



# Hood River County Community Development

Planning, Building Codes, Code Compliance, Economic Development & Veterans' Services

601 State Street, Hood River OR 97031

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## STAFF MEMO

### Hood River County Planning Commission - Planning Session Working Draft of Cell Tower Ordinance

#### Proposed Amendments to the Hood River County Zoning Ordinance

<b>Request:</b>	Explore text amendments to the Hood River County Zoning Ordinance ("HRCZO") by inserting new Article 74. Article 74 will provide standards and procedures for review and development of communication facilities and towers.
<b>Applicant:</b>	Community Development Department
<b>Prepared for:</b>	Planning Commission March 25, 2015 Planning Session
<b>Prepared by:</b>	John Roberts, Community Development Director
<b>Applicable Properties:</b>	Unincorporated portions of Hood River County ("county")
<b>Procedure Type:</b>	Legislative

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#### I. Purpose

The purpose of the work session is to apprise the planning commission of the work that has been completed to date by the Cell Tower Advisory Committee/Task Force, and the main issues that were considered in drafting Article 74 ("Communication Facilities & Towers"). After the planning session staff will conduct additional research and begin to provide notice to agencies and others. After public and agency comments on the draft ordinance are received and considered, staff will ultimately make a recommendation to the planning commission at a public hearing.

#### II. Background

The HRCZO does not have regulations that specifically address wireless communications towers and facilities, although many other counties in Oregon have implemented such procedures and standards. Towers are regulated under vague and general approval criteria from several different sections of the HRCZO. The land-use process for communications towers and facilities can place significant time and expense burdens on the county, applicants, and neighbors. Specific provisions in the HRCZO to regulate placement and design of cell towers should lead to a more predictable and efficient process for all parties. In light of this context, the Board of County Commissioners has asked the planning department to prepare a draft amendment to

HRCZO to address cell towers for its consideration.

Hood River County frequently receives cell tower applications. While staff is unsure about the full explanation for this frequency, part of the reason undoubtedly has to do with the advent of smart phones and resulting consumer popularity. These phones in their initial and subsequent generations require large data transmissions, and tower capacities must be expanded or new ones built in order to support increased demand. For example, per the Oregon Business Development Department, 31 bills and resolutions have been introduced in the 2015 Session regarding Broadband Telecommunications as of March 15<sup>th</sup>.

Recent cell tower applications in the county (i.e., applications located near Fairview/Rocky Rd and Belmont/Methodist Rd) have met opposition, which has led to testy dialogue between the provider, community and staff. Specific concerns expressed as part of this dialogue include:

- 1) The need for clear and effective regulations for cell towers within the proper meaning of the Telecommunications Act of 1996.
- 2) Minimizing effects of cell towers on real property values.
- 3) Minimizing visual, noise and aesthetic impacts of cell towers.
- 4) Minimizing development impacts on the environment.
- 5) Adequately protecting health, safety and welfare.
- 6) Assuring protection by monitoring approved cell towers for continued compliance.
- 7) Assuring timely and appropriate removal of cell towers in the event of abandonment.
- 8) The need for independent technical consultation for applications.

In light of the aforementioned, the purpose of the proposed amendment is to provide a process and standards for the construction, modification and removal of communication towers, non-commercial wind energy systems using towers, and meteorological towers (collectively referred to as 'towers') while protecting public health and safety and the scenic quality of unincorporated Hood River County. At the same time encourage managed development of needed wireless communication facilities.

### **III. Chronology**

The following attempts to provide a chronology of events that have been documented as it relates to the history and process to develop the proposed ordinance in the county:

- 1996: Passage of the Telecommunications Act of 1996 – creates desire to write an ordinance.
- 2002 Planning Staff Meeting: Cell tower ordinance mentioned at staff meeting as a result of discussing energy facilities. There was some discussion that towers could be regulated through Goal 5 – Scenic Views but would be a bit tricky.
- 2008: Board of County Commissioners directed staff to begin the legislative process for the development of a Cell Tower Ordinance.
- December 2008: Legislative action initiated and planning staff starts working on an ordinance.

- December 2008 – January 2009: Tower Advisory Committee established: Bill Fashing, County Economic Development Coordinator; John Gerstenberger, Hood River Electric Co-op; Linda Streich, Professional Business Solutions; Peter Frothingham, Hood River Valley Residents Committee; Anne Debbaut, Senior Planner.
- January 14, 2009: Task Force has kick-off meeting. Ordinances referenced include: Multnomah and Wallowa counties and 8 others.
- Planning Commission Meeting February 11, 2009: At planning commission meeting presented purpose and intent, existing code provisions, identified draft sections and next steps in developing draft ordinance.
- Planning Commission “First Planning Session” June 24, 2009: Planning session on proposed legislative amendment for Wireless Communication Facilities. Presentation topics included: project history, project status and work group, review of draft ordinance sections, review Table A, review of other sections, and identified next steps.
- Planning Commission “Second Planning Session” July 8, 2009: Purpose was to provide additional time for the public and the commission to discuss a draft ordinance intended to regulate the development of wireless communication facilities. Continued discussion of first draft to “hopefully” complete the review of the draft ordinance.

*A continuation of the planning session was scheduled for early summer 2009. Unfortunately the lead planner, Anne Debbaut, was laid off prior to that planning session and the project was dropped.*

- Board of Commissioners Early 2011: At annual goal setting session directed staff to provide Board with the current draft of cell tower ordinance and give a short update on the status of the project.
- Board of Commissioners March 2011: Staff and counsel speak to the Board about a cell tower ordinance. The Board’s consensus was that, while a cell tower ordinance might be considered in the future, there are inadequate staff resources to approach this task during the 2010-2011 Fiscal Year.
- Board of Commissioners 2013 & 2014 Goal Setting Sessions: Cell tower ordinance discussed and determined not to be high priority in light of staff resources and existing CUP process.
- Late-2013 & Early-2014: Cell tower application on Multnomah Road re-stimulates the discussion and need for cell tower ordinance.
- August 27, 2014 Planning Commission: Director gives report indicating Hood River Valley Residents Committee (HRVRC) will be preparing a draft cell tower ordinance for commission perusal at some point. HRVRC provided with a digital copy of the draft that the county committee had worked on before Anne Debbaut (Senior Planner) was laid off.
- October 13, 2014 Board of County Commissioners: HRVRC requests that an advisory committee continue to work on drafting an ordinance.
- October 23, 2014 Planning Commission: Planning commission request HRVRC help bring closure to county cell tower ordinance through task force participation. Planning Commissioners Frothingham and Brennan agree to participate.

- Board of Commissioners January 2015: At annual goal setting session directed staff to finish and adopt cell tower ordinance.
- February 25, 2015: Task Force reconvened to reviewed and amend draft. Participants included: Planning Commissioners Frotheringham and Brennan; Heath Staten and Polly Wood (HRVRC); Celcia Goodman; and Eric Walker and John Roberts (Planning Staff).
- March 10, 2015: Task Force reconvened to review and amend draft for March 25, 2015 planning commission planning session. Participants included: Planning Commissioners Frotheringham and Brennan; Heath Staten and Polly Wood (HRVRC); Celcia Goodman; Jeff Hunter; and Eric Walker and John Roberts (Planning Staff).
- March 25, 2015: Planning Commission work session to discuss draft ordinance.

It is evident from the above chronology there is a history of concerted efforts to try and get a cell tower ordinance adopted. Moreover, it is apparent there is the political will to adopt said ordinance, which was suspended multi-times due to a lack of staffing resources. It also appears from the chronology that the various committees established tried to get a broad representation of viewpoints. The most recent task force convened met twice before the March 25<sup>th</sup> planning session to consider changes to the draft ordinance and build consensus. Per the recommendation of the task force, the most recent draft of the ordinance has been sent to two representatives who work in the industry and are familiar with permitting (Robert Fenton and Christina Suarez).

#### **IV. The Wireless Telecommunications Act 1996**

The stated purpose of the Telecommunications Act of 1996 (TCA) is to “promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunication consumers and encourage the rapid deployment of new telecommunications technologies.” In carrying out this purpose, the TCA implements three important (but somewhat competing) principles:

- 1) The siting of wireless telecommunication facilities (WTF) must comply with local zoning and land use regulations.
- 2) Local jurisdictions must not unreasonable discriminate among providers of functionally equivalent services but may distinguish applications based upon different visual, aesthetic and safety concerns.
- 3) The local regulations must not result in the actual or effective prohibition in the provision of personal wireless services.

During the 19 years that have elapsed since the enactment of the TCA, a number of federal case have explained or elaborated the meaning and application of the three principles (not always consistently). As a result, a great deal of uncertainty exists as to what local jurisdictions can and cannot do, and what cell tower providers can expect. However, the following two cases from the Ninth Circuit Court of Appeals give clearer guidelines for reviewing tower applications and, therefore, provide a platform for the proposed amendments and existing regulations in place elsewhere:

- MetroPCS, Inc. v. City of County of San Francisco, 400 F.3<sup>rd</sup> 715 (2005)
- T-Mobile USA, Inc. v. City of Anacortes, 572 F.3<sup>rd</sup> 987 (2009)

Two subsequent amendments to the TCA need to be mentioned. First, the law now requires all new towers to have backup power supplies as a matter of homeland defense planning. Second, local jurisdictions must process and complete new tower applications within 150 days. Collocation applications must be approved within 90 days. Failure to meet these deadlines gives tower applicants the right to transfer application review to the Federal District Court. Overall, the TCA regulates certain aspects of tower applications while leaving approval or denial of those applications to local land use processes.

## **V. Important Considerations**

- A. **National Scenic Area (NSA)**: It is felt the applicability/jurisdiction of the proposed ordinance is important to recognize. One of the recently contested cell tower applications was in the NSA, specifically P-12-194 (American Tower Corporation off Fairview and Rocky Road). Additionally, there will invariably be future cell tower applications proposed in the NSA.

The proposed ordinance would only be applicable to unincorporated portions of Hood River County and would not include lands within the NSA. The NSA is governed by Article 75 of the HRCZO. However, it is plausible the proposed ordinance could eventually be adopted into Article 75. For that to happen the ordinance would be required to go through an entirely separate and different legislative process that is primarily outside the purview of the Oregon Statewide Planning Program.

- B. **Requirement for Independent Consultation**: Section 74.25 – Application Requirements proposes that,

“At any time during the application process, the planning director may request additional information relevant to the proposal. Furthermore, the county may require review and validation of technical information contained in an application by a qualified, county approved, independent third party. The cost of such a review shall be borne by the applicant.”

The concept of providing for independent consultation as a potential requirement for application review is not an uncommon provision. This approach acknowledges the obvious fact that properly processing of a communication facility or tower application depends on sophisticated technical expertise not ordinarily available to county staff and decision makers and other land use participants. Having competent, verified technical facts in support of key standards and criteria should serve all participants, including applicants.

- C. Towers in Farm Zones – Sub (1) Use: Facilities and towers in the Exclusive Farm Use (EFU) zone are authorized by Oregon Revised Statute (ORS) 215.281(1)(c) and are subject to further specialized criteria and standards as set forth in ORS 215.275. These statutes specify the county must impose clear and objective conditions on the approval of facilities and towers to mitigate and minimize impacts on surrounding land devoted to farm use.

What this also means is communication facilities and towers in the EFU zone are reviewed and approved without public notice. The standards listed in the draft (Section 74.40) come directly from ORS at 215.283(1)(c). Oregon courts have held counties may not apply local land use regulations to deny or condition uses authorized under 215.281(1), unless the county is required to do so by Land Conservation and Development Commission rules. *Brentmar v. Jackson County*, 321 OR 481, 900 2<sup>nd</sup> 1030 (1995). In a subsequent case, the Oregon Court of Appeals held counties can apply state and local fire, building and other public safety regulations that are applicable to all buildings regardless of their location. *Josephine County v. Garnier*, 96-CV-0218 (1999). The building and safety codes referred to here are clear and objective standards. Literally, the county cannot deny 283(1) uses but only condition such with objective standards. With these limits towers qualify for Building Permit as identified in Table A attached to the draft ordinance.

- D. Height: Table A lists the height limits for towers in each county zoning district. The heights range from 200 feet in the EFU zone to 35 feet in the R-1 and R-2 zones. Determining how tall a tower should be is a tough question and chief concern among citizens (i.e., to avoid towers from looming over their surroundings). Staff had two initial reactions to Table A: 1) are the proposed height limits too restrictive, and 2) could restrictive height limits subsequently create the need for more towers to be sited?

Wireless telecommunication relies on "line of sight" transmission (i.e., unobstructed transmission), and, as such, companies argue that taller towers are necessary to provide adequate service. Moreover, tower height must be raised to compensate for buildings, trees, hills, or other obstacles. For example, in a suburban setting, with houses and small offices, it may be necessary to add 20 to 40 feet to the tower height to get over the homes, offices, and trees that would be in the line-of-sight between the two towers. The proposed heights in Table A are typically the maximum building height allow in that zone.

It is not clear if the prior advisory committee / task force conducted significant research or had dialogue regarding the tower heights identified in Table A. It is not clear what drove those thresholds. This is further complicated by research, which will reveal there are a number of factors that influence tower height such as line of sight, power output and timing advance.

Overall, staff recognizes it needs to continue to work with the task force, planning commission and industry representatives to better understand tower height and if the heights identified in Table A are justified or too restrictive.

- E. Consistency with HRCZO & Other Updates: Staff has not made the time to research what other articles in the HRCZO reference communication facilities and towers or similar. It is likely other articles will need to be amended and a new reference added to complement the proposed Article 74. As such, staff will conduct additional work to see if and how cell towers or utilities are referenced throughout the HRCZO and provide a recommendation at forthcoming meetings or hearings.

## VI. Comments & Notice

Notice of the planning session was published in the *Hood River News* on Wednesday, March 11, 2015, more than ten days prior to the planning session. Additionally, notification was sent to the task force members and HRVRC. However, prior to the next meeting or public hearing, notice to affected local and state agencies, the cities of Hood River and Cascade Locks, and other individuals who indicated an interest in the legislative action will be conducted.

## VII. Staff Recommendation

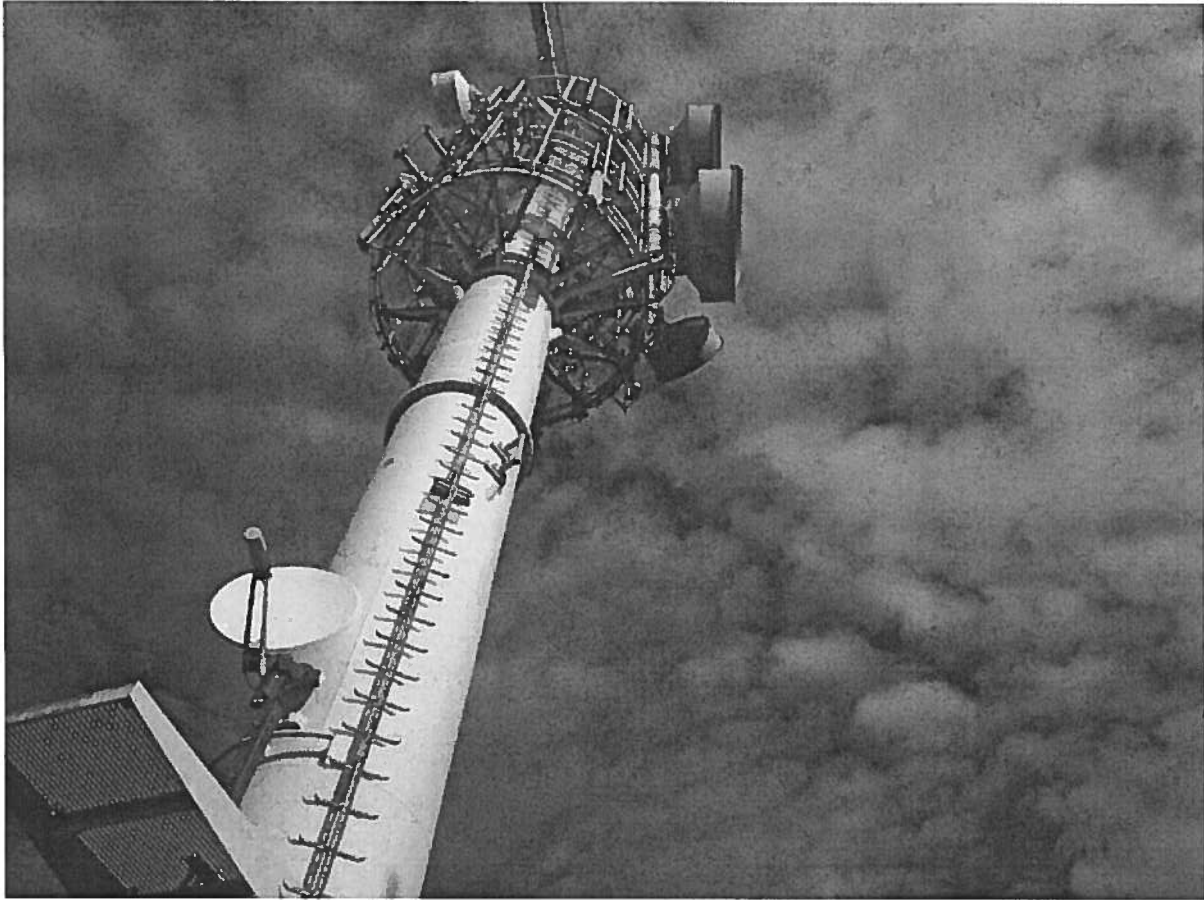
There are four things that ideally would be accomplished at the planning session:

1. Present to the planning commission a thorough overview of the process to date and draft ordinance.
2. Discuss the draft ordinance with the task force and staff.
3. The planning commission provides feedback and recommendations on the process and draft ordinance.
4. Next steps are identified.

## VII. Attachments

The following attachments are included to provide background information regarding cell towers and previous meetings.

- Article 74: Working Draft - Communication Facilities & Towers (includes Table A)
- Handout: How Cell Towers Work (Unison Site Management)
- Handout: Wireless Facilities Deployment
- Handout: ORS Citations
- Planning Commission Minutes:
  - February 11, 2009; June 24, 2009; July 8, 2009; October 22, 2014
- Board of County Commissioner Minutes:
  - October 13, 2014
- Handout: Inventory of Cell Towers in Hood River County





# **Article 74**

**Working Draft**

**Communication Facilities & Towers**

**WORKING DRAFT:** 3-25-15

**Article 74 - Communication Facilities & Towers  
Adopted by Hood River County – Ordinance #?  
Effective ??, 2015**

Section 74.00 Purpose.....

Section 74.05 Applicability .....

Section 74.10 Exempt Towers & Facilities .....

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Section 74.25 Application Requirements .....

Section 74.30 General Standards & Requirements.....

Section 74.35 Standards & Approval Criteria Lands Not Zoned EFU.....

Section 74.40 Addition Standards & Approval Criteria for Land Zoned EFU .....

Section 74.45 Maintenance.....

Section 74.50 Abandonment/Discontinuation of Use.....

Section 74.55 Modification of Development Standards.....

Section 74.60 Statutory Severability.....

**Section 74.00 - Purpose**

The purpose of this Article is to provide a process and standards for the construction, modification and removal of communication towers, non-commercial wind energy systems using towers, and meteorological towers (collectively referred to as ‘towers’) while protecting public health and safety and the scenic quality of unincorporated Hood River County. At the same time it encourages managed development of needed wireless communication facilities.

The specific purposes of this Article are:

- To recognize that towers are required to serve a variety of public needs.
- To enhance the provision of communication services to county residents, businesses and visitors.
- To protect the unique scenic quality of the county and its neighborhoods by the thoughtful design, siting, landscaping, and camouflaging techniques of wireless communication facilities.
- To encourage the collocation of facilities as a primary option rather than the construction of additional single-use towers.
- To ensure the prompt and complete removal of facilities when abandoned or discontinued, including site restoration.

**Section 74.05 - Applicability**

1. This Article does not apply to those areas within the Mount Hood National Forest, the Columbia River Gorge National Scenic Area, or the Urban Growth Areas of the cities of Hood River and Cascade Locks.
2. Wireless telecommunications facilities existing prior to the effective date of this Article that do not conform to the standards of this Article and which have been in continuous use prior to the effective date of this ordinance are allowed to continue as non-conforming uses. Expansion of these facilities including collocation of new antennas on them are subject to the requirements of this Article.
3. All wireless telecommunication facilities are subject to the requirements of this Article, except those Exempt Towers and Facilities identified below. The requirements of this Article are in addition to the requirements of the base or overlay zone and all other applicable county ordinances and regulations. If a conflict is noted between development standards, the more restrictive will apply.

**Section 74.10 - Exempt Towers & Facilities**

The following towers and wireless telecommunication facilities are not subject to the standards and requirements of this Article:

1. Amateur (Ham) radio towers, citizen band transmitters and antennas.
2. Whip or other similar antennas no taller than 6-feet with a maximum diameter of 2-inches.
3. Residential scale antennas designed to receive television broadcast signals.
4. Low-powered networked telecommunications facilities such as microcell radio transceivers located on existing utility poles and light standards within public right-of-ways.
5. Wireless communication devices less than or equal to 10 square feet in area and approved by the Federal Communications Commission (FCC) for residential areas (regardless of

- the zone).
6. Cells-On-Wheels (COW), which are permitted as temporary testing uses in nonresidential zones for a period not to exceed one day or during a period of emergency as declared by the City, County, or State.
  7. Emergency or routine repairs or maintenance of previously approved facilities, or replacement of transmitters, antennas, or other components of approved facilities which do not create a significant change in visual impact.
  8. Two-way communication transmitters used on a temporary basis by “911” emergency services, including fire, police, and emergency aid or ambulance service.
  9. Essential public communication services such as police, fire and other emergency communication networks.
  10. Existing electrical utility poles and towers.

#### **Section 74.15 - Review Procedures**

The review procedure for an application for a tower shall be as indicated in Table A.

#### **Section 74.20 - Definitions**

**Abandonment** – Wireless telecommunication facilities will be considered abandoned when there has not been a carrier licensed or recognized by the Federal Communications Commission operating on the facility for a period of one year (365 consecutive days).

**Antenna** - A transmitting or receiving device used in telecommunications that radiates or captures electromagnetic waves, including, but not limited to, directional antennas, such as panel and microwave dish antennas, and omni-directional antennas, such as whips.

**Antenna, Whip** - An antenna that transmits or receives 360 degree signals. Whip antennas are typically cylindrical in shape, less than 3 inches in diameter and no more than 6 feet long, including the mounting assembly.

**Carrier** - A company that provides wireless services.

**Carrier, Licensed** - A company authorized by the FCC to build and operate a commercial communication services system.

**Collocation** - The use of a single support structure by more than one wireless telecommunications provider. Also, the use of an existing structure as a telecommunications antenna mount, such as a water tank, fire station, utility poles, towers, etc., by one or more carriers.

**Concealment Technology** - The use of technology through which a wireless communications facility is designed to resemble an object which is already present in the natural environment; is designed to resemble a building of a type typically found in the area; or is placed within an existing or proposed structure.

**Essential Public Communication Service** - Police, fire and other emergency communications networks.

**Equipment Shelter** – A structure that houses power lines, cable, connectors and other equipment ancillary to the transmission and reception of telecommunications.

**Existing Telecommunication Facility** – A wireless telecommunications tower, or other supporting structure, antenna and equipment structures that received land use approval prior to ??/??/15.

**Façade Mounted Antenna** - An antenna architecturally integrated into the façade of a

structure or building.

FCC - Federal Communications Commission.

Grade - The lowest point of elevation of the finished surface of the ground within 5 feet of the structure.

Macrocell - A cell in a mobile phone network that provides radio coverage served by a high power cellular base station (tower). Generally, macrocells provide coverage larger than microcell and has a power output of tens of watts. The antennas for macrocells are mounted on ground-based masts, rooftops and other existing structures, at a height that provides a clear view over the surrounding buildings and terrain.

Maintenance - Emergency or routine repairs of previously approved facilities and the replacement of components of previously approved facilities which do not create a significant change in visual impact.

Microcell - A cell in a mobile phone network served by a low power cellular base station (tower), covering a limited areas such as a hotel, and typically the range is less than two kilometers wide. Microcell antennas are typically mounted at street level on the external walls of existing buildings, lamp-posts and other street furniture.

Modification - The changing of any portion of a tower and its associated facility from its description in a previously approved permit.

Pre-Existing Towers - A tower, or other supporting structure, attached equipment and associated structures that received land use approval prior to the adoption of this Article.

Radiofrequency Engineer - An engineer specializing in electrical or microwave engineering and licensed in Oregon.

Restoration - To return a site to its pre-construction condition unless otherwise reviewed and approved by the Hood River County Planning Department.

Roof Mounted Antenna - Any antenna and its support structure placed directly on the roof of a building.

Service Area - The area served by a single provider.

Speculation Communications Tower - A tower designed for the purpose of providing location mounts for wireless telecommunications facilities without a binding commitment or option to lease a location upon the tower at the time of application.

Tower - A pole, telescoping mast, tripod or any other structure that provides support for or are an integral component of such devices as wireless antennas, wind generation facilities and meteorological measuring and recording equipments.

Tower, Guyed - A tower that is supported in whole or in part by guy wires and ground anchors.

Tower Height - The distance from the finished grade at the tower base to the highest point of the tower, including the base pad and turbine blades, mounting structures and panel antennas, but not including lightning rods and whip antennas.

Support Structure - A wireless telecommunication tower, building, or other structure that supports an antenna used for wireless telecommunications.

Visually Subordinate - A facility that does not noticeably contrast with the surrounding landscape. Visually subordinate facilities may be partially visible, but are not visually dominant in relation to their surroundings as viewed from residences, highways, and other vantage points.

Wireless Telecommunication Facility (“WTCF”) - An unmanned facility for the transmission of radio frequency (RF) signals, consisting of an equipment shelter, cabinet or other enclosed

structure containing electronic equipment, a support structure, antennas or other transmission and reception devices.

Freestanding point-to-point microwave dishes, high power television and FM transmission and AM facilities are considered wireless telecommunication facilities.

Wireless Telecommunication Tower – A freestanding support structure designed and constructed primarily to support antennas and transmitting and receiving equipment. Wireless telecommunication towers include, but are not limited to:

1. Lattice Tower - A guyed or self-supporting tower characterized by an open framework of lateral cross members which stabilize the tower.
2. Monopole - A single upright pole, engineered to be self-supporting, that does not require guy wires or lateral cross supports.

### **Section 74.25 - Application Requirements**

**Submittal Requirements:** In order to properly evaluate an application, the applicant shall submit an application that consists of the proper application forms, site plan and accompanying maps that show the proposed development layout, and all other related information. A complete application is one which contains the information required to address the relevant standards as specified by this ordinance.

At any time during the application process, the planning director may request additional information relevant to the proposal. Furthermore, the county may require review and validation of technical information contained in an application by a qualified, county approved, independent third party. The cost of such a review shall be borne by the applicant.

#### **A. General Submittal Requirements - All WTCF Types**

The following information may be required for an application for a Building Permit Review, Planning Director's Review, or a Conditional Use Permit:

1. Description of the proposed antenna including: distance from the nearest WTCF and nearest potential collocation site; total anticipated capacity of the structure, including number and types of antennas which can be accommodated; the proposed color, surfacing of the facility and associated fixtures; and use of concealment technology (if applicable).
2. A site plan, drawn to scale, that includes:
  - a. Existing and proposed improvements.
  - b. Adjacent roads.
  - c. Parking, circulation and legal access.
  - d. Connections to utilities required.
  - d. Areas of existing and proposed vegetation to be retained, replaced, added, or removed.
  - e. Setbacks from property lines of all existing and proposed structures.
3. Elevations showing height above ground, antennas, towers, equipment shelters, area enclosure and other improvements related to the facility.
4. A landscape plan if ancillary facilities will be located on the ground.

**B. Specific Submittal Requirements - Collocation of Antennas Upon Existing Towers or Structures**

In addition to the application procedures specified above, applications for construction of new towers may include:

1. Documentation from a qualified engineer that the WTCF:
  - a. Has permission to collocate.
  - b. Is designed to allow future collocation of additional antennae if technologically possible.
  - c. No increase in the height of the existing wireless telecommunication support structures is proposed.
  - d. Will not produce sound levels in excess of those standards specified below in the Approval Criteria for lands not zoned EFU.
  - e. All aspects of the collocation improvements are located within the previously approved fenced (lease) area.

**C. Specific Submittal Requirements - Construction of a New Tower**

In addition to the application procedures specified above, applications for construction of new towers shall include:

1. A vicinity map showing:
  - a. The applicant's proposed facility site.
  - b. Other sites in the vicinity evaluated for the proposed facility.
  - c. Other similar existing facilities in the area.
  - d. The proposed coverage area and approximate geographic limits of the "cell" to be created by the facility.
2. A photographic simulation showing how the facility will appear on the landscape. The simulation should contain a graphic simulation showing the appearance of the proposed tower, antennas and ancillary facilities from at least three points within a five mile radius. Such points shall include views from public places, including but not limited to parks, rights-of-way, and waterways to ensure that various potential views are represented. The study shall also include existing scaled elements, e.g. houses, trees, power lines, etc.
3. A report/analysis from a qualified engineer documenting the following:
  - a. Demonstrated need for the WTCF.
  - b. Technical information justifying the need to locate the proposed facility in the requested location (service, demands, topography, dropped coverage, etc) and not collocated. Applicants are urged to consider use of existing telephone and electric utility structures as sites for their WTCF.
  - c. The reasons why the WTCF must be constructed at the proposed height.
  - d. The use of sensitive site design utilizing compact and least obtrusive technology (e.g., factors governing selection of the proposed design and failure to employ concealment technology).

4. A signed agreement, stating that the applicant and future owners or operators will allow collocation with other users, provided all safety, structural, and technological requirements are met.
5. Documentation that the WTCF has been reviewed and is not determined to be a hazard to life, health or property if constructed as proposed from the FAA, the Oregon Department of Aviation, the FCC and any other local or state agency with jurisdiction.
6. Full response to the applicable Approval Criteria for lands not zoned EFU, if applicable.
7. Full response to the Burden of Proof criteria in Article 60, if applicable.

**Section 74.30 - General Standards & Requirements**

- A. Outstanding scenic views and sites will be preserved.
- B. Protect and preserve the visual character of the county.
- C. A permit shall be required for the construction and operation of all new towers and for modifications to existing towers that result in increased capacity. Review and approval shall be under a Building Permit Review, Planning Director’s Review, or a Conditional Use Permit Review as outlined in Table A and described in this ordinance.
- D. The existing building or structure, other than an existing tower, on which a collocation is proposed must be conforming in use and must also comply with the site development standards of the zone in which it is located.
- E. No application shall be accepted or approved for a speculation tower (i.e., from an applicant that proposes to construct a tower only). The application must be signed by a lawful representative of a service provider intending to lease the tower in addition to other required signatures.
- F. The applicant has the burden of proof to demonstrate concealment technology designs are unworkable with regard to the primary purpose of the tower.
- G. All support structures shall be designed as per applicable Building Codes.
- H. All necessary local, state and federal authorizations/permits shall be obtained prior to constructing the use.
- I. The applicant shall comply with all applicable FCC Radio Frequency emission standards (FCC Guidelines).
- J. Microwave dish antennas installed on a tower shall not exceed a diameter of three (3) feet.
- K. No commercial WTCF operating at an effective radiated power (ERP) of more than 7 watts shall be located on any residential structure, including accessory structures.
- L. All facilities located on a utility pole shall be promptly removed at the operator’s expense at any time a utility is scheduled to be undergrounded or otherwise moved.

**Section 74.35 - Standards & Approval Criteria for Facilities on Lands Not Zoned EFU**

**A. General & Operating Requirements**

1. The service provider of the WTCF and his or her successors and assigns shall agree to negotiate in good faith for shared use of the WTCF by third parties and to allow shared use of the WTCF if an applicant agrees in writing to pay reasonable charges for



collocation.

2. Any proposed new WTCF shall be designed and make available un-utilized space for collocation of other telecommunication facilities, including space for entities providing similar competing services. Specifically accommodate both the applicant's antennas and comparable antennas for at least two additional facilities if the tower is over 100 feet in height and for at least one additional facility if the tower is between 60 and 100 feet in height.
3. Towers must be designed to allow for future re-arrangement of antennas upon the tower and to accept antennas mounted at varying heights.

## **B. Siting Requirements:**

1. Location - WTCF's shall be located so as to minimize their visibility and the number of distinct facilities. The ranking of siting preferences is as follows: first, collocation upon an existing tower or existing structure; second, use of concealment technology; and third, a new tower vegetatively, topographically, or structurally screened.

### **a. Collocation**

1. All collocated and multiple-user WTCF's shall be designed to promote facility and site sharing. To this end wireless communication towers and necessary appurtenances, including but not limited to, parking areas, access roads, utilities and storage facilities shall be shared by site users.
2. Existing sites for potential collocation may include, but are not limited to buildings, water towers, existing WTCF's, utility poles and towers, and related facilities, provided that such installation preserves the integrity of those sites.

### **b. Use of Concealment Technology**

1. When demonstrated that it is not feasible to collocate the antenna(s) on an existing structure or tower, the WTCF shall be designed so as to be camouflaged to the greatest extent possible, including but not limited to the use of concealment technology, and the use of compatible building materials and colors. All camouflaged facilities shall be designed to visually and operationally blend into the surrounding area in a manner consistent with natural environment and existing development. The facility shall also be appropriate for the specific site. For example, the WTCF should not "stand out" from its surrounding environment, such as a faux tree standing alone in a field or standing at a significantly greater height than other trees on the site.

### **c. New Tower Vegetatively, Topographically or Structurally Screened**

1. A proposal for a new tower shall not be approved unless the approving authority finds that the wireless communications equipment for the proposed tower cannot be accommodated on an existing or approved tower or structure due to one or more of the following reasons (as documented by a qualified engineer):
  - a. No existing towers or support structures, or approved but not yet constructed towers or support structures, are located within the geographic area required to meet the applicant's engineering requirements.

- b. Existing towers or support structures are not of sufficient height to meet the applicant's engineering requirements.
  - c. Existing towers or support structures do not have sufficient structural strength to support the applicant's proposed antenna and related equipment or approved tower/structure cannot be reinforced, modified, or replaced to accommodate planned or equivalent equipment at a reasonable cost.
  - c. The planned equipment would cause interference materially impacting the usability of other existing or planned equipment at the tower or structure and the interference cannot be prevented at a reasonable cost.
  - d. The applicant demonstrates that there are other limiting factors that render existing towers and support structures unsuitable.
2. To the extent practicable, towers shall not be sited in locations where there is no vegetative, structural, or topographic screening available.
  3. To the extent practicable, a WTCF tower not employing concealment technology shall not be installed on a site unless it blends with the surrounding natural environment and existing development in such a manner as to be visually subordinate. Existing trees or significant vegetation should be retained to the greatest possible degree in order to help conceal a facility or tower. Vegetation used to conceal a facility or tower shall be of a species similar to that at the site and a size acceptable to the approval authority and shall be planted immediately following completion of construction. Vegetation used to demonstrate visual subordination shall preferably be under the control of the applicant/co-applicant or tenant.
2. Height - Notwithstanding the maximum structure height requirements of each zoning district, WTCFs shall comply with the following requirements:
    - a. See Table A for the height requirements in each zone.
    - b. Building or other structure mounted WTCF, other than an existing tower, shall not project more than ten (10) additional feet above the highest point on the existing building or structure.
  3. Tower Separation - Proposed towers must meet the minimum separation requirements from existing towers and from towers which have a development permit but are not yet constructed at the time a development permit is granted as outline in Table A.
  4. Setbacks
    - a. All ground mounted facilities or base of the tower shall be setback from all property lines, public-rights-of-ways, and above ground public utility lines a distance equal to the height of the tower (i.e., full height). The setback shall be measured to the outer edge of the tower's base.
    - b. Notwithstanding receiving permission from an affected property owner(s), road authority or utility, towers shall still be required to meet the property line setbacks of the zone in which they are located and all natural resource buffer requirements unless

- a variance is granted pursuant to Article 66.
  - c. Any guy wires associated with a tower shall be required to meet the property and buffer setbacks of the zone in which they are located unless a variance is granted pursuant to Article 66.
  - d. All ground mounted facilities shall be setback a minimum of 600 feet from schools.
  - e. All equipment shelters shall be set back from property lines according to the required yard setback of the underlying zone.
5. Storage – Equipment Shelters
- a. No on-premise storage of material or equipment shall be allowed other than that used in the operation and maintenance of the tower site.
  - b. WTCFs (i.e. vaults, equipment rooms, utilities, and equipment cabinets or enclosures) shall be non-reflective material (exterior surfaces only) that blends with the surrounding environment. All equipment shall be stored inside a building or suitable enclosure rated for outdoor use. The placement of equipment in underground vaults is encouraged.
  - b. WTCFs storage facilities shall be not taller than one story (15-feet) in height and shall blend with existing development.
  - c. Equipment shelters shall be entirely enclosed.
6. Color & Visibility - All buildings, poles, towers, antenna supports, antennas, and their accessory electrical control equipment shall be a non-reflective, unobtrusive color that blends in with the surrounding environment unless otherwise required by the FAA or Oregon Department of Aviation.
7. Fences
- a. A sight obscuring fence may be required to be installed and maintained around the perimeter of a ground mounted facility not employing concealment technology.
  - b. A ground mounted facility located in a public right-of-way may be exempted from fencing requirements.
  - c. Chain link fences shall be painted or coated with a non-reflective color that blends with the surrounding natural and built environment to the greatest extent feasible.
  - d. Barbed or razor wire fencing is discouraged, particularly in residential areas.
8. Lighting
- a. No lighting shall be permitted on a tower, except as required by state or federal regulations or as required by the reviewing body for aerial spraying. If required, the light shall be shielded or deflected from the ground and other properties, to the extent practicable (e.g., dual mode light or radar trigger lighting).
  - b. No other exterior lighting shall be permitted on the premises unless necessary for emergency repairs and services.
9. Signs & Advertising
- a. The use of any portion of a tower for signs other than warning or equipment information signs is prohibited.
  - b. No commercial or advertising markings shall be allowed except those of the

manufacturer and installer.

10. Access Driveways & Parking - All access drives and parking areas shall be no longer or wider than necessary and be improved to comply with the requirements of the local Rural Fire District.
  - a. Existing driveways shall be used for access whenever possible.
  - b. New parking areas shall be shared with subsequent WTCF's or other permitted uses whenever feasible. Any new access and parking areas shall consist of a durable and dustless surface and shall comply with local Fire District Standards.
  
11. Landscaping & Screening - WTCF's shall be improved in such a manner so as to maintain and enhance existing native vegetation and to install suitable landscaping to screen the base of the tower and all accessory equipment where necessary. All of the following measures shall be implemented for all ground mounted WTCF's including accessory structures.
  - a. A landscape plan shall be submitted indicating all existing vegetation, and landscaping that is to be retained within the leased area on the site, and any additional vegetation that is needed to satisfactorily screen the facility from adjacent land, adjacent roads and public view areas. Planted vegetation shall be evergreen trees and placed outside the fenced area.
  - b. Existing trees and other screening vegetation in the vicinity of the facility and along the access drive shall be protected from damage during the construction period.
  
12. Noise – Noise generated by the WTCF shall comply with the Hood River County Noise Ordinance and not exceed the levels established by the State of Oregon, Department of Environmental Quality (DEQ). Operation of a backup generator in the event of a power failure or the testing of a backup generator between 8 AM and 8 PM are exempt from this standard. No testing of backup power generators shall occur between the hours of 8 PM and 8 AM.

**Section 74.40 - Standards & Approval Criteria for Land Zoned EFU**

Facilities and towers located in Exclusive Farm Use (EFU) zone as authorized by ORS 215.283(1)(c) are subject to the criteria and standards as set forth in ORS 215.275.

- A. That a facility is necessary under ORS 215.283(1)(c), an applicant must show that reasonable alternatives have been considered and that the facility must be sited in an EFU zone due to one or more of the following factors:
  1. Technical and engineering feasibility;
  2. The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;
  3. Lack of available urban and non-resource lands;
  4. Availability of existing rights of way;
  5. Public health and safety; and

6. Other requirements of state or federal agencies.

Cost associated with any of the factors listed above may be considered, but cost alone may not be the only consideration in determining that a WTCF is necessary for public service. Land costs shall not be included when considering alternative locations.

- B. When a WTCF is abandoned or decommissioned, the property owner shall be responsible for restoring the land to its former agricultural condition as is reasonably possible. The owner may obtain a bond or other security from the contractor or carrier for the cost of restoration.
- C. Conditions for mitigating and minimizing impacts resulting from the WTCF shall assure farm uses on surrounding lands will not experience significant changes in accepted farm practices or significant increases in the cost of farm practices on the surrounding farmlands.

**Section 74.45 - Maintenance**

The applicant, co-applicant or tenant shall maintain the WTCF. Such maintenance shall include, but shall not be limited to painting, maintaining structural integrity, and landscaping.

**Section 74.50 - Abandonment**

- A. Determination of abandonment will be made by the Planning Director, who shall have the right to demand documentation from the facility owner regarding the tower or antenna use.
- B. Upon determination of abandonment, the facility owner shall have 60 calendar days to:
  - 1. Reuse the facility or transfer the facility to another owner who will reuse it within 60 calendar days of the determination of abandonment; or
  - 2. Remove the facility.
- C. If the facility is not reused within 60 calendar days of the determination of abandonment, county authorization for the use shall expire. Once authorization for the use has expired, the facility operator shall remove the facility from the property within 90 calendar days. Failure to remove an abandoned facility as required by this subsection shall constitute a violation and be subject Article 70 – Enforcement and possible liens.

**Section 74.55 - Modification of Development Standards (ADJUSTMENTS)**

- A. Adjustments to the standards of this section may be granted under the following circumstance:
  - 1. The proposed adjustment would utilize existing site characteristics to minimize demonstrated or potential impacts on the use of surrounding properties. Applicants for an adjustment under this provision must demonstrate that the adjustment will result in a lower level of impact on surrounding properties than would be generated if the standard were not adjusted. In considering the requested adjustment, the following may be considered:
    - a. Visual impacts;
    - b. Impacts on view;
    - c. Impacts on property values; and

- d. Other impacts that can be mitigated by an adjustment so that greater compliance with Subsection 74.35 occurs.
- B. Requests for adjustment under this subsection shall be considered part of the application to establish a wireless telecommunication facility, not a separate application.

**Section 74.60 - Statutory Severability**

If any subsection, sentence, clause, phrase, or word of this section is for any reason held to be unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this section.

**Article 74 - Table A**

ZONE	Review Process COL-LOCATION (existing ground mounted WTCF, buildings and structures*)	Height Limit (Feet)**	Review Process New WTCF using Concealment Tech.	Height Limit New WTCF using Concealment Tech. (Feet)	Minimum Separation Distance (Feet)	Review Process New WTCF NOT using Concealment Tech.	HEIGHT LIMIT (Feet)	Minimum Separation Distance (Feet)
EFU	Building Permit	200	Building Permit	200	N/A	Building Permit	200	N/A
F-1	Building Permit	150	PD Review - Article 72	150	2,640	CUP	150	2,640
F-2	Building Permit	150	PD Review - Article 72	150	2,640	CUP	150	2,640
R-1	PD Review - Article 72	35	Prohibited	N/A	N/A	Prohibited	N/A	N/A
R-2	PD Review - Article 72	35	Prohibited	N/A	N/A	Prohibited	N/A	N/A
RR	Building Permit	60	PD Review - Article 72	60	2,640	CUP	60	2,640
C-1	Building Permit	45	PD Review - Article 72	45	2,640	CUP	45	2,640
RC	PD Review - Article 72	35	Prohibited	N/A	N/A	Prohibited	N/A	N/A
RUC-1	PD Review - Article 72	35	Prohibited	N/A	N/A	Prohibited	N/A	N/A
MH-C1	PD Review - Article 72	35	Prohibited	N/A	N/A	Prohibited	N/A	N/A
M-1	Building Permit	65	PD Review - Article 72	65	2,640	CUP	65	2,640
M-2	Building Permit	65	PD Review - Article 72	65	2,640	CUP	65	2,640
AD	Building Permit	45	PD Review - Article 72	45	2,640	CUP	45	2,640
NA	N/A	45	PD Review - Article 72	45	N/A	Prohibited	N/A	N/A
Overlay zones: SPO, EP, FP	N/A	N/A	Base Zone	N/A	N/A	Prohibited	N/A	N/A

\* Structures and buildings must be conforming in use and site development standards.

\*\* No higher than an existing tower and no more than 10 feet higher than the existing conforming structure.

# **Handout**

## **How Cell Towers Work**



## How Cell Towers Work

BY MICHAEL HARRIS

As a cell tower site leaseholder, you are familiar with the income and expenses of the business. But how about the technologies involved and their role in the delivery of wireless communications services that we rely on every day?

To understand how cell towers and base stations work, start by taking a look in your own home.

If you are like 80% of your American neighbors, you own a cordless phone system that plugs into your home telephone line. As the name implies, a cordless handset connects wirelessly to a small "base station," allowing you to walk and talk untethered while maintaining a link to the wires of the public switched telephone network (PSTN).

In principle, a cellular tower and base station that enable voice and data services for a Blackberry or iPhone aren't much different. Except, of course, that they are built to withstand the elements, cover a far greater geographic area than your home, simultaneously support hundreds of handsets, operate in different radio frequencies, and allow users to maintain their connections while traveling from one base station to another, even while driving at highway speeds.

## Towers, Cells and Hexes

We're not launching into a discussion about life in medieval Europe. Rather, towers, cells and hexes are key building blocks for the design and operation of wireless communications networks.

In the wireless world, a cell is the geographic coverage area enabled by a tower. Locations are carefully selected to ensure that individual cells form a tightly knit mesh without coverage holes or unnecessary overlap, as shown in Figure 1. Engineers use hex schemes to design cellular networks and pinpoint tower locations to meet service demand.

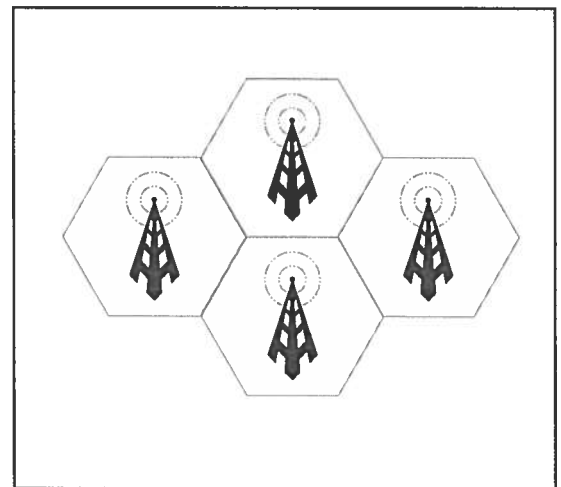


FIGURE 1: Towers and Cells in a Hex Pattern

## The What, Where and How

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The primary job of a cell tower is to elevate antennas that transmit and receive radio-frequency (RF) signals from mobile phones and devices. Wires run from the tower antennas to base station equipment, typically located at ground level in sealed telecom equipment cabinets. Components of the base station include transceivers, which enable the transmission and reception of radio signals through the antennas, plus signal amplifiers, combiners, and a system controller.

To ensure antennas are tall enough to cover a targeted cell area, cell towers are typically 50 to 200 feet in height. Towers can be standalone structures, such as steel poles or lattice frame, or affixed to other structures. In the latter category, cell towers are attached to buildings, water towers, bridges, tunnels, street lights, traffic lights, stadium lights, and billboards, among other things. To accommodate community aesthetic concerns, towers are increasingly camouflaged to resemble trees or flagpoles, or concealed in purpose-built structures, such as church bell towers or steeples.

The factors affecting cell tower site selection are complex and plentiful. At a basic level, the site must be adjacent to a road for physical access, with availability of electrical power and telecommunications network connectivity. Local zoning ordinances must accommodate tower height requirements to ensure signal coverage across the terrain. Sources of electromagnetic interference need to be avoided to ensure radio signal integrity. Environmental and wildlife impacts must be considered, in addition to architectural historic preservation and aviation requirements.

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*“The primary driver for cell tower locations is the service delivery needs of wireless carriers. Simply put, they want to be sure they are investing in infrastructure where it is needed most. When considering a tower placement, they will evaluate population and demographic data, plus the profiles of nearby businesses, pedestrian traffic, and the proximity of roads and highways.”*

- Michael Harris

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This mix helps carriers understand how many potential wireless users live or work in the area each day, plus those that will be passing through on the way to another destination.

Additionally, wireless carriers carefully study the voice and data traffic traversing their networks in each cell area. If utilization begins to near the capacity limits of the antennas on a given tower, they need to evaluate options to increase capacity. Likewise, if local population and demographic data is favorable, before a carrier begins aggressively marketing wireless service in a given geographic area, they want to be sure they have enough capacity in place to serve the new subscribers that will be added to the network.

Like beverages, cell towers come in small, medium and large sizes (see Table 1). On the super-size side of the scale are macrocell towers. These standalone or structure-attached cell sites literally tower over the target area, offering a range of 10 miles or more in rural settings. Microcells are the mid-sized option, frequently employed in urban and suburban areas, covering cell areas less than a mile in diameter. Tiny picocells typically cover less than 250 yards and are used in office buildings, airports and business centers. The newest arrival, femtocells, are personal devices intended for home or office use and offer a coverage range similar to a cordless phone base station.

TABLE 1: Cell Tower Types

TOWER TYPE	MEANING	DESCRIPTION
<b>Macrocells</b>	10 miles	Standalone or structure attached
<b>Microcells</b>	1 mile in diameter	Urban and suburban
<b>Picocells</b>	250 yards	Office buildings, airports, campuses
<b>Femtocells</b>	Limited in building	Personal devices for home/office

## Running the RAN

Together, the radio frequency spectrum, tower, base station equipment and user mobile devices create a Radio Access Network (RAN), illustrated in Figure 2. It is the foundation for the delivery of all mobile services and applications, just like physical networks constructed of fiber-optic and copper wiring enable telephone, data and TV services to homes and businesses. The RAN creates a reliable and robust communications network infrastructure, just without the wires.

In the U.S., wireless carriers typically use one of two standard technology platforms to offer digital mobile services – Code Division Multiple Access (CDMA) or Global System for Mobile Communications (GSM) – in a range of radio frequencies allocated by the Federal Communications Commission (FCC). CDMA and GSM are considered digital second-generation (2G) technologies, as they supplanted the first-generation of analog cellular technologies.

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*“Third-generation (3G) and fourth-generation (4G) extensions of both CDMA and GSM are designed to offer faster data access speeds and network efficiencies for mobile Internet and multimedia applications.”*

- Michael Harris

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services, including 1xEV-DO (Evolution-Data Optimized) protocols. The successor to CDMA2000, a 4G technology, is called 3GPP Long Term Evolution (LTE).

Worldwide, GSM is the most widely used 2G wireless communications technology. For 3G GSM, there are two favored technical approaches –Enhanced Data rates for GSM Evolution (EDGE) and Universal Mobile Telecommunications System (UMTS). UMTS requires that carriers completely replace their existing base station equipment to offer 3G services, while EDGE does not. However, UMTS is also a foundation for LTE 4G technology. Mobile WiMAX (also known as 802.16e) is separate 4G technology now being deployed in the U.S.

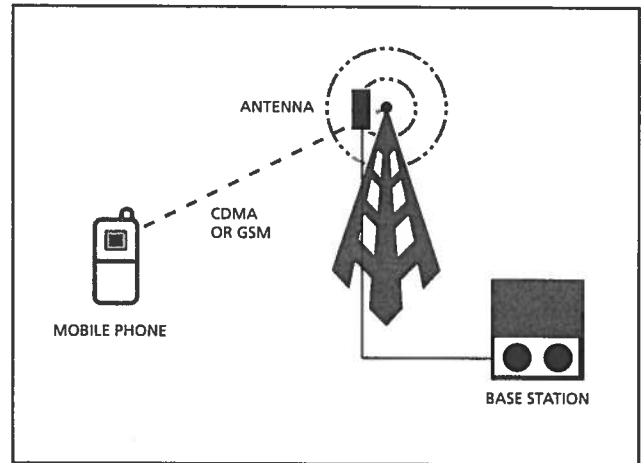


FIGURE 2: Wireless Radio Access Network

## Wireless Tech Alphabet Soup

ACRONYM	MEANING
<b>1xEV-DO</b>	Evolution-Data Optimized, a 3G CDMA technology for boosting data speeds and network capacity
<b>2G, 3G, 4G</b>	The second-generation, third-generation and fourth-generation of digital wireless technologies
<b>3GPP</b>	3rd Generation Partnership Project, a GSM wireless technology standards consortium
<b>CDMA</b>	Code Division Multiple Access, a foundational digital wireless technology
<b>cdmaOne</b>	The 2G version of CDMA, also called IS-95
<b>CDMA2000</b>	The 3G version of CDMA, which includes 1xEV-DO
<b>EDGE</b>	Enhanced Data rates for GSM Evolution, a 3G GSM technology
<b>GSM</b>	Global System for Mobile Communications, the world's most widely deployed 2G wireless technology
<b>LTE</b>	Long Term Evolution, a 4G technology platform
<b>UMTS</b>	Universal Mobile Telecommunications System, a 3G GSM technology
<b>WiMAX</b>	Worldwide Interoperability for Microwave Access; the Mobile version is a 4G technology and is also called 802.16e

## What's the Frequency?

In the U.S., today's 2G and 3G wireless communication services are commonly delivered in two radio-frequency spectrum bands – the Cellular band and the PCS (Personal Communications Services) band. Cell towers are configured with antennas to support services in these frequencies.

The Cellular band, also called "800 MegaHertz" (MHz), includes two blocks of frequencies of 25 MHz each, one from 824-849 MHz and the other from 869-894 MHz. The PCS Band, also known as 1.9 GigaHertz (which equates to 1900 MHz), includes six frequency blocks of 10 to 30 MHz each.

When auctioning these Cellular and PCS frequency blocks to carriers, the FCC placed strict limits on the amount of spectrum an individual carrier could purchase in a given geographic area. The intent was to create a competitive market with multiple wireless carriers in every major metropolitan service area (MSA). As a result, limited wireless spectrum was available to each carrier to offer services. As more customers were added to their networks, carriers needed to find ways to stretch the finite RF spectrum they had available.

In 2006, the FCC auctioned additional spectrum for Advanced Wireless Services (AWS) operating in the 1710-1755 MHz and 2110-2155 MHz bands. The forced transition from analog to digital broadcast television services freed up a swath of additional spectrum in the 700 MHz band, which the FCC auctioned to wireless carriers in 2008. Verizon Wireless and AT&T Mobility were the biggest buyers and are eyeing the frequencies for 3G and 4G services.

## Reduce and Reuse

Two technical approaches – frequency reuse and sectorization – have helped wireless carriers get the most of their Cellular and PCS spectrum.

Carriers typically configure adjacent cells to use different frequencies, preventing "confusion" among handsets about which tower antenna to connect (see Figure 3). A limited number of simultaneous mobile calls can be carried within a given frequency. Thus, in a highly-populated area, were a single cell to be used, the available capacity would be quickly saturated, resulting in wireless busy signals and unhappy customers. To prevent this, wireless carriers would deploy additional towers to split a large cell into several smaller ones, each using a different frequency band (see Figure 4). As the cell segmentation pattern is repeated, it allows the carrier to reuse

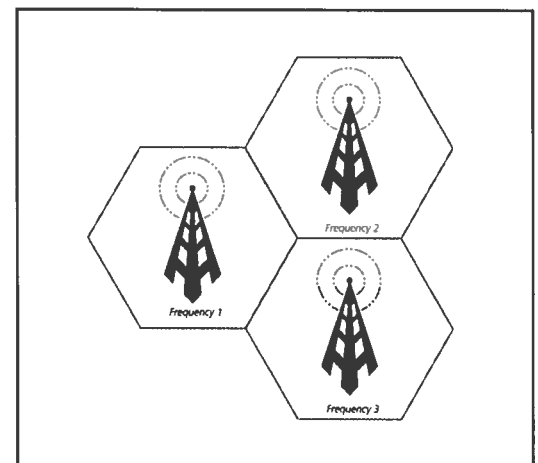


FIGURE 3: Large Cells with Omnidirectional Antennas

frequencies, and squeeze far more customers in the same spectrum.

Wireless carriers have taken the reduce and reuse approach a step further with the use of directional antennas, illustrated in Figure 5. Rather than using a single omni-directional antenna that covers a circular radius around a tower, carriers introduced directional antennas, to further segment cell sizes and enable the reuse of additional frequencies. For example, placing three antennas operating in separate frequencies on a tower allows sectors to be created within a cell, essentially tripling capacity per cell.

Besides squeezing every last drop of available capacity from their available spectrum, major wireless carriers have leapt at opportunities to increase their spectrum holdings each time the FCC has offered new frequency blocks for sale.

In 2006, the FCC auctioned additional spectrum for Advanced Wireless Services (AWS) operating in the 1710-1755 MHz and 2110-2155 MHz bands. The forced transition from analog to digital broadcast television services freed up a swath of additional spectrum in the 700 MHz band, which the FCC auctioned to wireless carriers in 2008. Verizon Wireless and AT&T Mobility were the biggest buyers and are eyeing the frequencies for 3G and 4G services.

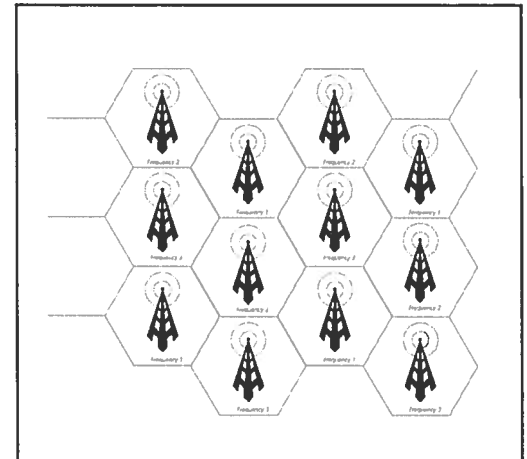


FIGURE 4: Reduced Cell Size with Frequency Reuse

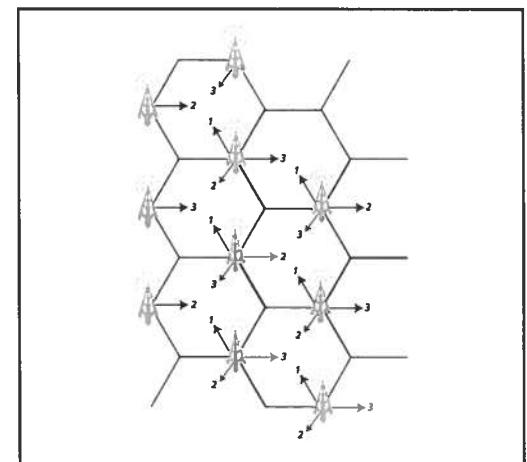


FIGURE 5: Reduced Cells with Directional Antennas

## New Technologies Could Mean Fewer Towers

Interestingly, with the additional spectrum available from auctions and carrier consolidation, plus the introduction of more efficient digital protocols associated with 3G and 4G technologies, some wireless providers are now actually looking to recombine cells. This would allow them to reduce the number of towers in use and the operating expenses associated with each. For example, in September 2010, Sprint unveiled plans to eliminate as many as one-third of its cell sites – some 20,000 towers – in the coming years.

## The Whole Enchilada

So, now that you're familiar with how cell towers and base stations work, why not pick up that cordless phone at home and call your friend Bob on his cell phone? Follow the call signal past the telephone poles and through the public switched telephone network (PSTN), across the wireless carrier's network, to the base station, up to the antenna on the cell tower and over the air via radio frequencies to Bob's mobile phone on the go (see Figure 6). Bob is so excited you shared the intricacies of wireless network technology, that after hanging up with you, he calls Sally on her mobile phone across town to share what he learned. She then calls you at home to say "Thanks for the information!"

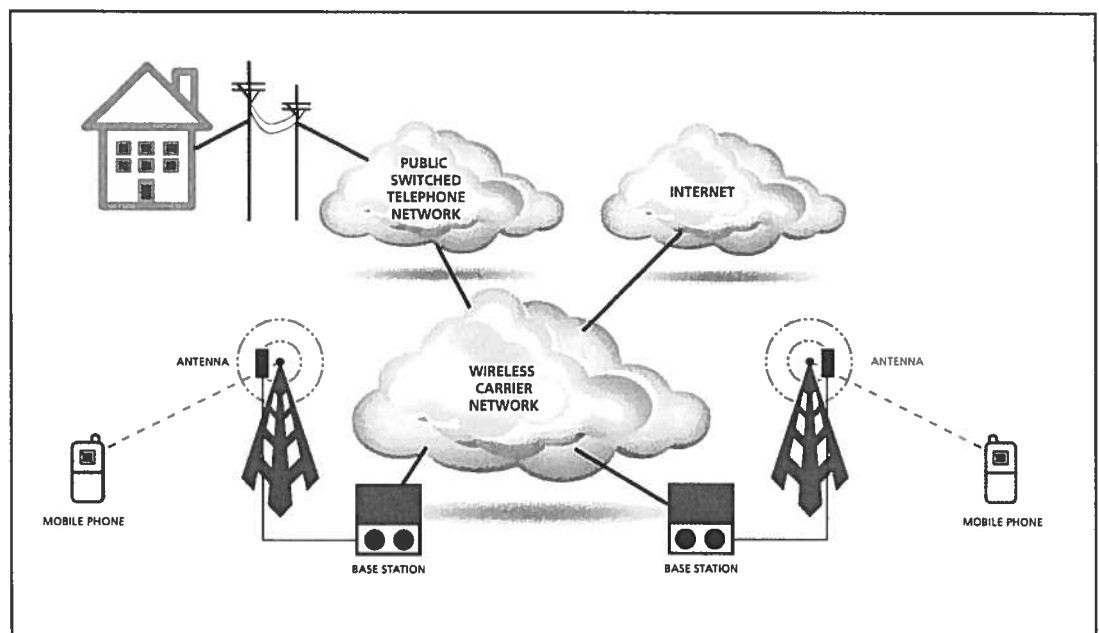


FIGURE 6: Wireless Communications Network

After reading this brief primer, you'll be ready the next time someone asks you to explain how that cell tower that you lease actually works. "Well, to start with it's not that different from that cordless phone base station in your house. Except for the cells, hexes, frequencies, and alphabet soup of technology protocols, of course..."

### About the Author

Michael Harris is principal consultant at Phoenix, Ariz.-based Kinetic Strategies, Inc. Applying more than 15 years of experience as a strategist, research analyst, journalist, public speaker and entrepreneur, Michael consults with select clients in the networking, Internet and telecommunications industries.

### About Unison Site Management

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340 Madison Avenue  
New York, NY 10173  
Phone: 1-866-434-8495  
educate@so.unisonsite.com

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# **Handout**

## **Wireless Facilities Deployment**



# Wireless Facilities Deployment:

## Federal Regulation in the Middle Class Tax Relief and Job Creation Act of 2012

### Explanation and Implementation

Section 4225 of the Middle Class Tax Relief and Job Creation Act of 2012<sup>i</sup> mandates that State and local governments must approve an eligible facilities request for the modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. The Act was signed into law on February 22, 2012. The section mandating streamlined modification and collocation approval ensures the timely deployment of wireless services.

The Act applies to eligible facilities requests for modification of existing wireless towers and base stations:

- ☞ The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves:
  - Collocation of new transmission equipment;
  - Removal of transmission equipment; or
  - Replacement of transmission equipment.
- ☞ The Federal Communications Commission (“FCC”) defines “collocation” as “the mounting or installation of an antenna on an existing tower, building or structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.”<sup>ii</sup>
- ☞ The FCC defines a “substantial change” as:
  - The mounting of a proposed antenna on the tower that would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
  - The mounting of a proposed antenna that would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable.<sup>iii</sup>
- ☞ The FCC defines a “tower” as “any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities.”<sup>iv</sup>
- ☞ The federal regulations define a “base station” as “A station at a specified site authorized to communicate with mobile stations;” or “A land station in the land mobile service.”<sup>v</sup>

The Act requires approval for all eligible facilities requests that do not substantially change the physical dimensions of such tower or base station and:

- ☞ Applies despite section 704 of the Telecommunications Act of 1996, which preserves the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and *modification* of personal wireless service facilities;<sup>vi</sup>
- ☞ Preempts zoning review and/or conditional approvals of eligible facilities requests;<sup>vii</sup>
- ☞ Requires eligible facilities requests only be subject to administrative review processes and not discretionary review processes that allow a State or local government to deny or condition an eligible facilities request; and
- ☞ Requires that eligible facilities requests for the modification of legal, non-conforming towers must be approved.

The FCC’s Wireless Facility Siting “Shot Clock” applies to eligible facilities request for collocation:

- ☞ State and local governments have 90 days to act on an application to collocate wireless facilities on existing structures.<sup>viii</sup>
- ☞ Under the Act, State and local governments *must* approve within 90 days any eligible facilities requests for collocation or replacement of transmission equipment on existing towers that do not substantially change the physical dimensions of such tower.

<sup>i</sup> For the text of the Act, <http://www.gpo.gov/fdsys/pkg/BILLS-112hr3630enr/pdf/BILLS-112hr3630enr.pdf>

<sup>ii</sup> Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (2001), available at 47 C.F.R. Part 1, Appendix B (“Collocation Agreement”). See also *Petition for Declaratory Ruling To Clarify Provisions of Section 332(C)(7)(B) To Ensure Timely Siting Review and To Preempt Under Section 253 State and Local Ordinances That Classify All Wireless Siting Proposals as Requiring a Variance*, Declaratory Ruling, 24 FCC Rcd 13994, 14021 ¶ 71 (2009) (“Shot Clock Ruling”), recon. denied, 25 FCC Rcd 11157 (2010), *aff’d*, City of Arlington, Tex., et al. v. FCC, 2012 U.S. App. LEXIS 1252 (5th Cir. 2012).

<sup>iii</sup> Collocation Agreement.

<sup>iv</sup> *Id.*

<sup>v</sup> See, e.g., 47 C.F.R. §§24.5, 90.7.

<sup>vi</sup> 47 U.S.C. §332(c)(7)(A). The Telecommunications Act of 1996 defines “personal wireless service facilities” as facilities for the provision of personal wireless services, including commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services. 47 U.S.C. §332(c)(7)(C).

<sup>vii</sup> Zoning review and/or conditional approvals of eligible facilities request can have the effect of denying such requests as a conditional approval is not an approval *per se*; therefore it is a denial and a violation of the Act.

<sup>viii</sup> *Shot Clock Ruling*.

For more information, please contact PCIA’s Government Affairs Department: [advocacy@pcia.com](mailto:advocacy@pcia.com)



## **ORS Citations**

### **Utility Facilities Necessary for Public Service**

**215.283 Uses permitted in exclusive farm use zones in nonmarginal lands counties; rules.**

**215.275 Utility facilities necessary for public service; criteria; rules; mitigating impact of facility.**

## ORS Citations – Utility Facilities Necessary for Public Service

### **215.283 Uses permitted in exclusive farm use zones in nonmarginal lands counties; rules.**

(1) The following uses may be established in any area zoned for exclusive farm use:

(a) Churches and cemeteries in conjunction with churches.

(b) The propagation or harvesting of a forest product.

(c) **Utility facilities** necessary for public service, including wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height. A **utility facility necessary for public service** may be established as provided in:

(A) **ORS 215.275**; or

(B) If the utility facility is an associated transmission line, as defined in ORS 215.274 and 469.300.

### **215.275 Utility facilities necessary for public service; criteria; rules; mitigating impact of facility.**

(1) A utility facility established under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.

(2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

(a) Technical and engineering feasibility;

(b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

(c) Lack of available urban and nonresource lands;

(d) Availability of existing rights of way;

(e) Public health and safety; and

(f) Other requirements of state or federal agencies.

(3) Costs associated with any of the factors listed in subsection (2) of this section may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities. The Land Conservation and Development Commission shall determine by rule how land costs may be considered when evaluating the siting of utility facilities that are not substantially similar.

(4) The owner of a utility facility approved under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this section shall prevent the owner of the utility facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration.

(5) The governing body of the county or its designee shall impose clear and objective conditions on an application for utility facility siting under ORS 215.213 (1)(c)(A) or 215.283

(1)(c)(A) to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands.

(6) The provisions of subsections (2) to (5) of this section do not apply to interstate natural gas pipelines and associated facilities authorized by and subject to regulation by the Federal Energy Regulatory Commission. [1999 c.816 §3; 2009 c.850 §9; 2013 c.242 §5]

**Note:** 215.275 was added to and made a part of 215.203 to 215.311 by legislative action but was not added to any other series. See Preface to Oregon Revised Statutes for further explanation.

Hood River County  
Planning Commission  
Minutes

February 11, 2009

Hood River County Planning Commission  
County Administrative Building  
601 State Street  
Commissioners Conference Room  
February 11, 2009

MINUTES

PRESENT

Chair: Bill Uhlman; Commissioners: Stan Benson, Pat Moore, Paul Cummings, Carl Perron, Kathie Alley & Bob Schuppe.

Non voting members of Commission: Will Carey, County Counsel & Mike Benedict, Planning Director

County Staff: Anne Debbaut, Senior Planner, Josette Griffiths, Senior Planner, and Kim Paulk, Office Manager.

**A. Call to Order**

Chair Uhlman opened the meeting at 7:00 p.m.

**B. Meeting Minutes**

Commissioner Schuppe moved and Commissioner Perron seconded to approve the minutes of December 10, 2008. A vote was called and the minutes were approved.

**C. Director's Report:**

Mike Benedict reported the following:

Staffing levels are unchanged at this time. Except that we have added one person to the department. Tony Clark is the county information systems specialist and has been assigned to my department – so now we have three divisions.

The amount of permit revenue is still way down. I spent an inordinate amount of time on next years' departmental budget, really having to crystal ball for the first time.

We have seen our first application based on a State Measure 49 waiver. As it turns out, the only land use that will result from M49 waivers will be partitions or building permits. The State is taking the position that if a use was not prohibited at the time the land was acquired, then the state will permit it. For example, for a period a farm dwelling required certain criteria to be met. The county reviewed those criteria and either said they met them or not. The state will just say the use was allowed, so the claimant will be allowed the use.

In addition to the legislative tasks we are working on, we still have a number of time consuming quasi judicial activities going on as well. There is a cell tower application that has been put on hold – the location of that is on the corner of Belmont and Methodist. This will be very controversial but I will probably handle the decision at my level instead of bumping it up to the commission. We have cleared what we had thought were a number of deal breakers for the east side PUD and that will be resubmitted. We have also spent a lot of time with Ryan Fruit trying to ensure that he stays within his approved permits but still cleans up the environmental issues that I am sure all of you are aware of.

We are also looking at a number of ODOT applications which will be submitted shortly. ODOT wants to ensure that they have their projects ready to go when the bail out money arrives.

**D. Land Use Counsel's Report:**

Mr. Carrey reported on a Measure 37 ruling by a Judge from Jackson County who has issued a stay and will hold off on the ruling until the 9<sup>th</sup> circuit makes a decision.

**Unscheduled Items:**

a. From the General Public: None

b. From Commissioners: Commissioner Schuppe requested to have an election at the end of the meeting. All Concur.

**E. Work Session**

**Planning workshop on initial scope of an Ordinance for Wireless Communication Facilities.**

Anne Debbaut stated that the County Board of Commissioners initiated the legislative process for development of a Cell Tower Ordinance.

Debbaut presented the Planning Commission with the existing ordinance and a list of existing cell tower sites currently within the County. Debbaut stated that a work group has been formed consisting of 4 individuals; Bill Fashing, County Economic Development Coordinator; John Gerstenberger, Hood River Electric Co-op; Peter Frothingham, Hood River Valley Residents Committee; and Anne Debbaut, Senior Planner. Debbaut provided two sample ordinances from the City of White Salmon and Multnomah County.

Debbaut stated the purpose and intent for the placement, construction, modification and removal of wireless telecommunications facilities are as follows:

- A. To recognize the public need for a broad range of personal wireless communications services;
- B. To protect the unique visual character and scenic variety of the County and its neighborhoods from potential adverse impacts of towers and wireless communications facilities development;
- C. To encourage the co-location of facilities as a primary option rather than construction of additional single-use towers;
- D. To encourage the use of the newest technologies to eliminate or reduce the need for additional wireless facilities;
- E. To minimize adverse visual impact of wireless communication facilities through careful design, siting, landscaping, and innovative camouflaging techniques;
- F. To ensure that wireless communication facilities are compatible with surrounding land uses;
- G. To ensure the prompt and complete removal of facilities when no longer needed and the restoration of the site.

There was some discussion regarding the information presented and Debbaut concluded that the next step in the process will be to provide a draft ordinance outline, determine applicability of ordinance and identify exceptions, draft a review process and hold a second work session.

#### **F. Work Session**

##### **Status of revision to Draft Parkdale Unincorporated Community Plan**

Josette Griffiths, stated that the work session is intended to inform the commissioners of the main issues that need to be addressed in the revised plan. Griffiths added that the biggest issue facing the draft Parkdale Unincorporated Community is the limited capacity of the sanitary sewer system to handle any additional growth.

Griffiths added that the main issues are; Water, Sewer, Stream Protection Overlay Zone, and Rezoning. There was some discussion regarding these issues and what options we have to explore.

After some discussion Griffiths stated that we have to show that there is a plan that can meet the current capacity. Griffiths added that the next step will be putting together a package that will come back to this Commission for review.

#### **G. Election of Planning of Planning Commission Chair and Vice-Chair.**

Commissioner Cummings moved to appoint Commissioner Bill Uhlman Chair of the Planning Commission. Commissioner Alley seconded the motion. Commissioner Schuppe requested a modification to the motion to elect Paul Cummings as Vice-Chair; Commissioner Cummings so modified the motion and the modified motion was seconded by Commissioner Alley.

All Commissioners agree to elect Bill Uhlman as Chair and Paul Cummings as Vice Chair of the Planning Commission.

#### **H. Meeting adjourned 8:47**

Hood River County  
Planning Commission  
Minutes

June 24, 2009



Hood River County Planning Commission  
County Administrative Building  
601 State Street  
Commissioners Conference Room  
June 24, 2009

MINUTES

PRESENT

Chair: Bill Uhlman; Commissioners: Stan Benson, Patrick Moore, Kathie Alley, Carl Perron and Bob Schuppe.  
Non voting members of Commission: Will Carey, County Counsel and Mike Benedict, Planning Director  
County Staff: Anne Debbaut, Senior Planner and Kim Paulk, Office Manager.  
Other Attendees: Kate McCarthy, John Gerstenburger, Bill Fashing, Dan & Tery Zieginbein and Scott Stevens.

**A. Call to Order**

Chair Uhlman opened the meeting at 7:00 p.m.

**B. Meeting Minutes**

Commissioner Alley moved and Commissioner Benson seconded to approve the minutes of April 22, 2009. A vote was called and the minutes were approved.

**C. Director's Report:**

Mike Benedict

- The budget crunch resulted in my having laid off our Associate Planner.
- We are still moving forward with two primary and a number of secondary enforcements at this time. Ryan Juice and Andy Von Flotow are both trying to work with us to some degree towards coming closer to being in compliance with their issues.
- County and City of HR staff met with ODOT staff last week to discuss truck transportation issues and Exit 62.
- There were a number of legislative land use changes this session. I will attempt to get you all a copy of the synopsis as soon as the Association of Oregon Counties publishes it.

**D. Land Use Counsel's Report:**

Mr. Carey stated that land use measures are minimal, nothing drastic to report.

**E. Unscheduled Items:**

- a. From the General Public: None
- b. From Commissioners: None

**F. Wireless Communication Facilities:**

Chair Uhlman opened the Planning Session and asked Mr. Benedict for an overview of why we are here tonight. Mr. Benedict informed the audience that Anne Debbaut will act as a facilitator for this session and explained the intent & process of the meeting. Mr. Benedict asked the commission to keep in mind that this planning session will be followed by a planning session regarding Wind Turbines in the near future.

**Staff Presentation:**

Anne Debbaut, Senior Planner, introduced the members of the "Tower Advisory Committee", (John Gerstenberger, Hood River Electric Co-op; Linda Streich, Professional Business Solutions; Peter Frothingham, Valley Residents Committee; Bill Fashing, County Economic & Development Coordinator & Anne Debbaut, County Senior Planner) who have been working on this project.

Debbaut began her presentation by reading the definition of a wireless communication facility #25 under definitions on page 5 of the draft followed by the Purpose and Intent and Applicability.

Chair Uhlman asked if public health will be a topic. Debbaut stated that it is her understanding that the FCC does not allow Counties or other entities to regulate the safety of the emissions of these facilities.

Mr. Carey asked if we have to say unincorporated Hood River County, because scenic quality is important even for the incorporated areas, why would we not protect the scenic quality of the whole County. Debbaut agreed.

Commissioner Schuppe stated that we administer the UGA so if this ordinance does not apply there what does. Debbaut stated what applies there is what applies there now, the County's current UGA Ordinance.

**Exempt facilities**, 8 items listed (see section –Exempt Facilities, Pg. 3)

Scott Stevens, wireless & broadband consultant stated that the rules say that because of the FCC, if you don't have access to satellite or cable television, HOA cannot restrict you from access to receiving from an antenna. Commissioner Schuppe asked if he wanted to put a 10 sq ft satellite on Middle Mountain or the East Hills can he do it. Gerstenberger stated that the exemption is for residential use only, commercial use would not apply. Commissioner Schuppe stated that the rule should be stated more specifically. Carey asked if we could be more specific on this rule.

Commissioner Benson asked if there was a way to have existing towers that are abandoned to be restored/reused or removed under the "Purpose and Intent, item #5". Stevens stated that he has seen where they have auctioned old tower sites to be reused and it is referred to as vertical real estate and he recommended trying to auction the site for other uses before requiring the tower to be removed.

#7 Commissioner Schuppe stated that any facility being replaced should be reviewed if it is not in-kind. Debbaut stated that some of these towers may have already been reviewed as a conditional use that states they may add existing antennas but are subject to building code review. Carey stated that this does not define significant. Benedict stated that it does as far as scenic impacts. Commissioner Schuppe replied that he is concerned with the electrical characteristics of it, the radiated power and PMI. Benedict stated that the FCC regulates that. Commissioner Schuppe stated that is okay but it has to be in the draft to indicate that. Debbaut clarified that if it is not an in-kind replacement it should be reviewed in some form.

Gerstenberger stated that there are frequencies of operation that don't require an FCC license, that are open frequencies. Stevens stated that those are par15 devices; they are open frequencies such as clock radios & wifi access.

#8 "Exempt Facilities" Stevens asked if this could be changed to public safety instead of "911 emergency services", that is the proper term for it.

Chair Uhlman questioned whether or not Channel 2 news should be considered an exempt facility if they were to remain adjacent to a property for several days.

Commissioner Schuppe asked if we should get direction from the BOC at this point before too much effort goes into this, perhaps a list of issues. Carey stated the BOC will have their opportunity after it comes to them.

Chair Uhlman and the commissioners had some discussion about the subjective wording used and what to watch out for.

Debbaut stated that she believes the direction is to make it easy to collocate with existing structures & towers and more difficult to build a new tower that does use concealment technology and even more difficult to place a new tower not using concealment technology. Debbaut added that we are trying to make it as easy as possible for providers to co-locate which also encourage the preservation of scenic views.

Debbaut moved the focus of the discussion to Table "A" at the end of the draft. She began by defining what the abbreviated base zones stand for in the first column. Currently our zoning ordinance does not clearly address whether or not wireless communication facilities are an allowed use in either the commercial or industrial zones. A WCF is clearly a permitted use with additional approval criteria (state statutes) in the exclusive farm use zone and a conditional use in the forest zone. State Statute requires that cell towers be permitted in the EFU zone. Commissioner Perron asked if we can make it more restrictive. Debbaut replied yes, we can have additional site development standards but we cannot make it a conditional use. Ziegenbein suggested that we consider the proximity to residential areas when evaluating new tower locations and not simply using a zone boundary to allow or not allow towers.

Debbaut stated that there are other county ordinances that allow towers above 150'. Commissioner Moore stated that he believes that the 150' is from the FAA rules. Commissioner Perron asked if you were to carry it out 10 to 20 years do you see many stacks that would need to go on a pole. Stevens stated that 8 would probably be the max. and that towers are typically 80-120' high. Stevens added that he would recommend researching the possibility of creating easements or zones that are good for wireless communications so that people can build in that area and it would be easy to set up co-location requirements. He also mentioned that he recently made a proposal for a single 80' monopole with a wind turbine on the top and a solar panel for a complete stand alone unit. There was also some discussion of "vertical real estate" and the proposed prohibition on a tower without a carrier.

Debbaut proceeded to discuss the 3 proposed review processes identified in Table A:

The building permit process (see column 2 in table A) does not require notice to neighbors or agencies. Commissioner Alley stated that she would like to see neighbors notified. Debbaut stated that building permits are just for co-locations and that they would not require notification of either adjacent property owners or agencies.

The second review process is an administrative review with additional approval criteria and allows new wireless communication facilities using concealment technology. Debbaut stated that this second tier does need review and notice. Debbaut talked about the recommendation for a 45 ft height limitation in the commercial and industrial zones based on the building height limitation in the industrial zone of 45 feet if there are sprinklers. Benedict asked if anyone would use a 45 foot pole. Stevens said yes.

Commissioner Uhlman asked if we could list what are potential issues or conflicts with wind towers & cell towers, will the ordinances conflict with each other with regard to required separation distances. Commissioners discussed the reasons for keeping a separation distance and the possible advantage of having a minimum separation distance; Commissioner Perron felt that perhaps it may be better to focus on using concealment technology rather than separation distance. All agreed they would like to see some concealment technology.

Commissioner Perron asked if there was a definition for ancillary. Anne noted that this will be done.

Debbaut opened discussion on the “General Requirements” 1 through 9 of the draft.

General Requirement #7 addressed Goal 5 statements in the Policy Document and there was a lot of discussion about how it might be interpreted. Benedict asked the commissioners if we want to mess with the policy document on this. Most agree they would like to avoid changing the policy document and need more information that truly defines what this requirement is implying. Debbaut was asked to try and find maps or information to help define the requirement at the next session.

All agree to continue this discussion in another Planning Session. Chair Uhlman adjourned the meeting.

**I. Meeting adjourned at 9:10 P.M.**

Hood River County  
Planning Commission  
Minutes

July 8, 2009

Hood River County Planning Commission  
County Administrative Building  
601 State Street  
Commissioners Conference Room  
July 8, 2009

MINUTES

PRESENT

Chair: Bill Uhlman; Commissioners: Stan Benson, Paul Cummings, Carl Perron and Bob Schuppe.  
Non voting members of Commission: Will Carey, County Counsel and Mike Benedict, Planning Director  
County Staff: Anne Debbaut, Senior Planner and Kim Paulk, Office Manager.  
Other Attendees: John Gerstenburger, Bill Fashing, and Peter Frothingham.

**A. Call to Order**

Chair Uhlman opened the meeting at 7:00 p.m.

**B. Meeting Minutes**

Commissioner Schuppe moved and Commissioner Perron seconded to approve the minutes of June 24, 2009. A vote was called and the minutes were approved.

**C. Director's Report:**

None

**D. Land Use Counsel's Report:**

None

**E. Unscheduled Items:**

- a. From the General Public: None
- b. From Commissioners: None

**F. Wireless Communication Facilities Continued:**

Chair Uhlman opened a continuation of the Planning Session.

**Staff Presentation:**

Anne Debbaut, Senior Planner began by sharing comments she received via phone and submitting public comments received by email to the Commissioners.

Commissioner Benson noted that there is a need to obtain professional opinions on the draft to provide us direction once we begin.

Debbaut continued with the draft on page 7. There was a decision not to have registration of wireless communications carriers and providers with the County. The commission went through the "Application Requirements" on page 8 through 11 of the draft.

Commissioner Perron stated that if we require the tower to be a certain color we should have the same requirement for the building. He felt they should look at the project as a whole not just the tower. After some discussion the Commission suggested that item 8 and 2 should be combined. There was discussion about tower abandonment and who would be responsible to take the tower down. Most agree

that having people bond the towers may be the way to address future abandonment problems. It was also suggested that emergency vehicles have public access.

Commissioner Perron asked how they should approach satisfying the requirements of Goal 5. Benedict stated that is a part of the Planning Commission's decision if they feel that through concealment technology they are able to address the Goal 5 issues.

Commissioner Schuppe questioned how we can be more restrictive than the OAR's & ORS's. Carey stated that you can't be so restrictive that you don't allow uses that are allowed under Oregon Revised Statutes sections 215.283, but you can use some kind of conditions of approvals. (ORS # corrected 12/9/09)

Commissioner Schuppe read Chapter 660 LCDC, uses authorized on agricultural lands under section A. States counties may subscribe additional limitations and requirements to meet local concerns as authorized by law.

There was some discussion and it is suggested there may be a need for arbitration or mediation for collocation of towers.

See section – Approval Criteria for facilities on Lands Not Zoned EFU

Commissioner Schuppe asked if under definitions we can add something for accessory building.

Other items of discussion included:

- The possibility of speculation towers being advantageous to the County and that they should consider this as an issue to be reviewed at a future session.
- Using concealment technology versus site development standards to meet Goal 5 scenic view policies. Commissioners requested staff present alternatives at a subsequent planning session.
- Commissioners requested staff create a map of existing tower locations in Hood River County.

Commissioners asked for some examples of concealment types of towers that are out there and asked to see tower separation & concealment come back as an issue. All agree another Planning Session is needed with the issues brought forward from the last two previous sessions.

## **I. Meeting adjourned at 9:12 P.M.**

HOOD RIVER COUNTY  
BOARD OF COUNTY COMMISSIONERS  
MINUTES

October 13, 2014



**Any item or issue not on the agenda you might have a question, comment or statement about please bring up under Items from the General Public.**

**BOARD OF COMMISSIONERS WORK SESSION AGENDA**

4:45pm, CBAB, 601 State Street, 1<sup>st</sup> Floor Conf. Room, Hood River, Oregon

**MINUTES**

Chair Rivers called the work session to order. Present: Commissioner Meyer, Commissioner Joplin, Administrator Meriwether and County Counsel Davies

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**5:20pm Hood River Valley Residents Committee Proposed Cell Tower Ordinance - Polly Woods, and Heather Staten**

In January 2014 the HRVRC asked the commissioners to add the development of a communications tower ordinance to the work plan for 2014 understand that work loads are high. They would like to ask if the commission would be willing to consider an ordinance developed by an advisory committee of interested county residents to draft zoning code for communications towers. The committee would build on previous work done by county planning staff and research and code of other jurisdictions. They would solicit and incorporate input from wireless industry representatives. The committee would aim to present a recommended draft to the planning commission in six months and the HRVRC offers to help coordinate the committee.

A few cell tower applicants has come before the planning commission this past year and both have yet to come to fruition but not without the expense of attorneys etc for both sides. In order to minimize these expenses they would like to help with the drafting of a communication towers ordinance.

Melanie Finstad, Fairview Drive -she was part of a community group that opposed the proposed cell tower in her neighborhood. Melanie handed out a letter from Melanie Thompson who lives off of Rocky Road. Melanie F. read the letter submitted by Melanie T. She favors an Ordinance to be developed.

Melanie F. interest for creating an Ordinance is based on the proposed 100 foot tower that was proposed to be 50ft from her property line. She probably put in over 100 hours of research on the tower that was proposed in her neighborhood. With an Ordinance in place this time and many thousands of dollars might not have been expended.

Stephan Lunding 1204 Methodist Rd, HR - He had received notice of a proposed cell tower and it was very disturbing to consider this. They were caught off guard; they rallied the neighbors to research the application. Feels an Ordinance will help with a lot of the aspects that he went through like the research etc.

Heather Staten, Exec. Director HRVRC - thank you for allowing them to present their proposal to create a committee to develop a draft communication tower. Heather said that most counties have cell tower regulations in place that will help with the application process, many outlining areas that towers would be allowed. 5 years ago a planning staff member got 3/4 of the way through the development of an ordinance. HRVRC is proposing that the cell tower committee use that as a jumping off point which would help with the time needed to put into the development.

Chair Rivers asked Mike Benedict, Community Development Director had any comments to make. Mike said that when he was approached on this he said he is not opposed to it however felt it was more of a legislative decision to have the commissioners make if you even wanted to consider this type of ordinance.

Mike is concerned that some of the comments made tonight could be heard as an anti cell towers in the area period.

Meyer said it feels somewhat like a ball-field discussion, it is something that we just circle around and around on.

Stephan said that the companies that are proposing to put these forward are huge companies and they are focused on making money -

Perkins feels that if there is a group that is willing to do the majority of work and there are a lot of examples out there they can follow and at the end of the day if we do not like what is presented then we can tweak it or not approve it. He doesn't see how this can be a loser. Meyer asked Mike how much time it can take to finish the 2007 work. Mike said he does not have the staff available to put on this. Perkins doesn't see how the available time for the planning department is going to get any better. This is a way to add capacity without having a number attached. Joplin likes it, she wants to know how well balanced the committee is. Meyer said you wouldn't.

David said we could dictate who sits on the committee and even appoint some of the members. Chair Rivers feels we should give it a try.

Discussion of how to form a group, should a planner be assigned to the committee. David said he hasn't talked with Mike about this but he feels that it would be better to find funding to hire and have that person work on in our behalf to guide the group. Joplin said why hire someone to run with this when we have a community group that is willing to take it on.

Meyer concerned with an ad hoc committee put something together that is PC related he would like to have the PC look at it knowing the commissioners are supportive of the idea and we want it to move forward.

Mike asked if the BOC wants to have the PC set up the Board or come back to the BOC. Mike said that if the PC wants to set the parameters and do the appointing that would be great.

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Hood River County  
Planning Commission  
Minutes

October 22, 2014

Hood River County Planning Commission  
County Administrative Building  
601 State Street  
Commissioners Conference Room  
October 22, 2014

MINUTES

PRESENT

Chair: Bob Schuppe; Commissioners: John Brennan, Jennifer Euwer, Peter Frothingham, Kathie Alley, Erick von Lubken, and Stan Benson.

County Staff: Will Carey, County Counsel; Mike Benedict, Planning Director; Josette Griffiths, Senior Planner; and Kim Paulk, Office Manager

**A. Call to Order**

Chair Schuppe opened the meeting at 7:00 p.m.

**B. Meeting Minutes:**

Chair Schuppe asked the Commission if there was any opposition to approving the October 8, 2014 meeting minutes as written. Hearing none, Chair Schuppe approved the minutes.

**C. Director's Report:** None

**D. Land Use Counsel's Report:**

Mr. Carey updated the Commission on the status of the two motions the County filed to dismiss the two LUBA appeals. LUBA granted the motion to dismiss the appeal regarding the Mt. Hood Meadows parking lot in the community of Mt. Hood. The one for the Dee Tour wasn't dismissed but was stayed or set aside so it would not come up unless the appellant wanted to appeal after the hearing.

**E. Unscheduled Items:**

- a. From the General Public: None
- b. From Commissioners: None

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**7. Cell Tower Ordinance**

- a. The HR Valley Residents Committee will be requesting that the Planning Commission consider allowing a citizen group to complete and present the cell tower ordinance that County Planning had drafted (to a large extent) in the past.

The Commissioners agreed to allow the Hood River Valley Residents Committee to complete the cell town ordinance that County Planning had drafted. The Commissioners stressed that there must be public involvement and the HRVRC could complete a draft ordinance and bring it back to the Commission for a work session in 2015. It was noted that the Planning staff involvement would be minimal due to low staffing. Commissioner Frothingham and Brennan volunteered to be a part of the cell tower ordinance group.

Chair Schuppe adjourned the meeting at 10:07 p.m.

# **Handout**

## **Inventory of Cell Towers in Hood River County**

Location	Zone	Year of construction	Height (ft)	Type	Permit Files	Associated Providers
02N 10E 13 D0 00600 VanHorn & Mason Rd	A-2	1974	100'	Guyed Lattice	LUP 74-1?? BP 74-145	? "radio tower"
02N 07E 12 00 00300 Ruckles Rd & Dry Crk Rd. Cascade Locks	RR GH AH	1992	60'	Temp. wooden pole (for use during Hell's Angels' conv.	LUP 92-06 BP 92-112	Pacific Northwest Cellular Inc
		1992	140'	Self Supporting lattice. To replace wd pole	LUP 92-06 BP 92-112	Pacific Northwest Cellular Inc
	UGB RR	1999	N/A	Added antenna to (E) 140' twr	LUP 99-364 BP 99-638	Western PCS/ Sprint PCS
		2002	N/A	Added 4 antenna to (E) 140' twr	BP 02-346	AT&T Wireless
		(Not yet blt, appl'd '08)	N/A	Propose 12 antennas at 130' level of (E) 140' twr	P-08-0054 B-08-0090	Verizon Wireless
		2009	N/A	Added 4 antenna to (E) 140' twr	BP B-09-0006	CRESA (Clark Reg. Emer. Serv.)
02N 07E 12 00 00300 (460)Dry Creek Rd. Cascade Locks	RR GH AH	1997	150'	Self Supporting lattice	CUP 96-461 LUP 97-018 BP 97-036	Western PCS 1/ Voice Stream
		2003	N/A	Added antenna to (E) 150' tower - also note in file of 75' unpermitted twr seen on site	Prev CUP 96-461 LUP 03-312 BP 03-399	Western Telecom / Voice Stream dba T-Mobile
02N 08E 05 00 00300 Marine Park, Cascade Locks	M-1	1992	110'	Self supporting lattice	C.L. P.C. appvl 3/24/1992 BP 92-118	US Cellular
02N 11E 05 00 01000 2360 Old Dalles Rd 1650 Old Dalles Rd	F-2	1992	150'	Guyed lattice "4th facility in area"	LUP 92-40 BP 92-119	United Cellular
		2004	N/A	Added 6 Antenna to (E) 150' twr	BP 04-013	Alamosa PCS
		2002	N/A	Added 6 Antenna to (E) 75' 4-legged self supporting tower	BP 02-345	AT&T Wireless

Location	Zone	Year of construction	Height (ft)	Type	Permit Files	Associated Providers
02N 09E 20 00 00200 USFS Land, Mt. Defiance	USFS	1991?	150' (E) 30' (E) 20' (E) 50' (E) 50' (N)	Unspecified	LUP 91-609	Western Telecom is primary operator. Sublets for mobile radio, 2-way microwave, tv, & cell phone existing. Permit for 50' WA Higher Ed. Telecom
02N 09E 20 USFS Land, Mt. Defiance	USFS	1997	103'	Self-supporting lattice	BP 97-451	Pacific Gas Transmission Co. (purpose unknown)
01N 10E 08 00 00100 Gilhouley	F2	1994	150'	Self supported lattice	LUP 94-006 BP 94-268	US Cellular
01N 10E 15 00 01000 6000 Hillcrest Road	F2	1999	150'	Monopole	CUP 99-335 LUP 99-366 BP 99-653	AT&T Wireless
		2002	N/A	Added new antennas to (E) 150' pole	BP 02-344	AT&T Wireless
02N 08E 06 00 00301 15 Herman Creek Lane Cascade Locks	?	2001	40'	Lattice supported by building	BP 459	Gorge Networks Not clear if personal or commercial use
02N 10E 32 00 00100 Gilhouley (S. of Summit Dr.)	F2	2002	64'	Freestanding lattice	CUP 02-031 LUP 02-120 BP 02-151	Gorge Networks
02N 08E 06 C0 00503 545 Forest Lane	LDR?	2003	30'	Freestanding lattice	BP 03-159	State of Oregon for Nat. Weather Serv.
02N 10E 11 B0 02501 HR Airport	AD/AH	2003	30'	Freestanding lattice	LUP 03-126 BP 03-260	Port of HR Automated Weather Syst.

Location	Zone	Year of construction	Height (ft)	Type	Permit Files	Associated Providers
03N 10E 25 CD 10900 601 State Street, HR	City C2	2006	Max 42'	6'-10" tall - Roof top mounted on 3-story bldg.	City Plan'g appvd BP 06-085	Cingular Wireless
		2007	Max 52'	12' +/- tall - Roof top mounted on 3-story bldg., 2 locations	City Plan'g appvd BP 06-234	US Cellular
		(Not yet blt, appl'd '07)	Max 57'	proposed 6' +/- antenna roof top mtd on penthouse of 3 stry bldg	City Plan'g appvd BP HRC-0271	Verizon Wireless
02N 11E (17) 00 00400 2000 Elder	F2	2006	180'	Guyed lattice	CUP 05-124 LUP 06-241 BP 06-247	Radio Tower for Columbia Gorge Broadcasters
02N 10E 22 00 02400 3020 WyEast (HRC Fairgrounds)	EFU	2009	150'	Monopole	CUP P-08-0027 LUP P-08-0149 BP B-08-0260	Verizon Wireless
03S 09E 00 00 00101 14040 Hwy 35 (Meadows Ski Resort)	N/A USFS	2009	N/A	Addition of 3 antenna on (E) 50' self supporting lattice tower (year of tower const. unknown)	BP B-09-0062	Verizon Wireless
02N 10E 25 C0 01000 3119 Sunday Drive	EFU	2009	150'	Monopole	LUP 07-409 BP HRC-0336	US Cellular
02N 10E 03 B0 00308 Multnomah Rd	RR/AH	Denied 2009	150'	Monopole	P-08-0152	Verizon Wireless