stand (6), discharge piping kit (7), supply cable (8), cable grip (9), inlet grommet (10) and alarm panel (11) are enclosed. Notify your E/One distributor about any missing components.

2. Site Excavation

Excavate a hole of sufficient depth and width to accommodate the tank, underground piping and required backfill material as well as providing adequate working space for plumbing and electrical connections. The base of the excavated hole should be level and prepared with proper bedding material, such as gravel, in accordance with the site engineer's requirements. The depth of the excavation must be sufficient to accommodate the bedding material and tank burial to approximately 1" below the upper flange surface. The size, shape and shoring requirements of the excavation will be based on the soil conditions and should be in accordance with the site engineer's recommendation and safety requirements.

3. Tank Installation

(Figure 2)

Improper handling of the fiberglass tank may result in damage and, ultimately, failure of the station. Care should be taken during lifting and placement to prevent impacting or otherwise damaging the tank. A non-marring sling should be used when lifting the tank by the fiberglass surfaces. Ensure that lifting sling is rated for the load being lifted. Lifting chains or cables should never be placed in direct contact with the fiberglass tank surfaces.

Place the tank on the level

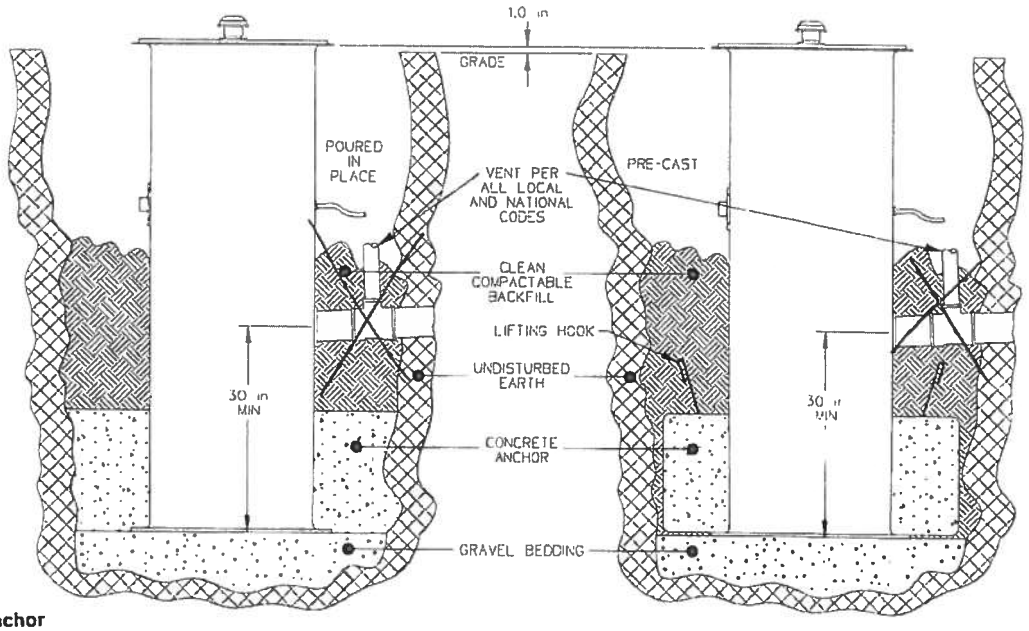


FIGURE 2 - TANK INSTALLATION

bed of fill material in the excavated hole. Orient the installed discharge fitting, as required, to align it with the existing or proposed discharge piping path. Determine and mark the 4" DWV inlet pipe location on the fiberglass tank wall. The inlet pipe location corresponds with the actual or projected point where the 4" building sewer line intersects the tank wall. The center of the inlet pipe must be a minimum of 30 inches from bottom of the tank. The slope of the inlet pipe (per national and local code requirements) must be accounted for when determining the inlet location.

The supply cable path and cord grip location should be considered when selecting the inlet location (Section 8 and Figure 4). If the site conditions require concrete tank ballast to prevent flotation, ensure that the volume of concrete used complies with the site engineer's recommendation. Concrete ballast, if required, should be cast in place around the tank in the excavation. **Do not pour the concrete ballast above the marked inlet pipe location**. If the ballast must be poured above this level, proceed with installation of the inlet piping (Section 5) before pouring the concrete. The inlet pipe must be sleeved with an 8" tube prior to pouring. The tank should be filled with water, to a level above the specified ballast height to prevent shifting during the concrete pour.

Alternatively, precast concrete, around the tank bottom, may be used for ballast (Figure 2). Do not pour ballast above the intended inlet location. If this ballast method is used, lifting hooks must be anchored in the concrete to support subsequent handling of the tank. The lifting hooks must be adequate to support the combined weight of the tank and concrete ballast, and should be sized and installed in accordance with the site engineer's recommendation.

Place the ballasted tank in the excavated hole using the lifting hooks. **Do not lift the tank by any of the fiberglass surfaces if precast ballast is utilized.**

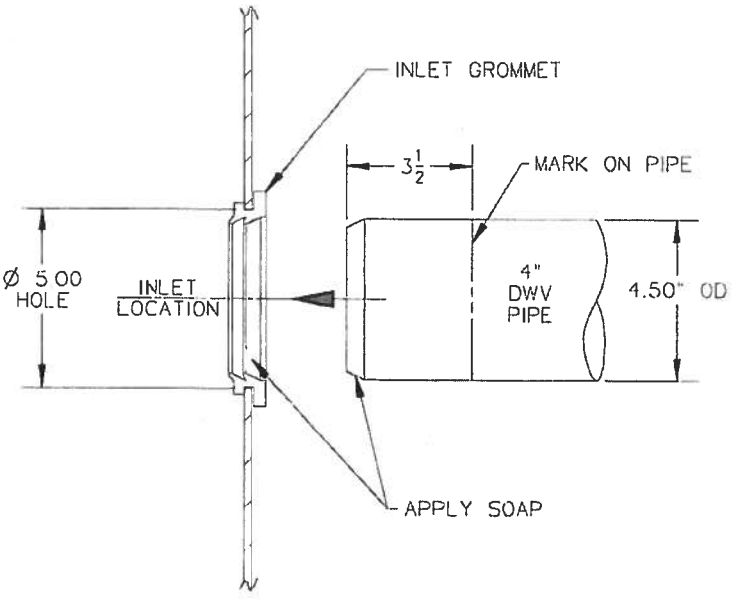


FIGURE 3 - INLET INSTALLATION

4. Vent Installation

The Gatorgrinder station is supplied with a 2" mushroom vent, to be installed in the station cover.

Locate the 3" hole in the station cover. A vent hole may be added to a station cover in the field using a 3" diameter hole saw. **Consult the factory before installing a vent hole in an existing station cover.**

Install the rubber grommet in the hole in the station. The flange on the grommet should sit flush with the station cover.

Apply soap to the end of the nipple on the vent assembly. Align the nipple on the vent assembly with the grommet in the station cover and press the vent assembly down into the grommet until the vent housing bottoms on the grommet.

5. Inlet Installation

(Figure 3)

The type, size and venting requirements of the inlet pipe must be in accordance with all national and local plumbing codes. The Gatorgrinder is a sewage handling pump and requires ventilation for proper and safe operation.

The Gatorgrinder is supplied with a standard grommet to accept a 4" DWV (4.5" outside diameter) sewer inlet pipe.

The grommet is self-sealing and does not require the use of additional sealant or adhesives. Other grommet sizes are available upon request. Verify that the grommet supplied with the Gatorgrinder will accommodate the selected inlet piping.

Using a 5" hole saw, drill through the fiberglass tank wall at the marked inlet location. Install the supplied inlet grommet in the 5" hole.

Place a mark on the inlet pipe 3 1/2" in from the end that will enter the fiberglass tank. A bevel should be ground or filed on the pipe end to aid in installation through the grommet. Clean the grommet and pipe surfaces to remove any debris. Apply a film of pipe soap or dish soap to the outside surface of the inlet pipe end and the inside of the grommet. Insert the pipe end into the grommet and push the inlet pipe into the fiberglass tank until the 3 1/2" mark lines up with the grommet outside edge.

Inspect the grommet flange on the outside of the tank. The flange should be flush against the tank wall and completely visible when the pipe and grommet are installed properly.

6. Tank Discharge Piping Connection

Connect the tank discharge piping to the threaded tank fitting. The 1 1/4" NPT female thread on the discharge fitting will accommodate a variety of pipe materials and fittings. The discharge fitting is made of reinforced Nylon and the threads may be damaged if overtightened. Use a suitable threaded adapter and thread sealant to connect the discharge piping to the tank fitting. Typically, 1/2 to 1 1/2 turns beyond hand tight will produce a leak proof seal.

Discharge piping must be selected in accordance with local and national plumbing codes. If allowable, the use of 1 1/4, Schedule 40, Type 1, PVC pipe or SDR 11 polyethylene pipe is recommended. If polyethylene discharge piping is used, compression type fittings that provide a smooth inner passage should be utilized.

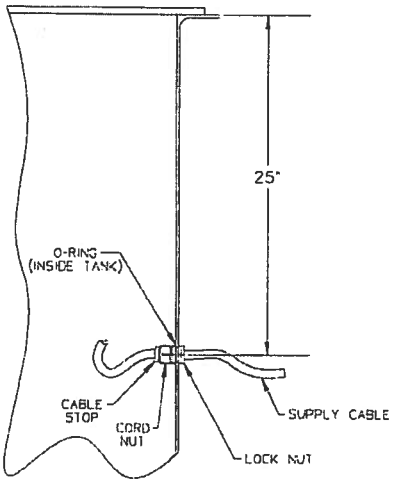


FIGURE 4 - SUPPLY CABLE INSTALLATION

7. Alarm Panel Mounting

Before proceeding, verify that the supply voltage is the same as the motor voltage shown on the grinder pump nameplate. Determine the location of the Gatorgrinder alarm panel.

The alarm panel may be mounted on a pole or directly on an outdoor wall surface. The mounting location selected must be visible from the Gatorgrinder station location and provide general visibility to the occupants of the building.

To mount the alarm panel, remove the panel front cover and secure to the wall or pole using standard #10 or #12 screws through the two mounting holes located on the back panel.

8. Supply Cable Installation (Figures 4 & 5)

A 32' supply cable and cord grip are provided with the Gatorgrinder station for electrical connection between the station and the alarm panel. All electrical wiring must be in accordance with local codes. The supply cable is rated under the National Electric Code (NEC) for direct burial as long as a minimum of 24" of ground cover is maintained. Those portions of the cable with less than 24" of cover must be housed in a suitable protective conduit.

The supply cable terminates in a convenient, electrical quick-disconnect (EQD) plug to support future servicing of the grinder pump. The supply

cable cord grip provides a leak tight seal around the power cable as it enters the tank and will prevent movement of the supply cable during burial and subsequent ground settlement. The cord grip should be installed in a position on the tank that will provide convenient, direct routing of the supply cable to the alarm panel. The supply cable cord grip should be installed 25" below the top of the tank (see Fig. 4).

Exception: On 48" tall tanks the cord grip should penetrate the tank 18" below the top of the tank; the portion of the cable with less then 24" of soil cover shall be installed in suitable protective conduit.

Locate and mark the location of the cord grip on the fiberglass tank wall. Using a 1 1/16" hole saw, drill through the tank wall at this location. Install the cord grip and O-ring seal as shown. Tighten the cord grip locknut until snug.

Loosen the cord nut and slide the supply cable free end through the cord grip (Figure 4). Continue to slide the entire cable length through the cord grip until the metal cable stop rests against the cord grip face. Tighten the cord nut until snug. Failure to tighten the cord nut will result in groundwater entering the station.

Use care when installing and burying the supply cable. If the cable is cut or otherwise damaged it may result in a pump malfunction. Run the supply cable underground, ensuring 24", minimum, of soil coverage, to the alarm panel location. Leave a 6" to 12" loop of supply cable near the station and the alarm panel to accommodate settlement of the soil. A protective conduit must be utilized where 24" of soil cover cannot be maintained (Figure 5).

9. Tank Backfill

Proper backfill is essential to the long-term reliability of the Gatorgrinder station. The choice of backfill material is dependent upon the local soil and groundwater conditions and must be in accordance with the site engineer's recommendation. Heavy, non-compactible clays and silts are not acceptable backfill for the Gatorgrinder tank or any other underground structure such as the inlet or discharge piping.

Backfill should be placed and compacted in 12" lifts. Special care should be taken when placing backfill around inlet and discharge piping to ensure support and compaction. Do not strike the inlet pipe, discharge pipe or electrical connection with the compaction equipment during backfill.

The finished grade should be 1" below the upper flange on

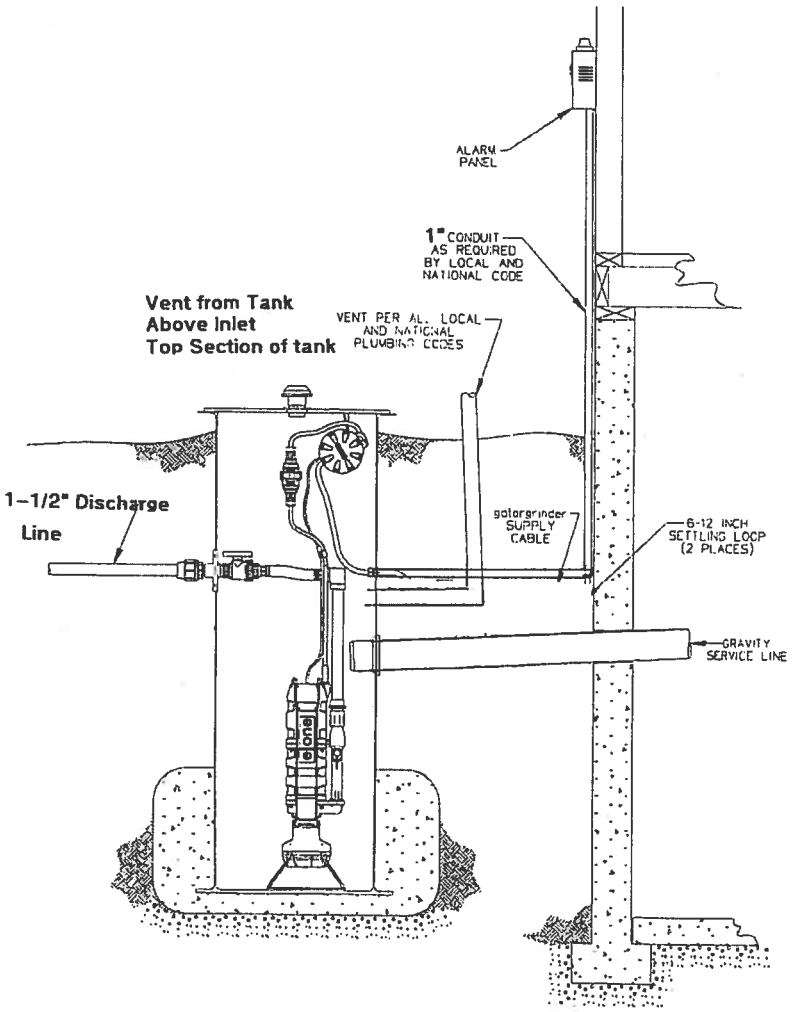


FIG 5 - TYPICAL STATION INSTALLATION

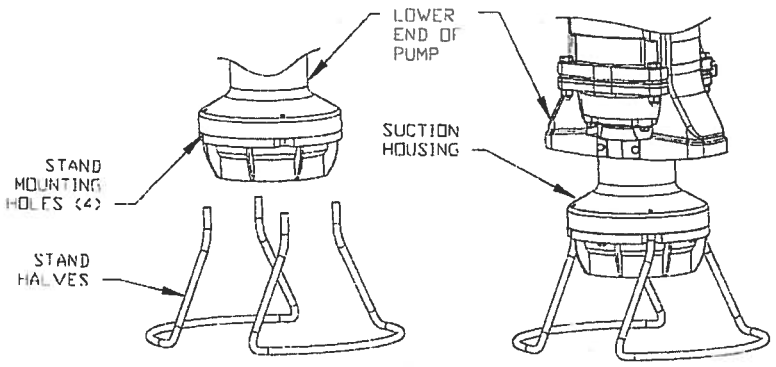


FIGURE 6 - PUMP STAND INSTALLATION

the fiberglass tank. The finished grade should be sloped down from the station to prevent water from pooling around the tank.

10. Grinder Pump Stand Assembly

Temporarily rest the grinder pump on its side. Using a block of wood or similar object, prop up the lower pump end to allow installation of the pump stand. Align the two legs of each pump stand half with two of the holes in the pump lower end. Push the stand legs into the pump lower end. Using a mallet, ensure that the stand legs bottom into the mounting holes. Repeat for the other stand half. Turn the pump upright on the installed stand.

11. Grinder Pump Installation

Lower the pump into the tank. Position the pump so the pump's discharge is on the opposite side of the pump relative to the discharge in the tank. Position the pump in the center of the tank. Rotate to coil the discharge hose and slide the adapter on the discharge hose into the receiver in the tank wall. Push the white slider down to open the discharge valve.

Hang power cable, breather tubing with Equalizer, and lifting rope to prevent them from laying in sewage. Keep between 18 inches and 24 inches of power supply cable in tank. The Equalizer should be hung as high as possible in the tank.

12. Electrical Connections

The Gatorgrinder alarm panel contains a circuit breaker pair to protect the pump motor and a separate circuit breaker to control the alarm circuit. The station supply cable and power supply cable (from the building service) must be run into the panel and appropriately connected. All panel wiring should be completed by a qualified electrician and be in compliance with national and local electrical codes. Conduit should be provided, where required by code, and adequate strain relief used on cable and/or conduit entry points. The appropriate wiring connections for the Gatorgrinder are shown in Figures 7.

13. Start-Up Test Procedure

When the system is completely installed, the station should be checked to ensure proper installation and reliable performance.

SYSTEM INSPECTION

Perform the following visual inspections:

- Proper burial depth — the tank should have been buried to a level 1" below the fiberglass cover flange.
- Proper grading — the surrounding soil should be graded down, away from the station.
- Station supply cable — the station supply cable must not be exposed outside of the station. Suitable conduit must be used where proper burial depth (24") cannot be maintained.
- Alarm panel — ensure that the alarm panel is properly mounted and free of any damage. Verify that the alarm panel has been wired properly in accordance with the wiring instructions in this manual.

ELECTRICAL TESTS

The following electrical tests are **recommended** prior to operating the grinder pump station. These tests require the use of appropriate electrical test equipment and should only be performed by qualified personnel trained in the safe operation of this equipment and electrical system servicing.

1. Ensure that the electrical power supplying the alarm panel is "OFF."
2. Ensure that the grinder pump (double) and alarm (single) circuit breakers in the alarm panel are in the "OFF" position.

3. Using a test (ohm) meter, set at a 2 meg ohm setting, measure the resistance between the colored wire pairs shown in Table 1. Resistance readings are to be taken in the alarm panel on the colored leads supplying the pump station (supply cable). Resistance readings other than those shown in Table 1 may indicate a problem with either the supply cable or the grinder pump. **If the measured readings are not as indicated in Table 1, do not proceed with station start-up; contact your local E/One distributor.**

TABLE 1

COLOR 1	COLOR 2	NORMAL READING
GRN/YEL	RED	:
GRN/YEL	BROWN	:
GRN/YEL	BLACK	:

: = Infinity or open circuit

4. Turn "ON" the power to the alarm panel from the building service panel.

5. Using a test (volt) meter, verify that the incoming panel voltage is within 10% of the pump nameplate voltage (for 240V pump, voltage at panel must be 216V to 264V). **If the voltage is outside of this range, do not continue with station start-up. The voltage problem must be corrected prior to proceeding.**

START-UP TEST

When the system is complete and ready for use, the following steps should be taken to verify proper installation and operation:

a) Make sure that the discharge shutoff valve is fully open. This valve must not be closed when the pump is operating. In some installations there may be a valve, or valves, at the street main that must also be open.

b) Turn on the alarm power circuit breaker.

c) Fill tank with water until the alarm turns on. Shut off water.

d) Turn ON pump power circuit breaker; the pump should turn on immediately. Within one minute the alarm will turn off. Within three minutes the pump will turn off.

OPERATIONAL ELECTRICAL TEST

The following electrical test is **recommended** in conjunction with the Start-Up Test of the grinder pump station. This test requires the use of appropriate electrical test equipment and should only be performed by qualified personnel trained in the safe operation of this equipment and electrical system servicing.

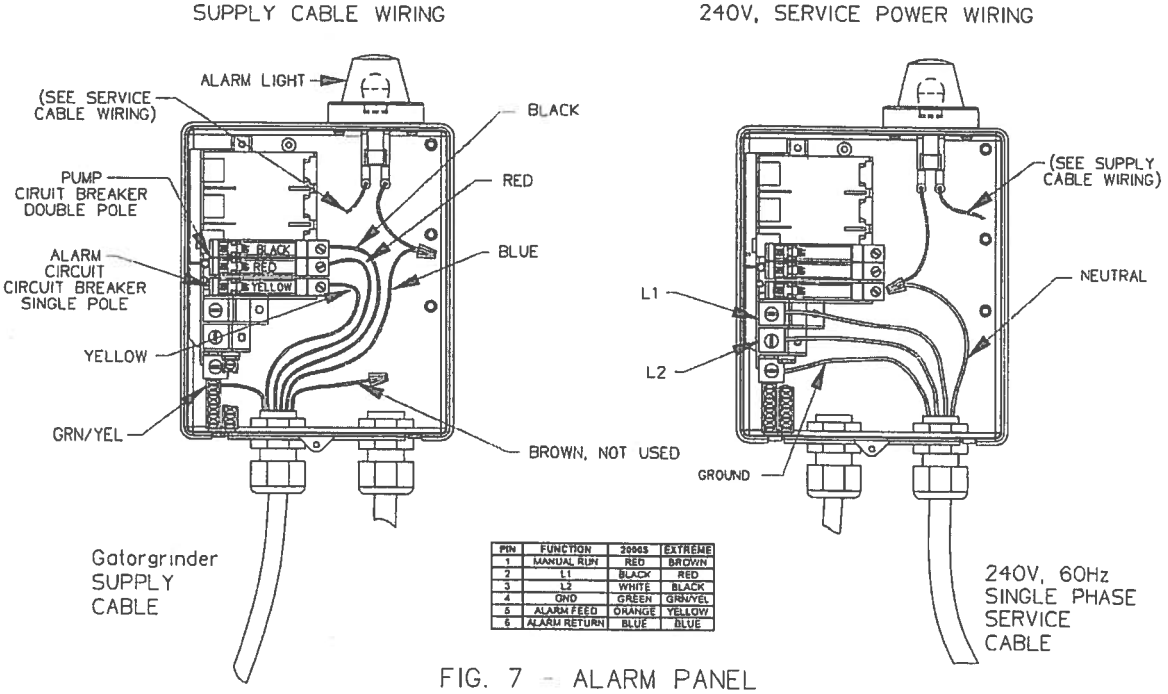


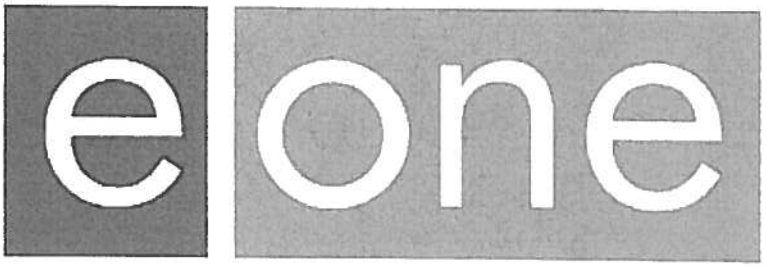
FIG. 7 - ALARM PANEL

Panel / Alarm Box MUST be 48"(4') Above Grade

1. The current to the grinder pump should be measured in the alarm panel, at the white wire supplying the pump station (supply cable).
2. Using an ammeter, measure the current in the white wire while the pump is operating.
3. The current should be between 5 amps and 8 amps.
4. Higher amperage indicates higher discharge pressure.

Measured current in excess of 8 amps could indicate a blocked or closed discharge line. Correct any blockage problems and confirm that the current is within the acceptable range. **If the current remains outside of the acceptable range, and no discharge blockage is detected, contact your local Gatorgrinder or qualified service representative.**

If the grinder pump fails to perform as indicated, review the start-up procedure again and verify that all wiring connections are correct in accordance with these instructions. If the grinder pump still fails to perform as indicated, contact your local local E/One distributor.



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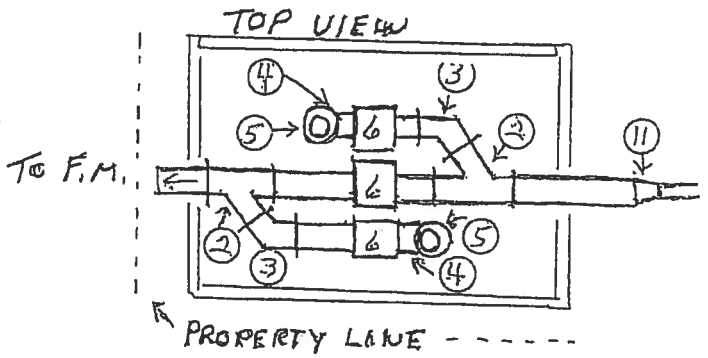
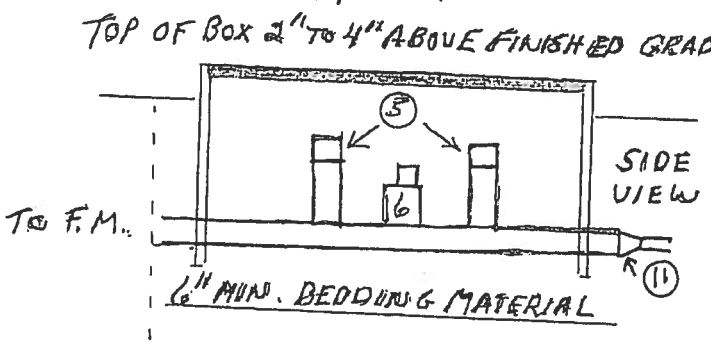
NA0070P01 Rev. –
8/07

11/15/10

TYPICAL GRINDER PUMP SERVICE CONNECTION

TO FORCE MAIN CONNECTION



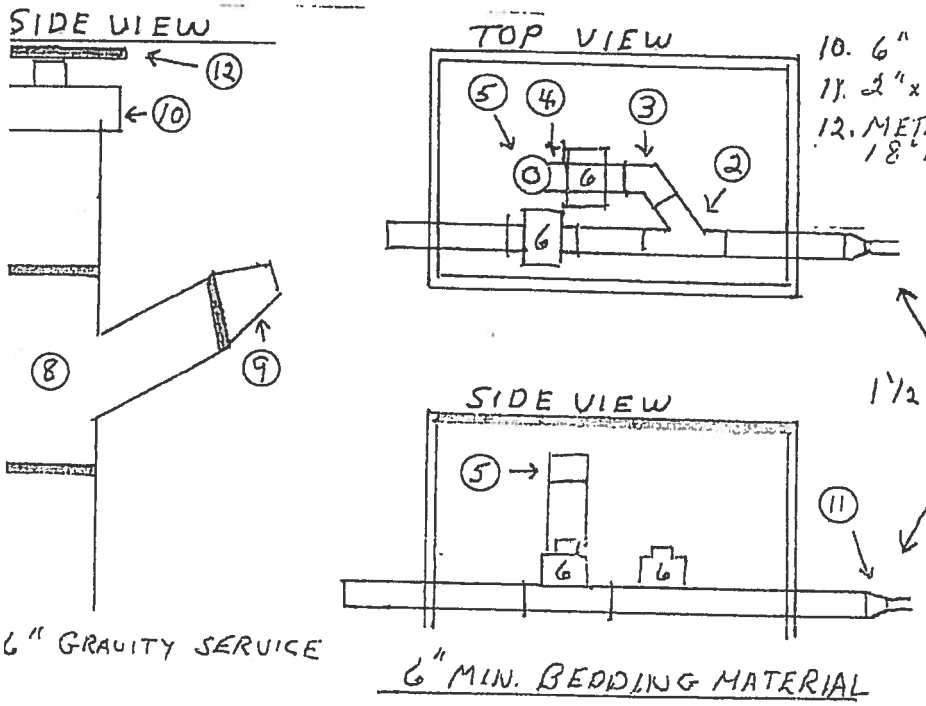


ALL GRINDER PUMP STATIONS TO BE LOCATED LEFT OR RIGHT FRONT CORNER OF HOUSE OR BUILDING

MATERIALS LIST

1. SCH 80 PIPE, WYE'S, 45'S, AND 90'S 2"
2. WYE'S - 2"
3. 45'S - 2"
4. 90° BEND - 2"
5. FEMALE THREADED CAP - 2" SCH 80
6. 2" RESILIENT WEDGE GATE VALVE WITH NUT NOT A WHEEL.
7. RECTANGULAR PVC BOX, WITH CAST IRON LID (NOTCHED OVER PI
8. 6"X 4" WYE
9. 4"x 2" REDUCER
10. 6" SCREW CAP
11. 2"x 1½ REDUCER
12. METAL PLATE OVER SCREW CAP 18" BELOW FINISHED GRADE

TO GRAVITY MAIN CONNECTION



11/15/10

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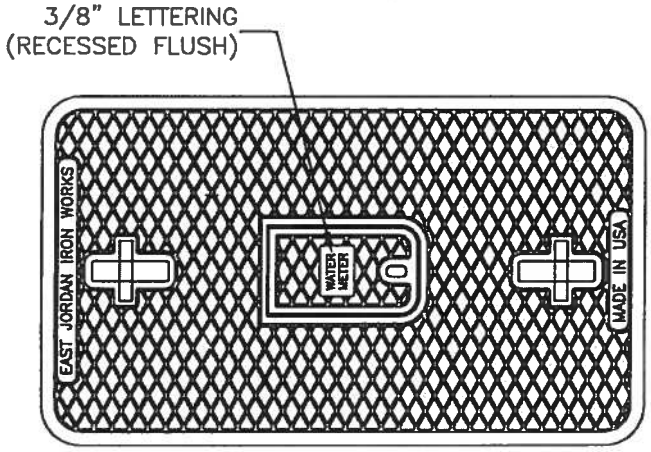
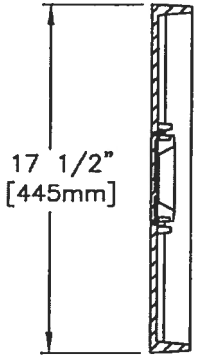
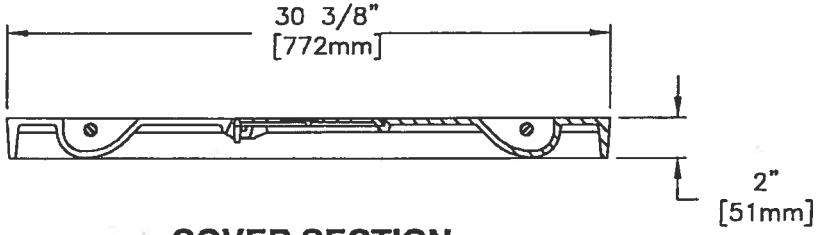
1730 METER COVER ASSEMBLY



PLAN VIEW



COVER SECTION



COVER SECTION

PRODUCT NUMBER

32131750A01

DESIGN FEATURES

MATERIALS
I.COVER-GRAY IRON
ASTM A48 CL30B
O.COVER-GRAY IRON
ASTM A48 CL35B

DESIGN LOAD
NON-TRAFFIC

COATING
DIPPED

OPEN AREA
N/A

√ DESIGNATES MACHINE SURFACE

REFERENCE INFORMATION

32131999
32131750

DRAWING DETAILS

ORIGINAL DRAWING:	**SMH**	**10/29/02**
REVISED BY:	**SMM**	**11/02/10**

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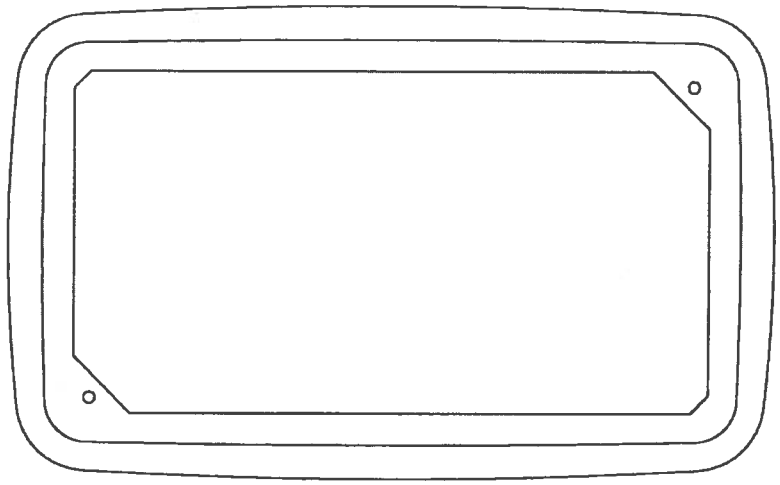
49727-0439
800.874.4100
EJ GROUP

11/15/10

1730C-12 METER BOX



PRODUCT NUMBER

32417300

DESIGN FEATURES

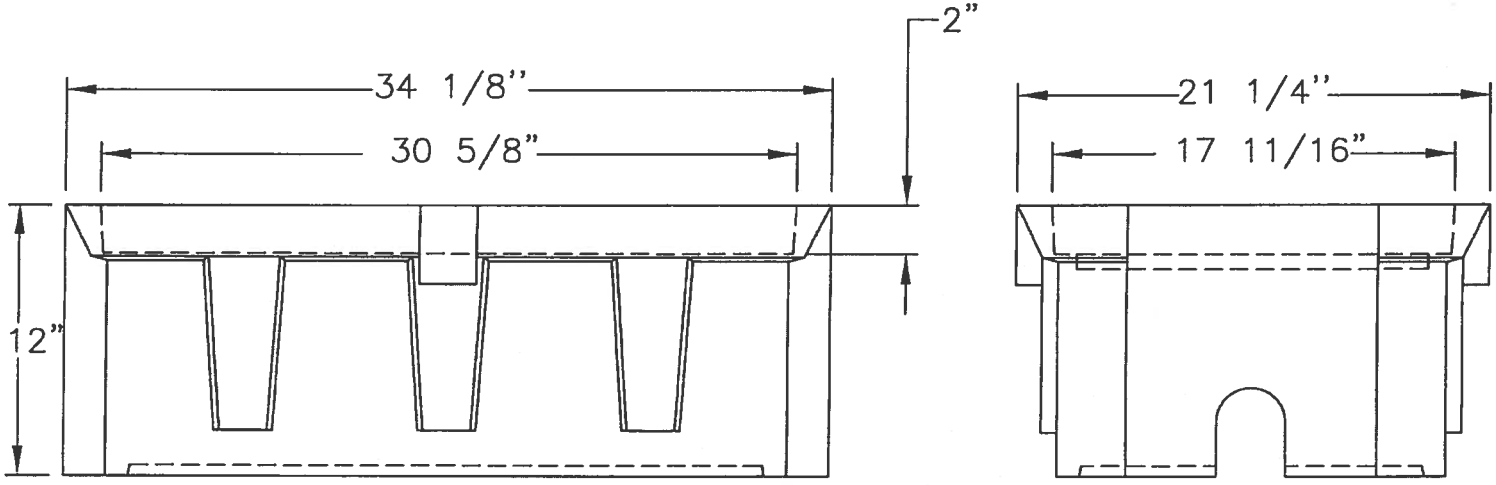
MATERIALS
HDPE

DESIGN LOAD
NON-TRAFFIC

COATING
N/A

OPEN AREA
N/A

√ **DESIGNATES MACHINED SURFACE**



11/15/10

Corporate
Headquarters
301 Spring Street
PO Box 439
East Jordan, MI
49727-0439
800.874.4100

EJ GROUP ®

- Weights (lbs./kg.) dimensions (inches/mm., and drawings provided for your guidance.
- We reserve the right to modify specifications without prior notice.
- Uncontrolled distribution.

DRAWING DETAILS

ORIGINAL DRAWING: SMM 09/07/10

REVISED BY: SMM 11/19/10