# Agreement to Connect Building to EUGNet

Downtown High Speed Fiber Network

Site Address:_____

In partnership with the Eugene Water and Electric Board (EWEB), the Lane Council of Governments (LCOG), and the Technology Association of Oregon (TAO), the City of Eugene is constructing a high speed fiber optic network in downtown Eugene (EUGNet). EUGNet is being constructed in 2017 and 2018.

For additional project information, see our website at http://eugnet.org/

The estimated cost of connecting EUGNet to a building is $10,000. In order to encourage economic development in the region, the City of Eugene is subsidizing this cost for eligible buildings during the construction project. A building is eligible if the Authorized Building Representative agrees to the terms herein, and submits this signed form during the construction project. The fee to connect an eligible building is $2,000. Signing up after the construction project is possible, but the full cost of the connection will be borne by the building owner.

EUGNet is open access, meaning that any internet service provider (ISP) can provide internet service to tenants in a connected building. This open access principle is essential to the economic development goals of the project. If your building has multiple tenants, and you want your building to be eligible for the $2,000 connection fee, you must agree to allow each tenant to individually select ISPs.

This is an agreement between the Authorized Building Representative and the City of Eugene. If you agree to the 10 paragraphs set forth below, your building is eligible for the $2,000 connection fee. Please sign the agreement and return the original to any of the following EUGNet partner representatives:

- Anne Fifield, City of Eugene, Economic Development Planner, 99 W 10th Ave, Eugene, OR 97401
- Patrick Cox, P.E., City of Eugene, Civil Engineer, 99 E Broadway, Ste. 400, Eugene, OR 97401
- Nick Nevins, EWEB, Engineering Technician, 4200 Roosevelt Blvd, Eugene, OR 97402
- Jacob Callister, LCOG, Senior Planner, 859 Willamette St, Ste. 500, Eugene, OR 97401

Upon receipt of the executed agreement, the City of Eugene will invoice the Authorized Building Representative for the connection fee.

**I, the undersigned Authorized Building Representative, agree to the following**:

1) I have the right to sign agreements that affect the building referenced by Site Address above.
2) I hereby authorize the City of Eugene and its EUGNet partners to connect the building at the Site Address to EUGNet: an open access,high speed fiber network.
3) I will promptly pay the connection fee when I receive the invoice from the City of Eugene.
4) I understand that this connection is terminated at a point of demarcation, typically in the basement of a building.
5) I am responsible for all in-building wiring and related work to provide tenants and/or individuals a connection to the EUGNet point of demarcation.
6) I agree that in-building work will be in accordance with the in-building standards, located at this link: http://eugnet.org/in-building-standards/
7) I will not enter into an agreement with any ISP to serve multiple building tenants or otherwise limit ISP choices to the tenants. Each tenant of my building will individually select an ISP.
8) If I decline or violate the terms of this agreement, I agree to the following: I will bear the full cost of connecting to EUGNet; my connection fee will be $10,000; I agree that $10,000 is a valid and reasonable estimate of total connection costs, which I will not dispute; I agree that this additional fee is not a penalty; and I agree that my building is ineligible for the reduced fee.
9) This agreement supersedes all prior EUGNet communications, representations or agreements, either oral or written related to the subject of this agreement.
10) This agreement benefits the EUGNet partners. Any EUGNet partner may sue to enforce this agreement, and if successful, be entitled to costs and attorney fees for enforcing the agreement.

**AUTHORIZED BUILDING REPRESENTATIVE**

| |
|---|
| ☐ I accept the terms herein; fee is $2,000 |
| ☐ I decline the terms herein; fee is $10,000 |

Name:_____     Signature:_____

Title:_____     Date:     _____

# EUGNet INTERNET SERVICE PROVIDERS (ISPs)

EUGNet is an 'open-access' network. The EWEB owns the fiber cables and leases them out to Internet Service Providers (ISPs), and individual residents and businesses in connected buildings can choose service from these ISPs. ISPs can lease the fiber cables, so individual customers in the fiber network will be able to use any ISP that is working with the network. Below is a list of ISPs that are currently offering internet service using the EUGnet fiber network.  In order to get internet service, you will need to contact those ISPs to determine which ISP is the best fit for your needs.

| ISP | Website | Phone |
|---|---|---|
| DFN | www.dfneugene.com | (541) 650-0555 |
| Emerald Broadband | www.emeraldbroadband.com | (541) 363-0260 |
| Hunter Communications | www.hunterfiber.com | (541) 414-1111 |
| Peak Internet | www.peakinternet.com/eugfiber | (541) 754-7325 |
| WAVE | business.wavebroadband.com | 1-888-202-9820 |
| XS Media | xsmedia.com/downtownfiberproject | (541) 338-9000 |

# IN-BUILDING STANDARDS for EUGNet

Building owners seeking to maximize the value of the project should immediately start considering the internal wiring of their building(s).  The EUGNet team is developing a set of recommended standards (attached).   These are based on the experience derived from the buildings already connected during the pilot phase.

**In-Building Cabling Standards for EUGNet**

These standards are designed to offer guidance on the in-building installation requirements in the downtown Eugene fiber project (EUGNet). EUGNet is  an open access network, where publicly owned infrastructure has created a competitive landscape so that that private Internet Service Providers (ISPs) can compete to provide service to individual businesses in the fiber service area. These guidelines for in-building infrastructure aim to extend that competitive landscape into multi-tenant buildings, so that no single ISP has a competitive advantage over any other, and all the buildings' tenants can choose their own service provider. Maintaining a competitive environment will contribute to lower prices and better services for tenants in the fiber service area.
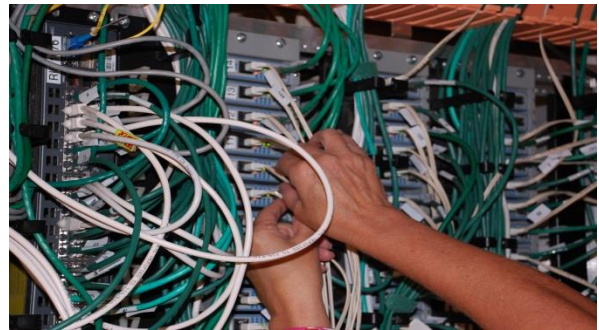
These guidelines provide a description of basic infrastructure requirements to connect a building to the network and guidelines for internal cabling to connect from EWEB's point of demarcation to individual tenants.

**Utility Room Requirements**

EWEB will extend the fiber into the building and terminate at its point of demarcation. Typically that point of demarcation is near the electric service entrance.  The EWEB fiber must be terminated in a room where there is a minimum of 4 ft. x 4 ft. of wall space for mounting equipment.

The ISPs' equipment can be located in a different room than the room where the EWEB fiber terminates, but then the building owner will need to provide a fiber connection back to EWEB's point of demarcation.

Ideally, the space for the ISPs' equipment (Telco room) should be locked, with either a keypad or a key in a lockbox to restrict access.  ISPs should, as a condition of entering the building, be able to access this utility room on a 24/7 basis.

Ideally, there should be multiple electrical connections available (110 V AC) in this room.  The ISP equipment (switches) require a power connection.  The ISPs will install additional power outlets if that is possible and permitted.

**Internal Cabling Recommendations**

Each building will need to provide an internal connection from the Telco room to each floor of the building. These guidelines for internal cabling aim to help property managers install internal infrastructure that enables a competitor to easily enter the building, and not have to charge its first new customer for installation, ensuring that multiple ISPs can compete for customers and no single ISP has a competitive advantage over another.

EUGNet recommends that property managers reach out to qualified contractors to assess each building's technical issues and costs. Check with your contractor, and perhaps with some of the ISPs who wish to serve your building, as to which option might be best for you. Please refer to Section 3 for information about qualified contractors.

This section describes three different cabling options: CAT 5e, CAT 6, and fiber. The optimal solution for any building will depend on the size of the building and the data needs of tenants.

- **CAT 5e.** CAT 5e is copper cable capable of carrying a signal of up to 1 gigabit per second for distances of approximately 300 feet. It  is likely to be a viable solution for most buildings.  If you have tenant spaces that are more than 300 feet from the EWEB fiber point of demarcation, you should talk with your contractor about possibly bringing the EWEB fiber further into the building to reduce the distances of the CAT 5e span, or consider the fiber option,
- **CAT 6.** This is similar to CAT 5e, but has a thicker plastic casing which reduces interference ("crosstalk") between cables and is, therefore, more expensive. EUGNet recommends using CAT 6 if the cable will run past electrical motors or many fluorescent lights.  CAT 6 is very similar to CAT 5e, but they are not interchangeable. The equipment to process signals from fiber (at the point of demarcation) to copper is different for CAT 6 than it is for CAT 5e. The two cannot be mixed, at least for the same floor.
- **Fiber.** Fiber is capable of carrying signals at any capacity that the user wishes. The fiber cabling itself is smaller and more delicate than CAT 5e and CAT 6.  The equipment that ISPs use to provide service to tenants is typically more expensive for fiber than the least expensive CAT 5e and CAT 6.  Your contractor may recommend that fiber be installed in conduit, which increases the price of installation, but provides the tenants with assurances against signal interruptions.

The technical solution will vary building by building. EUGNet expects that CAT 5e will be sufficient for smaller buildings (fewer than five stories) with typical tenants. Fiber may be more appropriate for large buildings, especially those with data-heavy tenants.  In addition, a single Telco room containing all the equipment for all ISPs to serve the building may not work in all circumstances.

| | Length limits | Number of Cables | Termination Option 1 | Termination Option 2 | Notes |
|---|---|---|---|---|---|
| CAT 5e | No more than 300 feet. | At least one cable for each possible tenant per floor. | Terminated in the utility room in each floor. | Instead of terminating cable in the utility room, coil the cable (usually above the drop ceilings) to allow direct connection to the tenant space.  This will require either multiple lengths or a standard length for the floor, all as long as the longest necessary length.  It will make it easier for the ISP, but it will fill the area with unused cable until the tenants buy the service. | Tenant/ISP will have to run cable from the tenant space to that floor's utility room. |
| CAT 6 | Same as CAT 5e | Same as CAT 5e | Same as CAT 5e | Same as CAT 5e | |
| Fiber | No limit. | At least one strand of fiber cable for each possible tenant per floor, but two is optimal. | Terminate the fiber in a fiber optic distribution unit (FODU) in the utility room on each floor. This allows ISPs to make the last link to the tenant. | Instead of terminating fiber cable in the utility room on each floor, coil the cable (in the utility room or above the ceiling just outside the utility room) to allow direct connection to the tenant space.  This will require either multiple lengths or a standard length for the floor, all as long as the longest necessary. | Termination Option 1 is neater and has less risk. It has higher up-front costs, to cover the cost of the FODU. |

**In-building Cabling Contractors**

EUGNet recommends that property managers hire a contractor to do the installation. The contractor can help assess the technical needs for your building and the optimal cabling solution.  The contractor should be someone experienced with handling and installing telecommunications cabling options.  Contractors with this experience are classified as 'low voltage' electricians. The following table lists some local contractors that have experience with telecommunications cabling. EUGNet does not endorse or certify any of these contractors.

| Name | Email | Phone |
|---|---|---|
| Astrotech | astrotechcomm@gmail.com | (541) 683-5719 |
| *StepUP IT Services | ajay@stepupitservices.com | (541) 683-5000 |
| **Partnered Solutions | robert@partneredsolutionsit.com | (541) 255-4980 |
| ***Up Time | hello@uptimesciences.com | (541) 255-3935 |

*ISP Affiliations: *Douglas Fast Net, **Peak Internet, ***XS Media*

Many of the ISPs working in the downtown fiber service area will be willing install the in-building facilities as a part of their efforts to gain clients. EUGNet asks that property managers be careful to insist that if they do so, the ISPs construct a system where other ISPs can get access without having to get permission or assignments from the first ISP. This will ensure the competitive landscape of the publicly owned network extends into each building.

**Recommended Course of Action**

EUGNet recommends property managers take the following steps to maximize the value of the fiber infrastructure for buildings connected to the fiber network.

1. Select and contract with a cabling contractor. Work with that contractor to develop your budget and your expectations for the building.
2. Direct your contractor to meet with several potential ISPs (participated ISPs are listed at EUGNet.org) and to meet with some tenants. Direct your contractor to use these meetings to come up with a plan for optimal wiring.
3. Review the plan with your contractor an issue and develop an appropriate contract for construction services.
4. Develop a standard agreement form for ISPs in the building. EUGNet recommends the agreement include terms that require if an ISP loses a tenant's business, that ISP disconnect the building's cable without damaging it, to make it available for another provider to use. EUGNet also recommends that the building owner asks ISPs to assume responsibility for maintenance of the cable during their use, and that cable be returned to the building owner in the same condition as it was when it was acquired.

The cabling infrastructure will be the property of the building owner and it will be an amenity for the building's tenants. EUGNet has found that the presence of internal cabling increases the attractiveness of the building for tenants.

Please note that EUGNet does not intend to force any change regarding telecom services for the property owners or their tenants. Based on the project's experience to date, the different tenants in a building are all on different contracts for telecom services and will be interested in engaging with the EUGNet service providers on different timelines. In the long term, connecting to the EUGNet network will ensure that existing and future tenants have choices regarding telecom service providers.

# EUGNet FREQUENTLY ASKED QUESTIONS

**Q: What is EUGNet?**
A: Previously referred to as the "Downtown Fiber Project," EUGNet is an "open access" fiber optic network. It is a partnership between the Eugene Water & Electric Board, The City of Eugene, The Lane Council of Governments and The Technology Association of Oregon. The fiber strands run underground from a central exchange to individual buildings. Open access means that the fiber strands are managed by EWEB, a public utility. Private internet service providers lease those fiber strands to serve individual businesses in the connected buildings. EUGNet's increased speed and reduced cost is expanding in downtown Eugene and has been super charged with backbone connections to Portland and Silicon Valley. EUGNet partner Contacts are as follows:

| Contact | EUGNet Role | Phone/Email |
|---|---|---|
| Patrick Cox  (Eugene) | Project Manager | (541) 682-5331 patrick.m.cox@ci.eugene.or.us |
| Anne Fifield (Eugene) | Economic Development | (541) 682-5451 anne.E.Fifield@ci.eugene.or.us |
| Nick Nevins  (EWEB) | EUGnet Designer/Install Coordination | (541) 685-7751 nicholas.nevins@EWEB.ORG |
| Jacob Callister (LCOG) | Install Coordination | (541) 682-4114/ jcallister@lcog.org |
| Matt Sayre (TAO) | Business Relations/Outreach | (503) 701-7792 matt.sayre@techoregon.org |

**Q: What is a Fiber Network?**
A fiber network connects individual buildings to a central connection point (an 'exchange') with fiber-optic cable. Fiber-optic cables are thin glass strands that transmit data using light. Fiber can transmit very large amounts of data very quickly. Fiber is the most advanced technology for delivering communications.

**Q: Where is the "Fiber Network"?**
A: We are building the network by running fiber cables through EWEB's existing, underground electrical conduits. The planned fiber network covers the part of downtown where the electricity lines lie underground, and where that electrical conduit has enough space to house the fiber cables (see map).

**Q: After I'm connected to the fiber network, how do I use it to get internet service?**
The fiber network is an 'open-access' network. EWEB owns the fiber cables and leases them out to Internet Service Providers (ISPs), and individual residents and businesses in connected building can choose service from these ISPs. ISPs can lease the fiber cables, so individual customers in the fiber network will be able to use any ISP that is working with the network. Within this packet is a list of ISPs that are currently offering internet service using the EUGNet fiber network. In order to get internet service, you will need to contact those ISPs to determine which ISP is the best fit for your needs.

**Q: Hasn't wireless technology made fiber obsolete?**
A: No.  Even wireless internet service requires a fiber network backbone.  Also, fiber to the premises is the state-of-the art solution for the growing technology sector in downtown Eugene.  It is faster, more reliable, and more secure than wireless internet.

**Q: Is the City government or EWEB providing internet access?**
A: Neither.  EUGNet is open access.  Any internet service provider can lease fibers on the network and serve the customers in the downtown area.
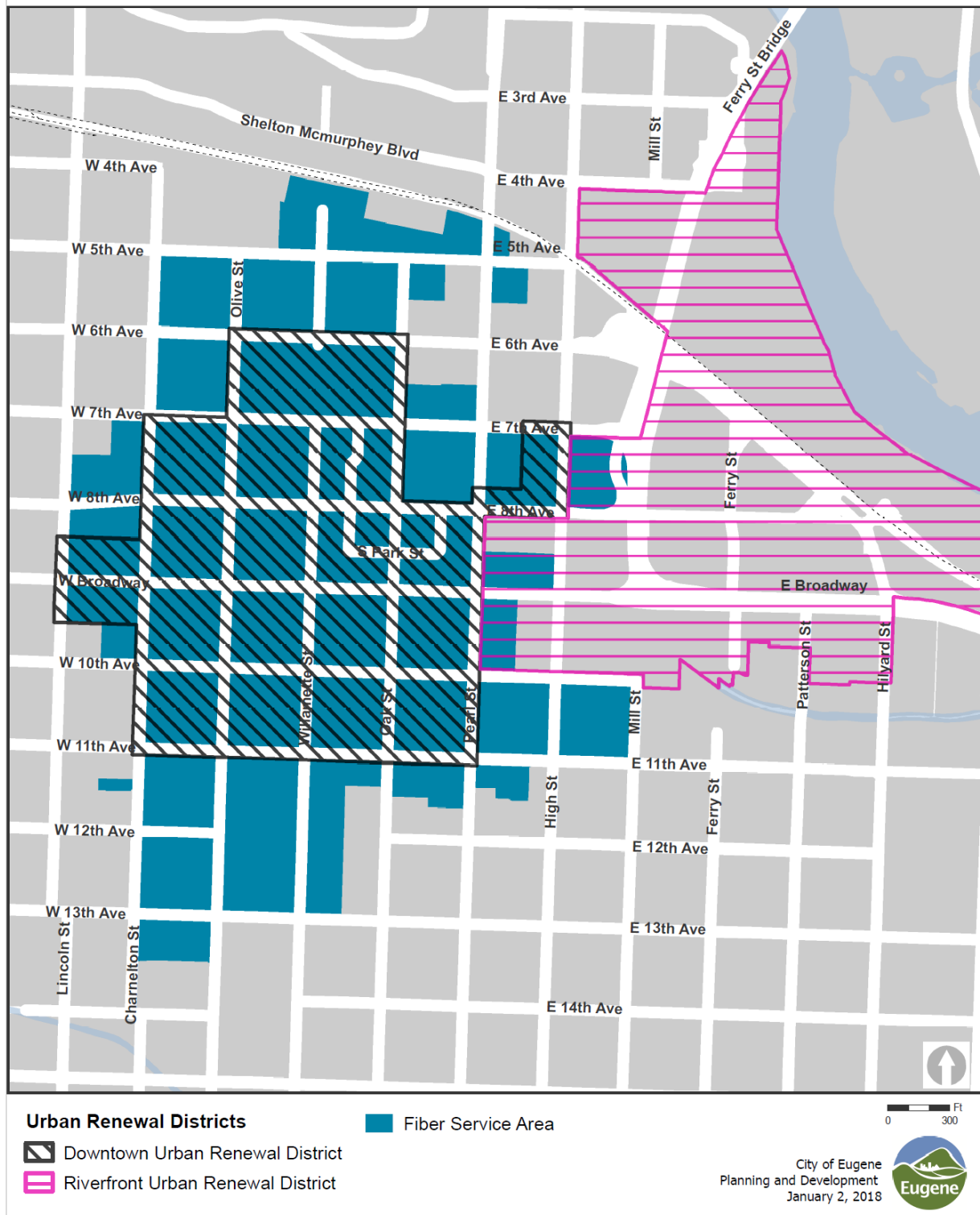
**Q: This is great for the downtown, but what about the rest of Eugene? When will the network extend outside of the downtown?**
A. We have been able to secure funding to build the small network in the downtown (see map included within this packet). At this time, we have not yet identified a funding source to extend the network beyond this area.

*Be sure to visit www.eugnet.org for project updates.*

# CURRENT EUGNet
# (DOWNTOWN FIBER PROJECT) AREA



**Urban Renewal Districts**

Fiber Service Area

Downtown Urban Renewal District

Riverfront Urban Renewal District

City of Eugene
Planning and Development
January 2, 2018

Caution:This map is based on imprecise source data, subject to change, and for general reference only.