



## **Residential Planning Packet**

Contacts

Call Before You Dig—811

Application for Service

Site Plan

Temporary Power Services Meter

Base Locations Underground

Services Overhead Services

Important Information

Proper Tree Selection



# Contacts

## Benton PUD:

- ⇒ Website [www.bentonpud.org](http://www.bentonpud.org)
- ⇒ Email [engservice@bentonpud.org](mailto:engservice@bentonpud.org)
- ⇒ Customer Engineering Department (New service or upgrade request)  
(509) 582-1230
- ⇒ Operations (Schedule temporary disconnect and service connections)  
(509) 582-1254
- ⇒ Customer Service (General billing questions)  
(509) 582-2175
- ⇒ BPUD Standard Specifications/Metering & Customer Service Requirements  
[Redbook-Customer-Engineering-Standards-and-Metering-Requirements-\(2020\).PDF](#)

## Other Phone Numbers:

- ⇒ Utility Locates (Call Before You Dig) 811 or (800) 424-5555
- ⇒ Department of Labor and Industries (Obtain work permit/request inspection)  
<https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections/>  
(509) 735-0100

*Please note your service order number and the name of your Benton PUD representative for quick reference:*

*Service Order Number:* \_\_\_\_\_

*Benton PUD Representative:* \_\_\_\_\_

*Phone Number/Email:* \_\_\_\_\_



# ALWAYS CALL BEFORE YOU DIG



## What do the Marks and Flags Mean?

### Utility COLOR CODES

Each utility type has been assigned a designated color



Proposed  
Excavation



Electric Power  
lines, Cables, Conduit  
and Lighting Cables



Communication, Alarm  
or Signal Lines, Cables  
or Conduit



Reclaimed Water,  
Irrigation and  
slurry lines



Temporary  
Survey Markings



Gas, Oil, Steam,  
Petroleum or  
Gaseous Materials



Potable Water



Sewers and  
Drain lines

**Call 811 or visit [www.callbeforeyoudig.org/washington/](http://www.callbeforeyoudig.org/washington/) to submit your locate request at least two days in advance.**

#### **IT COULD SAVE YOUR LIFE**

Many things lie buried beneath the ground, power and gas lines are two of the deadliest.

#### **IT COULD SAVE YOUR PROPERTY**

Fire or explosion from a damaged gas line, erosion from a broken water line, disease from a broken sewer line, or simply the inconvenience of losing you internet or cable TV service due to a cut line.

#### **IT COULD SAVE YOU MONEY**

It doesn't cost anything to call in a locate request. With one quick telephone call, all utilities in your area will be notified to come and mark the location of their lines. However, if you damage a utility line and did not call for a locate, you may be liable for up to three times the actual amount of the damage. Some high-capacity telephone lines carry up to one million dollars per minute in calls.

#### **IT'S THE LAW**

According to RCW19.122, anyone digging deeper than twelve inches must call for locates two business days before they dig. This holds true for private property, city, county, state or federal lands and railroad right-of-way. In addition to damages and civil penalties, anyone who ignores this law may also be subject to penalties from the Department of Labor and Industries.



**Know what's below.  
Call before you dig.**

# Important Information—Please Read

At Benton PUD, our goal is to provide our customers with the best possible service. With that goal in mind, we have prepared the following information for you so that we can work efficiently with you to meet your electrical needs. Please take a few moments to read this information, then **completely fill out** the enclosed application for service.

Thank You!

## **How much will it cost to get power?**

In most typical situations a power source, overhead or underground, is accessible by a property owner. In this situation, as long as the meter base is located within the specified distances, there will be no fees charged from Benton PUD to extend power to a residential service.

If a power source is not readily available a line extension may be required. A Distribution Design Technician will review your service application and site plan to determine the most efficient means in which to extend power to within the specified distance for a meter base. The cost of this line extension will be at the expense of the developer/homeowner.

If you would like to meet with a Distribution Design Technician prior to the construction of your project, please contact the Engineering Department at (509) 582-1230 or via email at [engservice@bentonpud.org](mailto:engservice@bentonpud.org).

## **What permits do I need?**

Benton PUD only requires that you complete the Customer Application for Service and submit a site plan. You will be required to notify the Engineering Department at least two day in advance when you are ready to have your trench/service inspected for service.

State and local governments will require that you obtain a state electrical permit. Contact the Department of Labor and Industries for their application and inspection requirements. Benton PUD will not energize services that have not been inspected and received final approval on their electrical permits.

State Electrical Permit — Department of Labor and Industries (509) 735-0100

## **What can I do to avoid delays?**

To avoid unnecessary delays in completing your service installation, we ask that you prepare the site prior to arrival of our team. This preparation should include:

Notify BPUD of any access requirements, such as; locked gates and dogs.

Make sure the project address is clearly marked so it can be seen from the roadway.

Ensure that all requirements are met with regard to trenching and equipment standards.



Temp#

SO#

APPLICATION FOR SERVICE

Please e-mail completed applications to: EngService@bentonpud.org or you may fax (509) 586-6876

SERVICE LOCATION INFORMATION:

SERVICE ADDRESS: CITY: State: Zip:
SUBDIVISION/PLAT: LOT: BLOCK: TAX ID#
HAVE YOU EVER HAD SERVICE WITH BENTON PUD? YES NO PHONE NUMBER: ( )

ACCOUNT INFORMATION:

BILLING NAME: SSN# Benton PUD will contact you to obtain SSN or other proof of identity UBI#:
PHONE: MOBILE:
MAILING ADDRESS: CITY: STATE: ZIP:
CO-APPLICANT: SSN# Benton PUD will contact you to obtain SSN or other proof of identity UBI#:
PHONE: Email Address:

CONTACT INFORMATION:

GENERAL CONTRACTOR: PHONE NUMBER: ( )
ELECTRICIAN: PHONE NUMBER: ( )

SERVICE INFORMATION:

TYPE OF SERVICE: OVERHEAD UNDERGROUND RESIDENTIAL COMMERCIAL ELECTRIC VEHICLE
NEW SERVICE ALTERED SERVICE IRRIGATION SECURITY LIGHT
TEMPORARY SERVICE: The District offers only metered temporary services. Y N ELECTRIC INTENSIVE LOAD

If temporary service, is pole installed and ready for inspection? Y N (Will Call)
If underground service, is Trench Open & Ready for Inspection? Y N (Will Call)

LOAD INFORMATION:

HOUSE DUPLEX APARTMENT MFG. HOME SHOP COMMERCIAL SQ. FEET
SERVICE SIZE: 200 AMP 320 AMP OTHER AMPS OR KW

TYPE OF HEAT:

HEAT PUMP DUCTLESS INVERTER TON CEILING CABLE IN WALL ELECTRIC FORCED BASEBOARD
OTHER ELECTRIC HEAT TOTAL KW GAS OIL OTHER NO HEAT

ADDITIONAL LOADS:

AIR CONDITIONING TON PUMP SIZE HORSEPOWER WATER HEATER: HEAT PUMP ELEC. GAS
HOT TUB KW SAUNA KW POOL KW

ADDITIONAL INFORMATION:

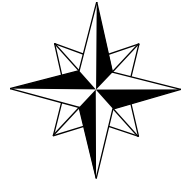
By initialing below, I acknowledge I have read important information about my Benton PUD Account:
Benton PUD may require a deposit for electric service.
A soft credit check will be conducted to determine credit worthiness and verify identity.
When signing up for service at a new location, a Start Service fee will be added to the first monthly bill.
Benton PUD policies and rates are approved by Benton PUD's Commission and are the governing documents under which customers receive electric service from Benton PUD. The policies can be found on our website at www.bentonpud.org. You can request a hard copy be mailed to you by calling Customer Service at (509) 582-2175.

SIGNATURE

DATE:



## Site Plan



*Please indicate North*

Please draw a sketch of your property in the grid below. Show the house location, driveway(s), meter base location for temporary and permanent power, sewer lines, water lines, drain fields, and the location of other utilities (indicate depth, if applicable). Please show distances from property corners, the nearest cross roads, and include a scale. ***In lieu of sketching your property, you may attach a site plan from your architect or builder.***

A large, empty grid of small squares, intended for drawing a site plan sketch. The grid is approximately 30 units wide by 30 units high.

# Metered Temporary Service Requirements

Benton PUD offers only **metered temporary services**

In some instances, you may need temporary service prior to the installation of equipment that will provide the permanent service. The cost of installing and removing transformers and/or primary wire for the sole purpose of providing temporary service is to be paid by the customer.

There are two installations for temporary services: overhead and underground. If the power system in your area is a series of poles, you are in an area served overhead, and you will need to install an overhead metered temporary service. If your area is served underground, you will need to install an underground metered temporary service.

**Before we can do any work on your temporary service, you must complete and return the enclosed service application, pay the applicable fees, and receive an inspection from the Dept of Labor and Industries.** The fee for a metered temporary service is \$125.00 plus monthly account and energy charges and is good for a period of one year.

## **Overhead Temporary Service**

Your overhead temporary service post should be located on your property within 50' of the Benton PUD pole that will serve you. When a distance greater than 50' is required, please contact our Engineering Department and discuss your circumstances with a Distribution Design Technician for consideration. In addition to the distance limitation, please consider the following:

- ⇒ The path that the service line will take should not cross property belonging to other individuals.
- ⇒ The path that the service line will take **must not** be within 4' of the fiber, telephone or cable TV wires.
- ⇒ If the service line will pass through trees or brush, a path for it must be cleared to allow our service personnel to run the line.
- ⇒ The service line path should avoid areas where vehicular traffic will occur, unless your temporary service post height is increased to provide adequate clearance.

If you do not have a transformer or pole on your property, contact the BPUD Engineering Dept. at (509) 582-1230.

## **Underground Temporary Service**

The following items are required to properly locate your service pole:

- ⇒ Locate your temporary service pole between our equipment and your home or building.
- ⇒ Set the service pole on your property 3' to 5' from the transformer or pedestal. If you do not have a transformer or pedestal on your property, please call the Customer Engineering Dept. at (509) 582-1230.

If a distance greater than 5' is required, please contact a Distribution Design Technician for consideration prior to construction.

It is your responsibility to provide a buried cable from your temporary pole to our transformer or pedestal **plus 6'** of cable for our line crews to make the connections to our equipment.



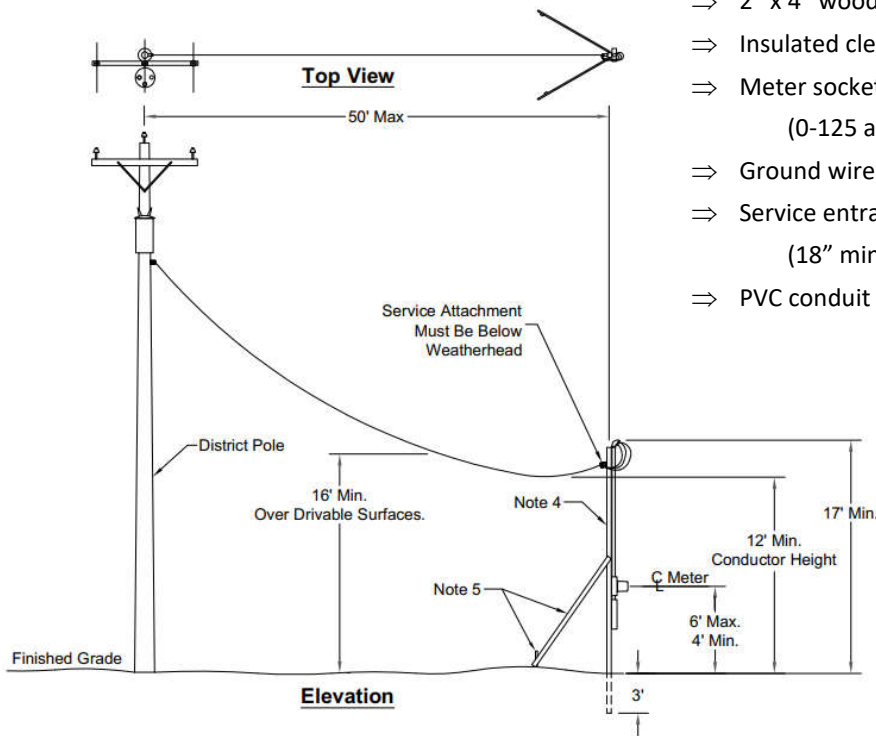
## Overhead Temporary Service Installations

### Items owned and installed by the customer

- ⇒ 4" x 4" x 20' (minimum) wood post
- ⇒ 2" x 4" wood braces (2 required)
- ⇒ Insulated clevis
- ⇒ Meter socket and distribution panel  
(0-125 amp, 120/240 volt, single-phase)
- ⇒ Ground wire and ground rods (per NEC . 2 required)
- ⇒ Service entrance conductors  
(18" minimum of wire exposed at the weatherhead)
- ⇒ PVC conduit (per NEC) schedule 40 minimum

### Items owned and installed by Benton PUD

- ⇒ Transformer
- ⇒ Overhead service conductors
- ⇒ Meter



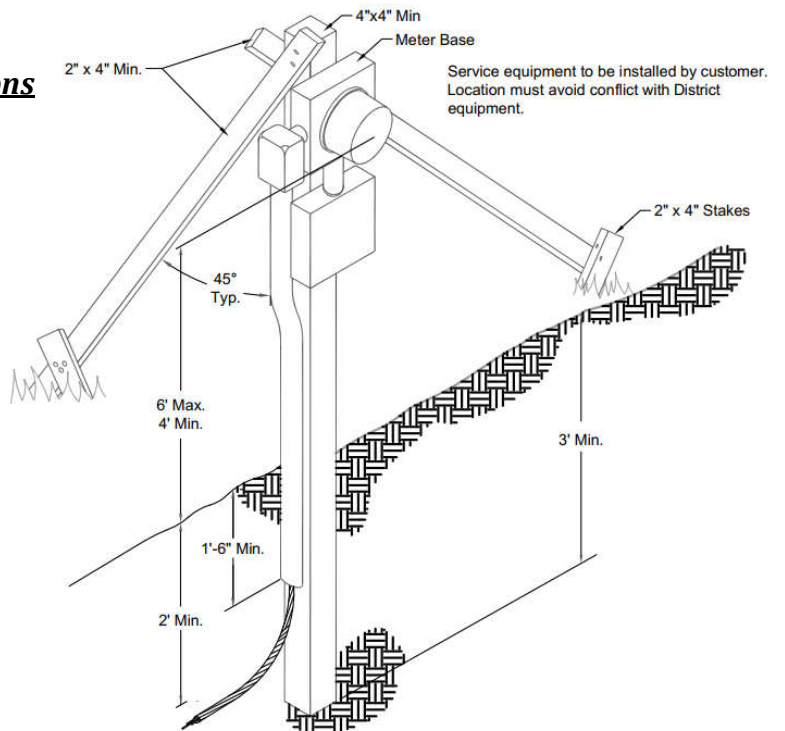
## Underground Temporary Service Installations

### Items owned and installed by the customer

- ⇒ 4" x 4" x 8' (minimum) wood post
- ⇒ 2" x 4" wood braces (2 required)
- ⇒ Meter socket and distribution panel  
(0-125 amp, 120/240 volt, single-phase)
- ⇒ Ground wire and ground rods (per NEC . 2 required)
- ⇒ Service entrance conductors  
(Length to reach transformer plus 6 feet)
- ⇒ PVC conduit (per NEC) schedule 40 minimum

### Items owned and installed by Benton PUD

- ⇒ Transformer
- ⇒ Meter



# Underground Electrical Services

## Standard Specifications

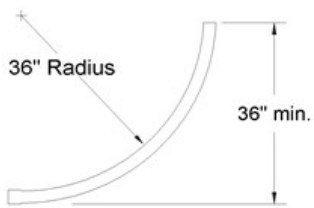
The conduit system must meet the following specifications to ensure that the cable can be installed, and voltage drop requirements will be met without requiring an engineering review.

*Note: Deviations from the specifications may be allowed. For each project a Benton PUD Distribution Design Technician must review the proposed deviations and give approval in advance.*

- ⇒ Meter Base: The required location is on the front of the house or structure, or within the front 4' on either side of the house. The front is the side of the structure facing the road or driveway serving the structure. The meter base must be ring type with manual link bypass (lever bypass not allowed). For a 200 amp residential service no bypass is required.
- ⇒ Conduits, Bends, and Couplings, etc.: UL listed; 200 or 320 amp require gray colored, 3" Schedule 40 PVC. 600 amp require gray colored 4", Schedule 40 PVC. Use only manufactured 36" radius bends.



*Do not form your own bends!*

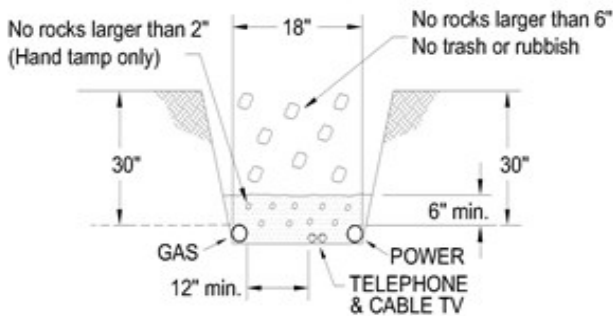


⇒ Maximum Conductor Length: For a 200 amp service, up to 200' of **wire** from the District transformer. For a 320 to 600 amp service, up to 250' of **wire** from the District transformer. If the length is going to be longer, builder will need to contact a Distribution Design Technician prior to installation.

⇒ Maximum Horizontal Bends: 90° Example: 2-45° bends, or 1-90° bend (plus the vertical bend up to the meter and another at Benton PUD's equipment for a total of 270°).

⇒ Depth: 30" minimum below finished grade except as required at the meter.

- ⇒ Conduit Assembly: All joints must be completely sealed and permanently glued with PVC cement. Keep dirt and debris out of the conduit run. When cutting PVC, make cuts square and remove any burrs from the inside and outside edges. Pull string not required.



⇒ Backfill: Backfill the trench with the material shown.

⇒ Compaction: Compacting the trench is the builder's responsibility. The homeowner will be responsible for any future trench settling.

Only hand tamping is permitted within 6" of the conduit.

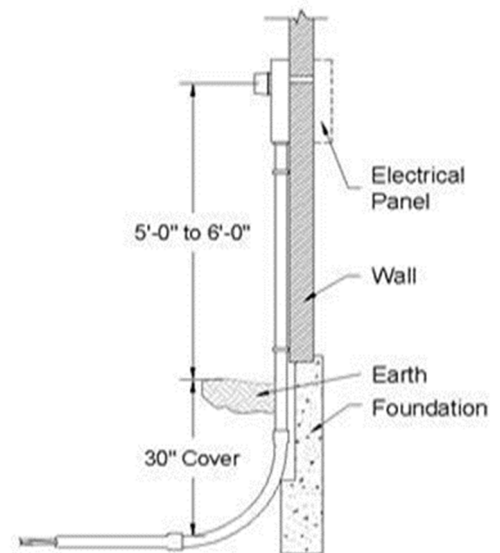
Compact the main trench area as necessary to prevent settling, especially near the meter base,

since settling here will likely cause damage to the meter base and conduit.

- ⇒ Open Trenches: Any open trench must be adequately barricaded or protected to ensure public safety as required by local, state, or federal rules or regulations. Keep open trenches to a minimum amount of time.
- ⇒ Separation from Other Facilities: A 12" horizontal or vertical separation is required between the electrical conduit and any other utility facilities or structures.

## Meter Base Placement

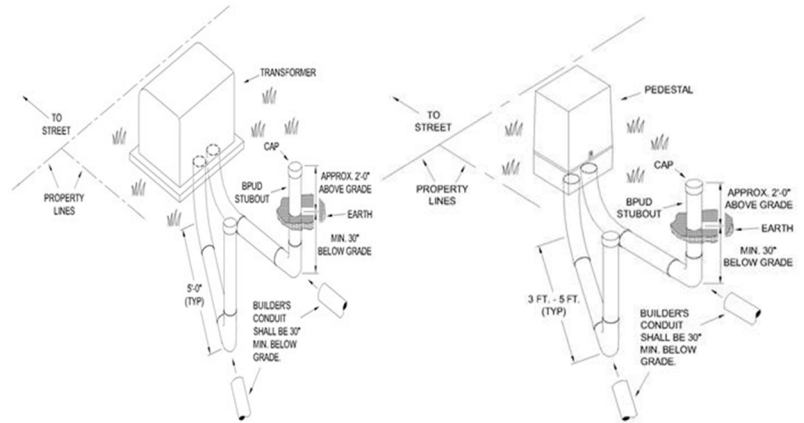
The meter base and any conduit not owned by Benton PUD must be located on the outside structure wall so that it will be readily accessible to the District. Exceptions must be approved in advance by the Customer Engineering Department.



## Transformers and Pedestals

Most transformers and pedestals have 3" conduit stubs marked as shown.

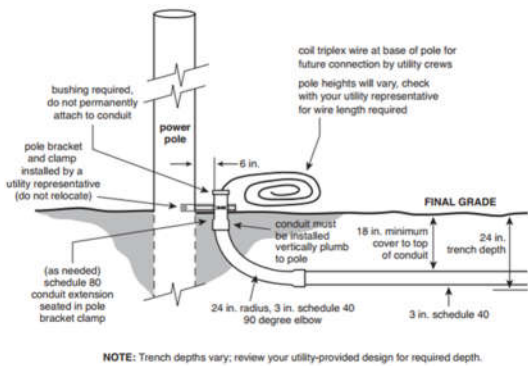
- ⇒ Excavate and expose the end of the stub, remove temporary sewer 90°, and connect the new 3" conduit.
- ⇒ Contact a Distribution Design Technician if the stub cannot be found.



## Poles

Power poles do not have conduit stubs.

- ⇒ Meet with a Distribution Design Technician to determine an acceptable conduit route, including at the pole, prior to digging the trench.
- ⇒ Trench to base of the pole unless instructed otherwise.
- ⇒ Install the conduit to the pole including 36" radius sweep.
- ⇒ Plug or cap the end of the conduit to keep out dirt and debris.



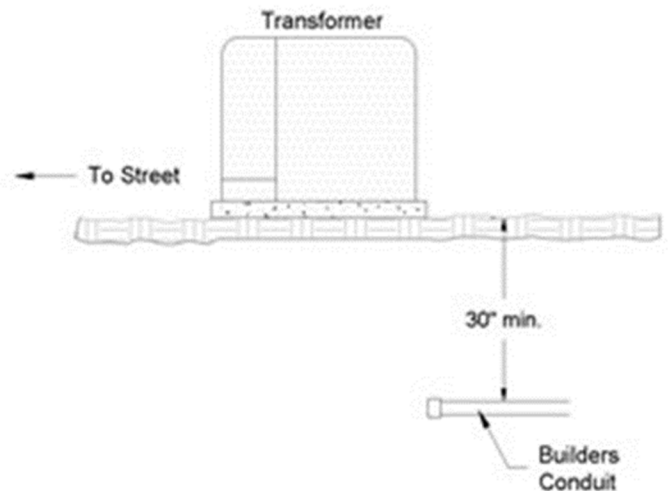
*Note: If there is a pedestal at the base of the pole, plumb the conduit as shown for pedestals.*

## Transformers without Conduit Stubs

If the transformer does not have a conduit stub, meet with a Distribution Design Technician to determine whether a stub exists. If there is no conduit stub:

- ⇒ Trench to the transformer box.
- ⇒ Install the conduit as shown, aiming at the center of the nearest side of the transformer.
- ⇒ Don't trench under the transformer.
- ⇒ Cap or plug the conduit to keep out dirt and debris.
- ⇒ Backfill the trench and either:

Leave the capped end of the conduit exposed, barricading the open trench as necessary, or leave the trench open near the transformer 5'. Benton PUD will install the final 90° bend, supplied by the customer, and backfill the remaining trench when the cable is installed.



# Overhead Electrical Services

## Clearance above Roofs

The mast used for attachment of the service drop must be a minimum of a 2-inch rigid steel galvanized conduit, with a suitable attachment to the building to support the weight of the service conductors. Determination of mast height should be made according to applicable service conductor clearances first, and then a determination can be made whether mast height will require guying. Maximum mast height is 48" above the roof line.

A guy is not required on service masts 26" or less above the roof when the service conductor is #1/0 triplex or smaller, and less than 100' long. All other service masts **require** guying. Stiff leg guying (not shown) is an acceptable alternative. The service conductor attachment must be a minimum of 18" above the roof.

Service entrance conductors are to be installed by the customer and should be sized according to the latest issue of the NEC, and per the electrical rating of the meter base. The service entrance conductors should extend a minimum of 18" from the end of the weatherhead to permit the attachment of the service conductor by Benton PUD.

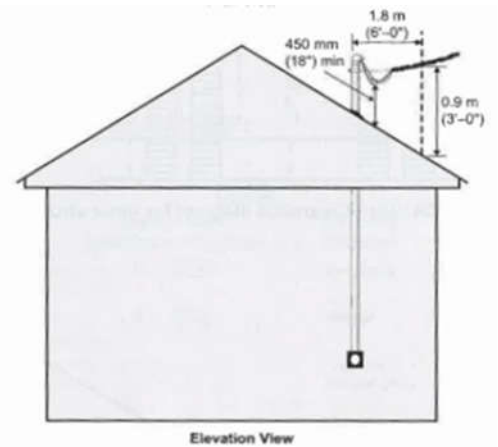
Any questions regarding service entrance equipment should be deferred to the Department of Labor and Industries, or the State Electrical Inspector for that area.

## Groundline Clearance Requirements

Service conductors must maintain a minimum clearance of 16' above residential driveways. These requirements were obtained from the most recent edition of the National Electric Safety Code (NESC).

## Clearances from Building Openings

Allow a minimum of 3' of clearance between service conductors and windows, doors, porches, fire escapes, or similar locations.



# Meter Bases

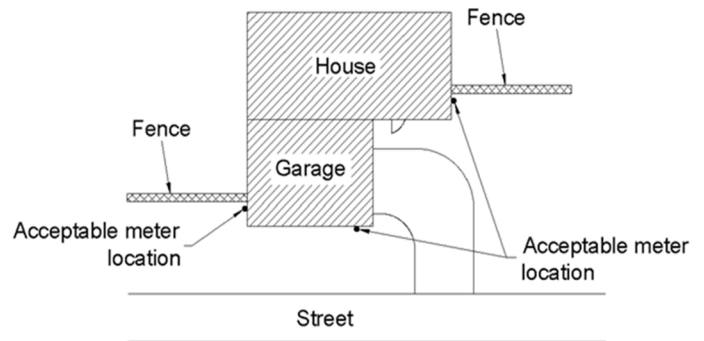
## Acceptable Meter Base Locations

It is in the best interest of both the customer and the District that a suitable and adequately protected meter location is provided to assure accuracy of meter readings, to facilitate installation and maintenance without undue inconvenience to the customer and/or to Benton PUD employees.

The meter base and conduit must be located on an outside structure wall so that it will be readily accessible to Benton PUD employees. Meters cannot be covered or enclosed in any manner.

Residential meters must be installed at a location that is readily accessible to District employees. The meter should be located on the front of the structure, or within the front 4' of the side of the structure. All porches, patios, decks, exterior bedrooms or bathroom walls should be avoided due to the likelihood of being fenced in. All meter bases must be located a minimum of 3' from any doors or windows and require 42" of clear working space in front of the meter base.

On multiple meter installations, the customer or contractor shall plainly and permanently mark meter bases, service disconnecting devices or cabinets, and breaker panels with raised engraved placard with numbers or letters corresponding to the residence or facility which the disconnecting devices serve. All such identification and the feeder conductors must be installed by the customer and inspected by the District before meters will be set. A site plan must be provided showing proposed meter locations.





## How to keep your trees utility friendly?

Avoid planting trees on underground utilities or too close to their vaults.

Plant a variety of trees that matures 25 ft tall or less under utility wires.

Consult your utility for planting guidelines.

Before planting trees in your yard; **Call 811** before you dig, or visit [callbeforeyoudig.org](http://callbeforeyoudig.org).

## Common Tree Care Problems

Trees planted too deep do suffer stunted growth, girdling roots and trunk rot.

Under-watered trees may drop leaves out of season, wilt, suffer trunk damage on the southern side of the tree. They may also develop brown or dead leaf edges, and stunted growth.

Trees that are topped can suffer structural issues.

Impacts from string trimmers and lawn mowers can girdle the tree and kill it.

Nutrient deficiencies, where a tree's leaves are yellow instead of green, can make the tree more susceptible to damage.

Over-watered trees don't allow roots to breathe. Signs include wilting but not perking up a few hours after watering, puddles after watering, and a squishing noise when walking on nearby grass hours after watering.

For more care tips go to:  
[treesaregood.org/treeowner](http://treesaregood.org/treeowner)

## How To Plant Trees

1. Dig a hole twice as wide as the rootball, and the same depth.
2. Mix compost or planting mix with fill dirt and bottom of the hole but do not change the soil type. Keep the ratio of soil to compost below one part compost to two parts soil.
3. Remove all containers from root ball.
4. For potted trees prune or cut the roots every two inches vertically down to discourage circling roots. Bare root trees, prune out any kinked or crossing roots.
5. Set tree in the hole so the root flare is within an inch of grade.
6. Back fill and lightly pack the soil; do not compact the soil.
7. Pack a berm around the hole and fill with water, so the soil is muddy.
8. Allow water to drain off. Collapse berm to fill in voids.
9. Straighten tree and if the tree is currently taller than six foot, then stake it.
10. Mulch tree with less than four inches of material like compost or bark. Be sure not to let mulch touch the trunk.
11. Remove stakes after the tree has been planted for one to two years.



## Proper Tree Selection

The Mid-Columbia Community Forestry Council promotes recognition of the value, benefits, and importance of urban trees in Southeastern Washington.

[trees4you.org](http://trees4you.org)

Partners:



## Things to consider when selecting or planting trees:

Allow enough room for the tree.

Identify overhead and underground utilities.

Select a tree based on site conditions and available space.

Plant trees half their mature spread away from buildings, pools and other structures.

Select trees rated to a USDA zone 6 or lower.

For the health of an urban forest it is best to have tree diversity (use an assortment of species) for your yard, project or sub-division.

Shop for trees with no crossing branches or branches growing inward.

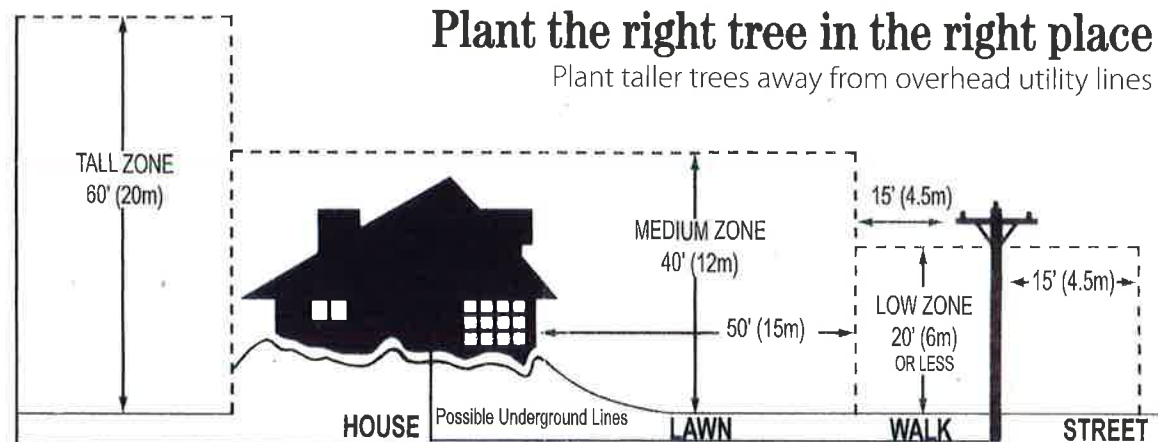
To help avoid surface roots, provide additional water in summer to establish trees with deeper roots.

## Our List of Trees by Groups

Here is a short list of trees that do well in our area. For a more complete list, visit [trees4you.org](http://trees4you.org).

### Patio Trees: Less Than 15 Feet Tall

Hydrangea, Limelight  
Hydrangea, Quickfire  
Ninebark, Centerglow  
Pine, Satellite  
Rose of Sharon, Tahiti  
Smoke Tree, Royal Purple  
Spruce, Weeping Norway  
Viburnum, Common Snowball



### Small Trees: 25 Feet or Shorter

Catpala, Umbrella  
Cherry, Mount Fuji  
Lilac, Ivory Pillar (Japanese)  
Maackia, Summertime  
Maple, Pattern Perfect  
Plum, Krauter Vesuvius  
Pine, Oregon Green  
Serviceberry, Autumn Brilliance  
Spruce, Fat Albert

### Medium Trees: 25 to 40 Feet Tall

Cedar, Alaskan Weeping  
Cherry, Kwanzan  
Honeylocust, Imperial  
Linden, Greenspire (Little leaf)  
Maple, Crimson Sunset  
Maple, John Pair (Sugar)  
Maple, Metro Gold (Hedge)  
Maple, Redpointe (Red)  
Maple, Sun Valley (Red)  
Pine, Bosnian  
Spruce, Baker's  
Spruce, Black Hills

### Tall Trees: Over 40 Feet

Bald Cypress, Shawnee Brave  
Cedar, Atlas  
Honeylocust, Skyline  
Linden, Redmond (American)  
Maple, Autumn Blaze (Freeman)  
Maple, Deborah (Norway)  
Maple, Fall Fiesta (Sugar)  
Oak, Bur  
Oak, Scarlet  
Spruce, Colorado  
Spruce, Norway

### Narrow Trees: 15 Feet Wide or Less

Aspen, Swedish Columnar  
Bald Cypress, Lindsey Skyward  
Ginkgo, Princeton Sentry  
Maple, Armstrong (Red)  
Parrotia, Vanessa  
Pine, Arnold Sentinel  
Oak, Crimson Spire  
Spruce, Columnar Norway