

Garrett County Department of Public Utilities

Sewage Grinder Pump Installation and Inspection Requirements

Questions regarding sewage grinder pump installations or to schedule inspections or pump connections, are to be directed to the Department of Public Utilities (DPU) at 301-334-6976. Please insure that the following requirements are satisfied prior to scheduling the inspection and/or connection. DPU personnel can not enter dwellings for any reason.

PLUMBING REQUIREMENTS

1. All pipe and fittings should be purchased from the DPU warehouse to insure uniformity of all specifications and installations.
2. The grinder basin must be at least 10 feet from the building structure. The top of the basin must be at least 2 feet below any floor with plumbing. The minimum slope is 2% (1/4" per foot).
3. The top of the grinder basin must be level with the finished landscaping.
4. If a riser is installed, an extended rail assembly and junction box pipe extension must be added and the float bracket moved up. The materials are available at the DPU Warehouse.
5. The inlet from the building connection must be cut in away from the floats and rail assembly.
6. All discharge piping must be installed with a minimum of 3 feet of cover.
7. All discharge piping must be a minimum of 3 feet away from any other utility.
8. All discharge piping must be installed with the bell end facing the basin.
9. Absolutely no DWV (draining waste and vent) fittings or glue joints can be used on the discharge piping.
10. All discharge piping must have a minimum of 6 inches of #10 stone (dust) under and 6 inches of #10 stone (dust) over the pipe.
11. All discharge piping must be marked with sewer line detection tape no deeper than 12 inches from finished grade.
12. **All discharge piping must be inspected by a DPU employee prior to back filling. The property owner/contractor must call DPU at 301-334-6976 in order to schedule an**

inspection. There are no exceptions to this requirement. If back filling occurs prior to an inspection by DPU, the property owner/contractor will be required to excavate the piping for inspection by DPU at the property owner's/contractor's expense. Installations will not be accepted and/or allowed to connect to the main sewer system until the piping is inspected and accepted.

13. The grinder basin must be backfilled to finished grade before the pump can be installed and wired.
14. The grinder basin must be easily accessible at all times. Items including, but not limited to, decks, walkways, pavement, heavy objects, or any other type of structure can not be constructed over or located on top of the basin or impede upon the operation and maintenance easement area. If access to the grinder basin is impeded, removal of the object is the full responsibility of the property owner. Maintenance on the system will not occur until the obstructing object is removed by the property owner.
15. For instances where a duplex grinder pump is installed, a roadway must be constructed to the pump to allow for access by DPU utilizing a truck equipped with a lifting hoist for operation and maintenance purposes.

ELECTRICAL REQUIREMENTS

1. All electrical components should be purchased from the DPU Warehouse to insure uniformity of all specifications and installations.
2. All conduit and fittings must be rated for electrical use. Water piping can not be substituted for electrical conduit.
3. All conduit installed must be a minimum of 1 inch in diameter for simplex grinder pumps and a minimum of 1¼ inches for duplex grinder pumps. Conduit must be reduced to 1 inch prior to entering the control panel.
4. Conduit installed from the control panel to the grinder basin must be buried in the ground and can not be installed under crawl spaces or basements.
5. All efforts should be taken to avoid crossing over or under the gravity sewer line from the structure to the grinder basin with the electrical conduit installed from the control panel to the basin. Conduit can not cross over or under the discharge piping from the grinder basin to the main sewer line.
6. All conduit must be a minimum of 18 inches deep and have a minimum of 4 inches of #10 stone (dust) under and a minimum of 4 inches of #10 stone (dust) over the conduit.

7. All conduit must be marked with electrical marking tape no deeper than 12 inches from finished grade.
8. **All conduit must be inspected by a DPU employee prior to back filling. The property owner/contractor must call DPU at 301-334-6976 in order to schedule an inspection. There are no exceptions to this requirement. If back filling occurs prior to an inspection by DPU, the property owner/contractor will be required to excavate the conduit for inspection by DPU at the property owner's/contractor's expense. Installations will not be accepted and/or allowed to connect to the main sewer system until the conduit is inspected and accepted.**
9. The control panel must be mounted in plain view and located as close as possible to the grinder basin. If a control panel will be post-mounted, the entire supporting structure must be constructed of treated lumber. The minimum size allowable for supporting posts is 4 inches by 4 inches.
10. The voltage for 2 hp simplex and 2 hp duplex grinder pumps is 240 volt single phase. Where commercial voltage of 208 is present, the property owner/contractor is required to install a buck boost transformer in order to supply the correct voltage.
11. The wiring harness must be purchased from the DPU Warehouse and be installed by the contractor from the control panel to the grinder basin. DPU personnel will complete the connections.
12. Wiring from the load center in the building to the disconnect and from the disconnect to the control panel must be complete and energized. Electrical breakers in the disconnect box and control panel must be turned off prior to final inspection by DPU personnel.
13. A lightning arrester must be wired to the top terminals of the disconnect breaker.
14. The disconnect must be grounded with green wires from the feed and control panel. The white wires from the lightning arrester must be mounted to a bar and ground screw installed. The disconnect must be a Square D brand or equal.
15. The neutral wire from the building and the neutral wire from the control panel must be connected with wire nuts. This isolates the neutral wire from the ground wire.
16. Flooded junction boxes in grinder basins will not be accepted. Flooding causes the liquid to enter the wiring harness which in turn allows moisture to enter the pump windings when the motor is connected and energized. This causes the pump to malfunction and burn up. In order to avoid flooding of the junction boxes the following precautions are recommended:
 - a. If the liquid level in the basin is within 36 inches from the top of the basin, the liquid must be removed by the property owner/contractor.
 - b. If the junction box becomes flooded, a new wiring harness must be installed.

- c. The electrician should complete installation of the disconnect and control panel, contact DPU at 301-334-6976 to schedule the connection, and then pull the wiring harness the same day prior to the pump installation.
17. The pump will be installed and connected by DPU personnel. A \$100.00 fee per return trip will be assessed to the property owner/contractor if all requirements are not satisfied and a return trip(s) is required by DPU personnel.

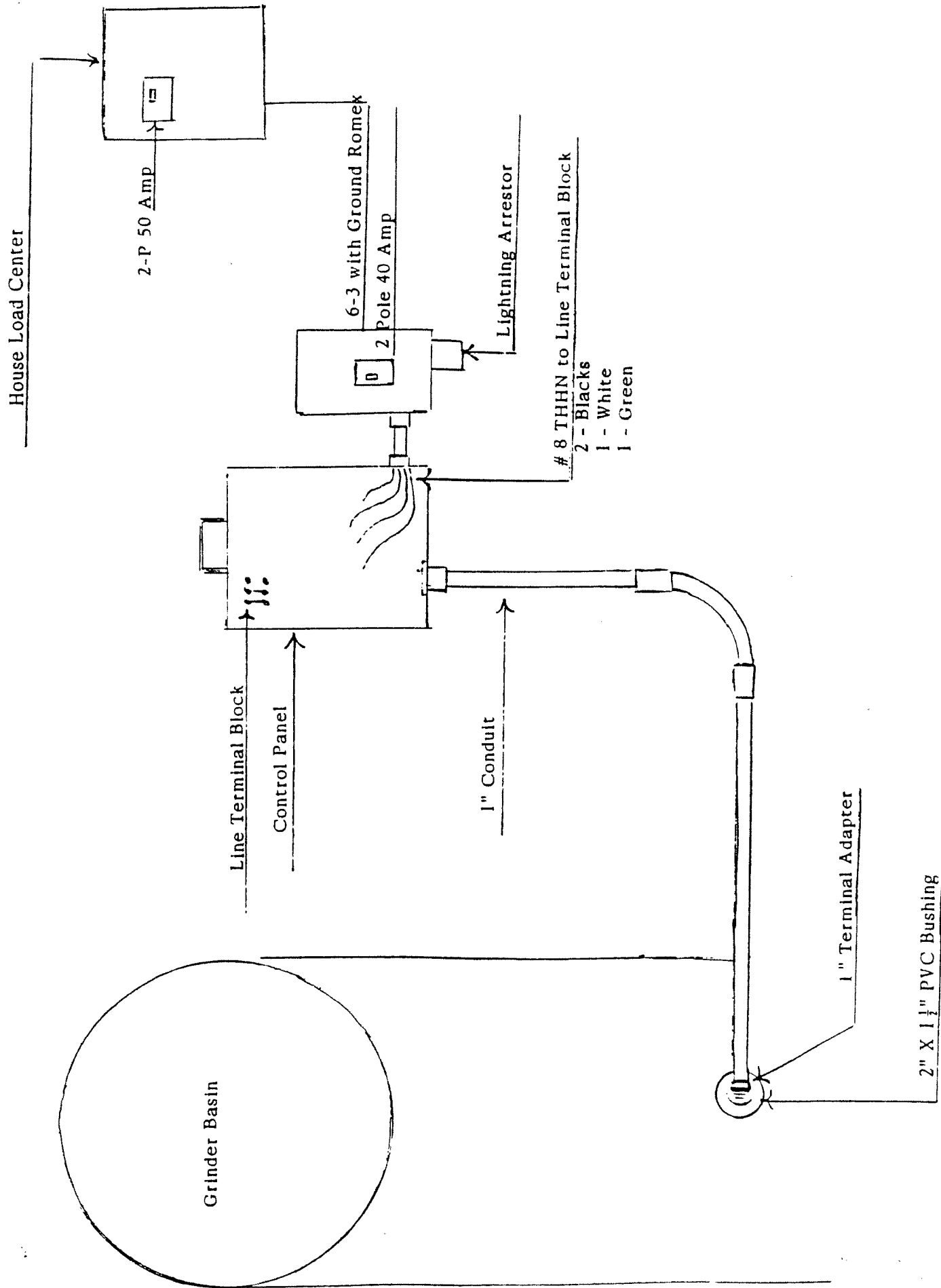
INSPECTION REQUIREMENTS

1. Water must be available to the grinder basin.
2. There can not be more than 2 foot of liquid in the basin.
3. Installation of the disconnect, control panel and wiring harness must be complete with power to the disconnect and breaker turned off in the control panel.
4. The road valve must be marked with a wooden stake or orange flag.
5. The grinder lid must be exposed.
6. The grinder basin must be backfilled to finished grade.
7. A fee of \$100.00 must be paid prior to any return trips by DPU that are required due to incomplete installations.

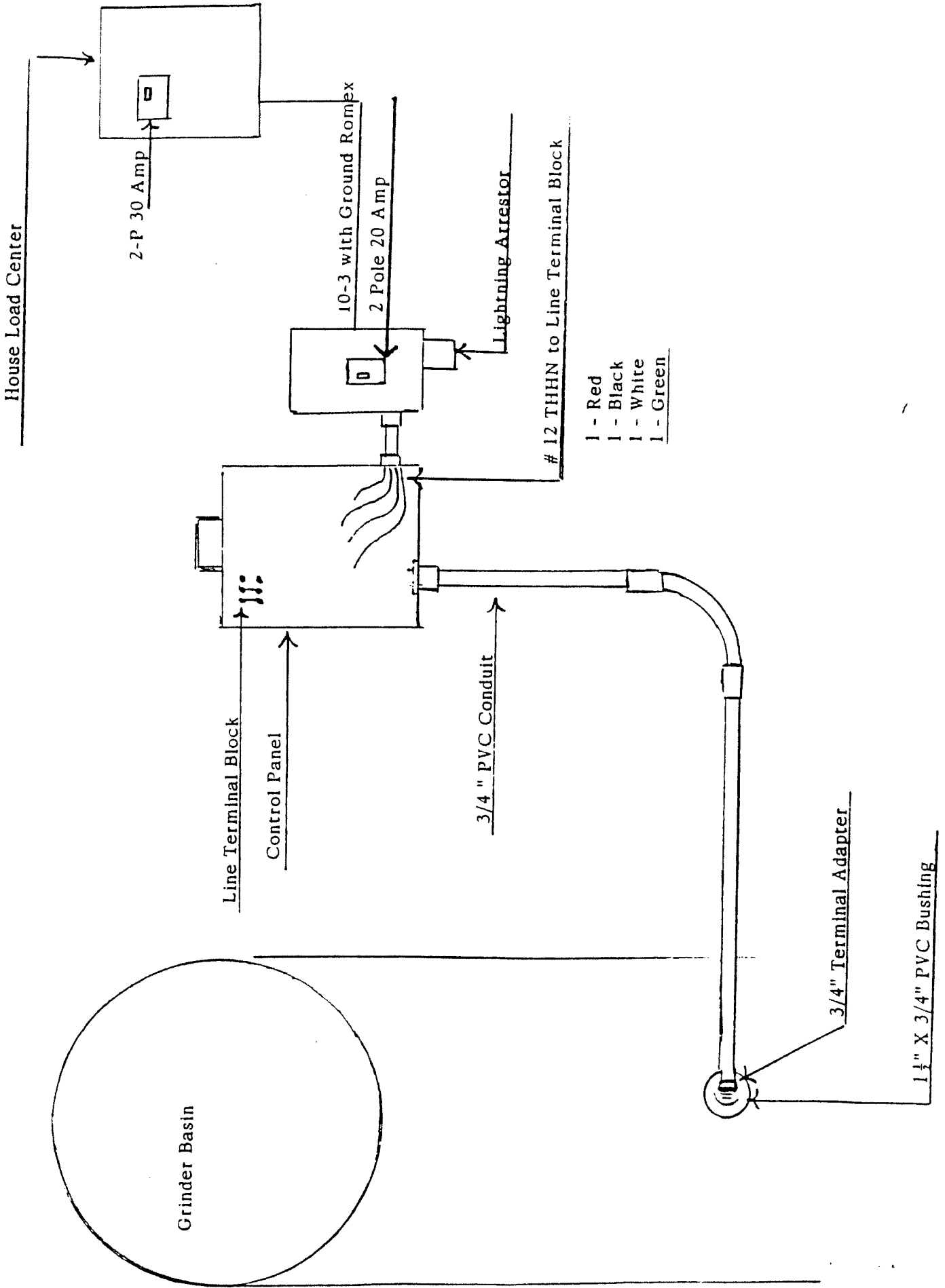
Example Installation Diagrams Attached

Updated: June/2009

2 HP DUPLEX GRINDER APPLICATION



2 HP SIMPLEX GRINDER APPLICATION

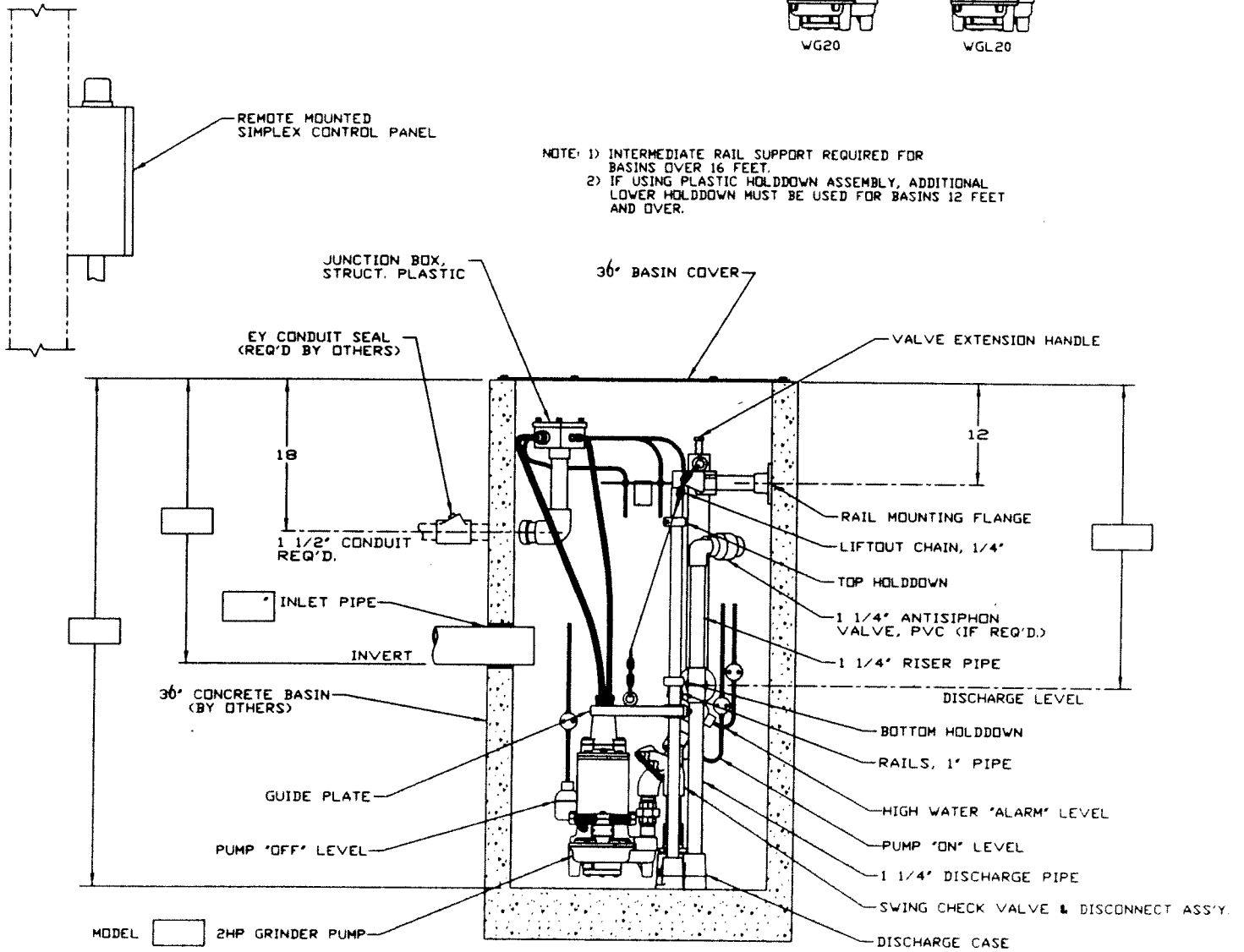
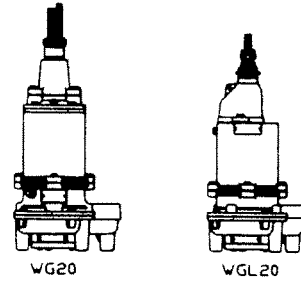


TYPICAL INSTALLATION

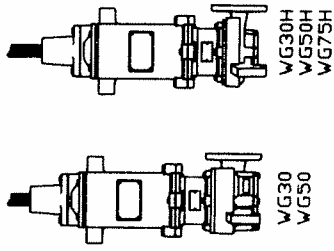
36" SIMPLEX CONCRETE GRINDER PUMP
STATION WITH REMOTE MOUNTED CONTROL
PANEL

PUMP MODELS: WG20, WGL20

ES-2263B 19JAN95



GARRETT COUNTY DUPLEX GRINDER PACKAGE 3-7.5hp



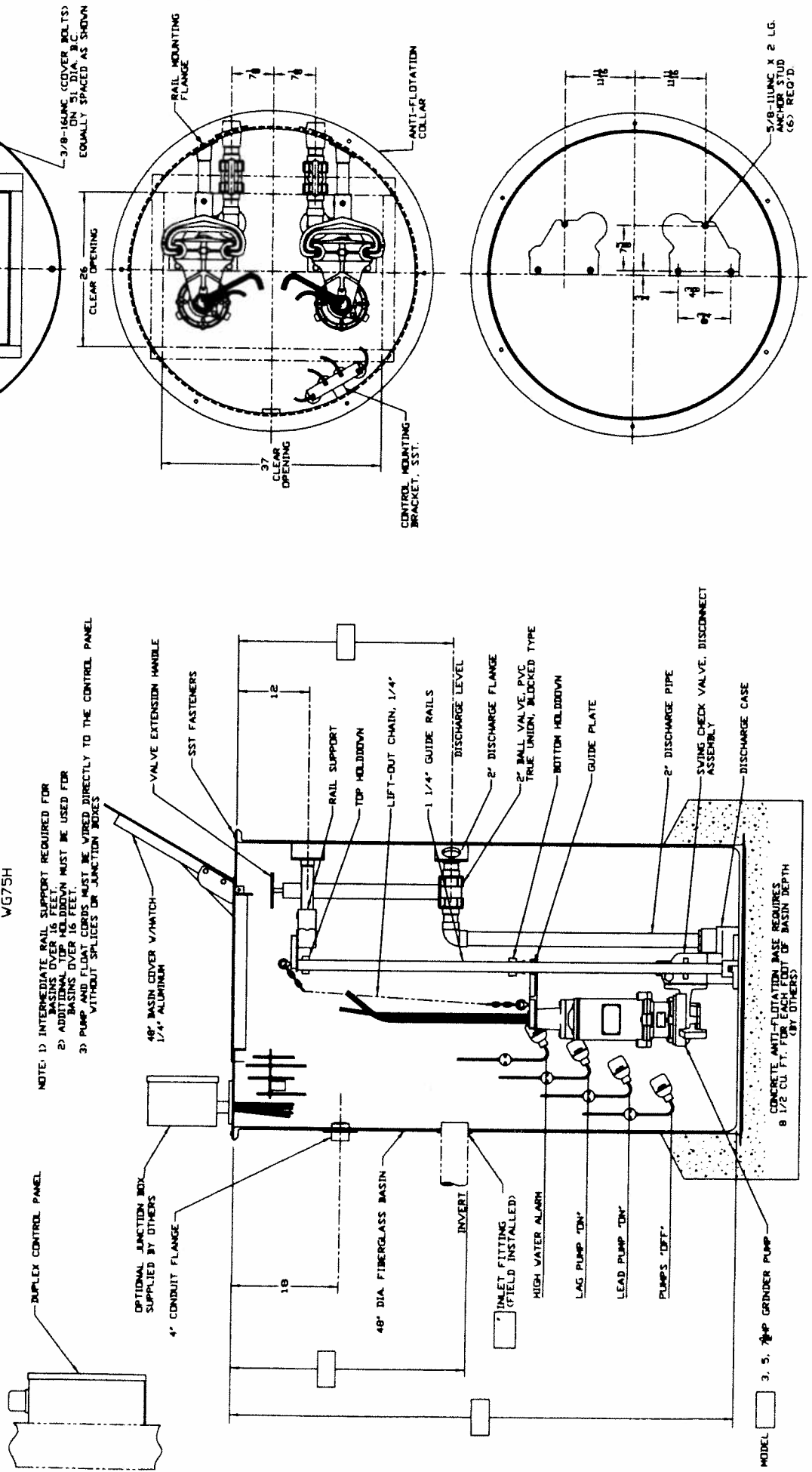
WG30
WG50

WG30H
WG50H
WG75H

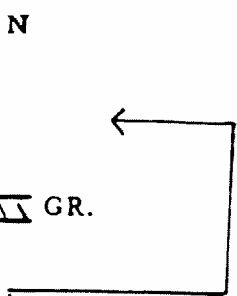
TYPICAL INSTALLATION
48" DUPLEX GRINDER PUMP PACKAGE
WITH REMOTE MOUNTED CONTROL PANEL
(MODELS B20RD-4872 THRU B20RD-48192)

PUMP MODELS: WG30, WG50,
WG30H, WG50H, WG75H

ES-22788 23 JAN 95



SQUARE - D DISC.



2 - HP
SIMPLEX
ONLY
10 - 3
30 AMP

FROM LOAD
CENTER IN
HOUSE

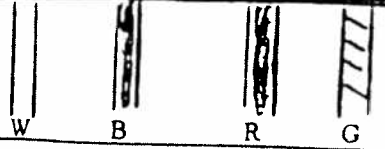
GREEN
SCREW MUST
BE INSTALLED

2 HP
DUPLEX
USE 6 - 3
50 AMP
IN HOUSE
40 AMP
IN DISCONNECT

WHITE →

WHITE

CONNECT
L1 L-2 & N
OT
WB IN CONTROL PANEL



L.A.

