

Heath Drop Service Installation Policy

The Town of Heath, through its Heath Municipal Light Plant (MLP), is constructing a fiber-optic broadband network in order to provide Internet and digital phone service. The network will pass by and include a connection point for 99% of eligible premises in town. The network design includes sufficient extra fiber for anticipated future growth.

Definitions

A glossary of technical terms and abbreviations is provided at the end of this document.

Eligible Premises

Heath premises are eligible for a drop if all of the following criteria are met:

- the premises meets the qualifications necessary for an occupancy permit (in accordance with Heath Board of Health requirements for occupancy), and,
- the premises has electric service; service to off-grid dwellings will be negotiated separately outside of this policy. Electric service cannot be by extension cord from another dwelling, and,
- the premises has a mountable spot for necessary network equipment to be installed.

Drop Service Installation Credit

In order to maximize the incentive for townspeople to take service during the startup period, the Heath MLP will cover a drop installation credit of up to \$3,000 toward the drop installation costs for subscribers with an eligible premise when the following criteria has been met:

- The estimated cost has been identified in the design by Westfield Gas & Electric for Heath MLP as the amount needed for materials and labor for a Standard Installation to subscribers:
- Customer has signed up for either Internet service or Phone-only service before the Sign-up Deadline to qualify for this Drop Service Installation Credit.
- Customer has subscribed for an initial 6-month service commitment for the first year of service at a minimum.

Sign-up Deadline

The Sign-up Deadline in order to receive the Drop Service Installation Credit will be determined and communicated to potential customers.

Drop Service Installations

A Drop Service Installation consists of a Drop Fiber cable connection from a designated MST on the Distribution Network to a NID on the exterior of the customer premises, plus the interior installation of an ONT and Wi-Fi router. The installation of digital phone equipment is optional.

All electronic components and the Drop Fiber cable will remain the property of the Heath MLP or Whip City Fiber.

Interior Installations

For customers who formally sign up for service before the Sign-up Deadline, the Drop Service Installation Credit will be applied toward the cost of materials and labor for a Standard Interior Installation as described below.

The Standard Interior Installation includes:

- installation and set-up of an ONT in a basement or other interior location, including an optical jumper from the NID, up to 50 feet;
- installation of a Cat6 Ethernet cable from the ONT to a first floor location, up to 100 feet, and installation of a Cat6 wall-plate, as necessary;
- installation and set-up of a Wi-Fi router (provided by WCF).

The customer is responsible for providing 110V AC electrical outlets at the ONT and Router locations.

Custom installation services may also be arranged — for example, a non-standard ONT location, non-standard router installation, or additional Ethernet wiring and outlets. Optional digital phone service will also require additional installation costs. Customers will be responsible for any and all interior installation costs in excess of the Standard Interior Installation.

After the Sign-up Deadline, customers requesting service will be responsible for paying any future installation costs.

Customers who are not the owner of the premises will be required to provide proof of prior approval from the property owner.

The customer is responsible for providing any optional backup power source for the ONT and Router that may be desired in case of a power outage.

Exterior Drop Fiber Installations

The total cost of the exterior Drop Fiber Installation will depend upon several factors:

- the total distance from the MST to the premises;
- whether the fiber drop travels overhead or underground or some combination;
- in the case of overhead, whether additional utility poles are involved or not;

- in the case of underground, whether existing suitable conduit already exists or new microduct cable needs to be installed.

The Drop Fiber Installation typically follows the pathway of existing utility services to the home. Exceptions can be made if circumstances warrant. The Heath MLP Manager and the installation subcontractor will work with the customer to identify the most cost-effective method to provide a Drop Fiber connection.

The customer will be responsible for any and all costs beyond those covered by the Drop Service Installation Credit. A reasonably complete estimate for installation costs will be provided for customer approval prior to any work.

Self-Installation Note:

- In underground installations, if a customer wishes to reduce costs by burying microduct conduit by themselves, they must first contact the MLP Manager in advance to agree on specific plans that follow the "*Fiber To The Home (FTTH) Microduct Installation Guidelines for Homeowners*" provided by the MLP (Appendix A). The guidelines include requirements for notifying DigSafe and coordinating with the MLP Manager and the installing company that must pull the fiber through the microduct to be sure of proper installation and protection of the fiber.

Make-Ready and Pole Licenses

The Heath MLP has already paid from the capital construction budget for all utility costs associated with make-ready and licensing for poles on private property that have been deemed necessary for drop service installations. Customers will not be responsible for these costs.

Customers who do not subscribe for service during the startup period and request Internet service at a later date may be responsible for paying any application fees and make-ready costs necessary to re-license poles in the future. (see "Future Construction")

Network Extensions

A Network Extension occurs where the Distribution Network extends off the public way and on to private property. This is necessary where service poles on private property are more than 170 ft apart and a typical drop fiber cannot be sustained. In this case, the Distribution Network's stranded steel support cable and MST must be extended on to these private poles.

The cost of all Network Extensions in the final network design has been factored into the construction budget. As they are part of the Distribution Network, customers will not be charged for these costs.

The presence of a Network Extension does not obligate the homeowner to take service.

However, if a homeowner chooses to deny permission for the construction contractor to enter upon the property to install a Network Extension and MST, then the customer will

incur the full cost of constructing any future service request that requires a Network Extension in order to provide a Drop Service Installation.

Suspending/Reconnecting Service

- Heath is a member of the WiredWest Cooperative, and as such follows the WiredWest policy for suspending\disconnecting\reconnecting of subscriptions.
 1. Customers are allowed to "suspend" internet service once per calendar year up to 120 days, which means they can request (via customer service) that their internet service be shut off, while maintaining an active account
 2. Customers are not allowed to suspend phone service, if they have it.
 3. While internet service is suspended, WiredWest may continue to charge the customer a fee, to cover ongoing costs of maintaining the network, such fee to be at WiredWest's discretion
 4. If a suspended customer requests to have their internet service reinstated, they will be charged a \$99 fee if their service has been suspended for more than 120 consecutive days
 5. If a suspended customer does not reinstate their service within one year of the suspension date, their account may be deactivated;
 6. If a deactivated customer requests their account be reinstated, it shall be treated as a new account, and they shall be charged whatever fee is normally charged for new accounts
 7. A customer may cancel their account at any time and be deactivated.

Phone-only Service Installation

Since Phone-only service will be delivered via the same fiber-optic infrastructure as Internet service, the same Drop Service Installation components are required. Customers who request Phone-only service before the Sign-up Deadline will be eligible for the same Drop Service Installation Credit outlined above. There is no additional installation cost for phone and equipment. Additional wiring and equipment for phone extensions within the home will be an extra charge. Ooma phones are programmed to the physical location. Subscribers can ask for customer service to reprogram the phone if it is taken with the subscriber to a new location, Florida for example.

Cold Drops

“Cold Drop” refers to an exterior Drop Fiber Installation only, with no interior installation, where the homeowner does not wish to take any service at this time. Cold Drops in Heath are eligible for the Drop Service Installation Credit and will be placed on a wait list for construction toward the end of project construction. Cold Drop conversion to a live drop before startup construction has ended will be coordinated through the MLP Manager. All costs of converting a Cold Drop to active service after completion of startup network

construction are the customers responsibility, including the cost to mobilize utility vehicles.

Future Construction

Every effort has been made in the final network design to accommodate all currently occupied and habitable premises in Heath. Effort has also been made to identify and accommodate any pending new construction that is set to break ground within nine months of the commencement of network construction.

Customers requesting service for new homes built after the completion of the network may incur the full cost of any Network Expansion that is required in order to provide an MST connection, in addition to the Drop Service Installation costs.

Homebuilders and developers are encouraged to contact the Heath MLP Manager to discuss future home construction in order to accommodate these connection costs into their building plans.

How to Request a Service Drop

To request a service drop, applicants must be a Heath homeowner and must sign a Property Access/Service Drop Request Form granting Heath MLP or its representatives to access the property to survey existing conditions and install the service drop, and to clarify the interests of the customer. The Property Access/Service Drop Request Form (Appendix B at the end of this document) is on the Heath Broadband website. **(NOTE: Whip City Fiber form will be attached to this document as Appendix B.)**

Second Service Drop to Same Address

A second drop is subject to the availability of a spare tap at the nearest MST. The entire cost of the second drop and the interior installation shall be the responsibility of the homeowner. A separate Property Access/Service Drop Request Form is required for the additional drop.

Glossary of Technical Terms

Cat6 = Category 6 Ethernet wiring, used to connect the ONT to the Router. Cat6 Ethernet supports network connections up to 10Gbps, providing the ability for future network speed enhancements.

Cold Drop = a drop fiber from the road to the outside of the premise only, without any interior installation and without being lit up for any service.

Distribution Network = the fiber-optic cables and associated components, including MSTs, that transmit the broadband service from the Hub throughout the Town and past each premise.

Drop Fiber = a fiber-optic cable that extends from the Distribution Network to the premise. The Drop Fiber connects an MST on the network to a NID mounted on the exterior of the premise.

Gbps = Gigabits Per Second, a measure of the amount of data that can be transferred through a network connection in one second, used to express network speed. 1Gbps is equal to 1000 Mbps (Megabits Per Second). The FCC defines “broadband” as a minimum of 25 Mbps download and 3 Mbps upload.

Hub = the central telecommunications shelter at XX South Rd. Heath, MA, where all of the Town’s fiber-optic cables originate and which houses the electronic components that connect the network to the Internet.

MST = Multi-port Service Terminal, the network component that allows Drop Fibers to be plugged into the Distribution Network.

Network Expansion = any expansion of the Distribution Network which becomes necessary after the completion of the initial network construction in order to provide an MST for future home construction.

Network Extension = an extension of the Distribution Network where the MST continues from the road on to private property. This is required where poles on private property are more than 170 feet apart. It involves spanning the poles with a stranded steel support cable and lashing the MST to this support.

NID = Network Interface Device, the drop service component mounted on the exterior of a premise that receives the exterior Drop Fiber and connects it to an Optical Jumper to the interior ONT.

ONT = Optical Network Terminal, the drop service component installed inside the premise that translates between the optical (light) connection on the fiber network and the electronic network connection needed by routers and computer devices. The ONT is typically installed in the same general vicinity as the main electrical panel, although alternate arrangements may be made in consultation with the installation technician.

Optical Jumper = a ruggedized fiber-optic cable that connects from a NID to an ONT.

Router = an electronic component located inside the premise that allows multiple computers and devices to be connected to the network, via both wired (Ethernet) and wireless (“Wi-Fi”) connections.

Appendix A

FTTH Microduct Installation Guidelines for Homeowners

Note: The homeowner is solely responsible for complying with Massachusetts laws regarding DigSafe. The homeowner is also solely responsible for meeting any necessary Conservation Commission requirements regarding work in wetland buffer zones.

- Contact DigSafe by dialing 811 at least 72 hours before beginning any trenching. You will need to mark out the proposed pathway with white paint or white flags. You can familiarize yourself with the DigSafe process by going to their website: digsafe.com
- Consult with the Heath MLP Manager in advance to make sure that you are connecting to the correct utility pole per our network design and to a suitable location at your house for the eventual fiber installation.

The microduct conduit can be layed in an open trench, or plowed in. Since it's a rolled, continuous conduit, unlike stick sections of PVC, there are no elbows or sweeps that need to be glued thus making the installation easier. If the conduit is placed correctly, technicians can air-jet the fiber drop cable up to 800 ft easily without the need for mid- assist pull boxes.

- ▶ Preferred depth is 12-18".
- ▶ Any bends should not be tighter than 16" radius.
- ▶ Care needs to be taken to avoid "kinking" or deforming the conduit itself. In the event that occurs, a splice and coupler will need to be installed to clear the cable path. Contact the MLP Manager.
- ▶ FTTH Microduct should rise from below ground tight to the premise foundation wall and extend at minimum 4 ft. and be capped. The location at the home should be pre- determined as suitable for future installation of the Network Interface Device (NID) and penetration of the building for the service cable. Microduct will be plumbed into NID at time of fiber cable installation.
- ▶ An additional 25 ft of microduct should be coiled at the pole and capped. This will be secured to pole at time of cable installation to provide a protective riser up to the cable attachment height.

Disclaimer: While the MLP Manager will strive to always give the best advice and guidance, the Town of Heath, WiredWest, and their installation partners cannot be responsible for microduct installations undertaken by the homeowner.

Appendix B

Property Access/Service Drop Request Form

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