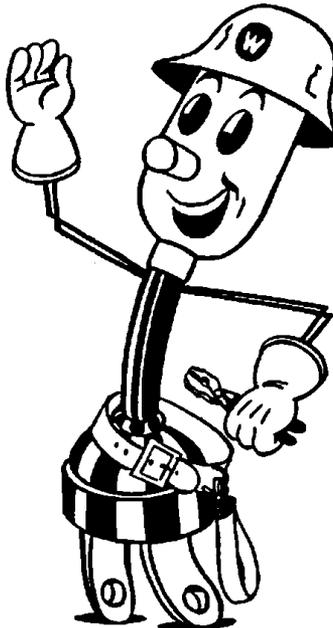




# SERVICE AND METER REQUIREMENTS



## WELCOME TO P.U.D. NO. 1 of FERRY COUNTY

This booklet is designed to help you with the PUD's basic requirements for new and altered electrical service. This booklet is also intended to assist in the physical installation of your electrical facilities. This booklet does not deal with all the aspects of PUD policy and does not eliminate the need for you to work directly with our representative.

The first step is to call or stop in to the PUD's office and talk to our engineer regarding your project. Installing electrical service to your property will be a joint effort between you and your PUD. We believe if we work together this will be an easier process.

The PUD is responsible for the design and installation of all the primary and secondary lines needed to reach our meter. This meter is the separating point between PUD's equipment and customer's equipment. This is why NO meter base is to be installed in any enclosure or building. We must be able to access our equipment at all times!

The customer's responsibilities are: To obtain a State Electrical permit (available at the PUD office) and call for inspection; Determine if you want underground or overhead (underground service drop is recommended and overhead service drop will be a case by case basis with the final determination made by the District); and Provide and install the meter socket & disconnect configuration desired. (specific requirements will be shown later in the booklet).

### ELECTRICAL INSPECTION REQUIREMENTS:

All new and altered services must be inspected by the State Electrical Inspector. The PUD cannot energize any service until notice is received that the service has passed inspection and approved by the inspector.

Please call the Dept. of Labor and Industries at the number provided with any questions you may have regarding the electrical code. The PUD's engineer or office personnel can supply you with an electrical inspection form.

Regardless of the information and illustrations contained in this booklet, all meter base & disconnect installations are subject to the Washington State Dept. of Labor and Industries specifications. The electrical inspector can be contacted at the following phone number and address:

Department of Labor and Industries  
Electrical Inspection Section  
Town Center Building  
298 S. Main Suite 203  
Colville, WA 99114-2416  
1(800)509-9174

**PLEASE CALL (509)775-3325 BEFORE DIGGING ANY DITCHES NEAR PUD POLES OR EQUIPMENT TO ALLOW OUR PERSONNEL TO MARK UNDERGROUND POWER LINES.**

When requesting power, our engineer will ask you some questions so we are able to help you in a timely manner with your project. The better prepared you are, the faster we can both finish our planning.

1. Where is your property located? Are power lines currently nearby? Are easements available or needed?
2. What is the service is to be used for? (house, mobile home, manufactured home, commercial building, shop, well , RV site, temporary construction service, irrigation, seasonal, etc.)
3. Size and location of your building on your property and possible points for your service location.
4. Type of heat or amperage rating for main service panel and voltage requested.
5. Type of service preferred, either underground or overhead. Underground is recommended but overhead is available with customer purchasing the service pole from the PUD.

The PUD may require an easement or easements providing suitable right-of-way for the construction and maintenance of the power lines. The right-of-way must be kept clear of all obstacles keeping us from maintaining the electrical facilities. Our PUD personnel must always be able to access our facilities in the event of a power outage or an emergency such as a fire. **PLEASE DON'T LOCK US OUT.** It could be your emergency.

A prepaid engineering fee is a non-refundable amount paid in advance of the first field visit. The fee will be credited toward the customer's line extension cost if used within 2 years of application. Line extensions not paid for within 2 years of paying the engineering fee shall become null and void, with the fee being retained by the District.

METER SEALS placed by the PUD personnel on meters or meter panels and associated service equipment have been put in place to prevent injury and tampering. FOR YOUR SAFETY, ONLY PUD PERSONNEL SHALL MAKE THE PERMANENT CONNECTION OR DISCONNECTION OF PUD'S ELECTRIC SERVICE TO A BUILDING OR STRUCTURE. This being the "point of delivery" which is where the customer's system and the PUD's circuit interconnect.

Customer owned metering equipment, main and/or load disconnects, switching devices, conductors (wires), lights, basketball hoops, birdhouses, signs, etc. are not to be mounted on the PUD's poles.

CALL 1 (509)775-3325 BEFORE YOU DIG NEAR ANY PUD FACILITIES.

**UNDERGROUND SERVICES:** The customer shall provide necessary ditching, bedding, and backfilling for these services, as well as conduit swept out plus 10ft and one strap for entering utility conductors. For large commercial or industrial loads supplied from padmount transformers the customer shall furnish, own, and maintain the underground service conductors which will be connected by the PUD to the secondary terminals of the District's transformers.

The customer is to supply the ditch a minimum of 30" deep for secondary conductors and 40" deep for primary conductors. The PUD is to be called when the ditch is completed and ready for inspection prior to the crew arriving. Installation of conductors by using a cable plow will be allowed. The PUD must approve of the plowing methods and equipment as well as the plowing contractor.

The PUD's engineering department will determine the proper size of conduit or conduits required for each job, depending on the total length of service and load being served. The PUD requires all conduit to be gray PVC electrical conduit with a minimum of schedule 40.

Prior to backfilling, joint use of the ditch such as telephone, TV, other conductors are generally allowed.

**SPECIAL REQUIREMENTS FOR MANUFACTURED/MOBILE HOMES:** These homes are required to have a main disconnect located within 30 feet of any portion of the home. This is best accomplished by placing your meter base, with a main disconnect, within this space. It is necessary to have a building permit before the electrical inspection of a mobile home installation can be approved or power connected.

There are two suggested types of pedestal set-ups available. One is a factory built or free standing unit that does not require a post and the conduits are stubbed up inside the metal channel, PUD on the left side.

The other one is the meter base/disconnect unit. The District requires a disconnect on the load side of the meter, a main breaker fills this requirement. This is mounted to either a 6" X 6" treated post (preferred) or a railroad tie, with the PUD conduit attaching from the bottom left. Install the meter base setup in a manner so as to not cross the conduits entering and leaving the panel. See the drawings for further details. All underground installations will need conduit stubbed out with a sweep plus 10' of grey electrical PVC, extending into the center of the ditch. 200 Amp services require 2" PVC, 400 Amp (class 320) installations require 3" PVC.

#### **THE PUD WILL SUPPLY ALL THREE PHASE METER SOCKETS.**

Where a pad-mounted transformer, current transformer enclosure, or other equipment is installed in a location where vehicles may cause damage, the customer must install adequate barriers to protect this equipment.

**OVERHEAD SERVICES:** On approval of an overhead service, the meter pole and any supporting or guying of that pole will be purchased from the PUD and it will be the customer's property and responsibility.

If an overhead service is installed to a building, the point of attachment will normally be on the building or the mast that extends up through the roof, 18" minimum. Anything over 26" will require a guy support for the mast. Tall masts for clearance and long service drops are some reasons to guy the mast.

If an overhead service is installed, the point of attachment will meet clearance requirement of finished grade. If the service wires pass through trees, the customer will be required to prune or have pruned the trees to provide a clear path for the service. The customer is also required to keep that path clear, and if necessary, remove trees to keep the path clear.

CLEARANCES FOR SECONDARY CONDUCTOR HEIGHT  
STATE HIGHWAY: 24'

COUNTY, CITY ROADS, COMMERCIAL DRIVEWAY, TRUCK  
TRAFFIC AREAS: 18.5'

RESIDENTIAL DRIVEWAYS: 16.5'  
Or current NESC Safety Code regulations

ALL SERVICES MUST HAVE A PHYSICAL DISCONNECT BETWEEN THE METER AND THE RESIDENCE
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### CURRENT TRANSFORMER METERING (CT)

This is another type of metering that allows for many service delivery locations with only one meter location, such as home, shop, guest house, well, or RV site, all off of one meter at one location. This also includes when three phase service entrances exceed 200 amps and single phase exceeds 400 amps. The PUD will supply all meter sockets for all CT meter installations. In this type of meter installation the District will work with the customers to fulfill their design needs.

### GENERAL INFORMATION

The PUD reserves the right to inspect and test any equipment that is connected to its lines.

Electrical services supplied by the PUD may be subject to interference and disturbances that are beyond our control and some customer owned equipment can be sensitive to sags and spikes. It's the customer's responsibility to protect those voltage-sensitive devices.

To protect personnel and equipment, it is recommended that the customer provide protective devices to protect motors against voltage sags and spikes.

If your service is interrupted don't assume that the PUD knows. Please call 775-3325 or after hours 775-3849.

### EMERGENCY OR STANDBY GENERATORS

Permanently installed generators are to be connected to the customer's wiring system through a permanently installed transfer switch intended for that purpose. The transfer switch is to be installed so that when operated, it completely disconnects the customer's system from the PUD's system, so there is no way the generator can be connected to the PUD system. **Compliance with these conditions are necessary to prevent serious injury or possible fatal accidents.**

ALL 200/400 AMP METER BASE DISCONNECTS ARE TO BE WITHIN 30' OF ANY MOBILE/ MANUFACTURED HOME.



# 200 AMP FACTORY BUILT FREE STANDING PEDESTAL

## WIRE SIZE NEEDED

- 2 (hot) #4/0 Alum.
- 1 (neutral) #2/0 Alum.
- 1 (ground) #4 Alum.

AUX. BREAKERS

200 AMP  
MAIN  
BREAKER

PUD WIRE  
TERMINATIONS

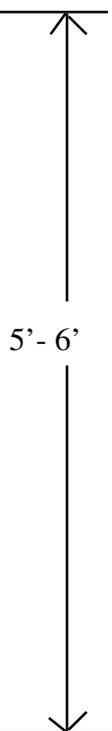
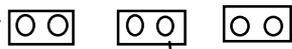
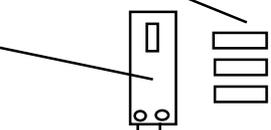
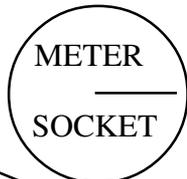
FINISHED  
GRADE

GROUND  
RODS  
6' APART  
MINIMUM

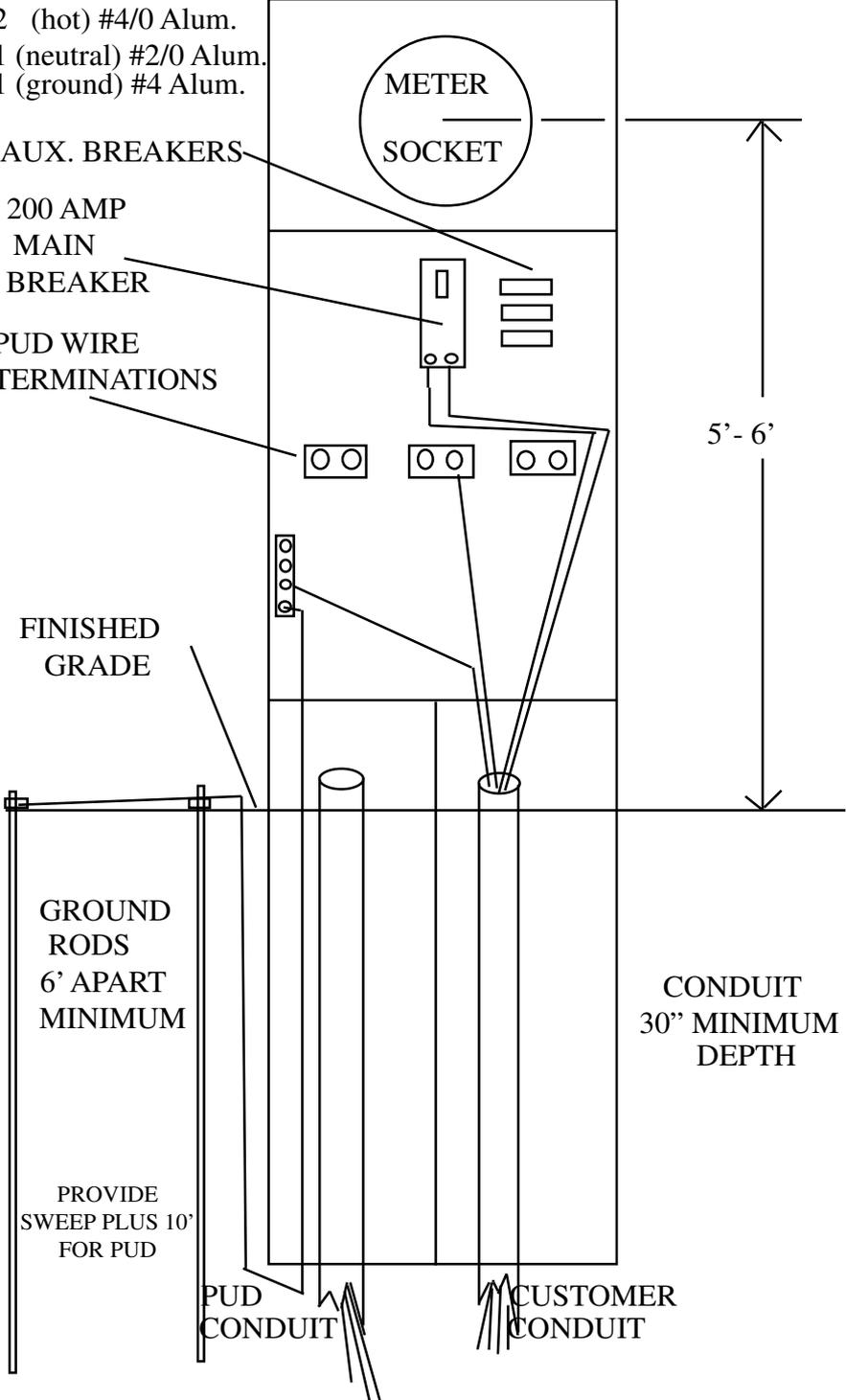
PROVIDE  
SWEEP PLUS 10'  
FOR PUD

PUD  
CONDUIT

CUSTOMER  
CONDUIT



CONDUIT  
30" MINIMUM  
DEPTH



200 or 400 AMP MAIN DISCONNECT  
OVERHEAD SERVICE NOT  
RECOMMENDED BUT AVAILABLE  
ON A CASE BY CASE BASIS

Check with the engineering dept. prior  
to constructing and installing any  
service poles. If approved this pole  
may require a guy wire and must  
be within 30' of mobile.

CUSTOMER FURNISHED  
WIRES MUST EXTEND 18"  
FROM WEATHERHEAD

NEUTRAL WIRE TO BE  
MARKED WHITE ON EACH END, MAST  
AND METER BASE

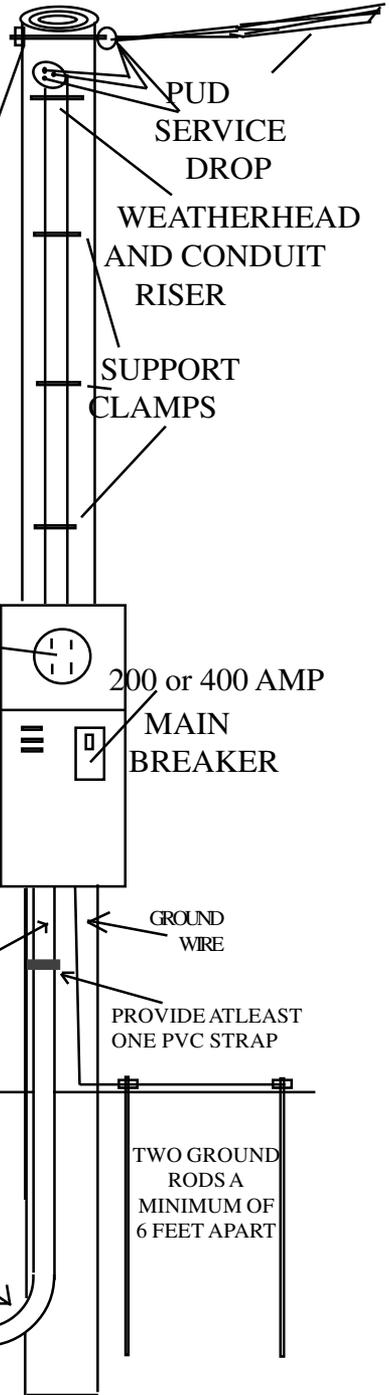
FINISH  
GRADE

CUSTOMER  
PROVIDED  
CONDUIT  
(sweep out plus 10' & strap)

10 FEET PVC

SWEEP

ANCHOR AND GUY MAY  
BE REQUIRED



PUD  
SERVICE  
DROP

WEATHERHEAD  
AND CONDUIT  
RISER

SUPPORT  
CLAMPS

METER  
SOCKET

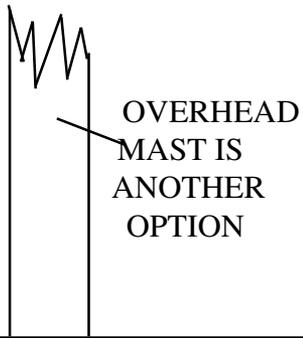
200 or 400 AMP  
MAIN  
BREAKER

GROUND  
WIRE

PROVIDE ATLEAST  
ONE PVC STRAP

TWO GROUND  
RODS A  
MINIMUM OF  
6 FEET APART

200 AMP METER MAIN WITH DISCONNECT MOUNTED ON THE SIDE OF THE BUILDING. EXAMPLE SHOWS PUD FEEDER COMING IN UNDERGROUND BUT CAN BE FED OVERHEAD. Overhead mast running up through the roof may need a guy support. Check with the PUD engineering dept.



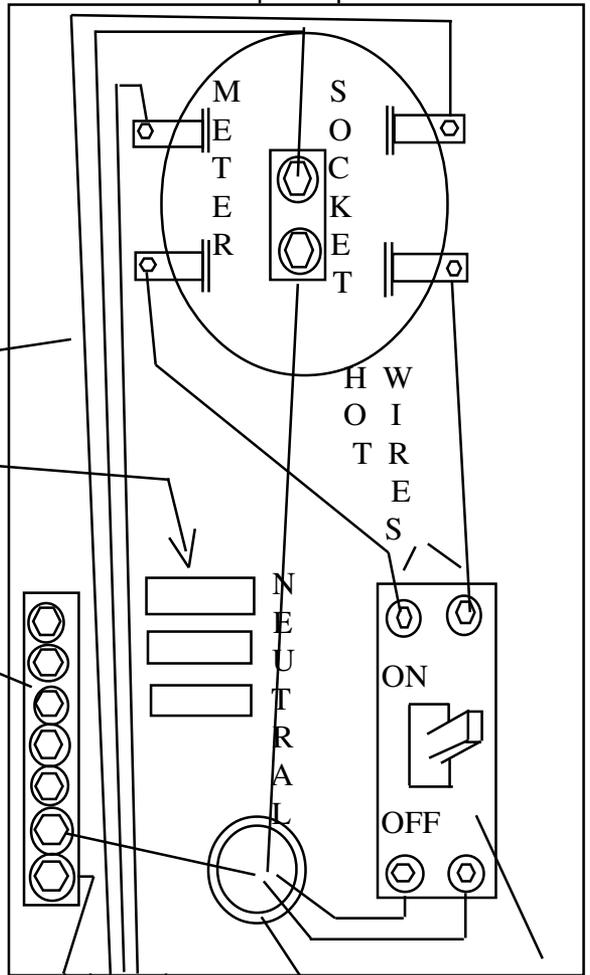
OVERHEAD MAST IS ANOTHER OPTION

PUD FEEDER WIRES

SPARE BREAKERS

GROUND BUS BAR

GROUND WIRE GOING TO 2 GROUND RODS 6 FEET APART



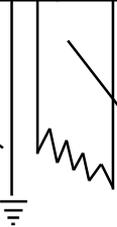
H W O I T R E S

NEUTRAL

MAIN BREAKER

SERVICE INTO BUILDING

UNDERGROUND FEEDER



## 400 AMP SERVICES

As our desire for more electricity grows, other buildings added or just planning ahead for future growth, one option is a 400 amp meter main disconnect. There are many different configurations of these panels. Some of the examples are:

1. 1- 400 amp meter socket with 2 - 200 amp main breakers below, so the customer can take power to the home and a guest home, shop, sub -panel, etc.

2. 1- 400 amp meter socket with 1 - 200 amp main breaker below and a 200 amp loadcenter with spaces for 30 to 40 breakers. This could be used for a home (200 amp main breaker) and supply a shop with 100 amps, hot tub with 40 amps, well with 40 amps, barn with 50 amps and so on, (from the loadcenter).

3. 1- 400 amp meter socket with 1- 400 amp main breaker with lugs to branch off and go underground to 2 separate homes or home and garage.

4. 1- 400 amp meter socket alone with lugs to branch off and go overhead and/or underground with two separate 200 amp service disconnect panels.

There are many options out there for 400 amp services. The PUD engineering department is a good place to start with any questions and the state electrical inspector is another option.

If a 400 amp meter socket is used, please stub conduit out of the center position for the utility to use.

WASHINGTON STATE ELEC. INSPECTOR (800) 509-9174

PUD ENGINEERING DEPT: (509) 775-3325

### **\*\*\*GROUNDING\*\*\***

The customer or electrical contractor is responsible for grounding **ALL** meter bases. Ground with #6 copper conductor and two 8' ground rods a minimum of 6' apart. This is an important safety requirement.

\*\*\*\*\*775-3325\*\*\*\*\*CALL BEFORE DIGGING\*\*\*\*\*775-3325\*\*\*\*\*