Local Coastal Program Amendment (LCPA)
Other Relevant Provisions

The following Development Code provisions and other documents relevant to the Marin County Local Coastal Program Amendment (LCPA) have been compiled at the request of the California Coastal Commission (CCC) staff. CCC staff will use these to aid their review of the LCPA, and will determine which portions need to be included as part of the official LCPA Implementation Plan. Any portions to be included as part of the LCPA will need to be certified by the Coastal Commission for applicability in the Coastal Zone.

The following provisions and documents are contained herein:

- *Agricultural Conservation Easement (Template)*
- *Telecommunications Facilities Policy Plan*
- **Chapter 22.01** – Purpose and Effect of Development Code
- **Chapter 22.02** – Interpretation of Code Provisions
- **Chapter 22.20** – General Property Development and Use Standards
- **Chapter 22.22** – Affordable Housing Regulations
- **Chapter 22.24** – Affordable Housing Incentives
- **Chapter 22.27** – Native Tree Protection and preservation
- **Chapter 22.56** – Second Unit Permits
- **Chapter 22.58** – Large Family Day Care Permits
- **Chapter 22.62** – Tree Removal Permits
- **Chapter 22.112** – Nonconforming Structures, Uses, and Lots
- **Section 22.122.050** – Enforcement of Development Code Provisions
- **Article VI** – Subdivision Procedures to Implement State Subdivision Map Act
- **Chapter 24.04** – Development Standards – Improvements, Roads, Driveways
- **Chapter 24.15** – Development Standards – Exceptions

DRAFT

County of Marin Agricultural Conservation Easement Template

When Recorded Mail To:
County of Marin
Community Development Agency
3501 Civic Center Drive
San Rafael, CA 94903
Telephone: (415) 473-6269

DEED OF AGRICULTURAL CONSERVATION EASEMENT

THIS DEED OF AGRICULTURAL CONSERVATION EASEMENT (the "Easement") is made by xxxx ("Grantor") to COUNTY OF MARIN, a body politic ("Holder").

RECITALS:

WHEREAS, Grantor is the owner in fee simple of that certain real property in Marin County, California, comprising County of Marin Assessor's Parcel Number(s) xxx, which consists of approximately xxx acres of land and is more particularly described in **Exhibit A** attached hereto and incorporated herein by this reference (the "Property"); and

WHEREAS, Grantor is willingly entering into this Easement with Holder; and

WHEREAS, Holder is a California County authorized by law to hold conservation easements the purpose of which is the preservation and protection of agricultural and open space lands in Marin County; and

WHEREAS,

[INSERT those recitals appropriate to the particular easement, including some or all of the following: current zoning; any application for a Master Plan and Precise Development Plan; prior intent on the part of the Grantor to subject the property to an agricultural conservation easement ("ACE"); references to Board of Supervisors resolutions approving and accepting the ACE; references to the statutory bases for the acceptance of the ACE, Government Code Sections 51070 et seq., references to the Planning Commission's report finding that the easement is consistent with the County's general plan, to the Board of Supervisors' resolutions finding that the preservation of the land as open space is consistent with the general plan of the County and is in the best interests of the County because of one or more of the findings required by Section 51084 of the Government Code.]

WHEREAS, the Property possesses significant agricultural, open space, and scenic values of great importance to Grantor, the people of Marin County and the people of the State of California; and

WHEREAS, Grantor and Holder intend: that the Property be maintained in agricultural production by the maintenance of the agricultural values thereof; that the open space and scenic values of the Property be preserved by continuation of ranching and other agricultural uses, which have proven historically compatible with such values; and

WHEREAS, the protection of the Property is consistent with the State of California's public policy favoring the preservation of agricultural lands and their resources. California Government Code Section 51220 states that "agricultural lands have a definitive public value as open space" and "that the discouragement of premature and unnecessary conversion of agricultural land to urban uses is a matter of public policy." California Food and Agriculture Code Section 821 states that one of the major principles of the State's agricultural policy is "to sustain the long-term productivity of the State's farms by conserving and protecting the soil, water, and air, which are agriculture's basic resources;" and

WHEREAS, the County of Marin supports the protection and preservation of agricultural land uses, agricultural land, and open land through Objectives, Policies, and Implementation Programs as expressed in the Natural Systems and Agricultural Element of the Marin Countywide Plan adopted November 6, 2007, including, inter alia, the preservation of agricultural lands and resources by agricultural conservation easements (Goal AG-I, Policy AG.1.2 and Implementing Program AG-1.d and AG-1.l). Further, Marin County has enacted a Right-to-Farm ordinance, Marin County Code Chapter 23.03, the policy of which is to "conserve, protect, enhance and encourage agricultural operations within the county" and upholding the Right-to-Farm ordinance is one of the Implementing Programs of the Goals of the County Wide Plan (AG-1.j). (See also Cal. Civ. Code Section 3482.5); and

WHEREAS, Grantor intends, as owner of the Property, to convey to Holder the right to preserve and protect agricultural values and, to the extent consistent with agricultural values, open space and scenic values of the Property in perpetuity as set forth below in this Easement; and

WHEREAS, Holder intends, by acceptance of the grant made hereby, forever to honor the intentions of Grantor to preserve and protect in perpetuity the agricultural, open space and scenic values of the Property as set forth below in this Easement; and

WHEREAS, the Holder is a “qualified organization,” as defined by Section 170 (h)(3) of the Internal Revenue Code, qualified to receive and hold conservation easements created under California law and accepts the responsibility of enforcing, or causing the enforcement of, the terms of this Easement and upholding its purpose forever;

NOW, THEREFORE, in consideration of the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of California, Grantor does hereby voluntarily grant to Holder, and Holder hereby accepts, an agricultural conservation

easement in gross in perpetuity over the Property of the nature and character and to the extent hereinafter set forth.

1. Purpose. It is the purpose of this Easement, pursuant to the governmental policies detailed in the Recitals hereto, to enable and cause the Property to remain in Productive Agricultural Uses (as defined in Section 5 hereof):

(a) by preserving and protecting in perpetuity its agricultural values, character, use and utility, and by preventing any use or condition of the Property, or activity or practice thereon, that would significantly impair or interfere with its agricultural values, character, use or utility;

(b) by preventing any use or condition of the Property, or activity or practice thereon, that would significantly impair or interfere with its agricultural values, character, use or utility; and

(c) by requiring continuing Productive Agricultural Uses.

To the extent that the preservation of other open space and scenic values of the Property is consistent with such uses, it is within the purpose of this Easement to protect those values.

2. Affirmative Rights and Interests Conveyed. To accomplish the purpose of this Easement, the following rights and interests are conveyed to Holder by this Easement:

To identify, to preserve and to protect in perpetuity the agricultural values, character, use and utility, including, without limitation, the agricultural productivity, vegetation, soil and water quality, and the open space and scenic values of the Property. (The agricultural values, character, use and utility, and the open space and scenic values of the Property are hereinafter referred to collectively as the "Protected Values").

To enter upon, inspect, observe, and study the Property for the purposes of (i) identifying the current condition of, uses and practices thereon, and the baseline condition thereof; and (ii) monitoring annually, or more frequently if necessary or appropriate, the condition of, uses and practices thereon to determine whether they are consistent with this Easement. Such entry shall be permitted upon prior notice to Grantor and shall be made in a manner that will not unreasonably interfere with Grantor's use and quiet enjoyment of the Property.

To prevent any activity on, use of, or practice on the Property that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Property that may be damaged by any inconsistent condition, activity, use or practice. However, it is the intention of this Easement not to limit Grantor's discretion to employ Grantor's choices of farm and ranch uses and management practices so long as those uses and practices are consistent with the purpose of this Easement.

To be paid by Grantor a fee to cover the cost of monitoring not to exceed [__] hours per monitoring event, with the monitoring fee to be based on the prevailing hourly rate as designated under "General Planning Services" of the Marin County Community Development

Agency – Planning Division Fee Schedule, as determined by the Board of Supervisors, or, in the absence of such Fee Schedule, under a comparable fee schedule determined from time to time by the Board of Supervisors. In the event that the County as Holder assigns or delegates its monitoring responsibilities hereunder to an assignee or designee, the Grantor shall pay that assignee or designee the same monitoring fee that would have been payable to the County.

3. **Uses and Practices**. Holder and Grantor intend that this Easement shall confine the uses of the Property to agriculture, residential and the other uses which are described herein. Examples of uses and practices that are consistent with the purpose of this Easement and that are hereby expressly permitted, are set forth in **Exhibit B**, attached hereto and incorporated herein by this reference. Examples of uses and practices that are inconsistent with the purpose of this Easement, and that are hereby expressly prohibited, are set forth in **Exhibit C**, attached hereto and incorporated herein by this reference. The uses and practices set forth in **Exhibits B** and **C** are not necessarily exhaustive recitals of consistent and inconsistent activities, respectively. They are set forth both to establish specific permitted and prohibited activities and to provide guidance in determining the consistency of other activities with the purpose of this Easement.

4. **Baseline Data**. In order to establish the present condition of the Property and the Protected Values, Grantor has provided to Holder a baseline documentation report (the "Baseline Documentation Report") prepared by a qualified biologist, a Certified Rangeland Manager ("CRM") or other qualified specialist approved by the Holder. The Baseline Documentation Report contains an inventory of the Property's relevant features, agricultural values and conditions, its improvements and its most significant natural resources and includes, in addition, a description and overall assessment of **[List here any matters of particular concern related to the Property]** (the "Baseline Data"). Holder has reviewed such Report and determined that it is acceptable. Grantor has provided Holder a complete signed copy of the Report, and it shall be placed and remain on file with Holder. The Baseline Documentation Report, as approved by Holder and signed by Grantor and Holder, represents accurately the condition of the Property at the date of the conveyance of this Easement. The parties intend that the Baseline Data shall be used by Holder to monitor Grantor's future uses of the Property, the condition thereof, and activities and practices thereon. The parties further agree that, in the event a controversy arises with respect to the condition of the Property or a particular resource thereof, the parties shall not be foreclosed from utilizing any other relevant document, survey, or report to assist in the resolution of the controversy. Grantor and Holder recognize that changes in economic conditions, in agricultural technologies, in accepted farm and ranch management practices, and in the situations of Grantor may result in an evolution of agricultural uses of the Property, provided such uses are consistent with this Easement.

5. **Mandatory Agriculture Provisions**

(a) Agricultural Use. Beyond the uses specifically permitted and prohibited, Grantor and Holder agree that Grantor, directly or through an operator or operators responsible to Grantor, shall be, and continue to be, actively engaged in Productive Agricultural Uses of the Property. "Agricultural Uses" are defined in **Exhibit B**, Section 2. "Productive Agricultural Uses" are defined as a level of Agricultural Uses appropriate to the sustainable agricultural capacity of the Property, including, without limitation, the production and sale of commercial

animal products and/or agricultural crops as described in Section 2 of **Exhibit B**, Permitted Uses and Practices.

(b) Agricultural Management Plan Purpose and Requirements.

The purpose of an agricultural management plan ("AMP") is to describe a specific plan for the conduct of agricultural uses and practices on the Property that meets the requirements for Productive Agricultural Uses of the Property, including, but not limited to, a description of the types of crops, number and kind of livestock, and seasons and areas of use, provisions for minimizing erosion and the transport of pollutants or sediment into creeks, and other material aspects of the agricultural uses and practices in sufficient detail to permit Holder to make an informed judgment as to the AMP's reasonableness and consistency with local practices and the terms of this Easement. In preparing the AMP, Grantor shall consult with a CRM licensed by the State of California or an appropriate local agency resource management professional (a "Professional"). Any AMP presented to Holder for approval shall be accompanied by a signed certification by such a CRM or Professional that such CRM or Professional has consulted with the Grantor regarding the proposed AMP, has reviewed the proposed AMP and has determined that the proposed AMP meets the purpose and the requirements of an AMP as set forth in this Section 5(b). The AMP shall incorporate any applicable Stream Conservation Area Management Plan ("SCAMP") together with any required CRM or Professional certification.

(c) Initial AMP. Prior to recordation of this Easement, Grantor submitted and Holder approved an initial AMP for the Property.

(d) Agricultural Management Plan Implementation and Updates**.**

(i) After an AMP has been presented to Holder for approval and Holder has notified Grantor of Holder's approval of the AMP, Grantor shall implement and adhere to the AMP at all times unless and until updated with Holder's approval.

(ii) Grantor shall update an existing approved AMP at least every ten (10) years or sooner in the event of proposed significant changes in the existing AMP or any change in the ownership of the Property. Prior to submitting an updated AMP for Holder's approval, Grantor shall consult with a CRM or Professional and have the CRM or Professional review the updated AMP and provide the certification required by Section 5 (b) above.

(iii) Grantor shall submit any proposed updated AMP accompanied by the signed certification by the CRM or Professional for consideration by Holder. Holder shall have forty-five (45) days from receipt of the updated AMP and CRM/Professional certification within which to review the proposal. Holder shall approve the updated AMP in writing, if Holder in its sole discretion determines that it reasonably meets the purpose and requirements of Section 5 (b) above.

(iv) In the event of a disagreement between Grantor and Holder as to the conformity of the proposed updated AMP to the requirements of this Easement, Grantor and Holder shall negotiate in good faith to resolve the disagreement. Pending resolution of any such disagreement, Grantor shall continue to implement and adhere to the previously approved AMP and SCAMP.

(v) After notification of Holder's approval of an updated AMP, Grantor shall implement and adhere to the updated AMP at all times unless and until further updated with Holder's approval.

(e) Holder's Remedies.

(i) Should Grantor find that it cannot continue Productive Agricultural Uses of the Property as contemplated by the then applicable AMP and must cease to engage actively in Productive Agricultural Uses of the Property according to that AMP, Grantor may propose changes in the AMP that would enable Grantor to carry on Productive Agricultural Uses of the Property. Grantor and Holder shall work together in good faith to develop an alternative AMP that would enable the Grantor to carry on Productive Agricultural Uses of the Property.

(ii) If Grantor does not elect to propose changes in the AMP or if Grantor and Holder are unable to develop a mutually agreeable alternative AMP and if the Grantor believes that it must cease to engage actively in Productive Agricultural Uses of the Property according to the existing AMP, then the Grantor agrees in good faith to promptly seek and retain an Agriculture Production Operator ("Operator") to maintain Productive Agricultural Uses of the Property in accordance with this Section 5 and with **Exhibit B** and the other terms of this Easement. The Grantor agrees to use all available means, including, without limitation, advertising, requests for proposals, and consultation with established Marin and Sonoma County farmers and organizations to obtain a qualified Operator who will be actively engaged in Productive Agricultural Uses of the Property. Should Grantor be unsuccessful in obtaining a qualified, experienced and financially responsible Operator, the Holder shall have the right to seek such an Operator subject to approval by Grantor, which approval shall not be unreasonably withheld.

(iii) If it is necessary to retain an Operator as provided above, Grantor agrees to enter into an Agriculture Production Lease ("Lease") with the selected Operator, subject to the terms of this Easement. The Operator/Lessee shall be allowed such use of the Property as is reasonably required to conduct the required Productive Agricultural Uses of the Property but always subject to the terms of this Easement. The Lease shall provide for a fair and reasonable rental consistent with then prevailing commercial practice in Marin County. Any lease must bind the Lessee to all the terms of the documentation forming or appurtenant to this Easement, including, without limitation, the terms of the AMP. Grantor shall make a copy of the proposed execution version of the Lease available to Holder for its review and approval to ensure its consistency with the terms of this Easement. The commencement and implementation of Productive Agricultural Uses of the Property by the Operator shall occur as soon as practicable after execution of the Lease.

(iv) Grantor may amend the AMP to reflect any changes made necessary by installation of the Operator subject to Holder's approval following the process set forth in Section 5 (b) above if necessary.

5-A. Stream Conservation Areas.

(a) Definition and Purpose. Stream Conservation Areas or SCAs consist of buffer zones along certain natural watercourses on the Property and includes the watercourse, banks, and areas on both sides extending from the top of both banks laterally outward not less than one hundred (100) feet in width and includes supporting riparian vegetation associated with the stream. An additional setback distance may be required based on the results of the site assessment. All such natural watercourses currently on the Property are identified on **Exhibit D** attached hereto and by this reference incorporated herein. Grantor and Holder shall amend **Exhibit D** from time to time as necessary to accurately reflect changes in any such natural watercourses. The purpose of the SCA is to protect the water quality, soil and bank stability, and the vegetative cover adjacent to the watercourses.

(b) Stream Conservation Area Management Plan Purpose and Requirements. The purpose of the Stream Conservation Area Management Plan or SCAMP is to limit uses and practices on the Property that may degrade water quality, soil and bank stability, or vegetative cover within the SCA. The SCAMP establishes the SCA boundaries and describes and contains a schedule for implementation of agricultural practices within the SCA, including, but not limited to, the following: season of use, number and kind of livestock, and location of watering sources. Further, the SCAMP includes provisions for minimizing the transport of pollutants or sediment to streams from retention ponds, dairy buildings, loafing barns, feed lots, other animal confinement facilities, and/or animal congregation areas. Implementation of any activities specified in the initial SCAMP or any amended or updated SCAMP must be consistent with all applicable laws, with agricultural uses as defined in Section 2 of **Exhibit B** and with the purpose and terms of this Easement including the Protected Values. The SCAMP shall be incorporated into any applicable AMP.

(c) Initial SCAMP. Prior to recordation of this Easement, Grantor submitted and Holder approved an initial SCAMP for the Property. The initial SCAMP was accompanied by a signed certification by a CRM or Professional that such CRM or Professional had consulted with the Grantor regarding the SCAMP, had reviewed the SCAMP and had determined that the SCAMP met the purpose and the requirements of a SCAMP as set forth in Section 5-A (b).

(d) SCAMP Implementation and Updates.

(i) Grantor shall implement and adhere to the initial SCAMP at all times unless and until updated with Holder's approval and provided always that such implementation is consistent with the Protected Values.

(ii) Grantor shall update an existing SCAMP at least every ten (10) years or sooner in the event of significant changes within the SCA or in the use, management, or ownership of the Property. Prior to submitting an updated SCAMP for Holder's approval, Grantor shall consult with a CRM or Professional and have the CRM or Professional review the updated SCAMP and provide the certification described in Section 5-A (c) above.

(iii) Grantor shall submit any proposed updated SCAMP accompanied by the signed certification by the CRM or Professional for consideration by Holder. Holder shall have forty-five (45) days from receipt of the updated SCAMP and CRM/Professional certification within which to review the proposal. Holder shall approve the updated SCAMP in writing, if Holder in its sole discretion determines that it reasonably meets the purpose and requirements of Section 5-A (b) above.

(iv) In the event of a disagreement between Grantor (or the applicable certifying CRM or Professional) and Holder as to the conformity of the proposed updated SCAMP to the purpose and requirements of Section 5-A (b) above, Grantor and Holder shall negotiate in good faith to resolve the disagreement. Pending resolution of any such disagreement, Grantor shall continue to implement and adhere to the previously approved SCAMP, provided always that such implementation is consistent with the Protected Values.

(v) After notification of Holder's approval of an updated SCAMP, Grantor shall implement and adhere to the updated SCAMP at all times unless and until further updated with Holder's approval.

(vi) Holder's participation in any development and/or update of a SCAMP or Holder's express or implied approval of any feature of the initial or any updated SCAMP shall not preclude Holder's subsequent objection to any use or management of the Property, whether or not permitted by the initial or any updated SCAMP, that impairs the Protected Values.

6. Reserved Rights. Grantor reserves all rights accruing from ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this Easement. Without limiting the generality of the foregoing, the following rights are expressly reserved: (i) all right, title, and interest in and to all tributary and non-tributary water, water rights, and related interests in, on, under, or appurtenant to the Property, provided that such water, water rights and related interests are used on or for the benefit of the Property in a manner consistent with the purpose of this Easement and in accordance with Section 11 of **Exhibit C** of this Easement; and (ii) all right, title, and interest in and to all subsurface oil, gas and minerals; provided that the manner of exploration for, and extraction of any oil, gas or minerals shall be only by a subsurface method (except as specifically permitted by Section 10 of **Exhibit C** of this Easement), shall be limited and localized, shall not damage, impair or endanger the Protected Values and shall have been approved by Holder in advance. After any exploration and/or extraction of subsurface oil, gas or minerals, Grantor shall restore all disturbed areas to their original state pursuant to a plan approved by Holder.

7. Mediation. If a dispute arises between the parties concerning the consistency of any existing or proposed use, practice or activity with the purpose of this Easement and Grantor agrees not to proceed with the use, practice or activity pending resolution of the dispute, either party may refer the dispute to mediation by request made in writing upon the other. Within thirty (30) days of the receipt of such a request, the parties shall select a single trained and impartial mediator. If the parties are unable to agree on the selection of a single mediator, then the parties shall, within forty-five (45) days of receipt of the initial request, jointly apply to the American Arbitration Association for the appointment of a trained and impartial mediator with relevant

experience in real estate and conservation easements. Mediation shall then proceed in accordance with the following guidelines:

(a) Purpose. The purpose of the mediation is to: (i) promote discussion between the parties; (ii) assist the parties to develop and exchange pertinent information concerning issues in the dispute; and (iii) assist the parties to develop proposals that will enable them to arrive at a mutually acceptable resolution of the controversy. The mediation is not intended to result in any express or de facto modification or amendment of the covenants, terms, conditions, or restrictions of this Easement.

(b) Participation. The mediator may meet with the parties and their counsel jointly or ex parte. Grantor and Holder shall participate in the mediation process in good faith and expeditiously, attending all sessions scheduled by the mediator. Representatives of the parties with settlement authority will attend mediation sessions as requested by the mediator.

(c) Confidentiality. All information presented to the mediator shall be deemed confidential and shall be disclosed by the mediator only with the consent of the parties or their respective counsel. The mediator shall not be subject to subpoena by any party. No statements made or documents prepared for mediation sessions shall be disclosed in any subsequent proceeding or construed as an admission of a party.

(d) Time Period. Neither party shall be obligated to continue the mediation process beyond a period of ninety (90) days from the date of the selection or appointment of a mediator or if the mediator concludes that there is no reasonable likelihood that continuing mediation will result in mutually agreeable resolution of the dispute.

(e) Costs. The cost of the mediator shall be borne equally by Grantor and Holder; the parties shall bear their own expenses, including attorney's fees, individually.

8. **Holder's Remedies**. If Holder determines that Grantor may be in material violation of the terms of this Easement or that a violation is threatened, Holder shall have the right to inspect the Property to determine whether there is such a violation. If Holder determines that Grantor is in violation of the terms of this Easement and Holder wishes to require Grantor to cease and/or remedy any such violation, Holder shall give written notice to Grantor of such violation and demand corrective action sufficient to cure the violation and/or, where the violation involves injury to the Property resulting from any condition, use, practice or activity inconsistent with the purpose of this Easement, to restore the portion of the Property so injured. If Grantor fails to cure the violation within thirty (30) days after receipt of notice thereof from Holder, or under circumstances where the violation cannot reasonably be cured within a thirty (30) day period, if Grantor fails promptly to begin curing such violation within the thirty (30) day period, or if Grantor fails to continue diligently to cure such violation until finally cured, Holder may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement, to enjoin the violation by temporary or permanent injunction, to recover any damages to which it may be entitled for violation of the terms of this Easement or injury to any Protected Values, including damages for any loss thereof, and to require the restoration of the Property to the condition that existed prior to any such injury. If Holder, in its sole discretion, determines that circumstances require immediate action to prevent or mitigate significant damage to the

Protected Values, Holder may pursue its remedies under this Section without waiting for the period provided for cure to expire. Holder's rights under this Section apply equally in the event of either actual or threatened violations of the terms of this Easement. Grantor agrees that Holder's remedies at law for any violation of the terms of this Easement are inadequate and that Holder shall be entitled to the injunctive relief described in this Section, both prohibitive and mandatory, in addition to such other relief to which Holder may be entitled, including specific performance of the terms of this Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. Holder's remedies described in this Section shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.

(a) Costs of Enforcement. Any costs incurred by Holder in enforcing the terms of this Easement against Grantor, including, without limitation, costs of suit and attorneys' fees, and any costs of restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor. In any action to enforce the terms of this Easement, the prevailing party's costs of suit, including, without limitation, attorneys' fees, shall be borne by the other party.

(b) Holder's Discretion. Holder, in the reasonable exercise of its discretion, may forbear to exercise rights under this Easement. Any forbearance by Holder to exercise its rights under this Easement in the event of any breach of any term of this Easement by Grantor shall not be deemed or construed to be a waiver by Holder of such term or of any subsequent breach of the same or any other term of this Easement or of any of Holder's rights under this Easement. No delay or omission by Holder in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver of other or future violations.

(c) Acts Beyond Grantor's Control. Nothing contained in this Easement shall be construed to entitle Holder to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to any person or the Property resulting from such causes.

9. **Costs and Taxes**. Grantor shall pay any and all taxes, assessments, fees and charges levied by competent authority on the Property or on this Easement. It is intended that this Easement constitute an enforceable restriction within the meaning of Article XIII Section 8 of the California Constitution and that this Easement qualify as an enforceable restriction under the provisions of California Revenue and Taxation Code Sections 402.1(a)(8) and 423.

10. Grantor Responsibility, Hold Harmless and Insurance; Environmental Responsibilities.

10.1 Grantor's Responsibility and Hold Harmless. Grantor acknowledges that Holder has neither possessory rights in the Property nor any responsibility nor right to control, maintain, or keep up the Property. Grantor has and shall retain all responsibilities and shall bear all costs and liabilities of any nature related to the ownership, operation, upkeep, improvement, and maintenance of the Property. Grantor hereby releases and agrees to hold harmless, indemnify and defend Holder and its members, directors, officers, employees, legal

representatives, agents, and contractors and the heirs, personal representatives, successors, and assigns of each of them (collectively "Indemnified Parties") from and against any and all liabilities, penalties, fines, charges, costs, losses, damages, expenses, causes of action, claims, demands, orders, judgments, or administrative actions, including, without limitation, reasonable attorneys' fees, arising from or in any way connected with: (1) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Property, regardless of cause, unless due solely to the negligent act or wilful misconduct of Holder; or (2) violation or alleged violation of, or other failure to comply with, any state, federal, or local law, regulation, or requirement by any person, other than Holder, in any way affecting, involving, or relating to the Property.

10.2 Liability Insurance. Grantor shall obtain and maintain at all times comprehensive general liability insurance against claims for personal injury, death, and property damage. Such insurance shall have coverages and limits of liability in amounts customary for agricultural operations in the area of the Property of a type and scale comparable to those operations on the Property and shall name Holder as an additional insured along with Grantor. Such insurance shall include provisions for at least thirty (30) days advance notification to Holder prior to termination or expiration of the insurance coverage. Grantor shall deliver to Holder certificates of such insurance coverage within ten (10) business days of Holder's written request therefor. If Grantor fails to keep required insurance in full force and effect, Holder may purchase replacement insurance and charge Grantor for the cost of such coverage.

10.3 Environmental Responsibilities.

10.3 (a) Grantor Responsible for the Property. Grantor is solely responsible, and Holder has no responsibility, for the operation of the Property or the monitoring of hazardous or other conditions thereon. Nothing in this Easement shall be construed as giving any right or ability to Holder to exercise physical or managerial control of the day-to-day operations of the Property or of Grantor's activities on the Property. Neither Holder nor its agents shall be liable to the Grantor or other person or entity in connection with consents given or withheld, or in connection with any entry upon the Property, pursuant to this Easement.

10.3 (b) Grantor's Environmental Warranty and Indemnity. Grantor represents and warrants that it has no actual knowledge of a release or threatened release of hazardous substances or wastes on the Property and hereby promises to hold harmless, defend and indemnify the Indemnified Parties from and against all liabilities, penalties, fines, charges, costs, losses, damages, expenses, causes of action, claims, demands, orders, judgments, or administrative actions, including, without limitation, reasonable attorneys' fees, arising from or connected with any release of hazardous waste or violation of federal, state or local environmental laws.

This Easement is not intended to create environmental liability in the Holder. Notwithstanding any other provision herein to the contrary, the parties do not intend this Easement be construed such that it imposes on, creates in or gives the Holder:

(1) the obligations or liability of an "owner" or "operator" as those words are defined and used in environmental laws, as defined below, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC Section 9601 et seq., and hereinafter "CERCLA");

(2) the obligations or liability of a person described in 42 USC Section 9607 (a)(3) or (4);

(3) the obligations of a responsible person under any applicable Environmental Laws, as defined below;

(4) the right to investigate and remediate any Hazardous Materials, as defined below, associated with the Property; or

(5) any control over Grantor's ability to investigate, remove, remediate, or otherwise clean up any Hazardous Materials associated with the Property.

The term "Hazardous Materials" includes, without limitation, (i) material that is flammable, explosive, or radioactive; (ii) petroleum products; and (iii) hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Hazardous Materials Transportation Act (49 USC Section 5101, et seq.), the Hazardous Waste Control Law (California Health and Safety Code Section 25100 et seq.), and in the regulations adopted and publications promulgated pursuant to them, or any other applicable federal, state, or local laws, ordinances, rules, or regulations now in effect or enacted after this date.

The term "Environmental Laws" includes, without limitation, any federal, state or local or administrative agency statute, regulation, rule, ordinance, order or requirement now in effect or enacted after this date relating to pollution, protection of human health, the environment, or Hazardous Materials.

11. **Access**. No right of access by the general public to any portion of the Property is conveyed by this Easement.

12. **Development Rights**. The parties acknowledge that under currently applicable zoning regulations of the County of Marin the Property is so classified that upon receipt of required government approvals the Property could potentially be developed to a density of up to xxx and xxx-hundredths (xx) single family residential dwelling units (the "Development Rights"), and, further, that under certain circumstances the Development Rights may be transferred to and utilized on other property or properties. The parties agree to deal with the Development Rights as follows:

[Alternative I:

Provision for case in which there is existing residential development on the Property and the Property owner has no right to construct additional housing on the Property other than housing "reasonably necessary to the agricultural uses of the Property." This provision does not restrict the Property owner's right under Exhibit B, Section 3, to construct

housing, such as farm worker housing, and other facilities that are "reasonably necessary to the agricultural uses of the Property."

If there is no existing residential development on the Property and the owner will retain a Development Right permitting the owner to construct one or more residences that are not "reasonably necessary to the agricultural uses of the Property," then this Section should be revised accordingly.

(a) Grantor retains [ ] of the [ ] and [ ]-one-hundredths (___) Development Rights associated with the Property. The Development Right(s) retained by Grantor shall apply and relate solely to the existing residential improvements on the Property as identified in the Baseline Documentation Report and any residential improvements and facilities as may be permitted by **Exhibit B,** Section 3. **[Alternative II:**

Provision for case in which there is existing residential development on the Property and the Property owner has the right under the Easement to construct one or more additional residences (subject to size limitations) that are not "reasonably necessary to the agricultural uses of the Property" and therefore not permitted by Exhibit B, Section 3. This provision does not restrict the Property owner's right under Exhibit B, Section 3, to construct housing, such as farm worker housing, and other facilities that are "reasonably necessary to the agricultural uses of the Property."

If there is no existing residential development on the Property, then this Section should be revised accordingly.] (a) Grantor retains **[ ]** of the **[ ]** and **[ ]**-one-hundredths (___) Development Rights associated with the Property. The Development Rights retained by Grantor shall apply and relate solely to:

(1) the existing residential improvements on the Property as identified in the Baseline Documentation Report and any residential improvements and facilities as may be permitted by **Exhibit B,** Section 3. ; and

(2) the right to construct and use

[Specify number of residences]

additional residence(s) (the "Additional Residence(s)"), provided, that, none of such Additional Residence(s) shall exceed **[ ]** square feet, plus a garage of not more than **[ ]** square feet and provided further that, as to such Additional Residence(s), Grantor shall obtain the approval of Holder for the location of any such Additional Residences in accordance with the provisions of Section 3(b) of **Exhibit B.**

(b) The Development Rights retained by Grantor shall not be used to support or enable the creation of any additional residential uses or units on the Property except as expressly provided in this Section 12 or in Section 3 of **Exhibit B** hereto. No structures built pursuant to this or any other provision of this Easement may be sold separately from the entire Property.

(c) The balance of **[ ]** and **[ ]**-one-hundredths ( ) Development Rights associated with the Property, and any other development or similar rights that may be or become associated with the Property in the future, are hereby released, terminated, and extinguished. These development or similar rights may not be used on or transferred to any portion of the Property as it now or later may be bounded or described, or to any other property adjacent or otherwise, or used for the purpose of calculating permissible lot yield of the Property or any other property.

(d) Neither Grantor nor Holder shall use or receive, and each hereby relinquishes, the benefit from any increase in allowable development or similar rights associated with the Property resulting from future zoning changes or otherwise. This Easement shall not create any development or similar rights.

13. Conveyance of Separate Parcels; Merger. Grantor acknowledges and represents that the Property currently consists of **[ ]** separate Assessor's parcels (numbers **[ ]**), which under existing law and regulations might be sold or conveyed separately from one another as separate legal parcels. Grantor agrees that the sale or conveyance of any parcel or other portion of the Property separate or apart from any other parcel or portion of the Property, whether pursuant to existing or future law or regulation, is inconsistent with the purpose of this Easement. Therefore, Grantor covenants and agrees:

(a) If Holder so requests at any time, Grantor will apply for and pursue to completion an application to the County of Marin for consolidation or merger of the **[ ]** Assessor's parcels of the Property into one legal parcel, or pursue such other applicable legal restrictions so that no parcel or other portion of the Property may be separately sold or conveyed from any other parcel or portion of the Propety.

(b) Whether or not the **[ ]** Assessor's parcels are merged, Grantor shall not sell, exchange, convert, transfer, assign, mortgage or otherwise encumber, alienate or convey any such parcel or other portion of the Property separately or apart from any other parcel or portion of the Property, and Grantor shall at all times treat all parcels as a single integrated economic unit of property. Grantor shall not apply for or otherwise seek recognition of additional legal parcels within the Property based on certificates of compliance or any other authority. The division, subdivision, defacto subdivision or partition of the Property, whether by physical, legal or any other process, is prohibited, provided, however, that a lease of a portion of the Property for agricultural uses or a lease or rental of a residence or residences or other improvements on the Property for a terms of less than five (5) years shall not be prohibited by this Section.

14. Extinguishment. If circumstances arise in the future such as render the purpose of this Easement impossible to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction, and the amount of the compensation to which Holder shall be entitled from any sale, exchange, or involuntary conversion of all or any portion of the Property subsequent to such termination or extinguishment, shall be determined, unless otherwise provided by California law at the time, in accordance with Section 15. No inaction or silence by Holder shall be construed as abandonment of the Easement. The fact that the Property is not in agricultural use, or that agricultural use is no longer possible, is not reason for termination or extinguishment of this

Easement. Other than pursuant to eminent domain or in lieu of eminent domain, no other voluntary or involuntary sale, exchange, conversion, transfer, assignment, lease, mortgage or other encumbrance, alienation or conveyance of any kind of all or part of the Property, or of any interest in it, shall limit or terminate or extinguish the provisions of this Easement.

15. Compensation. As of the effective date of this Easement, an "Easement Percentage" is hereby defined and established as the ratio of the value of the Easement at the time of this grant to the value of the Property unencumbered by the Easement at the time of this grant. The value of the Property shall exclude any amounts attributable to improvements on the Property. For the purposes of defining the "Easement Percentage," Grantor and Holder agree that the ratio of the value of the Easement to the value of the Property unencumbered by the Easement shall be the greater of (a) [ ]%, or (b) that percentage established by dividing the value of this Easement by the value of the Property unencumbered by this Easement as of said effective date, said values to be established by Grantor's qualified appraisal (pursuant to Treasury regulation §1.170A-13) for federal income tax purposes. In the event that Grantor does not seek a qualified appraisal, the Easement Percentage shall be [ ]%. Once established, the Easement Percentage shall remain constant.

This Easement constitutes a real property interest immediately vested in Holder. For the purpose of Sections 14 and 16, the parties stipulate and agree that the Easement shall have a fair market value determined as the greater of:

(a) The fair market value of the Property, excluding the value of improvements on the Property, as though unencumbered by this Easement, at the time of the proposed termination or extinguishment, as determined by an appraisal prepared by a qualified appraiser acceptable to Grantor and Holder, multiplied by the Easement Percentage; or

(b) The value of the Easement at the time of the proposed termination or extinguishment as determined by a qualified appraiser acceptable to all parties.

Grantor shall pay the cost of the appraisal. Nothing herein shall prevent Holder from having an appraisal prepared at its own expense.

16. Condemnation. Should all or part of the Property be taken in exercise of eminent domain by public, corporate, or other authority so as to abrogate the restrictions imposed by this Easement, Grantor and Holder shall join in appropriate actions at the time of such taking to recover the full value of the taking and all incidental or direct damages resulting from the taking as well as all other payments to which the parties may be entitled by law, which total proceeds shall be divided in accordance with the proportionate values of Grantor's and Holder's interests as specified in Section 15, unless otherwise provided by applicable law. All expenses incurred by Grantor and Holder in such action shall be first paid out of the recovered proceeds. Should this Easement be condemned or otherwise terminated or extinguished on any portion of the Property, the balance of the Property shall remain subject to this Easement.

17. Assignment of Holder's Interest. Holder may assign its interest in this Easement only to a "qualified organization," within the meaning of Section 170(h) of the Internal Revenue Code, as amended, or any successor provision, which is authorized to acquire and hold

conservation easements under California law and has similar purposes to preserve agricultural lands and open space, and which agrees to assume the responsibilities imposed by this Easement. All assignments shall be duly recorded. In connection with any assignment, Holder may retain the right, power and/or duty to enforce the Easement along with its assignee (referred to as an "assignee-Holder") or in place of the assignee-Holder if the assignee-Holder is unable or unwilling to carry out its enforcement obligations under the Easement. Holder and any assignee-Holder shall notify Grantor of any assignment, and Holder and any assignee-Holder shall coordinate management of their enforcement activities to provide reasonable assurances to Grantor that their monitoring activities will not significantly increase the burden on Grantor beyond what that burden would have been if only a single monitoring holder had existed.

18. Executory Limitation. If a Holder assigns its rights hereunder to a "qualified organization" that is a tax-exempt nonprofit organization and if such assignee or a similar successor in interest shall cease to exist for any reason, or to be a qualified organization under Section 170(h) of the Internal Revenue Code, as amended, or to be authorized to acquire and hold conservation easements under California law, then such assignee's right, title, and interest in this Easement shall automatically vest in the County of Marin upon acceptance of the Easement and its rights and obligations. If the County of Marin refuses such rights and obligations, then the Easement and its rights and obligations shall vest in such organization as a court of competent jurisdiction shall direct pursuant to the laws of the State of California.

19. Amendment of Easement. Grantor and Holder recognize that circumstances could arise that would justify amendment of certain of the covenants, terms, conditions or restrictions contained in this Easement. To this end, Grantor and Holder have the right to agree to amendments to this Easement without prior notice to, or approval of, any other party (except notice to and approval of the County of Marin in case the County of Marin as the initial Holder has assigned its interest in the Easement), provided that in the sole and exclusive judgment of the Holder, each such amendment furthers or is not inconsistent with the purpose of this Easement.

Notwithstanding the foregoing, the Holder and Grantor have no right or power (a) to amend Section 12 or Section 3 of **Exhibit B** to permit more development than permitted by the express terms of this Easement or (b) to limit the perpetual duration of the Easement or (c) to terminate or extinguish this Easement or (d) to adversely affect the qualification of this Easement or the status of the Holder under applicable laws, including, without limitation, those referred to in the recitals of this Easement.

20. Subsequent Easements. Grantor shall not grant any subsequent easement, interest in land or use restriction on the Property that might adversely affect the purpose of the Easement or the Protected Values. If Grantor wishes to grant a subsequent easement, interest in land or use restriction on the Property that Grantor believes would not adversely affect the purpose of the Easement or the Protected Values, Grantor shall so notify Holder at least sixty (60) business days in advance of any such proposed grant, shall provide to Holder a copy of any proposed grant document together with such additional information relating to the proposed grant as Holder may reasonably request and shall request Holder's approval of such grant. Holder will review the proposal and may, in its sole discretion, (a) approve the proposal as being consistent with the purpose of the Easement and the Protected Values or (b) approve the proposal on conditions intended to ensure its consistency with the purpose of the Easement and the

Protected Values or (c) disapprove the proposal as being actually or potentially inconsistent with the purpose of the Easement or the Protected Values. Grantor and Holder hereby expressly agree that any grant of a subsequent easement, interest in land or use restriction without Holder's express written approval shall be void and of no effect.

21. Applicable Law. All uses, practices, specific improvements, construction or other activities permitted under this Easement shall be consistent with the purpose of this Easement. Although it is expected that Grantor will comply with applicable law and obtain any permits or approvals required thereby in connection with Grantor's management of Grantor's Property, it is not the obligation of Holder, as Holder of this Easement, to enforce compliance with such applicable laws. However, Holder may withhold approval of any proposal if Grantor fails to demonstrate to Holder's satisfaction that Grantor has complied or will comply with all applicable legal requirements.

22. Grantor's Title Warranty. Grantor represents and warrants that Grantor has good fee simple title to the Property, free from any and all liens or encumbrances, except those set forth in **Exhibit E** to which this Easement is made subject, and hereby promises to defend Grantor's title against all claims that may be made against it. Grantor represents and warrants that the Property is not subject to any other easement whatsoever, except those listed in **Exhibit E**.

23. Notices

(a) To Holder. Any notices to Holder required in this Easement shall be sent by registered or certified mail or other courier providing reliable proof of delivery, to the following person and address, or other such person or address as may be hereafter specified by notice in writing to: **[Insert name of person and address]**. All other communication shall be made by reasonable means under the circumstances, provided that facsimile and other electronic communication will not be deemed received unless accompanied by delivery by one of the foregoing methods.

(b) To Grantor. Any notices to Grantor required in this Easement shall be sent by registered or certified mail or other courier providing reliable proof of delivery, to the Grantor's designee at the following address, or to such other person or address as may be hereafter specified by notice in writing to Holder, **[Insert title and address of Grantor's designee]**. All other communication shall be made by reasonable means under the circumstances, provided that facsimile and other electronic communication will not be deemed received unless accompanied by delivery by one of the foregoing methods.

(c) To Grantor's Designee. In the event that the Property is owned by a trust, business entity, or any common or jointly held ownership, the Grantor shall provide Holder with written notice of a designated representative, who shall be responsible for the receipt of notices on behalf of the Grantor hereunder. The approval of, or notice to, the designated representative shall be deemed the approval of, or notice to, the entity or all owners, as the case may be.

24. General Provisions.

(a) Controlling Law. The interpretation and performance of this Easement shall be governed by the laws of the State of California.

(b) Liberal Construction. Any general rule of construction to the contrary not withstanding, this Easement shall be liberally construed in favor of the Holder to effect the purpose of this Easement and the policy and purpose of the various state and local policies referred to in the recitals set forth above. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purpose of this Easement that would render the provision valid shall be favored over any interpretation that would render it invalid.

(c) Severability. If any provision of this Easement, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Easement, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

(d) Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to the Easement, all of which are merged herein.

(e) No Forfeiture. Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect or in a forfeiture of this Easement or reversion to Grantor of any rights conveyed hereby.

(f) Joint Obligation. The obligations imposed by this Easement upon Grantor shall be joint and several.

(g) Successors. The covenants, terms, conditions, and restrictions of this Easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as a servitude running in perpetuity with the Property. The terms “Grantor” and “Holder,” wherever used herein, and any pronouns used in place thereof, shall include, respectively, the above-named Grantor and Grantor’s personal representatives, heirs, successors and assigns, and the above-named Holder and its successors and assigns.

(h) No Merger. No merger of title, estate or interest in this Easement shall be deemed effected by any previous, contemporaneous, or subsequent deed, grant, or assignment of an interest or estate in the Property, or any portion thereof, to Holder, or its successors or assigns, it being the express intent of the parties that this Easement not be extinguished by, or merged into, any other interest or estate in the Property now or hereafter held by Holder or its successors or assigns. Should Holder acquire the entire fee interest in the Property, then Holder’s rights and obligations under this Easement shall become immediately vested in **[Insert designated backup Holder for this eventuality**]. If **[designated backup Holder]** is no longer in existence at the time the rights and obligations under this Easement would otherwise vest in it, or if **[designated backup Holder]** is not qualified or authorized to hold conservation easements as provided for an assignment pursuant to Section 17, or if it shall refuse such rights and obligations, then the rights and obligations under this Easement shall vest in such organization as a court of competent

jurisdiction shall direct pursuant to the laws of the State of California and consistent with the requirements for an assignment pursuant to Section 17.

(i) Termination of Rights and Obligations. A party's rights and obligations under this Easement terminate upon transfer of the party's entire interest in the Easement or Property, except that liability for acts, omissions, conditions or events occurring prior to such transfer shall survive transfer, and rights to indemnity and other rights under this Easement as to acts, omissions, conditions or events occurring prior to such transfer shall survive such transfer. In the event that a Holder retains rights and/or obligations as to enforcement as contemplated by Section 17, the rights and obligations of that assignor-Holder under this Easement shall terminate, except for those retained rights and obligations and except that liability for acts, omissions, conditions or events occurring prior to such transfer shall survive transfer, and rights to indemnity and other rights under this Easement as to acts, omissions, conditions or events occurring prior to such transfer shall survive such transfer.

(j) Future Conveyance. Grantor agrees that reference to this Easement shall be made in any subsequent deed or other legal instrument by means of which Grantor conveys any interest in the Property (including, but not limited to, a leasehold interest). Grantor shall give Holder written notice of any proposed transfer of any interest in the Property at least thirty (30) days prior to the date of such transfer.The failure of Grantor to perform any act required by this Section shall not impair the validity of this Easement or limit its enforceability in any way.

(k) Not Governmental Approval. No provision of this Easement shall constitute governmental approval of any specific improvements, construction or other activities that may be permitted under this Easement. Grantor is solely responsible for obtaining any applicable governmental permits for construction or any other activities permitted hereunder. Nothing herein shall be construed to supersede or exempt the Property from the application of laws and regulations affecting land uses on the Property or to permit any activity otherwise prohibited by existing or future laws and regulations imposed by any federal, state, or local government or governmental agency having jurisdiction over the Property, or to prohibit the imposition of further land use restrictions by the County of Marin or otherwise by operation of law.

IN WITNESS WHEREOF, Grantor has executed this Deed of Agricultural Conservation Easement this **[__]** day of **[__]**, 20**[__]**. As attested by the signature of its **[__]** affixed hereto, Holder hereby accepts without reservation the rights and responsibilities conveyed by this Deed of Agricultural Conservation Easement. To Have and To Hold, this Deed of Agricultural Conservation Easement unto Holder, its successors and assigns, forever.

GRANTOR:
[Name on title report]

By: _____
xxx

By: _____
xxx

ACCEPTED BY HOLDER:

COUNTY OF MARIN

By: _____
xxx

[Notarization of Grantor's and Holder’s signatures].

LIST OF EXHIBITS

Exhibit A	Description of Property
Exhibit B	Permitted Uses and Practices
Exhibit C	Prohibited Uses and Practices
Exhibit D	Stream Conservation Area
Exhibit E	Disclosure of Liens and Easements

Exhibit A

All that certain real property situate in the County of Marin, State of California, described as follows:

[Insert Property Legal Description]

Exhibit B

Permitted Uses and Practices

The following uses and practices, though not necessarily an exhaustive recital of consistent uses and practices, are expressly permitted under this Easement, as set forth herein.

1. Residential Use. To reside on the Property, provided that all residential structures shall be subject to the provisions set forth in Section 12 of this Easement and Section 3 of this **Exhibit B**.

2. Agriculture. To engage in agricultural uses of the Property in accordance with sound, generally accepted agricultural practices that do not threaten or degrade significant natural resources. For the purposes of this Easement "agricultural uses" shall be defined as: breeding, raising, pasturing, and grazing livestock of every nature and description for the production of food and fiber; breeding and raising bees, fish, poultry, and other fowl; planting, raising, harvesting, and producing agricultural, aquacultural, horticultural, and forestry crops and products of every nature and description; and the processing, storage, and sale, including direct retail sale to the public, of crops and products harvested and produced principally on the Property, provided that the processing, storage, and sale of any such crops or products that are not food or fiber shall require the consent of Holder; and further provided, however, that such agricultural uses shall not result in significant soil degradation, significant pollution or degradation of any surface or subsurface waters, and that all uses and activities are consistent with the purpose of this Easement.

3. Improvements and Facilities.

(a) Maintenance and Repair of Existing Improvements and Facilities. To maintain, repair, and subject to the approval of Holder, relocate or enlarge existing structures, housing and roads and other improvements and facilities on the Property existing at the date of this Easement. Fencing and corrals may be relocated without Holder's consent.

(b) Construction of Additional Improvements and Facilities. Additional Residence(s) that are expressly permitted by the terms of Section 12 of this Easement (if any) on the terms and conditions set forth in Section 12 of this Easement, other improvements and facilities accessory to the residential use of the Property, and additional structures, housing, roads, signs, and other improvements and facilities reasonably necessary to the agricultural uses of the Property (all of which are collectively referred to as "Additional Improvements"), shall be permitted, provided that Grantor must obtain the written approval of Holder for the construction of any such Additional Improvements, including the size, function, capacity and location, which approval shall not be unreasonably withheld and provided further that any Additional Improvements may not be constructed within one hundred (100) feet of the tops of the banks of streams labeled on **Exhibit D** except pursuant to a SCAMP approved by Holder. Grantor shall provide Holder written notice of Grantor's intention to undertake any such construction, together with information on its size, function, capacity and location, not less than forty-five (45) days prior to Grantor's application for any governmental approvals or permits required for said construction. In the event no governmental approvals or permits are required for the

construction of such Additional Improvements, Grantor shall provide Holder written notice of Grantor's intention to construct the Additional Improvements, together with information on the size, function, capacity and location of the proposed Additional Improvements, not less than forty-five (45) days prior to the commencement of any construction. Holder shall not give approval unless Holder determines that the proposed Additional Improvement and its location will not substantially diminish or impair the agricultural productivity and open space character of the Property. All such Improvements individually and all such Improvements combined shall not significantly impair the agricultural productivity of the Property. Additional fencing and corrals deemed by Grantor to be reasonably necessary to ranching and agricultural activities may be constructed without Holder's consent.

(c) Replacement of Improvements and Facilities. In the event of destruction, deterioration or obsolescence of any structures, housing, fences, corrals, roads, signs, or other improvements and facilities, whether existing at the date hereof or constructed subsequently pursuant to the provisions of this Section, except as set forth below Grantor may replace the same with structures, housing, fences, corrals, roads, signs, or other improvements and facilities of similar size, function, capacity and location. If any such structures, housing, corrals or other improvements or facilities, other than fences and roads, were located within one hundred (100) feet of the tops of the banks of streams labeled on **Exhibit D**, they may be replaced only pursuant to a SCAMP approved by Holder.

4. Water Resources and Impoundments. To develop and maintain such water resources on the Property as are necessary or convenient for ranching, agricultural, irrigation, and residential uses in a manner consistent with the purpose of this Easement, provided that the creation, alteration or enlargement of any water impoundment shall not damage, impair or interfere with the Protected Values and that all such water resources shall be developed in accordance with the purpose of this Easement.

5. Agrochemicals. To use agrochemicals, including, but not limited to, fertilizers and biocides, in those amounts and with that frequency of application necessary to accomplish reasonable agricultural uses of the Property. Such use shall be carefully circumscribed near surface water, during periods of high ground water or heavy rain in a manner that does not impair the Protected Values.

6. Predator Control. To control predatory and problem animals by the use of selective control techniques.

7. Recreational Uses. To utilize the Property for recreational or educational purposes, (including, without limitation, hiking, horseback riding, hunting and fishing) that require or cause no significant surface alteration or other development of the land.

Exhibit C

Prohibited Uses and Practices

The following uses and practices, though not necessarily an exhaustive recital of inconsistent uses and practices, are inconsistent with the purposes of this Easement and are expressly prohibited upon or within the Property:

1. Impairment of Protected Values. The impairment of the Protected Values, except as otherwise provided herein.

2. Commercial or Industrial Use. The establishment and conduct of commercial or industrial uses or the construction, placing, or erection of any signs or billboards; provided, however, that neither ranching, agriculture, nor the production or processing of food and fiber products as contemplated by the provisions of **Exhibit B**, shall be considered prohibited commercial or industrial uses. Further provided, however, that Holder shall have the right in its sole discretion to approve the establishment and conduct of non-agricultural commercial and industrial uses or activities which Holder determines (a) are compatible with the Protected Values of the Property and (b)will not substantially diminish or impair the agricultural productivity and open space character of the Property.. Notwithstanding the prohibition above on the placing or erecting of signs, Holder, in its sole discretion, may approve signs related to any such commercial or industrial uses approved by Holder.

3. Construction. The construction, reconstruction, or replacement of structures, housing, roads and other improvements and facilities except as expressly permitted in Section 12 of this Easement and **Exhibit B**.

4. Subdivision. The division, subdivision, de facto subdivision or partition of the Property, provided, however, that a lease of a portion of the Property for agricultural uses or a lease or rental of a residence or residences or other improvements on the Property for a term of less than five (5) years shall not be prohibited by this Section.

5. Motorized Vehicles. The use of motorized vehicles, except by Grantor or others under Grantor's control for agricultural, ranching or attendant residential use of the Property or other uses consistent with the purpose of this Easement. Any use of motorized vehicles off of roadways is prohibited except when necessary for agricultural, ranching or residential purposes consistent with the purpose of this Easement.

6. Tree Cutting and Woody Vegetation in SCAs. The harvesting or removal of:

(a) trees; provided, however, that Grantor shall have the right outside of the SCAs to (i) cut or collect firewood for the heating of ranch and residential facilities on the Property; and (ii) cut or remove trees as reasonably necessary to control insects and diseases, prevent personal injury or property damage, and to allow construction or repair of residential or agricultural facilities; or

(b) living or dead trees or other woody vegetation within an SCA without the prior written approval of Holder, provided that such approval shall be granted only for the purposes of preventing personal injury or property damage, maintaining facilities or existing stream crossings or for furthering the conservation purposes of this Easement.

Grantor may also develop and, with the prior written approval of Holder, implement a long-range plan for the growing and/or harvesting of trees in a manner that is consistent with the purpose of this Easement.

7. Dumping. The dumping or other disposal of wastes, refuse or debris on the Property, except for organic material generated by permitted agricultural uses on the Property; provided that any such dumping or disposal of organic material shall be in accordance with generally accepted agricultural management practices, and that no runoff from organic material shall adversely affect water quality. No trash, refuse, vehicle bodies or parts, rubbish, debris, junk, waste, or hazardous waste shall be placed, stored, dumped, buried, or permitted to remain on the Property except as reasonably required for the use of the Property for agricultural purposes consistent with the purpose of this Easement.

8. Soil Degradation. Ranching, agricultural or other uses otherwise permitted under this Easement that result in significant degradation of soil quality.

9. Water Quality Degradation. Ranching, agricultural or other uses otherwise permitted under this Easement that result in significant degradation of water quality. Stockpiling animal wastes, compost, or loose soil in a manner whereby runoff adversely affects water quality.

10. Surface Alteration or Excavation. Any alteration of the general topography or natural drainage of the Property including, without limitation, the removal of soil or the extraction of minerals by any surface mining method, except as may be required for uses on the Property incidental to the agricultural uses permitted herein, and provided that such removal or extraction is limited and localized, is not irremediably destructive of significant conservation interests, does not damage, impair or endanger the Protected Values of the Property, and is approved, as to location and amount of materials and any necessary or appropriate remediation, in writing by Holder.

11. Water Rights. The Grantor shall not transfer, encumber, lease, sell, or otherwise separate any water rights from title to the Property itself. No permanent separation of water rights shall be permitted. All water shall be retained in Marin County for agricultural uses and for other permitted uses of the Property. Water may be distributed (a) under short-term commitment or arrangement (not being binding on the Grantor for longer than a single year period), (b) to other property owned or leased by Grantor or to a contiguous property and (c) only for agricultural production purposes. No distribution of water shall be permitted that would impair the long-term agricultural productive capacity or the other Protected Values of the Property.

MARIN COUNTY

TELECOMMUNICATIONS FACILITIES POLICY PLAN

MARIN COUNTY TELECOMMUNICATIONS FACILITIES POLICY PLAN

The Marin County
Community Development Agency

July, 1998

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EXECUTIVE SUMMARY

MARIN COUNTY TELECOMMUNICATIONS FACILITIES POLICY PLAN

EXECUTIVE SUMMARY

This Telecommunications Facilities Policy Plan (Telecommunications Plan) provides guidance for allowing the efficient and effective development of telecommunications facilities while protecting the natural resources, communities, and other land uses of Marin County. The first Telecommunications Plan was adopted in 1990 in anticipation of future requests to site and expand major telecommunications facilities in Marin County. The present update builds on the foundation of the 1990 plan and uses information regarding current technology to set forth a comprehensive package of policies and programs that also address the recent proliferation of smaller commercial wireless radiotelephone facilities (hereafter referred to as commercial wireless facilities).

The Telecommunications Plan acts in concert with the Countywide Plan, specific community plans, Local Coastal Programs, and County Zoning Ordinance (Title 22). Together, these land use plans govern how Marin County's unique resources should be protected while accommodating a reasonable amount of new development, including open access to a broad range of competitive telecommunications services for businesses, residents, visitors, and public agencies in Marin County.

The goals of the Telecommunications Plan reflect the overall goals of the Countywide Plan as they relate to development of telecommunications facilities. The goals are intended to:

- Provide decision makers and the public with a general understanding of the technology and trends in the telecommunications industry;
- Describe the impact of federal and state law on the scope and nature of local jurisdiction over telecommunications facilities;
- Describe existing and future major and minor telecommunications facility sites and potential siting needs for new facilities;
- Balance the need and convenience of telecommunications services with the public interest regarding the location, design, and operation of wireless communication facilities;
- Describe potential adverse land use effects that could be caused by new telecommunications facilities, and to recommend policies and programs within the jurisdiction of local governments in Marin County to reduce or avoid those impacts; and
- Promote a common policy rationale for local regulation of telecommunications facility siting that all of the jurisdictions in Marin County can choose to adopt.

BACKGROUND

Expected Growth

The recent growth in telecommunications technology and changes in federal telecommunications law have created a considerable expansion of commercial wireless communications services and the potential for continued growth. When the 1990 Telecommunications Plan was adopted there were approximately six commercial wireless facility sites located primarily on ridgelines in Marin County (i.e., unincorporated and incorporated areas). Today there are about 100 sites approved throughout Marin County and 25,000 commercial wireless sites in the United States. The number of commercial wireless facility sites is expected to increase to 100,000 nationwide due in large part to the Federal Communications Commission issuance of licenses for Personal Communications Services (PCS) in each of the major telecommunications markets in the United States.

Other forms of telecommunications are expected to grow but at an overall slower pace than commercial wireless services, except for new broadcast facilities for digital television service. The potential large profits for television and radio stations may also put pressure on development of another broadcast telecommunications facility in the northern part of Marin County. It is unlikely that another high-power television broadcast facility will be located in southern Marin County due to potential interference with broadcast facilities to the south. Most of the existing major telecommunications facility sites in Marin County are likely to undergo continued redevelopment as transmitters, antennas and other equipment are upgraded to keep pace with new technology and market competition.

Regulatory Context

Telecommunications facilities are regulated by Federal, State, and local agencies, including the County, cities and towns in Marin. The Federal Government has principal regulatory power over telecommunications facilities through its authority to control interstate commerce, the issuance, renewal and modification of licenses to operate telecommunications systems, and declaratory orders and rules pursuant to the Telecommunications Act of 1996 (Telecom Act).

Local governments have authority, however, to regulate the placement, construction, and design of telecommunications facilities subject to several preemptive limitations established by the Telecommunications Act. In general, local agencies are preempted from taking actions on telecommunications proposals that would effectively prohibit telecommunications service or unreasonably discriminate among service providers. Local agencies are also preempted by federal law from denying a proposed telecommunications facilities or requiring site modifications based solely upon potential adverse health effects from exposure to electromagnetic field (EMF) emissions when the facility complies with the Federal standard for permissible human exposure to EMF. Local agency decisions that conflict with Federal preemptive authority regarding EMF emissions can be appealed by an aggrieved party directly to the FCC. Appeals regarding other aspects of a local agency decision are decided in a court of competent jurisdiction.

The California Public Utilities Commission (CPUC) regulates telecommunications that are considered public utilities, such as commercial wireless telephone services, to implement the goal of deploying an innovative telecommunications network in California. Most telecommunications services require a CPUC license to operate the system as a whole. The CPUC refrains, however, from regulating the siting of commercial wireless facilities and delegates this responsibility and related procedural requirements to local agencies. The CPUC prefers this hands-off approach because local citizens and governmental agencies are usually in a better position to make decisions on facility siting due to their proximity to the affected area and knowledge of local land use and environmental issues. The CPUC can preempt a local decision on a telecommunications facility when it finds that the CPUC's goals are not being met.

Major Policy Issues

The 1990 Telecommunications Plan focused on public policy issues related to development of major telecommunications facilities on ridgetops and their potential for conflicts with Ridge and Upland Greenbelt policies of the Countywide Plan. These issues remain important as the protection of Ridge and Upland Greenbelt areas continues to be a principal public policy objective. Since adoption of the 1990 Telecommunications Plan, the proliferation of commercial wireless services in Marin County has given rise to a number of land use issues relating to development of telecommunications networks comprised of numerous smaller facilities, particularly those located in close proximity to developed areas of Marin County.

The County supports the State and Federal goals of developing an innovative and efficient telecommunications system that benefits the businesses, citizens, and public agencies of Marin County. Many residents of Marin County have concerns, however, about their adverse visual effects, land use compatibility, health effects from exposure to electromagnetic field (EMF) emissions and other issues. At the overall crux of the major issues addressed in this Telecommunications Plan is the recognition that the County must balance the objective of facilitating the deployment of new telecommunications services while effectively upholding the public interest in maintaining and enhancing the quality of life, natural environment, and public health, safety, and welfare.

The major public policy considerations discussed in this Telecommunications Plan are:

- Land Use Compatibility;
- Visual and Aesthetic Compatibility;
- Electromagnetic Fields (EMF) Emissions;
- Public Safety, with respect to telecommunications facility design; and
- Operational Effects

The major issues listed above apply to both major and minor telecommunications facilities. In addition, this Telecommunications Plan addresses policy issues for commercial wireless facilities as follows:

- Facility distribution;
- Growth trends in the telecommunications industry;
- Federal preemption of local regulatory control;
- Location and design measures to avoid or minimize unwanted effects; and
- Interjurisdictional consistency and coordination in regulating new facilities.

SUMMARY OF POLICIES AND PROGRAMS

POLICIES FOR LAND USE COMPATIBILITY

Objective LU 1: To ensure that the siting of telecommunications facilities is compatible with other land uses.

Policy LU 1.1. New telecommunications facilities should not be permitted in Ridge and Upland Greenbelt areas unless no other technically feasible and available site exists, provided, wireless communications facilities should be permitted in ridge and upland greenbelt areas where they are co-located with existing structures consistent with the policies and programs of this Telecommunications Plan.

Program LU 1.1.1: Development of new telecommunications facilities in Ridge and Upland Greenbelt areas should be minimized through stringent tests of need for development of new ridgetop telecommunications sites. Such tests shall be provided by the applicant for a new ridgetop telecommunications site and include technical information prepared by qualified professionals that sufficiently demonstrates to the satisfaction of the County that no other technically feasible site is available to provide adequate coverage.

Program LU 1.1.2: New or expanded sites should ensure co-location and other efficient use of facilities to minimize the need for new sites, particularly on ridgeline locations, without imposing unreasonable burdens on telecommunications service providers or operators.

Program LU 1.1.3: Site users and operators should be encouraged to share and/or consolidate facilities to the greatest extent possible. Facilities that may be shared may include buildings, access roads, parking areas, utilities, transmitters, towers and other structures, and antennas.

Program LU 1.1.4: New ridgetop or upland sites shall not be approved by the County where technically feasible non-ridge sites are available, or when capacity exists and is available for the proposed use at existing sites.

Program LU 1.1.5: New telecommunications facilities proposed on parcels restricted by agricultural, open space, scenic or other public easement or restriction will only be permitted in accordance with the terms of such public easement or restriction.

Program LU 1.1.6: Applications for new or expanded major telecommunications facilities shall contain long range plans which project market demand and long-range facility expansion needs. Where three or more of the facilities are located along the same ridgeline, service providers shall prepare a Ridgeline Facility Plan to coordinate access, non-interference, and consolidation issues for the respective sites. In conjunction with submittal of a discretionary permit application for the third facility, the property owner, in cooperation with the service providers shall prepare and submit a Ridgeline Facilities Plan to promote coordination, non-interference, and consolidation.

Policy LU 1.2. The policy of the County shall be to reduce the number of ridge top telecommunications sites wherever possible.

Policy LU 1.3. Telecommunications facilities in ridgetop areas shall be sited in areas already in use for telecommunications to preserve the aesthetic and scenic value of undeveloped ridge lines in the County.

Policy LU 1.4. New construction or substantial expansion of telecommunications facilities should not occur in or near areas where they will cause land use conflicts, particularly in residential areas, unless there are no other suitable and available sites in more suitable areas.

Program LU 1.4.1: Where a major telecommunications facility must be located in or close to a residential area, the facility shall be located to reduce its visual obtrusiveness and aesthetic contrast with the surrounding area.

Program LU 1.4.2: New commercial wireless systems and other minor facilities should be co-located or clustered, as further specified in Policy LU 2.1 below, and adhere to the preferred locations, as generally prioritized below, unless a priority site does not exist within the coverage area, or requiring the priority location within the coverage area would prohibit or have the effect of prohibiting wireless service or result in adverse land use effects that would otherwise be avoided or reduced to an acceptable level at another location:

1) Industrial sites
2) Commercial sites
3) Public facilities sites
4) Agricultural sites
5) Mixed use sites (e.g., commercial and residential area)
6) Open space and recreational sites
7) Residential sites

New facilities should be approved in these locations when they are sited, designed, operated, and maintained in a manner that avoids or minimizes potential land use effects to an acceptable level and is otherwise compatible with the predominant land use character of the affected area. In general, service providers should consider selecting proposed facility sites as advised by Policy EMF 1.1.

Program LU 1.4.3: To evaluate whether a proposed facility conforms to the location standards contained in this Telecommunications Plan, service providers shall submit with their development applications an updated network facilities plan consisting of the following:

a. A written description of the type of technology and consumer services that will be provided to customers;

b. A list enumerating the service providers' facilities sites, including existing sites (operative and abandoned), approved sites, proposed sites (i.e., applications pending), and planned site (i.e., sites that can be reasonably predicted but have not been formally proposed by the filing of development applications);

c. A map depicting the geographic location and boundaries of all coverage areas or search rings existing or planned by the service provider and the approximate location of service providers' facility sites within each coverage area;

d. A coverage area map for the proposed facility site including the information described in item B above as it pertains to the individual coverage area. Note: The coverage area map may be combined with the network facilities map so long as the scale of the map is large enough to provide for detailed analysis of proposed and potential facilities sites within the coverage area.

Program LU 1.4.4: To evaluate whether a proposed facility conforms to the location preferred standards contained in this Telecommunications Plan, applicants shall submit an analysis of alternative facility sites when determined necessary. The analysis shall include enough information to provide adequate consideration of technically feasible alternative sites and/or facility designs that would avoid or minimize adverse land use and other effects included in this Telecommunications Plan. The analysis shall include in writing the specific factors considered by the service provider for selecting the proposed facility site over alternative sites. In particular, proposed facilities that are not co-located or clustered at existing telecommunications sites shall provide information substantiating the unfeasibility of such sites.

Program LU 1.4.5: Proposals for new or modified telecommunications facilities within the environs of the Marin County Airport (Gnoss Field) shall be reviewed for conformance with the Marin County Airport Land Use Plan.

Policy LU 1.5. Development of telecommunications facilities in areas identified for conservation in the Marin Countywide Plan, which include, but are not limited to Stream and Creekside Conservation Areas, the Bayfront Conservation Zone, Ridge and Upland Greenbelt Areas, and the Coastal Recreational Corridor, should conform to the development policies of the Environmental Quality Element of the Countywide Plan.

Policy LU 1.6. Locating telecommunications facilities on sites where they cause the loss of important natural or cultural (i.e., prehistoric or historic) resources or on sites designated by the County for other kinds of land uses that may be precluded or impeded by development of a telecommunications facility should be discouraged.

Program LU 1.6.1: Proposed sites may be denied where there are alternative sites available which reduce or eliminate potential significant adverse effects on natural or cultural resources, or reduce impediments to the implementation of Countywide Plan and specific plan land use policies.

Program LU 1.6.2: The size of telecommunications sites should be limited to the minimum required to provide the proposed telecommunications services, while allowing for the possibility of future co-location and clustering, particularly for sensitive locations in terms of natural resources or implementation of Countywide and specific plan land use objectives.

Policy LU 1.7. Telecommunications sites in proximity to existing or proposed recreational trails or open space lands should be subject to requirements to ensure that these public uses are not adversely affected.

Program LU 1.7.1: Telecommunications sites in the vicinity of existing or proposed recreational trails or open space areas should be sited and designed to preserve the continuity of public access and ease of public use.

Program LU 1.7.2: Telecommunications sites should be selected and designed to minimize the visual effects for nearby recreational trails and open space areas.

Program LU 1.7.3: Development guidelines for telecommunications sites shall ensure that users of recreational trails and open space areas will not be exposed to radio frequency energy in excess of FCC limits.

Program LU 1.7.4: Existing roads should be used for access to telecommunications sites whenever possible to prevent the disturbance of ridge and open space lands.

Policy LU 1.8. New construction or expansion of telecommunications facilities on Mt. Tamalpais shall be discouraged. However, if new facilities must be constructed and/or existing facilities will remain, then the County should consider consolidation of Mt. Tamalpais facilities onto a single peak.

Program LU 1.8.1: The County shall use its best efforts, including correspondence, lobbying, and contacting legislative representatives, to strongly discourage federal, state and local agencies not subject to County land use controls from expanding the number of telecommunications facilities on Mt. Tamalpais and to encourage the removal or consolidation of existing facilities.

Program LU 1.8.2: The County should discourage the expansion or new construction of telecommunications facilities on Mt. Tamalpais and encourage the consolidation of facilities.

Program LU 1.8.3: The County may allow new or existing commercial wireless systems to be co-located on existing structures on Mt. Tamalpais if such co-located antennas do not significantly increase adverse visual effects from the facility and promotes consolidation.

Objective LU 2: To minimize the number of stand-alone commercial wireless and other minor facility sites.

Policy LU 2.1. New commercial wireless facility sites should be co-located or clustered at an existing or planned telecommunications site unless requiring the proposed facility to be located at another stand-alone location would either prohibit service or have the effect of prohibiting wireless service, or result in adverse land use effects that would otherwise be avoided or minimized to an acceptable level.

Program LU 2.1.1: If the County approves a new commercial wireless facility site, that site shall accommodate co-location or clustering in the future if additional use is reasonably likely and co-location or clustering will not be incompatible with surrounding land uses.

Program LU 2.1.2: The County shall identify County-owned property where co-located or clustered commercial wireless communications facilities could be accommodated without creating significant adverse effects, and shall encourage wireless communications facilities to locate at those sites.

Program LU 2.1.3: The County shall allow innovative design solutions to siting wireless communications facilities where they are not obtrusive, such as on light poles and other structures in the public right of way.

Objective LU 3: To ensure that the siting or expansion of telecommunications facilities does not significantly adversely affect plant or animal species.

Policy LU 3.1. The construction or expansion of a telecommunications facility shall be denied if it creates a significant threat to the health and survival of threatened or endangered species or species of migratory birds.

Policy LU 3.2. Environmental review for the proposed construction or expansion of a telecommunications facility shall evaluate the potential for significant adverse effects on plants or animal species, including, but not limited to telecommunications towers that have the potential to interfere with the migratory flyway or flight paths used by resident bird species, where facilities could affect sensitive resource areas, and where clearing native vegetation is required

for facility construction or expansion. Where potential significant effects are identified, the environmental review shall also identify appropriate mitigations including re-siting, changes in the design of the facility and/or techniques found to be effective and acceptable to discourage birds from approaching the tower area, and monitoring studies of bird strikes.

POLICIES FOR VISUAL AND AESTHETIC COMPATIBILITY

Objective VIS 1: To protect the visual quality of the County by regulating the number, location, and design of telecommunications facilities so that adverse visual effects are eliminated or reduced to the maximum extent possible while allowing for adequate telecommunications services.

Policy VIS 1.1. The cumulative visual effect of telecommunications facilities can be minimized by encouraging the most efficient use of existing sites and facilities and thereby postponing the need to develop new sites.

Program VIS 1.1.1: New sites should be permitted only upon clear demonstration of need, the impracticality of upgrading or expanding an existing site or co-locating on an existing telecommunications structure, and subject to conditions to ensure the new facility minimizes adverse visual effects. The necessity of the proposed facility should be assessed by reviewing the wireless communications site inventory contained in Appendix A, and evaluating a service providers network facilities plan and, if determined necessary, an alternative sites analysis (refer to Program LU 1.4.3 and LU 1.4.4).

Program VIS 1.1.2: Wherever possible, new telecommunications devices should be co-located or clustered at existing facilities and multiple devices consolidated in the course of facility renovation, unless co-location or clustering will result in significant adverse visual effects that could be avoided or minimized by alternative facility locations and/or design.

Program VIS 1.1.3: New facilities or modifications to existing facilities should be reviewed for potential consolidation or co-location of existing and proposed antennas, towers or tower sites, sharing of ancillary facilities and/or use of engineering techniques to make the most efficient use of transmitters, towers and antennas. The potential for co-locating a proposed facility should be assessed by reviewing the wireless communications site inventory contained in Appendix A, and evaluating a service providers network facilities plan, and, if determined necessary, an alternative sites analysis (refer to Program LU 1.4.3 and LU 1.4.4).

Program VIS 1.1.4: To minimize visual effect, service providers should be encouraged to share facilities to the greatest extent possible. Joint use should be strongly encouraged within multiple antenna sites, including buildings, access roads, parking areas, utilities, towers and antennas.

Objective VIS 2: To ensure that new telecommunications facilities or modification of existing facilities are sited, designed and built in a manner which minimizes visual effects to surrounding areas.

Policy VIS 2.1. The sites of new telecommunications facilities or substantially modified ones should be selected to minimize potential visual effects.

Program VIS 2.1.1: To the greatest extent feasible, all telecommunications facilities should be sited below visually prominent ridgelines. If determined necessary by the County review authority, an alternative sites analysis should be used to evaluate potential telecommunications sites situated below visually prominent ridgelines (refer to Program LU 1.4.4).

Program VIS 2.1.2: Multiple telecommunications facilities including buildings, towers and antennas should be co-located or clustered rather than scattered along a ridgetop or hillside to the extent feasible given the need to minimize radio frequency interference. In wooded hillside areas, a greater scattering of facilities may be appropriate to minimize the visibility of a larger co-location facility or cluster of multiple facilities (e.g., antenna farm).

Program VIS 2.1.3: A visual analysis of telecommunications facilities that could have a significant adverse visual effect shall be submitted with the application materials to assess the proposed facility at design capacity. The visual analysis shall include a photo-montage or photo-simulation, and/or poles or other similar device erected at the proposed facility site. The visual analysis shall address views of the proposed facility from public vantage points and private property if determined necessary by the County review authority. The visual analysis shall also depict cumulative conditions by including information on existing, approved, and proposed telecommunications facilities that will or may eventually be approved at the proposed site. The visual analysis may be expanded to address alternative locations within the coverage area.

Policy VIS 2.2. Buildings, towers and antennas should be located on each site and designed in a manner which minimizes visual effects.

Program VIS 2.2.1: Telecommunications support facilities such as vaults and equipment rooms, utilities and other support structures should be placed underground, depressed, earth bermed, or sited below ridgelines or other significant public line of sight to the greatest extent feasible particularly in areas of high visibility where other visual screening techniques are inappropriate to the project area or cannot be successfully implemented. Earth berming and other topographic alterations should be compatible with the surrounding natural topography and not block significant public views. All facilities should visually blend with the surrounding natural and built environments.

Program VIS 2.2.2: Due to their high visibility, dish and parabolic antennas should be located at as low an elevation as possible without compromising the function of the device, preferably on the sides of buildings or ground mounted on slopes below the ridgeline wherever possible, rather than elevated on towers.

Program VIS 2.2.3: Utilities extended to service telecommunications sites shall be undergrounded or placed within existing or proposed structures to eliminate their visibility.

Program VIS 2.2.4: Telecommunications facilities, particularly equipment buildings, should be located below the ridgeline or other significant public line of sight wherever possible.

Program VIS 2.2.5: Telecommunications towers should be the minimum height required to permit the services proposed for that location and services that could co-locate at that location in the future without causing significant adverse visual effects. The proposed maximum height of a tower, monopole or other support structure may be confirmed through an independent analysis or peer review of technical information submitted by the service provider.

Program VIS 2.2.6: Microwave dishes within the regulatory purview of the County should be closely regulated, particularly in urban areas, to minimize their visual effects through appropriate siting, design, materials, and colors as recommended herein.

Program VIS 2.2.7: In order to minimize visual effects, guyed towers for major telecommunications facilities should be used instead of self-supported towers to minimize the size of the site, to minimize the need for screening from adjacent properties, or to reduce the potential for bird strikes in migratory pathways or significant flight paths used by local bird populations, except where self-supported towers are required to provide the height and/or capacity necessary for the proposed telecommunications uses.

Program VIS 2.2.8: The placement of towers, equipment buildings, etc. within a particular site should avoid or minimize encroachment into scenic views or otherwise cause adverse visual effects, particularly from any adjacent residential development or public viewpoint.

Program VIS 2.2.9: Antennas and other equipment should be integrated into an existing or proposed non-communications structure or co-located on an existing structure rather than on a new stand-alone structure whenever possible, provided that it does not significantly increase adverse visual effects of the facility.

Program VIS 2.2.10: When a new stand-alone structure is necessary, a monopole should be used for commercial wireless and other minor telecommunication facilities except where another type of support structure (e.g., lattice or guyed tower) must be used to

provide necessary structural support or to minimize adverse visual effects. The height of the monopole or tower should be the minimum necessary for the proposed service and for other services that could co-locate on the tower. In appropriate situations, a monopole or tower could be required to resemble a natural feature or less obtrusive built feature that is consistent with the visual character of the surroundings.

Program VIS 2.2.11: Telecommunications facilities located on or adjacent to water tanks and other public utility or public service facilities shall be sited to minimize their visibility to the maximum extent feasible, particularly where existing public utility/service structures are sited within or adjacent to designated open space or other scenic areas. Public utility and other existing structures should be used to screen the telecommunications facility from off-site vantage points. Telecommunications facilities should be clustered and designed to appear as part of the existing public utility/service structure, including but not limited to materials and colors that visually blend with the predominant visual backdrop. Where appropriate, other site-specific development standards should be implemented in connection with Design Review for a proposed telecommunications facility site.

Program VIS 2.2.12: Building-mounted telecommunications facilities shall be sited and designed to appear as an integral part of the structure or otherwise minimize their appearance, such as by being screened from view or being placed above the pedestrian line-of-sight on a secondary facade. Roof-mounted facilities should be clustered in one area and set back from the edge of the roof, unless an alternative facility design will further minimize visual impacts, or hidden behind a parapet or screen to minimize visibility from street-level locations.

Program VIS 2.2.13: The County shall encourage equipment for a wireless communications facility to be enclosed in an existing structure or placed underground.

Program VIS 2.2.14: Accessory structures containing equipment for wireless communications facilities shall reflect the predominant architectural style(s) of the surrounding area and shall visually blend with the natural and built environments. The materials, colors, and design of fences erected around the perimeter of the wireless site shall also reflect the natural and built environments of the surrounding area.

Program VIS 2.2.15: Wireless communications facilities should be permitted on historically or architecturally significant structures if there are no other available support structures or site locations that will avoid or reduce potential adverse visual effects and if the facilities are integrated with the structure or its setting so it is not visually inconsistent to a casual observer from a prominent vista or significant public corridor.

Policy VIS 2.3. The colors, materials, and lighting of towers, antennas and buildings shall be selected to minimize visibility as follows, unless specific colors or lighting are required by Federal or State agencies.

Program VIS 2.3.1: Materials used for equipment buildings and other telecommunications structures should be compatible with the surrounding natural and built environments. No advertising signage or logos shall be displayed on telecommunications facilities except for small identification plates used for emergency notification.

Program VIS 2.3.2: Telecommunication facilities should be painted to blend with the landscape or visual backdrop against which they will be seen.

Program VIS 2.3.3: Telecommunication facilities which will be primarily viewed against soils, trees or grasslands should be painted colors matching these landscapes.

Program VIS 2.3.4: Telecommunication facilities which rise above the horizon line should be painted in non-reflective blues or grays.

Program VIS 2.3.5: The mountings of antennas should be nonreflective and the appropriate color to blend with their background.

Program VIS 2.3.6: Microwave and satellite dishes within the regulatory purview of the County should be of mesh construction wherever possible.

Program VIS 2.3.7: The use of exterior lighting shall be permitted for safety purposes only and shall be manually operated (i.e., kept off except during nighttime maintenance activities), low wattage, hooded, and directed downward to minimized visual effects.

Program VIS 2.3.8: Tower lighting required by the FAA should, to the greatest extent feasible, be shielded or directed to minimize glare as viewed from off-site locations.

Policy VIS 2.4. Landscaping shall be used to minimize and mitigate visual effects of telecommunications facilities.

Program VIS 2.4.1: Vegetation adjacent to the disturbance area for a telecommunication facility shall be protected from construction effects by fencing. Applicants for telecommunications facilities may be required to submit a tree protection plan with construction permits to demonstrate compliance with this program. Vegetated areas disturbed during construction should be replanted to minimize erosion and to enhance the natural aesthetics of the site.

Program VIS 2.4.2: Landscaping to screen telecommunications buildings, towers and antennas should be required particularly for sites adjacent to or in developed areas. For a wireless communications site adjacent to residential uses, landscaping should be selected and situated to maximize screening of the site from those residences. However, the performance of antennas should not be impeded by plantings. This needs to be taken into consideration in the development, review and approval of landscape plans.

Program VIS 2.4.3: Applications for telecommunications facilities shall include a landscape plan that shows existing vegetation to remain and to be removed entirely or in part (i.e., trimming), and indicates the location, species type, and size of vegetation proposed for planting. Proposed landscaping shall be consistent with the predominant existing vegetation in the area and should consist of native, evergreen, and drought tolerant species unless other species are approved for the purpose of maximizing the amount of screening as soon as possible.

Program VIS 2.4.4: Applicants for telecommunications facilities may be required to enter into a landscape performance and maintenance agreement with the County to ensure the installation and long-term survival of required landscaping. The agreement shall include a financial security and shall be effective for a duration sufficient to ensure survival of the vegetation.

Policy VIS 2.5. The access roads to telecommunications facilities, particularly on ridgelines, should be subject to evaluation to minimize their visibility.

Program VIS 2.5.1: To the extent possible, new telecommunication sites should take access over existing fire roads or other existing roads or drives to avoid the visual effects of a new roadway.

Program VIS 2.5.2: The proposed access to expanded or new sites shall be evaluated to ensure that new roads are permitted only when no existing ones are available and suitable. New roads in agricultural and other rural areas should have the minimum width necessary to satisfy access and safety requirements.

Program VIS 2.5.3: Proposed repair and/or maintenance of the access roadway should be evaluated for potential visual effects and mitigations of these effects.

Program VIS 2.5.4: Whenever feasible, parking areas for telecommunications facilities should be shared by different service providers. Parking areas shall be no larger than required to accommodate reasonably likely post-construction traffic volume and shall be situated, designed and landscaped to minimize their visual effect.

POLICIES FOR ELECTROMAGNETIC FIELD (EMF) EMISSIONS

Objective EMF 1: To avoid or minimize community conflicts over the potential adverse health effects from new commercial wireless and other telecommunications facilities by the prudent avoidance of locating such facilities in close proximity to areas where persons will be exposed to pro-longed electromagnetic frequency (EMF) emissions.

Policy EMF 1.1. The County should regularly advise service providers that it is prudent to avoid siting new transmitting facilities where prolonged EMF exposure will be experienced in residential neighborhoods and other locations where persons may be immunologically compromised such as elementary schools, pre-schools, senior facilities, and hospitals. This advisory policy of "prudent avoidance" is intended to avoid or minimize the degree of community conflict that can arise when telecommunications facilitates are located in residential and other areas where prolonged exposure to EMF occurs. This advisory policy may also facilitate the approval of new commercial wireless and other telecommunications facilities by reducing or avoiding the potential for a protracted decision-making process that can occur as a result of the controversy over EMFs and non-thermal effects. This policy is advisory only and is not intended to regulate the location of new facilities, deny a proposed facility, require site modifications or otherwise replace, modify or supplement the Maximum Permissible Exposure levels for electric and magnetic field strength and equivalent plane-wave power density in the EMF emission guidelines adopted by the FCC.[1]

Objective EMF 2: To ensure that new sites or modification of existing telecommunications facilities are sited, designed, and built in a manner which minimizes potential health risks from electromagnetic field (EMF) radiation.

Policy EMF 2.1. The County shall ensure a proposed new or modified telecommunications facility will not cause electromagnetic field (EMF) strengths or equivalent plane-wave power densities in excess of the Maximum Permitted Exposure levels for electric and magnetic field strength and equivalent plane-wave power density in the EMF emission guidelines adopted by the FCC.[6]

Program EMF 2.1.1: The County should apply the Federal Communications Commission's EMF emission guidelines[6] as the County standard for evaluating potential adverse health risks from EMFs unless and until the FCC and other appropriate Federal or State agency provides otherwise and the County adopts a different standard.

Program EMF 2.1.2: Applications for modifications that could increase EMF levels at existing telecommunications sites or the development of new sites shall include a site specific report on existing and predicted electric and magnetic field strengths or equivalent plane-wave power density levels for the relevant frequency range(s) at the closest point(s) of public access. The report shall demonstrate whether the proposed facility, in combination with other existing sources of EMF in the affected area, will not

[1] 47 CFR 1.1310.0. See Appendix D for a copy.

cause EMFs to exceed the Maximum Permitted Exposure level.

Program EMF 2.1.3: EMF reports shall be prepared by a qualified radio frequency engineer based upon superior methods of calculation of EMF levels as they may be improved in the future.

Program EMF 2.1.4: A Use Permit, Design Review, or other discretionary permit application for a new source of EMF should be denied where calculations show that the new source combined with existing sources would expose members of the general public to EMF in excess of the Maximum Permitted Exposure level. In the event the FCC adopts a more restrictive Maximum Permitted Exposure Level, or the County adopts a more restrictive EMF exposure standard if allowed by future changes in Federal law, the service provider shall be required to demonstrate compliance with the more restrictive standard unless such a requirement is preempted by State or Federal law. If the service providers cannot demonstrate compliance with the more restrictive standard, the discretionary permit should be revoked unless revocation is preempted by State or Federal law.

Program EMF 2.1.5: Where the actual or predicted level of EMF are more than one-third of a Maximum Permitted Exposure level (in the relevant frequency range) where the public has nearest access to the EMF-emitting equipment, or when changes in a facility not otherwise regulated by the County could increase EMF levels significantly, the County should require the independent preparation or peer review of the following information: a) measurements of the predicted and/or actual EMF levels at the closest point to which the public has access to a facility before taking discretionary action on the permit request; b) measurements of the actual EMF levels at the closest point to which the public has access to a facility after the facility is constructed but before it becomes operational on a permanent basis; and c) periodic EMF monitoring reports after the approved facility is constructed and operational to verify ongoing compliance with applicable EMF standards.

Program EMF 2.1.6: Safety standards shall be required, where appropriate, to protect persons working in areas that are not accessible to the general public who might be exposed to EMF levels in excess of the Maximum Permitted Exposure Level adopted herein. Such standards may include restricted access to telecommunications facilities, temporarily ceasing operating of the facility for work required within specified distances of antennas, and posting safety signage in compliance with FCC requirements. Safety standards shall be recommended in EMF reports required by Policy EMF 2.1.2 above.

Program EMF 2.1.7: Signage notifying persons about the presence of EMF-emitting telecommunications facilities should be required in open space areas accessible to the public where such facilities may be inconspicuously sited and/or designed and unnoticeable to the casual observer. Signage shall be subject to review and approval by the County in consultation with the Marin County Open Space District staff where appropriate.

POLICIES FOR PUBLIC SAFETY

Objective PS 1: To ensure that new facilities or modifications of existing telecommunications facilities provide adequate structural integrity as well as protection from fire hazards and vandalism.

Policy PS 1.1. Telecommunications facilities should be designed and built in compliance with applicable building code and TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" and its amendments and revisions.

Program PS 1.1.1: Service providers should be required to submit a report from a professional engineer describing the tower structure, including the number and type of antennas it is designed to accommodate and the basis for calculation of capacity, and demonstrating that it complies with applicable structural standards. This information should be submitted with applications for building permit.

Policy PS 1.2. Each site shall be designed and constructed to prevent unauthorized access and vandalism.

Program PS1.2.1. The design of telecommunications sites should include specific features to prevent unauthorized access and vandalism. Such features may include, but not be limited to fencing, anti-climbing devices, elevated tower ladders, and security monitoring by electronic means or personnel.

Policy PS 1.3. Towers should be regularly checked and maintained by service providers to keep them in a sound and safe condition until the towers are dismantled and removed from the site.

Policy PS 1.4. The towers should be designed so that in the event of failure they will fall within the fenced portion of the site and/or away from adjacent development to the extent feasible.

Program PS 1.4.1: Structures should be set back from nearby towers and from adjacent parcels or public property or street to the extent feasible.

Policy PS 1.5. Towers should be adequately spaced so that the failure of one tower will not cause adjacent towers to fall, provided that clustering of more than one tower is appropriate pursuant to policies of this Telecommunications Plan.

Policy PS 1.6. Fire and safety hazard reduction around the facility should be accomplished in accordance with applicable laws, regulations, orders, and ordinances.

Program PS 1.6.1: Buildings should be equipped with a fire suppression system to prevent the spread of fire in the hillsides.

Program PS 1.6.2: Telecommunications sites should be landscaped with drought, wind and fire resistant plants. Applications for new and/or expanded facilities shall provide landscaping plans that detail planting and indicate how landscaping will be watered until it is established. Refer also to landscape plan requirements in Policy VIS 2.4.

Program PS 1.6.3: Service providers and owners of property on which telecommunications facilities are located should be required to dismantle and remove antennas, towers and accessory structures which have been inoperative or abandoned for one year unless the service provider requests an extension of time to propose or allow future reuse of the inoperative site for a future telecommunications facility. Service providers may be required to post a bond or other suitable security as a condition of a County permit in order to guarantee removal of abandoned structures.

Program PS 1.6.4: Applications should be conditioned to prohibit smoking and require proper disposal of smoking materials at telecommunications facilities in fire hazardous or wildland areas.

Program PS 1.6.5: Applicants for facilities in fire hazard or wildland areas shall be required to submit a lands management plan detailing proposals for removing and controlling brush at a telecommunications site.

Policy PS 1.7. Earthquake standards for telecommunications facilities shall ensure that communications will be maintained in the event of an earthquake.

POLICIES FOR TELECOMMUNICATIONS FACILITY OPERATION

Objective OI 1: To ensure that the potential effects from the operation of a telecommunications facility for adjacent uses or other telecommunications facilities are minimized.

Policy OI 1.1. Development approval for expansion or establishment of new sites should include mitigation for traffic and noise effects.

Program OI 1.1.1: Adequate employee parking should be provided within the telecommunications site.

Program OI 1.1.2: The siting and design of telecommunications facilities shall be consistent with the objectives, policies, and programs of the Countywide Plan Noise Element. In particular, noise producing equipment should be sited and/or insulated to minimize noise effects on adjacent properties consistent with the guidelines in the Countywide Noise Plan Element.

Program OI 1.1.3: Guyed towers or lattice towers should not be located in close proximity to residential areas if the noise generated by wind blowing through the tower will exceed the guidelines in the Countywide Plan Noise Element.

Program OI 1.1.4: The County may require a noise assessment, if determined necessary, to verify whether the location, design, or operation of telecommunications facilities will comply with the Countywide Plan Noise Element.

Program OI 1.1.5: In residential areas, traffic to and from telecommunications sites should be limited to the minimum number of vehicle trips required for routine maintenance, testing, and emergency repairs. The number of vehicle trips associated with routine maintenance and testing may be prescribed a condition of project approval.

Policy OI 1.2. The County should encourage efforts, such as the non-interference agreement being promoted among the Big Rock Ridge operators, to reduce radio frequency interference and encourage site operators to cooperate in such agreements where sites are located near one another.

POLICIES FOR THE REVIEW PROCESS

Objective RP 1: To establish an effective planning and permitting review process for telecommunications facilities which accords a greater level of review to projects with potentially greater impacts.

Policy RP 1.1. Prior to making a decision on a site-specific telecommunications proposal that is part of a larger network or system, the service provider shall submit to the County information that sufficiently describes the nature of the proposed telecommunications service and technology and a long-range network facilities plan showing the existing, proposed, and planned future facility sites and separate coverage areas for such sites as can be reasonably predicted (refer to Program LU 1.4.3). This information should be considered by the appropriate decisionmaking body prior to acting on a permit request for a site-specific facility that is part of the overall network or system.

Policy RP 1.2. Telecommunications facilities should be regulated using uniform procedures and development standards throughout the unincorporated area of Marin County regardless of the zoning districts where the facilities are located, provided that proposals for telecommunications facilities may be subject to different review processes and/or standards depending upon project-specific factors pertaining to the proposed facility site, facility design and location, intensity of use, and degree of compatibility with surrounding land uses

Policy RP 1.3. The level of discretionary review for a proposed telecommunications proposal should correspond to the degree of potential impact and the significance of land use issues arising from the proposal. Incentives for telecommunications proposals that implement the location and design policies of this Telecommunications Plan should be provided by limiting the administrative processing time and permit fees for such proposals. The level of discretionary review shall be determined by the Community Development Director or other appropriate County decisionmaking authority.

Program RP 1.3.1: Unless otherwise specified by Program RP 1.3.2 or RP 1.3.3 below, proposed telecommunications facilities shall be subject to Master Plan or Use Permit with concurrent Design Review requirements in order to provide sufficient discretionary review and a mechanism of imposing conditions of approval and necessary mitigation measures.

Program RP 1.3.2: Design Review only (i.e., Master Plan or Use Permit waived) should be required for proposed telecommunications projects that implement the following policy objectives:

a. Co-location;

b. Locating new minor telecommunications facilities at preferred commercial or industrial sites; and

c. Implementing stealth design for a new minor telecommunications facility.

Design Review should be required for these types of proposals to determine compliance with discretionary development standards such as siting, landscaping, colors, etc., and to solicit community input on the proposal prior to the County's decision on the permit application. The determination regarding whether a particular telecommunications proposal qualifies for Master Plan or Use Permit waiver (i.e., only Design Review required) should be made by the Community Development Director after initial review of a complete development application. This determination should also be based on the extent to which the service provider has consulted with the affected community prior to submittal of the Design Review application as recommended by Policy RP 4.3.

Program RP 1.3.3: Telecommunications facility proposals that have little or no potential for impacts should be exempt from discretionary review, including but not necessarily limited to replacement of existing approved antennas, transmitters, or other equipment with new or upgraded technology that is substantially consistent with the scale and design of the existing approved facility and does not result in new adverse effects or significant land use issues. The determination regarding whether a particular telecommunications proposal is exempt from discretionary review should be made through a Design Review exemption request by the service provider.

Program RP 1.3.4: The County should amend Title 22, the Zoning Ordinance, to establish review processes for telecommunications projects, including wireless communications facilities, consistent with Policy RP 1.3 and Programs RP 1.3.1-1.3.3 above.

Policy RP 1.4. Applications for telecommunications facilities shall be required to include information sufficient to address the policies and programs of this Telecommunications Plan in addition to permit application submittal requirements and environmental review pursuant to CEQA. For commercial wireless facilities, service providers should be required to provide the

information listed in the Community Development Agency "Guide to The Marin County Telecommunications Facilities Policy Plan" (refer to Appendix E), including, but not limited to network system plans, facility coverage area maps, EMF reports, and visual analysis, and other information as determined by the County to properly evaluate such proposals for conformance with County policy and CEQA.

Program RP 1.4.1: The County may require peer review or the independent preparation of any technical information submitted with permit applications for telecommunications facilities, such as the feasibility of alternative facility sites and/or facility designs, or to verify the predicted and actual EMF emissions from an approved facility for compliance with the EMF emissions standard adopted in this Telecommunications Plan.

Objective RP 2: To promote interjurisdictional review of telecommunications proposals by establishing uniform policies and procedures and coordinating permit review of facility siting.

Policy RP 2.1. Incorporated cities and towns in Marin County should consider adopting rules and regulations similar to those in this Telecommunications Plan with respect to regulating telecommunications within their jurisdictions.

Policy RP 2.2. The County, cities, and towns should consider land use and environmental issues on an interjurisdictional level.

Program RP 2.2.1: The County, cities, and towns should transmit development applications for proposed telecommunications facilities to jurisdictions that are located adjacent to or within the coverage area of the proposed facility to evaluate facility site and design opportunities that further conformance with the policies and standards of the affected jurisdictions. In this regard, jurisdictions within Marin County should review network system plans and coverage area maps during the initial stages of permit processing.

Objective RP 3: To maintain a periodic review procedure for evaluating the compliance of telecommunications facilities with this Telecommunications Plan and with conditions of project approval and new telecommunications technology that may further the objectives and policies of this Telecommunications Plan.

Policy RP 3.1. All discretionary permit approvals granted by the County for telecommunications facilities shall be reviewed at least every 10 years, or more frequently, as specified by the conditions of a project approval. When reviewing requests for permit renewal, the County should work with service providers to evaluate the feasibility and practicality of replacing existing facilities (or components thereof) with new technology that would minimize visual or other land use effects addressed in this Telecommunications Plan.

Policy RP 3.2. Telecommunications facilities that are abandoned or inoperative for a minimum two year period shall be removed from the site by the service provider and property owner. As a condition of permit approval, the County shall require a performance agreement with financial security to ensure the removal of an abandoned or inoperative facility.

Policy RP 3.3. The County shall establish and maintain a data base of existing and potential co-location sites for telecommunications facilities and provide information about them to service providers and other interested parties (refer to Appendix A).

Objective RP 4: To utilize opportunities for advisory or environmental review comments on telecommunications facilities to pursue implementation of this Telecommunications Plan's objectives where the County's land use control is preempted and to use other non-regulatory approaches to promote such objectives.

Policy RP 4.1. The County should request Federal and State agencies, particularly the FCC and CPUC, to notify the County of proposed telecommunications facilities, especially those which may be exempted from local land use control.

Policy RP 4.2. The County should use opportunities for commenting on environmental review documents to recommend compliance with the policies of this Telecommunications Plan as mitigations for various environmental impacts.

Policy RP 4.3. Prior to filing development applications with the County, service providers are encouraged to meet with community organizations (i.e., homeowners associates, local design review boards, etc.) and affected residents within the area of their proposed telecommunications facilities to present the proposal, solicit input, and consider possible site or design modifications to address community concerns.

I. INTRODUCTION

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1. BACKGROUND

Telecommunications services have expanded rapidly in the face of growing demand, innovative technologies, and federal actions to deregulate telecommunications services. The Federal Communications Commission (FCC) projects very rapid growth in non-broadcast services (commercial mobile radio services, microwave systems, and amateur radio), and continued growth in broadcast services (television and AM and FM radio), particularly digital television. Emergency service and public agency networks also are growing rapidly. This expansion has had important land use implications for Marin County.

The County has a long tradition of protecting its important and defining natural and built environments. To this end, the County has adopted a Countywide Plan and implementing specific plans that guide how the County will provide for housing and economic development, natural and scenic resource conservation, and public health and safety.

In the late 1980's, the County responded to a heightened public awareness of telecommunications facilities by undertaking a review of existing, proposed, and anticipated facilities, and how the future development of telecommunications projects would affect the implementation of the County's land use planning goals. That study culminated in 1990 with the adoption of the Marin County Telecommunications Facilities Policy Plan (the 1990 Telecommunications Plan).

The 1990 Telecommunications Plan amended the Communitywide Plan by establishing policies and programs that address land use issues and community concerns about the siting and design of telecommunications facilities. The 1990 Telecommunications Plan largely focused on then-existing facilities and their expansion. Most attention was given to major facility sites on Mt. Tamalpais, Wolfback Ridge, Big Rock and Mt. Burdell. Minor facility sites were identified or characterized generally, but the County concluded that their more widespread locations, diverse characteristics, and relatively small impacts made them less suited for more detailed regulation and review than major facility sites.

In 1996, local jurisdictions in Marin County began to experience a rapid increase in permit requests for commercial wireless facilities that was prompted by growth in telecommunications technology, changes in federal telecommunications law, and expansion in wireless communications markets. The Board of Supervisors responded to this trend by initiating the following update to the 1990 Telecommunications Plan. The Board of Supervisors also approved Interim Standards and Criteria for Wireless Communications Facilities (Interim Standards) to provide guidelines for the efficient and effective processing of permit requests for commercial wireless sites until this plan update is adopted. The Interim Standards were prepared with input from cities and towns, representatives from the telecommunications industry, and members of the public.

This plan update will integrate the 1990 Telecommunications Plan with the 1996 Interim Standards and provide additional research and assessment concerning commercial wireless services. The update of this Telecommunications Plan focuses on three predominant types of commercial wireless services:

- Cellular Radiotelephone Services (CRS);
- Personal Communications Systems (PCS); and
- Specialized Mobile Radio System (SMR) and Enhanced Specialized Mobile Radio Systems (ESMR).

The 1990 Plan distinguished between "major" and "minor" facility sites. That general distinction, with certain refinements, continues to be relevant in this update of the Telecommunications Plan as discussed below.

Major Facilities: Major facility sites are typically characterized by large towers (75 feet to 200 feet in height) with antennas operated by numerous service providers. Most major facility sites in the County are located on prominent ridgetop areas, such as Mt. Tamalpais, Wolfback Ridge, Big Rock, and Mt. Burdell. These visually prominent areas constitute major ridge and upland greenbelt areas which separate urban communities and are designated for protection in the Marin Countywide Plan.

Policies of this Telecommunications Plan assure that the expansion or establishment of major facilities, particularly in ridge and upland greenbelt areas, is:

- Allowed only when no other alternative siting will fulfill telecommunications needs;
- Consistent with the Marin Countywide Plan environmental quality policies, especially those for ridge and upland greenbelt areas; and
- Designed in accordance with site development criteria formulated to control the potential impacts from major transmitter tower sites such as incompatible land use, adverse visual effects, hazardous radio frequency energy levels and public safety issues related to tower failure or vandalism.

Minor Facilities: In comparison, minor facility sites normally consist of smaller antenna support structures (less than 75 feet in height) with less capacity for multiple service providers. Minor facility sites are also commonly found in lower elevation areas with greater proximity to roadways and developed areas.

Minor telecommunications facilities cause fewer potentially significant land use and environmental effects individually due to their smaller size. However, even an individual minor facility, such as an antenna for two-way radio communications, a satellite earth station or point-to-point microwave communications, can be visually obtrusive or result in other types of

unwanted effects that can be avoided or mitigated through local siting and design regulations. The cumulative effects of multiple commercial wireless facility sites or other types of minor facilities within a given area of the County may be more significant than the incremental effects associated with an individual facility. Accordingly, updated policies of this Telecommunications Plan assure that commercial wireless facilities and other minor facility sites meet the following standards:

- Cause the fewest practicable adverse land use and visual impacts;
- Mitigate those adverse effects that are unavoidable to the extent practicable consistent with the County's jurisdiction; and
- Make efficient use of available existing antenna sites and other sites that reduce the total adverse impact of all such systems in the County.

Until recently, commercial wireless systems included traditional two-way radio systems and analog-based CRS. The basic CRS infrastructure has been built-out in Marin County. More CRS facility sites will be needed, however, as consumer demand exceeds the capacity of the existing cell sites, and service providers fill-in gaps in coverage, improve service quality, or replace analog with digital technology.

The Telecommunications Act of 1996 (Telecom Act) directed the Federal Communications Commission (FCC) to license up to six PCS providers in each market area throughout the United States. This will increase substantially the number of antennas for commercial wireless systems in Marin County. The primary mandate of the Telecom Act is to ensure the rapid dissemination of commercial wireless services while also encouraging the sharing and co-location of facility sites, promoting use of antenna sites owned by federal and state governments, and recognizing local government jurisdiction over most land use-related aspects of facility siting.

Personal Communications Systems (PCS) will develop even more rapidly than did CRS systems, because FCC rules require each PCS licensee to achieve at least a minimum service level over their coverage area in fewer than five years and to achieve increasing coverage over time. This federal mandate puts pressure on licensees to site antennas quickly and on the County to approve applications for those sites.

In fact, since 1994, applications for about 60 commercial wireless facility sites have been proposed in the unincorporated and incorporated areas of the County. This is a substantial increase in applications for telecommunications facilities compared to the past, but it is typical for urban areas throughout the United States due to the Telecom Act and related market expansion.

The number of applications and increasing public awareness of commercial wireless services have made the local permit process controversial. The 1996 Interim Standards responded to public concerns about the proliferation of permit requests for new commercial wireless facilities and the extent of regulatory control the siting and design of these facilities. This plan update

responds further to those concerns by providing a comprehensive and integrated series of policies and programs for all telecommunications facility siting within the County jurisdiction as well as a rationale for their adoption and implementation by the cities, towns, and other local jurisdictions of Marin.

2. GOALS OF THE PLAN UPDATE

The Marin County Community Development Agency has supervised preparation of this plan update to identify land use and design issues relevant to future development of telecommunications facilities and commercial wireless facilities in particular and to recommend appropriate policies, programs, standards and guidelines for their placement, design, and operation. The plan update is intended to serve the following goals:

- To provide decisionmakers with a general understanding of the technology and trends in the telecommunications industry;
- To describe the impact of federal and state law on the scope and nature of local jurisdiction over telecommunications facilities;
- To describe existing and future major and minor telecommunications facility sites and potential siting needs for new facilities;
- To balance the need and convenience of telecommunications services with the public interest regarding the location, design, and operation of wireless communication facilities;
- To describe potential adverse land use effects that could be caused by new telecommunications facilities, and to recommend policies and programs within the jurisdiction of local governments in Marin County to reduce or avoid those effects; and
- To promote a common policy rationale for local regulation of telecommunications facility siting that all of the jurisdictions in Marin County can choose to adopt.

Because of the recent growth of commercial wireless services, the plan update focuses on PCS, CRS, and SMR/ESMR systems. Less attention is given to paging services, private land mobile radio services and public safety radio services because they are typically less numerous or problematic insofar as potential land use and environmental effects are concerned. The plan update will integrate, but will not add to, the information in the 1990 Policy Plan for the following services:

- Services not found or likely in Marin County
- Microwave services[1]
- Amateur and similar personal and noncommercial radio services
- High power broadcast services including television and AM and FM radio[2]

3. SELECTED POLICY ISSUES

The 1990 Telecommunications Plan recognized two broad kinds of telecommunication facility sites, including: 1) large major facilities located on ridgelines and in upland areas; and 2) smaller minor facilities that were much less prevalent. Because the advent of commercial wireless technology and markets had yet to occur, most of the policy issues of that plan focused on major facilities on ridge and upland greenbelt areas. The following highlights key policy issues of the plan update in regulating telecommunications facility siting for both major and minor facilities with the focus being shifted to the expansion of commercial wireless systems.

- Ridgetop and Upland Locations. Most major telecommunications sites are located on a ridgetop or an upland area. Allowing more facilities on existing sites reduces the need to develop new sites elsewhere, but it can increase the visual effects of a tower or other support structure that is shared by more than one service provider or clustered. Increasing the number, size and visibility of telecommunications facilities can also conflict with policies to conserve and protect open spaces. Competing policy interests must be balanced to determine whether the trade-off (i.e., between more facilities at an existing ridgetop or greenbelt site, or a new facility elsewhere) is warranted.

- Facility Distribution. Most minor telecommunications sites, such as for a stand-alone commercial wireless facility, are not on ridgetops, because they operate at lower power over a smaller coverage area. Commercial wireless services typically are not as visible from numerous vantage points as major facilities due to their smaller size and less prominent locations. The greater number of commercial wireless facility sites can, however, create potentially adverse visual and other land use effects over the area. A key issue for local jurisdictions in Marin County is how to reduce and or avoid these effects through siting and design regulations.

- Growth Trends. Due to recent changes in federal telecommunications law and the evolution of digital telecommunications technologies, the number of commercial wireless facility antennas in Marin County is likely to increase substantially, particularly along highways, major roadway arterials, or where topography or buildings block signals. Most other forms of telecommunications will continue to

[1] The plan update addresses satellite earth stations and direct-to-consumer broadcast microwave systems to reflect changes resulting from recent federal legislation.

[2] Limited new information is included regarding digital television (DTV), an emerging technology in the US.

grow at slower rates, except for new sites and modifications associated with digital television. Local governments in Marin County can regulate that growth to avoid or reduce potential adverse effects in its jurisdiction, but cannot prevent or impede that growth if their actions conflict with preemptive federal telecommunications laws.

- Federal Jurisdiction. The federal government can preempt or supersede local regulations over telecommunications facilities. The FCC applies that power while acknowledging a legitimate local interest in siting regulation. Local policies and standards at the edge of the implementation envelope may, however, attract FCC attention. Local regulations need to be soundly based to deter or be defended in the face of scrutiny by the FCC. With a few exceptions, the FCC acts on a case-by-case basis in response to objections that local actions run afoul of federal jurisdiction over telecommunications..

- Interjurisdictional Issues. When telecommunications facilities are linked to other sites, such as for most commercial wireless systems, an interjurisdictional approach may be more effective at achieving a consistent and coordinated result. Jurisdictions can share information, expertise, and experience, and can forge common approaches to commercial wireless system design by one or more licensees. Common regulatory requirements also can reduce "forum shopping" by service providers. The plan update provides a framework for such an interjurisdictional approach to regulating telecommunications facilities.

- Sitting Efficiencies and Co-location. Generally the best way to avoid or reduce adverse impacts of new telecommunications facility sites is to make the most efficient use of existing sites and other structures that can support antennas. This can be accomplished by having multiple service providers use the same site (clustering) and/or the same tower (co-location), or attaching antennas to existing buildings or other structures (attached facilities). Whether such efficiencies can be achieved for a given facility depends on the facility, the system in which it operates, and the natural and built environments surrounding the site. However, these siting efficiencies may create unwanted land use or visual effects from combining too many facilities at one location. In these situations, design standards may be warranted to prevent cumulative adverse effects from occurring.

- Design Measures. Telecommunications facilities should create as small a visual impact as possible. For high power uses or large satellite facilities, that may not be practical. But commercial wireless facility antennas can be hidden in a structure (so-called "stealth" design) or subject to other design measures to reduce impacts that detract from land use and visual compatibility. A key issue for local jurisdictions in Marin County is what standards, guidelines and/or incentives are needed to facilitate stealth and low-impact designs for commercial wireless services.

- Electromagnetic Fields and Health. Potential human health impacts of electromagnetic field (EMF) emissions continues to evoke public concern. The FCC has largely preempted local governmental authority over regulating EMF emissions. The FCC has adopted EMF standards, and local governments are prohibited from denying or relocating a proposed telecommunications facility if the operator can show that the facility complies with those standards. There is considerable ongoing debate in Congress about federal preemption of local regulation of EMF emissions. Local governments in Marin County can continue to study the issue and should monitor any changes in federal rules that may affect their telecommunications policies and ordinances.

- Operational Impacts. Telecommunications facilities have relatively few potential significant operational impacts. They generate little traffic, although access to isolated sites can be problematic. Lights, signage and noise impacts are the most common operational considerations, but they can usually be regulated by siting and design measures to avoid or reduce them to an acceptable level. About the only operational impact that causes concerns that cannot be regulated *per se* is radio frequency (RF) interference with consumer devices. Because the FCC has exclusive authority over RF interference, local jurisdictions can, therefore, use non-regulatory approaches (e.g., information dissemination, alternative dispute resolution processes, etc.) to address RF interference.

II. TELECOMMUNICATIONS TECHNOLOGY AND REGULATION

II. TELECOMMUNICATIONS TECHNOLOGY & REGULATION

1. WHAT IS TELECOMMUNICATION?

Telecommunication is the transmission of information from one point to one or more other points using radio frequency signals. Antennas broadcast a radio frequency signal in a certain pattern which strikes a receiving device such as an antenna for a television, radio, cellular telephone, or pager. A radio frequency signal is commonly described by its frequency and strength.

The frequency of a signal is determined by the number of times the alternating electric current generating the signal changes from a maximum positive level through a maximum negative level and back to a maximum positive level in one second. Radio frequency signals are arranged in order of wavelengths referred to as the frequency spectrum. The unit of measurement is cycles per second, called Hertz, which is most often expressed in mega-hertz (MHz) for commercial wireless services. The current in the antenna generates electric and magnetic fields which radiate away from the transmitting antenna at nearly the speed of light.

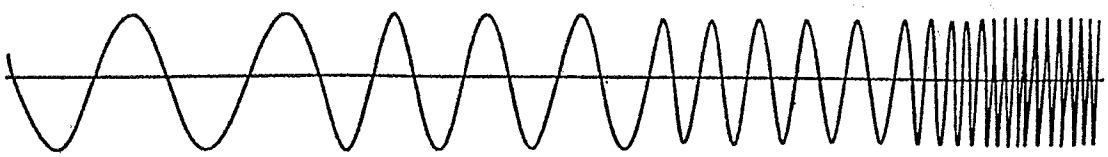
The strength of the signal is the energy of the electric and magnetic fields that radiate from the antenna. Signal strength is related to the product of the power used to generate the signal and the distance from the point of transmission. Power is expressed in watts. The strength of the signal decreases geometrically with the distance from the transmitter. As the distance doubles, the signal strength decreases to a quarter of what it was. The strength of a radio frequency signal at any point is called the power density and is expressed in terms of watts/unit area, most often as milliwatts/square centimeter (mw/cm^2) or microwatts/square centimeter (uw/cm^2).

The effective radiated power is the transmitted power from an antenna. Gain is an increase in effective radiated power that results from amplifying or shaping a radio signal to enhance its power in one direction.

2. TYPES OF TELECOMMUNICATIONS SERVICES

The FCC divides telecommunications services into two main categories for purposes of regulation: 1) broadcast services; and 2) non-broadcast services. Broadcast services primarily include commercial radio and television systems while non-broadcast services include wireless telephone and other types of voice transmissions. The FCC allocates frequency spectrum among all telecommunications services. See Figure 1, "Spectrum Allocation for Commercial Communications in the US."

FIGURE 1
SPECTRUM ALLOCATION FOR COMMERCIAL COMMUNICATIONS IN THE US



1000 kHz	70 MHz	100 MHz	450 MHz	850 MHz	900 MHz	930 MHz	1900 MHz

AM radio **FM radio** **Cellular** **Paging**

Television **Two-way mobile** **Narrow band PCS** **Broadband PCS**

Broadcast services include AM radio, FM radio, high and low power television. High power television includes digital television. Digital TV (DTV) is a new technology for delivering digital television signals and will require both additional transmission towers and the upgrading of existing towers. Low power television operates on the same frequencies as UHF and VHF television, but transmits at lower power and in a smaller geographic area. Subscriber and cable television are considered a form of broadcast service even though access is limited to those who pay for it.

Non-broadcast services require special equipment for transmission and/or reception and serve specific users. Such services include commercial wireless CRS, ESMR, PCS, fixed-point microwave and satellite services, private land mobile radio services, public safety radio systems and amateur users.

Telecommunications facilities can also be classified by their users, the frequencies at which they transmit, the power with which they transmit, the kinds of sites and structures they need, and their capacity for sharing facilities. The various classes of service and their associated characteristics are summarized in Table 1, "Characteristics of Selected Telecommunications Services."

TABLE 1
CHARACTERISTICS OF SELECTED TELECOMMUNICATIONS SERVICES

FEATURE	AM RADIO	FM RADIO TELEVISION	LAND MOBILE SYSTEMS	FIXED POINT MICROWAVE
USERS	• Radio stations on AM band	• Radio stations on FM band • Television stations • Common carriers	• Private businesses • Public agencies	• Private businesses • Public agencies
FREQUENCY	• Medium (0.5-1.6 MHz)	• VHF-TV (54-216 Mhz) • FM radio (88-108 Mhz) • UHF-TV (470-890 MHz)	• Very high (25-220 Mhz) • Ultra high (420-512 and 806-940 MHz)	• Ultra high (900+ MHz)
POWER	• 50,000 watts	• FM radio: 100,000 watts • VHF-TV channels 2-6: 100,000 watts • VHF-TV channels 7-13: 316,000 watts • UHF-TV: 5,000,000 watts • LPTV: 100-1000 watts	• 350 watts maximum • 60-100 watts typical	• 10 watts typical
OPTIMAL LOCATION	Wet soils to facilitate transmission of ground waves	Highest elevation in service area	Highest elevation in service area	Adequate elevation to ensure unobstructed line-of-sight
TOWERS	Up to four or more towers in various configurations	One tower up to 2000 feet high; less for FM radio	One tower typically 60 to 150 feet high	One self-supporting tower usually less than 150 feet tall
SITE CRITERIA	Large area to accommodate multiple tower arrays	Large area to accommodate tall tower and setbacks	Generally small site separated from other towers/anetnnas	Generally small site
SHARED USE POTENTIAL	Technically feasible but locations often unsuitable for other uses	• Limited capacity for shared use with other TV and FM antennas, because of size and weight of antennas • Capacity for shared use with land mobile services	Technical capacity to share space on TV and FM radio towers; some antennas and transmitters can be shared	Capacity for shared use, particularly with land mobile services

TABLE 1
CHARACTERISTICS OF SELECTED TELECOMMUNICATIONS SERVICES

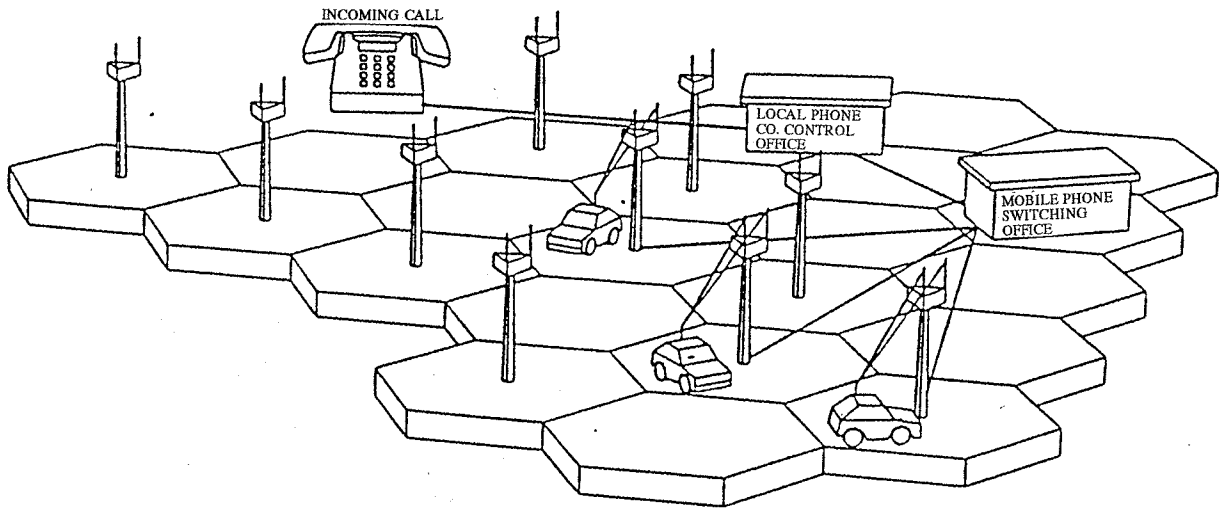
FEATURE	COMMERCIAL MOBILE RADIO SERVICE		
	CELLULAR	PCS	ESMR/SMR
USERS	Government and public safety Private businesses Individuals	Government and public safety Private businesses Individuals	Government Private businesses Individuals
FREQUENCY	824 to 849 MHz (mobiles) and 869 to 894 MHz (base stations)	Broadband: 1850 to 1990 MHz Narrowband: 901 to 902 MHz, 930 to 931 MHz and 940 to 941 MHz	806 to 821 MHz, 851 to 866 MHz, 896 to 901 MHz and 935 to 940 MHz
POWER*	500 watts (maximum) 100 to 200 watts (typical)	Broadband: 1000 watts (maximum) 50 to 200 watts (typical) Narrowband: 3500 watts (max)	500 watts
OPTIMAL LOCATION	Unobstructed line-of-sight location is desirable for all wireless services		
	Sites 1 to 5 miles apart along highway depending on user density and physical or RF constraints	Sites 1/2 to 2 miles apart along highway depending on user density and physical or RF constraints	Highest elevation to serve the largest area with the fewest sites but with fill-in sites as needed
TOWERS**	20 to 100 feet	15 to 80 feet	40 to 200 feet
SITE CRITERIA	Small area for a single support structure (monopole or lattice) and equipment building		
SHARED USE POTENTIAL	High potential limited by a given operator's coverage area or grid, potential interference from out of band emissions, height and loading limits and the competitive nature of the business		
FCC RULE	Part 22, Subpart H	Part 24, Subparts A - E	Part 90, Subpart S

* All values are Effective Radiated Power (ERP) per base channel.
** Typical height above ground level.

The 1996 Telecommunications Act (Telecom Act) addresses several kinds of telecommunications services. The most affected services are CRS and PCS. These services are operated by for-profit entities and allow subscribers to access or receive calls from the public telephone network.

- Cellular Radiotelephone Service (CRS) was the first widely used commercial mobile radio service. AT&T Bell Laboratories developed the theory of cellular radio communications in 1947. However, it was 1981 before the FCC adopted rules creating a commercial CRS service. The first cellular system began operation in October, 1983. Figure 2 illustrates how a CRS system works.

FIGURE 2
HOW A CELLULAR SYSTEM WORKS



A user in a given cell turns on their handset. It transmits a signal to the antenna in that cell from which it is transferred by land lines to a base station which sends it back out to the person called elsewhere in the same network or interconnects with the public telephone network that routes the call to the intended party. As a user moves across cells, the base station will switch the call to the antenna in a new cell which continues the transmission at a slightly different frequency on an available channel in the new cell. This is called a "hand off." If the adjacent cell has no available channel, the call is "dropped." A licensee controls the switching between the public telephone network and the cell sites using what is called a Mobile Telephone Switching Office (MTSO), to which all of the cells connect by landline, fiber-optic cable or microwave link.

CRS markets are licensed by geographic service areas. There are a total of 734 such areas in the United States and its possessions and territories. The FCC licensed two CRS systems in each market, including Cellular One/Three Sisters Cell Company and GTE Mobilnet/Three Guys Cell Communication for Marin County.

The FCC allocated spectrum for CRS systems in the 824-849 and the 869-894 MHz ranges, with the lower range assigned to mobile users, (e.g., for a cellular telephone in the field) and the upper range assigned to fixed base station transmitters, (e.g., for the antenna at a cell site that conveys the signal from the public telephone network to a subscriber in the field). The FCC generally requires CRS providers to license only the tower locations that make up their outer service area contour.[1]

The Code of Federal Regulations contains rules for the development and provision of CRS systems. The rules are intended to ensure CRS systems are developed quickly, that competition is fostered in the industry, and that systems function without conflicting with other FCC licensees. Cellular radiotelephone service (CRS) providers are required by the FCC to "provide cellular mobile radiotelephone service upon request to all cellular subscribers . . . while such subscribers are located within any portion of the authorized geographic services area where facilities have been constructed and service to subscribers has commenced." (Federal Regulations Volume 47, Part 22 [22.901]). This means that CRS providers will consistently work to maintain or expand the systems' coverage by increasing the number of antennas and support facilities and using new technologies.

Cells are generally circular, although hexagons are typically used to depict them in maps and diagrams. This is because the conventional arrangement of transmitters has each tower surrounded by six others, expanding outward. Representing this on a map where the towers are all evenly spaced creates a six-sided configuration for each cell. Actual cell shape is affected by the surrounding terrain and other objects that could obstruct, distort or re-radiate a signal.

Cell shape also can be affected by capacity or service issues. For instance, if there is a location or corridor with very high call volume (such as along Highway 101), cells may need to be smaller and more numerous to provide enough capacity to avoid dropped calls or poor service quality. If there is a location with high call volume and many obstacles, such as in a dense urban setting or along a highway through a mountainous area, cells may need to be smaller.

At the power levels used by CRS, as well as PCS systems, there is not enough frequency spectrum available to fulfill the demand for services unless frequencies are re-used. Frequency re-use takes place when a large geographical service area is divided into cells (as shown in Figure 2) and the same frequencies are assigned to multiple, nonadjacent cells. Assigning the same frequencies in this manner economizes the use of available spectrum.

[1] The FCC does not require a CRS licensee to apply for or receive approval of additional tower locations within an approved and licensed service area or of a modification to such a site unless required under the National Environmental Policy Act (NEPA) or under rules for marking and lighting towers. Thus the station license database maintained by the FCC does not include a comprehensive listing of all CRS transmitter sites.

Even with frequency re-use, there is a finite number of concurrent conversations or calls that can be accommodated by a given cell. The capacity of a given cell to accommodate calls or conversations depends upon the number of radios or channel frequencies provided at the base station for the facility site and the type of technology used. For example, an analog-based CRS system can accommodate fewer calls at one time than for a digital-based CRS or PCS system.

- Personal Communications Services (PCS) have significantly expanded commercial wireless systems. Beginning in 1995, the FCC held auctions to sell radio frequency spectrum for two kinds of PCS systems: broadband and narrowband. Broadband PCS systems operate at 1850-1990 MHz, and narrowband PCS systems operate in the 901-902, 930-931 and 940-941 MHz bands. Broadband PCS systems primarily offer two-way digital voice (e.g., wireless telephone) service. Narrowband PCS systems offer primarily one- and two-way messaging (e.g., paging, internet access) services.

  Broadband PCS. The FCC has divided the United States into overlapping geographic areas for allocating spectrum to broadband PCS systems.[2] A given location may be served by as many as six broadband PCS systems. However, the FCC expects fewer than that number to serve a given area because a service provider can receive more than one PCS license for an area. The consolidation of licensees through the merger and acquisition among commercial wireless companies is also likely to reduce the number of licensees over time. There are six licensed broadband PCS providers for Marin County, including Sprint PCS, Pacific Bell Mobile, GWI PCS, AT&T Wireless PCS, Western PCS, and NextWave Power Partners.

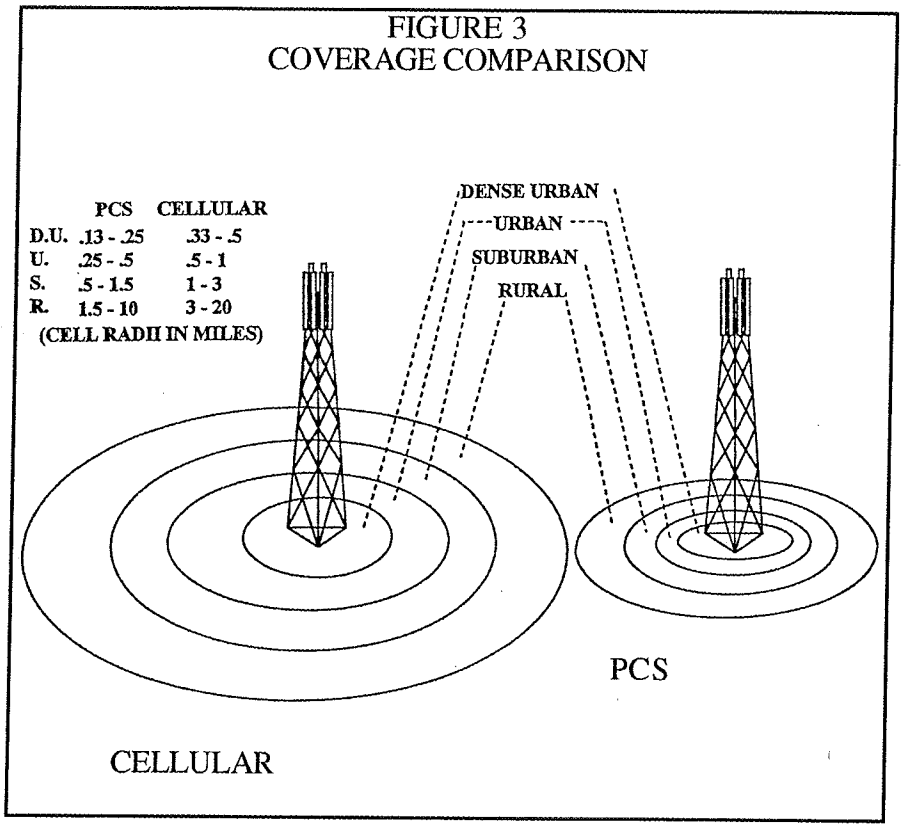
  Depending upon the specific terms of the FCC license, broadband PCS providers generally must provide adequate service to at least one-quarter to one-third of the population in their licensed area within five years of being licensed, and to two-thirds of the population in the licensed area within ten years of being licensed. Failure of the service provider to fulfill these service requirements results in forfeiture of the license, and the service provider may not re-apply for it. This means that PCS providers will need to build their initial systems more quickly than CRS providers.

  As with CRS systems, a PCS license is for their entire market area. Unlike CRS systems, however, a PCS provider is not required to submit applications to license any PCS facility sites, even those on the perimeter of a service area, unless required under the National Environmental Policy Act (NEPA) or under rules for marking and lighting towers.

[2] The FCC used the Rand McNally "1992 Commercial Atlas and Marketing Guide, 123rd Edition", as a starting point to define 51 Market Trading Areas (MTAs) and 493 Basic Trading Areas (BTAs) in the US and its possessions and territories. For the purposes of the Policy Plan, it is sufficient to note that Marin County falls entirely within the San Francisco/Oakland/San Jose MTA No. 4 and the similarly-defined BTA No. 404.

Personal communications services providers are like CRS systems in that a given service area is divided into cells in each of which is a base station that connects to a central processing facility and, hence, to the public telephone network. However, PCS systems operate at higher frequencies than CRS systems. At a given output power, signals at higher frequencies do not travel as far as those at lower frequencies. Therefore, PCS systems require more antenna structures than CRS systems to provide equal coverage. See Figure 3, "Coverage Comparison."

FIGURE 3
COVERAGE COMPARISON



This means PCS antenna sites will be more numerous at initial build-out than were CRS system sites, but will ultimately reduce the need to provide additional sites in the future to improve coverage or reliability. Also, because PCS systems are digital, each PCS site has much more capacity to handle signals than does an analog-based CRS system site, thus reducing the potential need for additional PCS sites as the number of subscribers to the PCS service grows. In contrast, additional CRS sites will be needed as each cell in an analog-based CRS system reaches its capacity because of subscriber growth.[3]

[3] CRS systems initially were designed and built without anticipating the intense future demand for mobile two-way voice communications. Thus, the first CRS facilities were placed at high elevations to maximize coverage area using as few transmitters as possible. As the number of CRS subscribers increased dramatically, the initial high-elevation sites were overloaded, because they could not process the number of signals. CRS operators had to increase system capacity by building new "in-fill" sites at lower elevations and closer to high-demand areas, such as along Highway 101 and major arterial roadways, to fill-in coverage areas. Newer service providers, such as PCS licensees, are designing and building their systems with a much better appreciation for the substantial public demand for

Narrowband PCS. Narrowband PCS systems are used principally for one-way paging services, although spectrum is available for two-way response paging. These PCS systems operate in the 901-902 MHz, 930-931 MHz and 940-941 MHz bands. A total of 26 narrowband PCS systems will be licensed nationwide, regionally or subregionally (i.e., based on MTAs and BTAs). There are seven narrowband PCS providers licensed to operate in Marin County, including Paging Network of Virginia, KDM Messaging Company, Nationwide Wireless Network, Airtouch Paging, BellSouth, Pagemart II, and Conxus Prop.

Because they operate at lower frequencies than broadband PCS systems and primarily transmit one-way messaging information, narrowband PCS facilities are fewer and more widely spaced than other PCS facilities. Initially, narrowband PCS facilities may function best if situated on ridgetop locations with expansive lines-of-sight. FCC service requirements for narrowband PCS systems vary with the size of the area licensed. Narrowband PCS providers licensed to serve a BTA are required only to build one base station within one year of licensing. Licensees of larger areas (e.g., MTAs) have greater service requirements.

- Specialized Mobile Radio/Enhanced Specialized Mobile Radio (SMR/ESMR) systems provide land mobile communications on a private or subscriber basis. SMR systems generally are private, (i.e., they serve only the licensee) and ESMR systems generally are public (i.e., they serve subscribers). In general, only ESMR systems are capable of offering cellular-like mobile telephone services to the public. An ESMR system consists of multiple base station transmitter sites deployed in a cellular configuration. Each site employs one or more antennas and multiple transmitters which are interconnected to the public telephone network. End-user mobile radio equipment consists of a vehicle-mounted transceiver or a handheld portable which is similar to a portable cellular phone.

  Enhanced specialized mobile radio (ESMR) systems operate at 806-821 and 851-866 MHz, and at 896-901 and 935-940 MHz. For each system, the mobile and base station frequencies are separated by 45 MHz, with the lower ranges assigned to mobile users (e.g., subscribers in the field), and the upper ranges assigned to fixed base station transmitters (e.g., where signals are transferred from the public telephone system to the subscriber in the field). Enhanced specialized mobile radio (ESMR) systems in the 800 MHz band are licensed by the FCC on a site-by-site basis; each antenna site must be licensed separately. ESMR systems in the 900 MHz band are licensed on an area-wide market (i.e., BTA or MTA) approach. There are two ESMR service providers licensed for Marin County, including Nextel Communications (800 MHz band) and Power Spectrum/FCI (900 MHz band).

commercial wireless services. These systems are being developed with far more transmitter sites initially than pioneer CRS systems. Thus, they will not need as many fill-in sites as CRS systems.

- Paging services are licensed as a commercial wireless service if they are offered to the public (e.g., in contrast to private services). The FCC currently licenses paging systems by transmitter and site location, and each transmitter is subject to a separate license. Commercial paging operates within 35, 43, 152, 158, 454 and 931 MHz bands.

  The basic function of paging systems is to provide one- or two-way message delivery services to subscribers. The message can be an audible tone or voice, or readable text in numeric or alphanumeric format. Paging systems use either analog or digital wireless transmissions to deliver messages to a portable "pager" carried by the subscriber. Two-way pagers have the capability of transmitting a low-power response message back to the paging system.

  One-way paging services tend to utilize high-power transmitters sited at higher elevations. These high-power facilities have the potential of causing interference to nearby commercial wireless services and consumer receivers. However, with proper engineering, high-powered paging facilities can often be successfully co-located with other commercial wireless services.

  Two-way paging facilities must be located close enough to subscribers to be able to receive low-power response messages from subscriber's pagers. Thus, it is expected that two-way paging service providers (e.g., ESMR and narrowband PCS providers) will build-out their systems with sites at lower elevations and close to high-demand areas.

- Land mobile communications systems are characterized by a fixed base station with one or more mobile units. Common carriers provide similar one-way telephone and two-way paging services.

- Fixed-point microwave systems use microwave frequencies to transmit sound and visual images between two or more fixed points. A satellite system is similar except that the signal is routed through or bounced off a satellite between the fixed transmitting and receiving points.

- Amateur radios are operated by private individuals using low power transmitters (=1500 watts).

3. COMPONENTS OF TELECOMMUNICATIONS SYSTEMS

A telecommunications system consists of a transmitter to originate a radio frequency signal, a transmission line to connect the transmitter to an antenna, usually mounted on a tower or other support structure, which radiates the signal. A receiving device such as an antenna, radio or car phone completes the system. Each of these components to a telecommunications system - towers, transmitters, transmission lines, and transmitting and receiving antennas - are described in the following sections. Photographs of telecommunications facility sites in Marin County are provided in Appendix B.

Transmitters

Transmitters are the most important component of telecommunications facilities because they generate the signal that is received by the person using the telecommunications system. A transmitter generates the signal at the frequency and power authorized by a FCC license. All major and most minor telecommunications facilities in Marin County have one or more transmitters, with the possible exception of those cable television facilities which are designed exclusively for the reception of off-the-air broadcast signals.

Transmitters that are permanently installed (i.e., fixed) at telecommunications facility sites provide communications to other fixed or mobile stations or provide point-to-point communication links to other fixed stations. Satellite earth station transmitters also provide communication links to geostationary satellites which are "fixed" at a point in space.

Fixed transmitters that serve mobile stations are called base stations. Base stations provide communications between a dispatch point and a mobile station or between two or more mobile stations. The mobile stations can be mounted in a vehicle or hand carried. A mobile station is either a transceiver (i.e., it both receives and transmits signals, such as a cellular or PCS "telephone") or receive-only device (e.g., a pager).

Transmitters are rated by their transmitter power output. Microwave transmitters have a typical power output of 10 watts or less. Most broadcast stations in Marin County have power outputs of 20 kilowatts (kW) or more. The majority of transmitters in Marin County are rated at less than 500 watts.

The size and input power needs of transmitters vary greatly. Transmitters rated at 10 watts or less may be as small as 5 inches across and draw less power than a 25 watt light bulb. Broadcast transmitters require at least as much space as one entire equipment rack (the size of a household refrigerator) and input power equal to approximately twice the transmitter power output.

Most broadcast transmitter installations require additional floor space and electrical service for cooling units, receivers and other ancillary equipment. The area occupied by back-up or emergency stand-by transmitters can double transmitter space requirements.

The transmission components used by commercial wireless facilities are generally smaller and more integrated than those of other telecommunications facilities. This is due to the low radio frequency power levels employed at the facility base stations. Also, to conserve energy and space, the industry has worked to miniaturize logic, switching and other non-radio frequency circuits in commercial wireless installations. Typical equipment cabinets are about the size of a household refrigerator. Cabinets for microcell applications can have a volume of less than two cubic feet.[4]

Transmission Lines

Transmission lines connect the transmitters and receivers to the antennas that propagate or receive radio frequency signals. Transmission lines also allow for separation between sheltered transmitter/receiver equipment, usually contained in an equipment building below the antenna or tower, and the exposed antennas that may be mounted on a tower, building or other support structure.

Transmission lines may have considerable size and weight. At their largest, transmission lines can be several hundreds of feet in length and greater than six inches in width. High power transmitting facilities and installations, where antennas are located far from other equipment, generally require larger lines. Larger lines handle greater power and have lower energy losses. Usually, a separate transmission line powers each antenna on a tower. Thus, a tower designed for shared use must support a much greater mechanical load because of the added weight and wind-loading for extra transmission lines.

Many facilities place transmission lines underground for protection or aesthetic considerations. Although some types of transmission lines are designed for direct burial, most facility designers prefer to install underground conduits for line routing. Conduits provide for greater flexibility in that underground lines can be installed or removed without digging. However, the size of the conduit limits the number and type of transmission lines which can be routed. Facility growth can be hindered by insufficient conduit space if every new user requires a separate transmission line and antenna.

Transmitter sharing and combining reduce the number of transmission lines at telecommunications facilities. This may reduce tower loading and conduit bottlenecks. However, combining does increase the amount of power handled by transmission lines; thus larger lines are necessary for combined transmitter operation. The facility designer must consider the trade-offs involved between the installation of a large number of small lines for a non-combined operation versus the installation of a single large line for a combined operation.

[4] A microcell is a small commercial wireless facility which has limited power and coverage. Microcells are primarily used to fill-in relatively small areas where coverage is obstructed from other facility sites by buildings or topography or to cover an indoor area.

Antennas- General

Transmitting antennas convert the guided radio frequency energy supplied to the antenna by a transmission line into a free-space propagating radio frequency signal. Receiving antennas reverse this process. Antennas are generally divided into two types of design: monopole/dipole antennas and parabolic antennas.

Monopole and Dipole antennas are also referred to as "pole" antennas for short. The basic design of a monopole antenna is a single linear conductor, like a car antenna, while a dipole antennas uses two conductors. Sometimes to improve function, other elements are added to a pole antenna. These include:

> Panel antenna - a rectangular panel which serves to direct a transmitted signal or to screen a receiving antenna from interference from other sources.
>
> Yagi antenna - a dipole antenna supplemented by several parallel reflector and director elements to improve function. A common type of yagi is the residential television antenna.

Parabolic antennas such as microwave dishes or horns are specialized antenna used to transmit and receive signals in the microwave portion of the radio frequency spectrum. Microwave dishes and horns vary considerably in diameter (or aperture) and in locational needs depending on their purpose. Typical dishes for home and industry use are 8 to 12 feet in diameter. They can be made of metal, spun aluminum, fiberglass (with embedded metal foil) or spun metal with either a solid or mesh design; although mesh dishes offer less wind resistance and are less visible than solid dishes. Dishes may be painted any color, provided the paint is not lead based. However, the use of dark colors on large dish antennas may result in unacceptable temperatures as the dish shape focuses radiant-heat. Often a material that does not affect telecommunications signals, such as plastic or ceramic, is used to cover a dish, reducing its wind loading and potentially its visual obtrusiveness.

One or more dishes for point to point communications can be placed on a transmission tower or similar structures if there is an unobstructed line-of-sight between the device and the facility transmitting to or receiving from it. Because a microwave signal must be sent precisely from point to point, microwave dishes are usually mounted on self-supporting towers or on buildings, which provide a more stable platform for the precisely aimed dishes than would guyed towers.

Larger microwave dishes are used commonly as earth stations for satellite communications. They can be as large as 12 meters (about 40 feet) in diameter. Large earth station dishes typically are placed on a cradle-like structure on a building or ground rather than on a tower. The structure is attached to a concrete base on or below grade (to minimize potential interference), with a line-of-sight between transmitter and receiver.

Antennas cannot be miniaturized as easily as other electronic equipment because their performance is directly dependent on their size and operating frequency. As a general rule, antenna size increases with power and decreases with frequency. However, larger antennas may be required at higher frequencies if propagation and transmission line losses are great. This may prevent or limit reductions in antenna size due to the higher operating frequency.

Generally, antennas must be separated from each other to avoid interaction and interference. Antennas that are not highly directional, particularly those that are at the same height above ground level and operate in the same frequency band, should be spaced as far apart horizontally as possible. This is necessary to reduce interference in the horizontal plane, which is the desired direction of transmission to serve the widest geographic area. When tower space allows, antennas should be vertically separated when operated from a shared site. Vertical separation usually reduces interference more effectively than horizontal separation.

Towers

Towers are typically large structures used for mounting antennas at major facilities. The two basic kinds of transmission towers are guyed-mast and self-supporting. Guyed-mast towers are typically built of steel lattice or tubular steel and held in place by guy wires. As a general rule, guy wires extend outward from the base of the tower 1/3 to 2/3 the height of the tower.

Self-supporting towers are usually square, triangular, or pyramidal in cross-section and built of steel lattice, tubular steel, reinforced concrete or wood. Usually such a tower has a larger base and bulkier members than a guyed tower that supports the same devices, but requires a much smaller total site area, because no guy wires are required.

AM radio transmission systems require multiple towers and underground wire systems. As many as twelve towers may serve one AM station. The height, number and spacing of AM towers depend on the frequency, signal strength, and direction of transmission. Towers used exclusively by land-mobile antennas can be either guyed or self-supporting. They also can be mounted on buildings, utility poles or other similar structures. Depending on height, a tower can accommodate 20 or more relatively small, light weight land-mobile antennas. Land-mobile antennas also can be placed on TV, FM radio, and microwave towers.

Some towers are built with cross bars to provide two, three or more top-mounting positions. Sutro Tower in San Francisco provides three top positions. This type of tower design allows users to have equal height and maximum coverage. Since the horizontal separation between antennas is usually small with this arrangement, pattern distortion and interference may exist.

Antennas can also be installed on the sides of towers. If the tower is steel or aluminum, side-mounted antennas may suffer pattern distortion due to the presence of nearby tower elements. Sometimes this distortion is useful if it increases signal transmission in desired directions. FM broadcasters, who normally use side-mounted antennas, often optimize pattern distortion to improve their station's signal into populated areas.

Antennas for Commercial Wireless Facilities

A typical commercial wireless facility site will have 2 to 12 antennas of various types depending on system design and coverage needs. Panel and omnidirectional antennas are the most common.

Panel antennas are shaped like rectangular boxes with cable attachments on the backside or end. The panel width is roughly 1/2 to 2 feet and the thickness is 3 to 11 inches. The typical length will vary from 1 to 4 feet for urban sites, and 4 to 6 feet for suburban and rural sites; 8- to 11-foot long models exist for specialized high-gain applications. All panel antennas are directional, meaning that most power is transmitted away from the face of the panel in a certain direction (e.g., perpendicular to the face of the panel), and less power is transmitted in other directions (e.g., downward or to the side). Most commercial wireless systems in Marin County use panel antennas.

Omnidirectional antennas are shaped like long narrow cylinders. They are often called "whip" antenna. Omnidirectional antennas range in diameter from 1 to 9 inches, and their lengths vary from 2 to 25 feet. For a given application, an omnidirectional antenna will be thinner and longer than an equivalent panel antenna.

Commercial wireless facility sites may have 3 to 6 omnidirectional antennas, 6 to 9 panels, or combinations of both. The antennas may be arrayed in a square or triangular configuration to allow for horizontal separation between antennas.

Antenna Support Structures for Commercial Wireless Facilities

Commercial wireless service providers will attempt to mount antennas on existing structures, such as buildings or existing towers, when it is technically feasible to do so. This generally is less expensive for the operator and may be encouraged by local government design standards and an expedited permit process. Whether it reduces potential impacts depends on the particular circumstances of the specific facility and its surroundings. See the discussion of visual impacts in Chapter 4 regarding alternative and "stealth" support structures.

Self-supporting monopoles are the most common antenna support structure for new commercial wireless facility sites, particularly those along highways in non-urban areas where other suitably-situated structures may not be available to support antennas. Monopoles typically are 30 to 75 feet above ground level.

4. TRANSMITTER SITING CONSIDERATIONS

General Rule

A licensee generally selects a transmitter facility site to provide the necessary signal strength over the applicable coverage area with the least radio frequency interference at the lowest cost in the least time.

Line-of-Sight and Elevation

Most telecommunications services require an unobstructed line-of-sight between a transmitting device (e.g., antennas) and its receiving device(s) (e.g., mobile telephone). Areas that cannot receive signals at all or that receive them poorly due to intervening obstructions are said to be "in shadow."

Elevating an antenna on a tower, monopole, building or other structure is generally the most efficient way to deliver telecommunications services at high power over a large area (e.g., broadcast services such as television and radio) inasmuch as it reduces the number of sites needed to provide the requisite service. Elevating an antenna also may be the most economical way to relay information from one or more specific sources to one or more specific receptors, even at low power levels used for point-to-point microwave systems and for some commercial wireless services (i.e., CRS, PCS and SMR/ESMR).

Elevating antennas is less important if transmissions are sent and received from highly elevated sources, such as a satellite, if a facility only receives transmissions, or if the service area is small. Such is the case for CRS and PCS systems. These systems break-up a geographic service area into small "cells." Each cell ranges from 0.5 to 20 miles in radius with an antenna situated at or near the center of the cell.[5] The antenna will typically be 15 to 80 feet above the ground, which is usually less than 500 feet above mean sea level in densely populated areas of Marin County.

In some cases a lower elevation site may actually be desirable. For instance, if the potential for radio frequency interference is high, or if a facility uses highly directional or low power devices, low elevation sites that are "shadowed" may aid a telecommunications facility by blocking signals that could interfere with desired transmissions.

In many cases a signal can be received and re-transmitted over or around obstacles by a series of "repeaters." Repeaters are receivers and transmitters which can mitigate poor signal quality in areas that do not have an unobstructed line-of-sight from the main transmitter.

AM radio is an exception to the line-of-sight rule, because its signals are conducted primarily along the ground and, thus, do not require an elevated site. An AM signal is transmitted by a tower with radiating underground wires which improve ground transmission. AM radio facilities are usually situated in damp lowland soils to facilitate ground-wave transmission.

Directionality

Some telecommunications facilities, including those for most TV and radio stations, are omnidirectional, which means they transmit in all directions. The area within which the signal can be received is a function of the height of the antenna, the frequency and strength of the signal, effects of other transmitters, and the surrounding terrain. These services will tend to site

[5] In a fully developed cellular system where cells are 2 miles in diameter, industry calculations show an antenna must be situated within a distance of only 760 feet from the center of the cell.

facilities so they have an expansive line-of-sight. Most of the broadcast transmission facilities in Marin County are located at major facility sites in ridge and upland areas.

Other telecommunications facilities transmit in a directional or constrained manner. Directional transmissions can be one-way (e.g., paging) or two-way (e.g., commercial wireless systems and public safety communications). Directionality can be achieved in the design of an antenna or by shaping the power output from the antenna (i.e., by using the concept of gain).

Microwave transmissions are highly directional. A microwave signal is beamed between two specific points in a narrow route usually inches in diameter (i.e., point-to-point). Since the signal transmitted is highly focused, microwave transmitters use less power than other kinds of telecommunications.

Directional antennas are used to prevent a new transmission source from interfering with an existing source with higher priority under FCC rules, to protect a new facility from interference from an existing facility, or to cover an irregularly-shaped market. Thus, sometimes television and radio transmissions can also be directional.

An elevated site may not be as important for a directional transmission as it is for an omnidirectional one. The essential factor for directional transmission is the line-of-sight between the specific transmission source and its intended receiver(s) or coverage area. Thus, highly directional antennas may be sited almost anywhere in Marin County to serve the specific needs of a given service provider.

5. EXPECTED DEMAND FOR FACILITIES AND FUTURE TRENDS

Broadcast Services

It is inevitable that the large potential profits for broadcast stations (AM, FM, and television, especially digital television) will lead to a market demand for more broadcast facilities in Marin County. Demand for alternative sites in the northern area of Marin County has increased due to the fact that San Francisco's Sutro Tower has no additional capacity for television antennas. Since adoption of the 1990 Telecommunications Plan, the County has approved a new television broadcast facility on Mount Burdell in the unincorporated Novato area. There also is spectrum available for another AM radio station in Marin County.

It is unlikely a television facility will be proposed in the southern part of Marin County, because a high power television facility is likely to interfere with television stations in San Jose and other stations to the south.

Broadcasting services, other than AM radio, will continue to have sites located on the highest hills and ridgetops, at greater than 1,000 feet above mean sea level when possible.

Private Land Mobile Radio Systems

Elevated sites that maximize the range within which such signals can be received will continue to be important for private land mobile radio systems. However, many of the licensees or subscribers for these types of systems do not need broad coverage. Some facilities are likely to be proposed throughout Marin County, particularly in the city-center corridor where most population growth and economic development is planned.

Point-to-Point Microwave Systems

Point-to-point microwave systems also are expected to grow rapidly for many of the same reasons as land mobile facilities. Most large corporations and government agencies with a regional base of operations use point-to-point microwave systems to transmit data and voice communications. As with land mobile facilities, elevated sites that provide a line-of-sight to major markets outside Marin County will be desired for most new microwave facilities, while others with more specific applications may be distributed throughout the developing parts of the County.

Satellite Systems

Satellite uplinks and downlinks are another form of microwave facility that is likely to grow significantly in the near future as technologic advances reduces their cost and satellite systems increase in number. Unlike land mobile and point-to-point microwave facilities, most uplink transmitters are likely to be proposed in topographically isolated areas of the County where they are less likely to be affected by interference from other radio frequency sources. Satellite receiving devices are likely to be spread throughout developed areas of Marin County for entertainment in hotels, restaurants, taverns, and homes, particularly where cable service is not available.

CRS, PCS and SMR/ESMR Systems

The CRS system in the County is the most mature of the commercial wireless systems. Each CRS licensee has about 12 facilities in the unincorporated and incorporated areas. Increased service will require subdividing existing cells with more numerous, lower power and lower elevation transmitters and antennas. Cells could be as small as 1 to 2 miles in diameter, which will require antennas in commercial areas and possibly some residential neighborhoods.

The emerging narrowband PCS and 900 MHz ESMR services will locate a few transmitters at high elevations, because that is the best way to serve a small number of initial users spread over a large coverage area. As demand for these services increases, they will develop additional transmitter sites at lower elevations and may no longer need higher elevation sites depending upon how specific systems are developed in the future.

The six broadband PCS licensees average more than 20 facility sites apiece in the unincorporated and incorporated areas of the County. The number of PCS facilities will grow until there is approximately one facility per provider every half mile along the Highway 101 corridor.[6]

Private business (e.g., SMR) and public safety systems will continue to locate at medium to high elevation sites at major and minor facility sites. These systems typically provide service to a small number of mobile users in vehicles. These vehicles usually have highly directional antennas attached to large, relatively high-powered transceivers powered by the vehicle's battery. The efficiencies of vehicle-mounted transceivers, as compared to handheld portables, allows one or two base stations to cover a large area from elevations of 500 to 1,000 feet above mean sea level.

Most 800 MHz ESMR systems started out as SMR systems with a few base stations on major ridgetop sites. One ESMR provider in Marin, Nextel Communications, actively markets its digital cellular-like services with portable transceivers to business users in vehicles and to the general public. As Nextel continues to add users, it will also add transmitters located at low elevations (i.e., generally not exceeding 500 feet above mean sea level).

For rural village areas, such as Stinson Beach, Bolinas and Point Reyes, only one facility for each service provider is necessary to cover the small population centers. Often the facilities of several commercial wireless service providers are co-located in such a setting because there may only be one practical central location in which to place antennas to serve the population, and there may already be a telecommunications site at that location (e.g. a public safety facility such as a fire house or police station).

The highest demand for commercial wireless services in Marin County is along Highway 101 where service providers endeavor to provide seamless coverage of vehicular traffic with no "dead spots" or areas of low signal levels. For CRS and ESMR systems, this interval typically is two to five miles along flat stretches between intervening hillsides. For broadband PCS systems, it is typically one-half to two miles. The hillsides along Highway 101 and elsewhere provide opportunities to elevate transmitter sites for coverage between the intervening flatland portions of the highway and adjacent developed areas. The hillsides also limit the range of coverage areas because they can block the transmission of radio frequency signals. Similarly, hillside areas located outside of the immediate Highway 101 corridor may provide elevated transmitter sites for arterial roadways, surrounding residential neighborhoods, and coastal villages.

Additional sites are expected to be proposed commensurate with the increase in demand occurring along major arterial roadways serving developed areas of the County, such as Sir Francis Drake Boulevard. The density of traffic, topography, and the population of adjacent areas will determine the optimum spacing of facility sites. When new facility sites are added to

[6] Information on wireless communications technology provided by the Association of Bay Area Governments indicates the coverage area for an individual PCS antenna facility can be as small as 0.5 miles or less in urban and suburban areas depending on topography, tree cover, and the population density of the area being served. Staff review of proposed network maps submitted to the Marin County Community Development Agency shows that antenna sites are generally proposed 0.5 to 1.0 miles apart along the Highway 101 corridor.

"fill-in" areas of deficient coverage, the location of existing sites will be the greatest determinant in the location of the new site.

6. FACILITY SHARING AND ENGINEERING EFFICIENCIES[7]

Sharing facility sites can improve efficiency and effective capacity. However, economic and legal factors often complicate sharing. Because the electromagnetic spectrum is a limited and valuable resource, facility users can be very competitive. Often this competition inhibits the cooperation among users necessary for facility sharing.

The major components of facilities which can be shared are:

- Towers and tower sites;
- Transmission lines and antennas; and
- Transmitters and transceivers.

Transmitter Sharing

The transmission process can be described as a stream. The stream originates at the point the signal starts, such as a microphone. It then travels "down stream" through a transmitter, transmission line, filters, and antennas.

If a transmitter is shared, then all the downstream devices attached to it (upstream of the receiving device) also are shared. This increases facility-use efficiency, but can also increase technical difficulties and consequently restrict the potential for widespread transmitter sharing. All devices attached to a shared transmitter must be compatible with all sharing parties. The transmitting antenna pattern, for example, must provide area coverage which is acceptable to every user. In addition, all transmitter users must employ the same output channel(s).

A transmitter that serves more than one user is shared by all users no matter how the transmitter is operated or licensed. Thus, a base station in a CRS system is considered shared by all members of the public who use it even though the base station is licensed to a single common carrier.

Transmitter sharing is usually accomplished by time-sharing the transmitter among users. This technique, which is also known as time-multiplexing, has been used for many years by AT&T and others who employ fixed microwave transmitter links to carry large amounts of information over long distances. Satellite users also employ this technique because space-based transmitters are expensive and available on a limited basis.

[7] The following is adapted from the 1990 Policy Plan without significant new research.

Time-multiplexing technology, combined with digital modulation techniques, have become a common transmission method in PCS systems. Transmitter time-multiplexing also is used by paging systems. All subscribers have their receivers tuned to a single transmitter frequency. Any of one of thousands of pager-receivers can be activated by audible tones or digital signals lasting less than a second from a given transmitter. These are highly efficient systems because only a small amount of transmission time is required for each message.

A typical land mobile two-way transmission, by comparison, may consist of several exchanges between a base and mobile station and may last as long as necessary for a given conversation. This does not mean that one-way paging is more efficient than two-way land mobile operators, but shows the difference in transmission times for these two different types of services which, in turn, can affect sharing potential and techniques.

Certain radio services allow licensees to operate several base transmitters as a group and thereby provide telecommunications service to multi-channel mobile transceivers. These transmitters can operate on different but closely spaced frequencies and share a combiner, transmission line, and antenna or antenna array. This type of operation is called trunking. All forms of trunking employ time-multiplexing in that a limited number of transmitters are shared by a larger number of subscribers or mobile operators. Cellular radiotelephone services (CRS) and SMR/ESMR systems rely on trunking, although CRS systems use less transmitter power and lower antenna heights than other trunked systems and may use more than 300 channels, whereas a typical conventional trunked system uses 5 to 20 channels.

The essential feature of trunked radio systems is that each mobile unit can automatically gain access to any of the transmitters not in use. Trunking is more effective than other transmitter sharing techniques because the mobile unit called does not have to wait until a given channel is free. If one channel is busy, the mobile transceiver will switch automatically to an unused channel. Such a system can handle several times the number of subscribers than a non-trunked system can with the same number of channels. Trunking works most efficiently where:

- Each station requires a channel for a short time;
- The probability is small that many stations will seek access simultaneously to more transmitters than are available; and
- The number of mobile units is much more than the number of available channels.

CRS systems require more base stations than other types of trunked systems or conventional systems to cover a given geographic area. Also, as the number of subscribers increases and existing systems reach capacity, more base stations must be built. Base stations cannot share the same telecommunications facility in the same system.

Other techniques and technologies that support transmitter sharing include:

- "Subcarrier operation" (i.e. frequency multiplexing as opposed to time-multiplexing) is in limited use, primarily in the radio services where channel bandwidths are wide (fixed microwave, satellite, and broadcasting); and

- "Packet switching" is a specialized form of time-sharing use for the transmission of digital information.

Time multiplexing and frequency multiplexing techniques can be combined to provide even greater efficiencies than can be achieved with either technique alone.

Sharing Transmission Lines and Antennas

Combiners allow antennas and transmission lines to be shared by transmitters or transceivers. This type of sharing is called combining.

Combining is not as efficient as transmitter sharing, because it may not reduce the total amount of equipment housed in transmitter tower buildings. However, combining is less restrictive than transmitter sharing because there are few, if any, FCC prohibitions against it. Also, the sharing parties do not have to use the same frequencies, although all frequencies must be within the usable frequency range of the shared antenna and transmission lines.

The size and cost of combining equipment varies greatly. Low power, two-transmitter combiners with relatively high losses can occupy less than five inches of standard rack space and cost about $1,000. A custom built low-loss combiner which can handle eight or more 20 kW FM broadcast stations can occupy over a thousand square feet of floor space and costs over $100,000.

Receiving antennas also can be shared. Combiners that are used for this purpose are called multicouplers. Multicouplers are smaller and less expensive than transmitter combiners because they do not have to handle large amounts of radio frequency power. Commercially available multicouplers allow up to 32 receivers to share a single antenna.

Duplexers are specialized combiners that allow a transceiver to use a single antenna for transmitting and receiving. Many transceivers designed for this type of operation have built-in duplexers.

Highly directional antennas used in point-to-point microwave and satellite services can be shared only by those users who communicate with the same point, (i.e., another land-based telecommunications facility or a satellite). At least one antenna for each communications path is necessary. The number of antennas required for each path can be minimized if transmitter sharing is employed. Path users could share a single transmitter if all their messages were time- or frequency-multiplexed onto a single channel. Minimizing the number of microwave and satellite antennas would minimize the facility's visual impact and the use of tower space.

Directional antennas used in the AM, FM and TV broadcast services generally cannot be shared because their patterns are tailored to the coverage and interference requirements of a particular licensee. Omnidirectional antennas used by broadcasters can be shared through combining, although the antenna must have the proper height above ground and power rating to meet the needs of all sharing parties.

Combiners promote efficient land-use because they reduce the visual impact of a facility by minimizing the number of installed antennas and their support structures. But combiners consume facility resources and require rack or floor space within transmitter shelters. Because combiners create heat due to power loss, they may require that additional air-conditioning or fans be installed. In the County, combining is utilized at the two most congested facilities: Mt. Tamalpais (middle peak) and Big Rock Ridge.

Sharing Towers (Co-location) and Facility Sites (Clustering)

A given structure can support more than one antenna. This is called co-location. The top of a structure typically is the optimum location, but antennas can also be attached to the sides or on cross bars of a tower or on a roof, building facade, or other structures until they are so low that surrounding terrain or structures may obstruct the necessary line-of-sight for transmission of signals. The number of antennas a structure can support depends on structure height, load, and design, as well as the effects of wind and signal compatibility.

Antennas and the transmission lines that connect them to a high power source are heavy. A typical television or FM radio antenna weighs one to ten thousand pounds. A coaxial cable that connects the antenna to the system weighs 5 to 10 pounds per linear foot. For this reason, a tower designed for shared use (i.e., co-location) has to accommodate many more times the load of a single user. Antenna sharing can, however, reduce tower loading.

A site for one user may not be situated to best serve the needs of another user. For example, an AM tower may be unsuited for sharing, because a typical low-lying AM tower site does not always provide a line-of-sight pathway for a large area.

Sharing towers may increase problems with radio frequency (RF) interference. Commercial wireless antennas near a high-powered broadcast antenna may be subject to severe radio frequency interference. Interference can be reduced by providing vertical and horizontal spacing between antennas on a tower, insulating equipment properly, using antennas that transmit in a confined pattern, or installing special filters on transmission or reception equipment. Commercial wireless antennas can be placed on TV or AM radio towers, but the cost of measures to prevent interference may not be economical.

A microwave system can share space on towers built for other kinds of antenna or can be mounted on buildings. Because a microwave beam is tightly focused and transmits at a much higher frequency than other systems, a microwave system is not easily affected by RF interference.

In order for a telecommunications tower to be effectively shared, it may need to be reinforced which would make it bulkier and more visible. It may also need to be increased in height to provide for sufficient antenna separation, which can also increase the tower's visibility. The visual impacts from co-location have to be weighed against the comparative impacts from a new stand-alone tower or other support structure.

Tower sites themselves can also be shared by developing more than one tower per site. This is called clustering. Clustered telecommunications structures may have less visual impact than the same number of structures spread along a ridgeline. Clustering of antennas is generally desirable when it will reduce visual impacts that might otherwise occur from tall co-location towers or monopoles, although it can increase EMF levels and RF interference.

In summary, there are engineering techniques which permit more efficient facility use such as antenna sharing, transmitter sharing, co-location (multiple antennas on a tower), and clustering (multiple towers on a site). Their suitability in any given instance depends on the characteristics of the services, technologies, physical circumstances, and operators at that site. Each of these techniques requires careful engineering design to prevent RF interference and maintain structural integrity. Some techniques may require significant capital investment for transmitters, combiners, filters, or tower construction. However, these investments can provide improved services and allow additional users and greater efficiencies.

7. REGULATION OF TELECOMMUNICATIONS FACILITIES

Generally. The County should accommodate and regulate telecommunications facilities to balance two basic objectives.

First, telecommunications facilities provide important emergency, business, educational, and personal communications links throughout Marin County. The services provided by telecommunications facilities range from television and radio to communication with emergency response vehicles. Major telecommunications facilities that have the greatest potential for adverse impacts also are necessary for the provision of a wide range of critical telecommunications services. Outright prohibition of certain kinds of telecommunications facilities would impair the quality of life, public safety, and economic development in Marin County.

Second, the state and the federal governments regulate the development of telecommunications facilities, but allow local agencies to exercise zoning and land use authority subject to preemption of certain types of local regulation in the telecommunications field. These preemptive powers ensure that local governments do not impede development of telecommunications facilities to meet public demand, do not discriminate against types of technologies or users, and do not pose a hazard to public health and safety. One state agency --- the California Public Utilities Commission (CPUC) --- and two federal agencies --- the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) --- play the most important roles in regulating telecommunications.

In developing local regulations for telecommunications facilities in Marin County, it is important to keep in mind the regulatory framework into which they must fit.

Local Regulation

Local agencies in Marin County regulate the development of new telecommunications sites and modifications to existing sites through a discretionary permit process that may include Use Permit, Design Review, or other similar zoning and development applications. Discretionary review by local agencies typically focuses on whether the telecommunications proposal is consistent with the governing land use designations and development standards addressing such factors as community compatibility, visual and aesthetic resources, building height, property line setbacks, EMF and noise emissions, site access, landscaping, and exterior materials and colors. Local agencies in Marin County also conduct environmental review to evaluate the potential environmental effects of a telecommunications proposal as required by the California Environmental Quality Act (CEQA). The environmental review process is conducted in conjunction with the discretionary permit review.

Proposals for new or modified telecommunications facilities within the environs of the Marin County Airport (Gnoss Field) are subject to regulations set forth in the Marin County Airport Land Use Plan. The principal objectives of the Airport Land Use Plan, as they pertain to telecommunications facilities, are to ensure that towers and other support structures are located and designed in a manner that does not interfere with airport operations, such as the departure or arrival of aircraft, or the planned expansion of the airport. The Airport Land Use Plan includes specific location and height standards for new structures to implement these objectives.

Where local land use control is preempted in whole or in part by State or Federal agencies, local agencies in Marin County may be able to pursue its objectives through informal means. These include reviewing and commenting on applications before the CPUC or FCC, and reviewing and commenting on environmental impact documents prepared under the CEQA or the National Environmental Protection Act (NEPA). Refer to Chapter 5, "Implementation of this Policy Plan", for further discussion about the County's permit process.

State Regulation

The California State Public Utilities Commission (CPUC) regulates commercial wireless services and other telecommunications which are also considered public utilities. The CPUC's charge under the California Constitution and the State Resources Code is to guarantee the equitable provision of public utilities to meet public demand. Most telecommunications services, including commercial wireless services, require a CPUC license. Telecommunications services which are not available to the general public and are not defined as public utilities, such as microwave transmissions of computer data among various bank locations, may not require a CPUC license.

In the past, commercial wireless service companies were required to obtain authorization from the CPUC to construct new facilities. This requirement was eliminated in 1996 in favor of a

more streamlined regulatory process that delegates most of the CPUC's responsibilities to local agencies. The CPUC refrains from regulating facility sites by deferring the procedural requirements for public notice and compliance with CEQA to local agencies. Service providers need only provide notice to the CPUC that they have obtained the required land use approvals from local agencies for their planned facilities. The CPUC prefers this hands-off approach because local citizens and governmental agencies are often in a better position to make decisions on facility siting due to proximity to the area and knowledge of local land use issues and concerns.

However, to balance statewide interest in deploying an innovative telecommunications network in California, the CPUC also reserves the right to intervene should local policies and decisions on facility sites conflict with the CPUC's statewide policy. Therefore, a service provider may file an application for a preemptive order to construct a facility when it believes that the CPUC's goals are not being implemented at the local level.

Federal Regulation

The Federal Communications Commission (FCC) has primary regulatory control over telecommunications facilities through its powers to control interstate commerce and specifically through the Federal Communications Act of 1934, which established the FCC to provide a comprehensive national system of regulating radio frequency transmissions and related facilities. The FCC's purpose is to ensure the provision of adequate facilities for rapid and efficient means of communications with minimal signal interference problems. The FCC exercises its regulatory authority through the issuance, renewal, and modification of licenses, declaratory orders, and rules.

A licensee under the FCC is the entity which provides telecommunications services, such as a radio station or paging service. There may be several licensees operating from a particular site, each with a separate FCC license. It is not uncommon for the site operator, who leases the telecommunications tower facilities to individual users and service providers, not to have or need a FCC license. The FCC also regulates telecommunications by assigning radio frequencies to each user. The FCC requires certain frequencies only for public safety users to ensure sufficient frequency capacity for health and safety services.

Some telecommunications services which do not serve an interstate market, such as small companies providing very local services, may not require a FCC license. In general, telecommunications transmitters require FCC licensing.

Because telecommunications facilities are regarded as necessary for the public good, federal law and FCC regulations prohibit state and local jurisdictions from impeding their development, imposing requirements which unreasonably limit or impose excessive costs on them, or improperly discriminate among types of telecommunications facilities. The FCC has the power to override state and local regulations by issuing declaratory orders with the force of law. Local government regulations that violate FCC orders also can be overturned in the court system through litigation. FCC rulemaking will continue to further define the limits of local authority.

The FCC and the courts have found local regulation of telecommunications facilities, even limited moratoria, consistent with federal statutes and FCC regulations when they are not overly restrictive and are reasonably related to permitted government purposes, such as when they:

- Promote efficient use of land resources;
- Achieve aesthetic and other community values; or
- Prevent safety hazards and incompatibility between land uses.

Some examples of regulations that would meet these criteria include the following:

- Regulations prohibiting a telecommunications facility at a particular location, provided that there is another suitable and available location for the proposed facility and a land use rationale for the prohibition consistent with a permitted public purpose;
- Regulation of height, setbacks, landscaping, color, access, parking, etc., provided the regulations do not prevent a telecommunications service for which a federal license has been issued or discriminate against a telecommunications service or technology;
- Regulations for receive-only satellite dish antennas which are not required of other antennas are permissible under FCC regulations, provided that the regulations protect a legitimate health, safety, or aesthetic objective, they do not interfere with the performance of the dish antennas, and do not impose unreasonable costs.

The FCC totally preempts local regulation of radio frequency interference and local regulations that discriminate against satellite dishes and effectively prohibit amateur radio antennas. The FCC has also been active in advising and educating local governments about limitations on local authority following adoption of the 1996 Telecommunications Act (Telecom Act).

Telecommunications Act of 1996 (the Telecom Act). The Telecom Act was the first comprehensive rewrite of federal statutes regulating telecommunications since 1934. The Telecom Act establishes a policy of promoting full and open competition in all sectors of the telecommunications industry, while also protecting against unfair competition and assuring the continued availability of universal service to all. The Telecom Act further preserves and affirms local authority over the placement, construction and modification of commercial wireless services subject to several preemptive limitations. In particular, Section 704 of the Telecom Act authorizes the FCC to supersede local governments under the following circumstances:

- The local government unreasonably discriminates between providers of wireless services;
- The local government prohibits or has the effect of prohibiting the provision of wireless services;

- The local government bans the construction, modification or placement of wireless services facilities in a particular jurisdiction, beyond a temporary moratorium;

- The local government takes an unreasonable time to process a commercial wireless facility application;[8]

- The local government denies a wireless service application without a written decision or without substantial evidence in the record to support that decision; or

- The local government regulates a wireless service facility based solely on EMF emissions, where the facility complies with FCC standards regarding such emissions.

In conjunction with limiting local regulation of EMF emissions, the Telecom Act required the FCC to prescribe new rules regarding the environmental effects of radio frequency emissions within 180 days of the adoption of the Telecom Act. The FCC adopted those rules on August 7, 1996, and they became effective for most wireless services on January 1, 1997.

Claims that a local agency has violated the preemptive provisions of the Telecom Act will be adjudicated by the appropriate state or federal court. The only appeal that can be brought directly before the FCC is a claim that the local agency improperly denied an application based on the harmful effects of radio frequency emissions where the proposed facility meets the EMF standards promulgated by the FCC.

The Telecom Act also addresses the regulation of private television satellite dishes, but differently than it does for commercial wireless services. These regulations deal generally with large satellite dishes (also known as C-band dishes) that are typically 6-10 feet in diameter and smaller direct broadcast satellite (DBS) dishes measuring 18 inches to 3 feet in diameter that are normally attached to a structure such as a residence. The FCC rules generally allow local agencies to regulate the placement of satellite antenna so long as the regulation is based upon a legitimate public health, safety, or aesthetic objective and the regulation does not:

- Interfere with the performance of the antenna (i.e., cause poor reception quality);

- Impose unreasonable cost in the installation, use, or maintenance of the antenna; or

- Impose unreasonable delay in the installation, use, or maintenance of the antenna.

Provisions of the Telecom Act have been refined on a case-by-case basis, including the

[8] What is 'reasonable' depends on the nature and scope of the application. The Congressional Conference Report accompanying section 704 of the Telecom Act explains that:

> "If a request for placement of a personal wireless facility involves a zoning variance or a public hearing or comment process, the time period for rendering a decision will be the usual period under such circumstances. It is not the intent of this provision to give preferential treatment to the personal wireless service industry in the processing of requests, or to subject their requests to any but the generally applicable time frame for zoning decisions."

relationship of the Telecom Act to local government moratoria,[9] what a written decision must contain,[10] the nature of substantial evidence[11] and unreasonable discrimination,[12] and what information a local government can request from an applicant regarding compliance with the FCC standards for EMF emission.[13]

The essential relationship between local governments and the FCC remains unchanged by the Telecom Act. In summary, local governments continue to have authority under the police power to regulate wireless communication facility siting and design subject to FCC preemption over a few subjects (e.g., radio frequency interference and EMF emissions) and to FCC authority over regulations and decisions that preclude, discriminate against, or substantially impede delivery of telecommunications services. Because the FCC licenses commercial wireless systems on an individual site or a geographical coverage basis, all commercial wireless facilities, regardless of how they are licensed, are regulated by FCC rules. Thus, any commercial wireless service provider can petition the FCC or federal courts for relief from certain local government rulings concerning a proposed or existing facility.

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[9] In *Sprint Spectrum L.P. v. City of Medina*, 924 F. Supp. 1036 (W.D. Wash. 1997), the court upheld a six month moratorium, concluding it is not a prohibition on service nor an unreasonable delay, recognizing the efforts the city was making to address the reason for the moratorium, (i.e., the lack of standards for siting commercial wireless facilities). The city subsequently adopted and has applied policies and regulations specifically regulating wireless facility siting. Several facilities have been approved and denied under those regulations.

[10] In *Seattle SMSA Ltd. v. San Juan County*, (DC, Wash., No. C96-1521Z, April 11, 1997), the federal district court concluded two decisions by the county denying conditional use permit applications for two proposed cellular communications towers were not supported by an adequate statement of the basis for the decision. That is the written decision was not complete enough for the court to determine whether the county based its decision on radio frequency energy emissions contrary to the Act. Therefore, the court remanded the matter to the county for further findings. The court denied a claim that the county's action discriminated among providers of cellular service. The court also denied a claim that the denial of the permit amounted to a prohibition on the provision of cellular services, contrary to the Act. Following the remand, the county approved both towers.

[11] In *Bellsouth Mobility Inc. v. Gwinnett County*, 944 F. Supp. 923, 928 (ND Ga. 1996), the decision states that evidence is "substantial" if it would convince a reasonable and unprejudiced mind of the truth of the conclusion. Also see, *Hansen v. Chelan County*, 81 Wash. App. 133, 137-138 (1996).

[12] In *Westel-Milwaukee Co. v. Walworth County*, Wis. Ct. App., No. 95-2097, Sept. 4, 1996, the court opined that there is an expectation that state and local governments will endeavor to avoid making land use decisions that give one personal wireless service provider a competitive advantage over another.

[13] Under proposed rules, if FCC rules classify a proposed commercial wireless facility as categorically exempt from review of the issue under NEPA, local governments can request only that an applicant certify in writing that its proposed facility will comply with FCC EMF emission standards (i.e., it cannot require additional proof of compliance). If a proposed commercial wireless facility is not exempt under FCC NEPA rules, local governments can require an applicant to submit copies of all documents the applicant submitted to the FCC regarding the issue, but cannot require an applicant to undertake additional research unless the local government rebuts a presumption that the facility complies with the FCC EMF emission standard based only on information required by the FCC. WT Docket No. 97-192, (August 25, 1997), ¶¶ 143 and 151.

The Federal Aviation Administration (FAA) has a limited role in the regulation of telecommunications sites. Their review focuses on the height and location of towers to prevent interference with aircraft operations. The FAA requires towers over 200 feet in elevation or located near airports to be specially lit and painted to make them visible to aircraft. The FAA prefers that the towers not be located in the flight path for an airport and that they be clustered to make them easier to identify on navigational maps and for aircraft to avoid.

III. TELECOMMUNICATIONS FACILITY SITES IN MARIN COUNTY

III. TELECOMMUNICATIONS FACILITY SITES IN MARIN COUNTY

1. INTRODUCTION

Marin's rugged topography and land use patterns present special problems and opportunities for telecommunications facility operators. About ninety percent of Marin County's land area consists of the steep hills and small valleys of the Coast Range. Virtually all of Marin's homes and jobs are concentrated into the remaining Bay Plain area of level land and relatively gentle grades. Ridges further segment the urbanized area into sub-areas such as Richardson Bay, the Tiburon Peninsula, Upper and Lower Ross Valley and the Las Gallinas Valley. Preservation of the rural character of the West Marin hills and the ridges separating urban communities are major guiding principles of Marin's land use planning policies. However, the highest ridgetops are attractive for fixed telecommunications facilities that operate at higher power or need lines-of-sight over large areas. Lower ridges and hillsides are attractive for facilities that operate at lower power or need lines-of-sight to the County's physically separated urban areas and major transportation routes.

Ten major telecommunications facility sites were identified in the survey conducted for the 1990 Telecommunications Plan. Six are located on ridges within the Ridge and Upland Greenbelt policy area of the Countywide Plan. The remaining sites include a lowland site for AM radio and two West Marin telephone repeater station sites. All sites are entirely within unincorporated areas except San Rafael Hill and San Pedro Ridge, which are partially in the County and partially in the City of San Rafael, and Cherry Hill which is located in the City of Novato. Most major sites contain facilities for more than one telecommunications service. Although there have been changes at major facility sites since the adoption of the 1990 Telecommunications Plan --- e.g., ownership and license changes and transmitter and antenna upgrades, modifications, additions and deletions --- those changes are relatively minor.

Since the last half of the 1980's, far-and-away the fastest growing segment of the telecommunications industry in Marin County has been commercial wireless services, particularly for CRS, PCS and ESMR services. In less than ten years, applications for 113 such facilities were made for sites in the unincorporated County, cities, and towns of Marin. Although a few of these applications were withdrawn, and numerous facilities were co-located on existing structures and at major sites where they have relatively little land use impact, the sheer growth in their numbers is significant.

Commercial wireless facilities have been sited throughout Marin County, with concentrations where demand for those services is greatest and where lines-of-site are most constrained. The guiding logic in their siting is the need to be optimally placed to reliably serve a particular area and to make a good "hand-off" to all adjoining areas. The area for each service provider differs with the system architecture and technology for that licensee and service, and thus the optimal site for a facility differs for each licensee.

Initially, sites for CRS and SMR systems often were concentrated at several high-elevation sites to provide coverage over a large area with relatively few subscribers. Over time, and particularly since the advent of PCS services since 1994, sites for many commercial wireless facilities are increasingly dispersed and at lower elevations. The variety of locations for these facilities makes it more difficult to generalize about their typical setting.

2. INVENTORIES OF EXISTING FACILITY SITES

MAJOR FACILITY SITES. The general locations and features of the major sites are described on Map 1 and Table 2 of Appendix A, both of which are titled "Major Telecommunications Sites in Marin County." A summary of the major telecommunications facility sites in Marin County is reproduced below without changes from the 1990 Telecommunications Plan. Photographs of the major telecommunications sites are provided in Appendix B.

1. Wolfback Ridge rises to an elevation of 1,117 above Mean Sea Level (MSL) feet from the Marin Headlands above Sausalito and Waldo Grade. Sundial Broadcasting owns and operates a five acre site surrounded by the Golden Gate National Recreation area (GGNRA), and about 250 feet from the nearest residence. Wolfback Ridge is a medium height facility dominated by FM broadcasters because of its proximity to the large San Francisco market.

There is high potential for radio frequency interference at this congested antenna site, with its four closely spaced towers supporting high power antennas at about the same level. Combining and/or tower sharing could reduce the number of towers and the possibility of interference at this site. The applicability of combining depends upon the directionality of the FM antennas and the broadcasters' willingness to cooperate. Tower sharing is possible if structural requirements are met and FAA height limits allow it.

2. Mt. Tamalpais, at 2,500-foot elevation, is the highest site in the County and visible for more than 30 miles. High visibility makes it a particularly important scenic vista for spectacular views of the Pacific Ocean, San Francisco, and the East Bay. Mt. Tamalpais is also an aesthetically sensitive open space site, located in the midst of the Mt. Tamalpais State Park and the Golden Gate National Recreation Area. Views of Mt. Tamalpais from San Francisco, the East Bay, and Marin provide residents of the greater bay area with a much needed glimpse of nature.

Mt. Tamalpais also is the best site in the County for most users who wish to maximize their wide area coverage, especially those who operate at higher power and frequencies where line-of-sight coverage is important. In addition, point-to-point microwave services can establish communication links from Mt. Tamalpais to almost every other site within a 50 mile radius.

There are three major sites on Mt. Tamalpais. Telecommunications Properties operates on a 10-acre site at Middle Peak owned by the Marin Municipal Water District. Its facilities include a 3,000 square foot building, eight 60-foot monopole antennas and 19 microwave dishes. The other two major sites on Mt. Tamalpais are operated by the Air Force and the Federal Aviation Authority. Their facilities include radar and telecommunications equipment for government agencies including the FAA, the Army Corps of Engineers, and the Air Force.

3. San Rafael Hill rises to 650 feet elevation immediately north of downtown San Rafael, providing good transmission pathways to San Rafael and the Las Gallinas Valley. There are two major sites on the hill, located off Robert Dollar Scenic Drive in the City of San Rafael.

United Radiophone System, a paging company, owns a 5,000 square foot site adjoining Boyd Park at an elevation of 630 feet. Their facilities include a 117-foot high self-supporting tower with antennas for nine clients in addition to their own repeater. All antennas are for land-mobile and paging services, with the exception of an antenna for an FM radio station.

The City of San Rafael maintains a second tower located several hundred yards east of the United Radiophone tower. This tower is a 40-foot high utility pole supporting monopole antennas for the City's fire, police and public works departments.

4. San Pedro Ridge is a continuation of the San Rafael Hill's ridge east of Highway 101. The site offers good local pathways to San Rafael and some East Bay locations. C & C Equipment Company operates a site at the head of Black Canyon at an elevation of 1,050 feet. Antennas are mounted on the transmitter building as well as a 60-foot wooden tripod tower facilities. Users include Cellular One, MCI, the County of Marin, and AC Transit. AT&T operates another site microwave repeater station on another peak approximately 400 feet from the C & C site.

5. Big Rock Ridge rises to 1,900 foot elevation north of Lucas Valley, and physically separates the Novato and San Rafael urban areas. It is an excellent site for serving these communities, mobile stations along Highway 101, and some East Bay locations. It is best suited to two-way users and point-to-point microwave users who do not require the line-of-sight coverage provided by Mt. Tamalpais. There are currently three major sites in operation on Big Rock Ridge, all located within 1/2-mile of each other about three miles west of Highway 101.

Motorola Communications and Engineering leases the western-most site from George Lucas, a 10,000 square foot site at 1,887 feet elevation. It includes two small buildings (975 square feet total); a 100-foot self-supporting steel tower; and thirteen microwave dishes, mounted on the tower, the building, or directly on the ground.

C & C Equipment Company leases the middle site from the Hill Ranch. The lease area is approximately 6,630 square feet in area. There are two communications buildings on site, the larger one was added in 1987. In the fall of 1989, the two existing guyed towers, approximately 80 feet tall, were removed and replaced with a 100-foot free-standing tower. Microwave antennas are also mounted on the roofs of the buildings and on a 25-foot tall microwave structure. The telecommunications services operated from this site include public utility paging, point-to-point microwave, and land mobile services.

Viacom Cablevision leases the eastern-most site from George Lucas. The site is approximately 28,000 square feet and houses a 600-square foot transmitter building. Antennas at the site include eleven 10-foot parabolic dishes, three 6-foot parabolic dishes, one 4-foot parabolic dish, two 5-meter satellite receiver dishes, and a number of smaller UHF and VHF antennas. All antennas are building-mounted except the two satellite receiver dishes which are ground mounted. All antennas are used to receive and/or relay television broadcast signals.

6. Mt. Burdell is immediately north of Novato and, at 1,558 feet, dominates not only Novato but the Petaluma and Cotati valleys. AT&T Communications owns a half-acre site surrounded by Marin County Open Space District land, where it operates a satellite ground station. Facilities include a small masonry building and a 91-foot self-supporting tower on which six antenna devices are mounted. Near the AT&T site, Telecommunications Properties has an approximately 60-foot tower and related structures for television broadcast, PLMRS, CMRS, and microwave services.

7. Northeast Novato has two major sites: an elevated cellular and television relay site, and a low-lying AM broadcast site.

Chambers Cable of Novato operates the elevated site, a 4,900 square foot leased parcel at the top of Cherry Hill (elevation 455 feet), between Atherton Avenue and Olive Avenue. Facilities include two large ground-mounted earth stations, a 40-foot metal tower and two 40-foot wooden poles. The tower supports 5 whip antennas used by GTE Mobilnet and several microwave dishes. The wooden poles support various VHF and UHF antennas for Chambers Cable Service.

CBS owns a 10-acre site one mile east of Gnoss Field in a marshy area north of Black John Slough. The surrounding area is privately owned ranchland. The site houses a 2,400-square foot transmitter building and four 500-foot guyed towers for AM radio antennas. The site is at capacity and no additional facilities are anticipated.

8. Three Peaks is a local range of hills adjacent to Soulajule Reservoir in a rural area north of Marshall-Petaluma Road in West Marin. The valley below these hills provides a site protected from ground-wave radio transmissions, ideal for a satellite earth station.

AT&T Communications owns and operates a 5.4-acre satellite ground station site with microwave links to Mt. Burdell. Facilities include a 218-foot self-supporting steel tower and an 8,000 square foot equipment building. Antennas include two 30-meter dishes, one 12-meter dish and one mini horn reflector. There are twelve active frequencies at the site for satellite and regional repeaters for telephone service.

9. Point Reyes Peninsula has two large telecommunications facility sites generally situated south of Abbotts Lagoon and west of Schooner Bay.

AT&T Communications owns a 522-acre site on which it operates a High Seas Radio Station, providing ship to shore radio telephone service. Facilities include six 221-foot high log periodic antenna towers, two 90-foot monopoles and fifteen rhombic antennas from 60 to 90 feet in height.

RCA Global Communications and RCA American Communications share a 20-acre site used as a satellite earth station. Facilities include a 5,000-square foot equipment building, several garage and support buildings, and three ground mounted dish antennas ranging in size from ten to thirteen meters in diameter. RCA also operates an antenna field on an adjacent 100-acre area leased from the National Park Service. The antenna field provides telecommunications reception for marine radio.

10. Bolinas has a large telecommunications facility site, including a number of towers, owned by the Federal Government and operated by MCI International/RCA Global Communications. MCI/RCA operates a ship-to-shore-Maritime Mobile Communications System at this site.

MINOR FACILITY SITES. Because of their greater number and variety, commercial wireless facilities and other minor facility sites cannot be described in as much detail as major sites. Selected facilities for cellular, PCS and SMR/ESMR systems are identified on a series of maps and inventories contained in Appendix A. Map 2 shows the general locations of commercial wireless facilities sites. They are also inventoried in Table 3 (Appendix A), "Selected Minor Telecommunications Sites in Unincorporated Marin County" and Table 4 (Appendix A), "Selected Minor Telecommunications Sites in Incorporated Cities." Table 5 (Appendix A), "Selected Minor Facility Sites By Service, Operator & Elevation", summarizes selected data about antenna location and height. The inventory of minor sites was prepared from FCC data and from records of local jurisdictions in Marin County. Table 6, "Summary of Minor Telecommunications Facility Data" below, summarizes the information from the inventory of selected commercial wireless facility sites. The number of facility sites shown in Table 6 below is somewhat higher than Table 3 (Appendix A) because it includes paging services that are included in the FCC data base. Appendix C contains additional information about the FCC database and raw data about sites listed in the tables.

TABLE 6: SUMMARY OF MINOR TELECOMMUNICATIONS FACILITY DATA

TYPE SERVICE	LICENSEE	SITES					
		Total no.	Number by jurisdiction		Number by site type*		
			Uninc county	City	COL	CLU	O
CRS	Cell One	18	11	7	5	6	8
	Three Sisters Cell Co.	1	1				1
	GTE Mobilnet (including Bay Area Cellular Inc.)	16	8	8		6	7
	Three Guys Cell Co.	1	1				1
PCS Narrowband	Paging Network of Virginia	5		5	1	2	2
	KDM Messaging Co.						
	Nationwide Wireless Network						
	Airtouch Paging						
	BellSouth						
	Pagemart II						
	Conxus Properties						
PCS Broadband	Sprint Spectrum LP & Sprint PCS	32	14	18	8	5	19
	Pacific Bell Mobile Services (in its various name forms)	24	6	18	6	8	10
	GWI PCS, Inc.						
	AT&T Wireless						
	Western PCS						
	NextWave Power Partners						
SMR/ESMR	Nextel (including SMART & Motorola sites)	12	10	2	4	2	2
	Power Spectrum, Inc.	1	1		1		
	FCI 900, Inc.	2	2		1		1

COL= Co-location facility site; CLU= Clustered facility site; O= Other type of facility site

* Site type was not available for all sites, so the numbers in these columns do not equal the total number of sites.

From the inventory tables, it is evident that many antennas for commercial wireless services that would be minor by themselves are sited with antennas for other services and service providers at most existing major telecommunications facility sites, including Wolfback Ridge, San Pedro Ridge, Big Rock Ridge, and Mt. Tamalpais. Other facilities are sited on or next to existing structures, particularly elevated structures, such as the lookout tower on Mt. Barnabe, water tanks in Marin City and Stinson Beach, and light and power poles in Sausalito. Of the 99 commercial wireless facility sites inventoried that have been installed or approved and identified with respect to their facility type, approximately half are co-located (18) or clustered (25). An additional 33 installed or approved facilities are attached to existing structures.

Where existing structures, co-location, or clustered sites have not been used (23 sites), commercial wireless facilities are typically placed on sites that also served other public functions, such as a water tank or fire or police stations; sites that occupied a relatively small area in parking lots and landscaped areas of shopping centers and office complexes; and sites on ranches.

3. EXPANSION OF EXISTING SITES & NEED FOR NEW SITES

Major sites

Most major telecommunications facility sites are likely to undergo continuing redevelopment as transmitters, antennas and other equipment are updated to keep pace with technology and competition. Most redevelopment is not likely to cause a significant increase in adverse impacts, because it will not substantially change the appearance or impact of relatively large structures and antennas that already characterize most such major sites. Some redevelopment could have a mix of impacts. For example, replacing one antenna with a taller antenna may increase visual impacts, but the added height and more up-to-date components in the antenna may reduce EMF emission levels on the ground.

Some commercial wireless licensees have yet to develop a system. For instance, ten PCS licensees have not built facilities in the County. If they develop like existing PCS systems, they would site antennas at existing major sites, (i.e., co-locate or share), to provide initial coverage over a large area. Over time, additional sites for those users would be needed at lower elevations and minor sites. If licensees merge, demand for new sites for those licensees will not increase as fast, if at all.

Pressure for new major sites or more significant changes at existing major sites may come from the development of digital television. The FCC is requiring broadcasters to switch from analog to digital television in a relatively brief time frame. This will free-up radiofrequency spectrum for the FCC to re-allocate.[1] As noted earlier in the report, it is possible that a new major facility could be proposed for a digital television antenna and smaller related antennas on an elevated site in the north part of Marin County or at an existing major site there (e.g., Mt. Burdell or Three Peaks).

Minor sites

There is considerable potential for expansion of existing commercial wireless facility sites and for creation of new sites. Ten PCS licensees have yet to build facilities in Marin County. Two ESMR licensees have only just started their systems' development. The more developed CRS systems (Cell One and GTE), PCS systems (Sprint and Pacific Bell), and ESMR system (Nextel) will be likely to continue to develop sites to fill-in gaps in service, but at a slower pace than in the mid-1990's.

[1] The FCC intends to reclaim 60 MHz of spectrum from television channels 60-69 (i.e., 746-806 MHz) for other services. The Commission plans to auction 36 MHz to fixed, mobile and broadcast services and make the remaining 24 MHz available for public safety uses. The 36 MHz block will likely be used to expand existing CMRS services and to introduce new services. The FCC intends to reclaim an additional 78 MHz from the TV spectrum once the transition to DTV is complete. It is uncertain how much spectrum will become available for services in Marin.

Commercial wireless facilities initially were placed at elevated sites to provide an unobstructed line-of-sight over a large service area with relatively few subscribers. As the number of subscribers increased, additional lower elevation facilities were sited to provide capacity and coverage. Increasingly, facilities are being sited along Highway 101 and major arterials in Marin County and in urban population centers. That trend will grow until the systems are fully built out.

As noted in the discussion of the Telecom Act, CRS and PCS licensees are under an obligation to provide service to a certain proportion of their coverage area within five and ten years after the license is issued. This will continue to mean that expanded and new sites will be proposed relatively rapidly to provide that coverage,[2] although technological innovation could alter the numbers and needs of future systems.

Licensees are unlikely to build more facilities than needed to provide the requisite service, because even the smallest facility is expensive to develop.

[2] What is adequate coverage for a wireless communications facility is a function of the FCC requirements and the RF propagation characteristics of the site in question and the system of which it is a part. It involves not only coverage *per se*, but also the quality of the service provided in terms of hand-offs and dropped calls. There currently is no standard for what is adequate.

IV. ISSUES, OBJECTIVES, POLICIES AND PROGRAMS

IV. ISSUES, OBJECTIVES, POLICIES AND PROGRAMS

1. INTRODUCTION

Because telecommunications are important to the provision of public and private services, and federal law promotes further development of and competition in the telecommunications industry, telecommunications facilities will continue to exist, expand, and be added at new locations in Marin in the future. Within certain limits, local agencies in Marin County can regulate telecommunications facility siting to reduce the potential for and significance of adverse effects caused by such facilities (refer to Chapter 2, Section 7). The purpose of this part of the document is to identify potential adverse effects, discuss methods to avoid or mitigate those effects, and provide for further implementation measures in the form of policies and programs that provide a framework for future local actions and regulations.

The major public policy considerations for the development of telecommunications facilities are:

- Land use compatibility;
- Visual and aesthetic compatibility;
- Electromagnetic field (EMF) emissions; and
- Public safety and operations.

The following text discusses each of these policy issues in turn.

Local agencies in Marin County can use policies and development standards to evaluate proposed telecommunications facility sites (or changes to existing telecommunications facility sites) and avoid or minimize the adverse effects of such proposals. As is some times the case in land use matters, policies may conflict or compete to greater or lesser degrees when applied to a given site or proposed use, and competing policies and standards may not be fully achieved for any specific site. For example:

- Strengthening a tower to ensure that communications will be maintained following a major earthquake may require more massive structural elements in the tower, thereby creating more significant visual effects.

- Requiring a tower to accommodate multiple service providers (i.e., co-location) is one way to reduce the number of new sites. It also may increase the height and cross-section of the tower needed to support the antennas, adding to the adverse visual effect of the facility. If co-located antennas are situated lower on a structure, it could increase level of EMF emissions at the ground.

However, conflicting or competing planning policies for a particular development must be assessed and balanced against each other on a case by case basis. Through the project review process, the significance of various effects for a particular telecommunications project will be identified, the project's compliance with the various policies and standards will be determined, and competing planning objectives can be reconciled.

The policies and programs presented later in this chapter are for the unincorporated County jurisdiction. They are based in large part upon the 1990 Telecommunications Plan, the 1996 Interim Standards previously approved by the Board of Supervisors, and further study of land use issues conducted in conjunction with this plan update. The policies and programs are intended, however, to implement the goal of establishing a common interjurisdictional regulatory approach for telecommunications facility development. In this regard, they provide a model that could be considered for adoption or approval by the cities, towns, and special districts that are involved in the decisionmaking process for telecommunications proposals. Other jurisdictions in Marin County may wish to refine or revise the policies or programs to reflect local policy, administrative processes, and physical circumstances.

2. LAND USE COMPATIBILITY

The principal land use compatibility issues related to wireless communications facilities include: consistency with land use policies, land and natural resource consumption, and conflicts with open space and recreational policies or needs.

a. Consistency with Land Use Policies

Consistency with land use policies depends on the scale and siting of a telecommunications facility and the physical setting of the proposal. A telecommunications facility that is accessory to a commercial use is usually of a scale and character that can be reasonably accommodated in developed areas. For example, relatively small pole antennas for land mobile radio systems are generally unobtrusive, require few maintenance calls, and are low-powered or do not transmit radio frequency signals (i.e., receive-only). Monopoles for multi-panel CRS and PCS facilities can have marginally greater land use effects as their height may exceed the typical height of other structures in the vicinity. Larger and bulkier tower structures, cinder block buildings and chainlink fences may be considered industrial in character, and somewhat incompatible with non-industrial uses.

Siting telecommunications facilities on ridgetops, adjacent to stream corridors, or within bayfront lands may avoid or reduce the land use effects of major telecommunications facilities located elsewhere, such as a residential neighborhood, but these are also scenic and natural resource areas which are normally protected under local regulations. For example, the County has adopted land use designations and policies in the Countywide Plan for the preservation and protection of ridge lands and community separators (Ridge and Upland Greenbelt), bayfront lands (Bayfront Conservation Zone), and streams and riparian areas (Stream and Creekside Conservation Area).

The policies of this Telecommunications Plan recognize that some telecommunications facilities require locations where current land use policies discourage development. The basic policy approach to evaluating these types of proposals include:

- Development of major telecommunications facilities or substantial modifications to existing facilities located in Ridge and Upland Greenbelt areas should be

avoided or minimized through stringent tests of need for such development, requirements for efficient use of existing sites to minimize the need for new stand-alone facilities, and the implementation of guidelines to reduce their adverse effects.

- Development of telecommunications facilities in other areas identified for conservation should conform to the conservation policies adopted in the general and specific plans of the local jurisdiction. Telecommunications proposals in the unincorporated County should conform to the Countywide Plan Environmental Quality Element, including but not limited to policies for Streamside and Creekside Conservation Areas, Bayfront Conservation Zones, Ridge and Upland Greenbelt Areas.

Although some major telecommunications facilities can be sited well below ridgelines, they may be located in proximity to existing developed areas. Such facilities may not conflict with the Ridge and Upland Greenbelt policies of the Countywide Plan or similar policies of cities and towns in Marin, but there will be land use policy issues regarding the locations where these telecommunications facilities are appropriate within neighborhoods and commercial areas given the perceived industrial character and potential adverse effects of such facilities. Their compatibility within a developed area will depend primarily on the scale and transmitter characteristics of the facility.

Given their potential land use effects, major telecommunications facilities are least appropriate in single family areas, particularly those with smaller minimum lot requirements. Yet there may be circumstances where the only available and workable sites are residential ones. In these situations, this Telecommunications Plan recommends the following approach:

- Regulations should be imposed to allow siting of telecommunications facilities, and particularly major facilities, in residential areas only when no suitable location in a commercial, industrial, or other non-residential area is available. Siting in lower density residential areas would affect fewer people with respect to close to intermediate range visual effects or radio frequency energy effects. However, the facilities may be less obtrusive in a more urban area where the number and scale of buildings and other structures are typically larger.

- Where telecommunications facilities are sited in proximity to developed areas, they should be subject to development requirements pertaining to location, design, and maintenance to reduce their adverse land use effects.

Commercial wireless and other minor telecommunications facilities (e.g., for CRS and PCS services) are usually sited near highway and arterial corridors and in urbanized areas of Marin County rather than on ridgetops. Where co-located on ridgetop sites, these types of facilities have little additional land use conflicts because they typically are unobtrusive compared to the other larger telecommunications facilities already situated there.

There are two principal means to avoid or minimize conflicts between minor telecommunications facilities and surrounding land uses: 1) location preference; and 2) co-location/clustering. Policies of this Telecommunications Plan encourage minor telecommunications facilities to be sited in preferred locations where they have the least potential land use incompatibility and discourage them where they may conflict with predominant character of the surrounding area. These policies reflect the overall objectives for avoiding or minimizing impacts of major facility sites, but are refined to address the siting pattern, facility design, and operational characteristics of commercial wireless systems. The location preferences recommended by this Telecommunications Plan are discussed below.

Location Preference

In Industrial areas, commercial wireless and other minor telecommunications facilities can be integrated into a developed site with few or no land use conflicts given the intensity of industrial use(s) typically occurring on the site, the absence of residential and other sensitive land uses in close proximity to the site, and the visual characteristics of the site. For these reasons, the policies of this Telecommunications Plan express a strong preference for locating new commercial wireless facilities in industrial zones. However, the potential for siting these facilities in industrial zones is limited due to the small percentage of land in the County which is zoned and/or used for industrial development. Also, the overall location of industrial land uses is not dispersed in a pattern that reflects the network of coverage areas for commercial wireless systems.

Commercial areas can also accommodate commercial wireless facilities in a manner that minimizes or avoids land use conflicts. This can be achieved by integrating the antennas and other equipment into the design of commercial structures, especially larger structures that provide an elevated location for transmission of a radio frequency signal and greater design opportunities to accommodate antennas.

While commercial zones are generally well suited for commercial wireless services, the development of a facility on a commercial property would be inappropriate if it detracts from the architectural qualities of the buildings and other structures on or adjacent to the site, detracts from aesthetic or scenic resources in the area, or results in visual clutter when combined with other existing or proposed facilities. Therefore, developing new commercial wireless and other minor facilities in commercial zones is encouraged when they are located and designed in a manner that does not substantially diminish the built and natural environments. The amount of commercially zoned property is also limited in the County, although more prevalent than industrial areas and dispersed over a broader area along Highway 101 and other arterial roadways where coverage areas exist. However, because a number of commercial areas are situated adjacent to residential areas, it is unlikely that all or even a large percentage of new commercial wireless facilities can be placed at locations distant from residential neighborhoods.

Agricultural areas are suited to commercial wireless facilities insofar as they are not densely populated and are large enough to provide opportunities to site facilities well away from residences. However, agricultural lands contribute to the rural character of Marin County and the

improper siting, concentration, or design of telecommunications facilities can diminish them. Therefore, agricultural lands may be preferred for new development of commercial wireless facilities when it does not detract from the area's agricultural and rural qualities and where a suitable industrial or commercial property does not exist in the coverage area.

Residential neighborhoods are generally more problematic than the other land use areas discussed above. There are usually few, if any, opportunities to integrate antenna and equipment facilities into existing residential structures without contrasting with the surrounding neighborhood. In addition, antenna towers can have an overbearing presence on smaller homes and create an industrial appearance that conflicts with predominant residential setting. New minor telecommunications facilities are, therefore, discouraged in residential areas. However, much of the County is zoned residential. Therefore, the County may have to approve new facility sites within or near such areas if suitable alternative locations are not available elsewhere, and siting and design measures minimize potential land use conflicts to an acceptable level.

Institutional campuses or public facilities, or publicly-owned land can also serve as minor telecommunications sites where the facilities are compatible with other structures. Most County-owned land is designated for open space use where telecommunications facilities and other development are generally discouraged. Therefore, simply because land is publicly-owned does not assure it is a suitable low-impact site for a telecommunications facility.

The operation of telecommunications facilities in the environs of the Marin County Airport (Gnoss Field) is generally compatible with aviation activities in terms of land use because the facilities do not result in the occupation of buildings or other human activities that may create a public safety threat to persons on the ground or expose people to noise nuisance from aircraft flying overhead. The principal issue raised by development of telecommunications facilities in the airport environs is whether antenna towers will obstruct airspace used by aircraft arriving and departing from the airport. Development applications for new telecommunications facilities should, therefore, be reviewed for conformance with the Airport Land Use Plan and particularly the height limit standards for determining whether a telecommunications tower will be an obstruction or hazard to aviation.

In some cases, a stealth design can be achieved by physically integrating antennas and other equipment with existing or proposed non-telecommunications structures so they are essentially invisible to the common observer. Stealth design techniques can reduce land use conflicts sufficient to allow a facility in almost any zone where it can be accomplished consistent with other structures and natural features in the area. Stealth design is discussed in greater detail in Section 3 of this chapter.

Co-Location and Clustering

A second way to address issues of land use compatibility is to encourage co-location and clustering and to discourage new stand-alone telecommunications facility sites and towers. Co-location means the use of the same tower or pole for a number of different kinds of telecommunications services and that a number of different service providers locate their

transmitting facilities together on the same tower or other support structure. Clustering involves the placement of separate towers and other telecommunications facilities in close proximity to each other at the same facilities site. Co-location and clustering are similar because they both result in concentrating telecommunications facilities at a given locale rather than dispersing them over a larger geographical area.

The proliferation of facility sites is one of the most significant adverse land use effects of commercial wireless systems insofar as a high concentration of sites in a given area can detract from the predominant character of surrounding land uses, particularly in residential neighborhoods, and diminish visual resources. This Telecommunications Plan encourages co-location and clustering over development of new telecommunications facility sites as the primary means of avoiding or minimizing the potential effects arising from the increasing numbers of new commercial wireless sites. Reducing the number of towers (or not adding additional towers) and new facility sites generally reduces or at least does not increase land use conflicts. Related visual compatibility issues are discussed in greater detail in Section 3 (Visual and Aesthetic Compatibility).

Implementing this approach requires the County to consider the design of each service provider's commercial wireless system, because the potential for co-location and clustering depends largely on whether existing antenna support structures (e.g., buildings and towers) are available within a limited radius of the service area defined by that system.

To evaluate the potential for co-location and clustering, the County requires an applicant to submit an updated network facilities plan, a specific coverage area map for the facility in question, and details about the service provided, future sites, and antennas and equipment at each site. The County also requires an applicant to identify all technically feasible sites within the coverage area of a proposed commercial wireless system that could accommodate the proposed facility. Each feasible site must be analyzed, and the applicant must explain why it was or was not selected. This information is useful in determining whether a proposed facility can and should be relocated to another preferred location that furthers the policies of this Telecommunications Plan.

Co-location can be difficult to achieve because service providers are competitors in an increasingly competitive marketplace and may not be willing to share tower space with each other. In addition, competing service providers may be reluctant to share their facilities network plans, particularly specific facility site locations, because they may consider these plans to be proprietary business information. The policies of this Telecommunications Plan that promote co-location and clustering will have to be aggressively implemented to maximize the consolidation of antennas and other equipment.

Co-location can, however, require antenna support structures that are larger, more visually obtrusive, and uncharacteristic with the predominant surrounding land uses than separate stand-alone telecommunications facilities. At some point the detriments from larger co-location structures begin to outweigh the land use compatibility benefits. Co-location is not required by this Telecommunications Plan when it creates or significantly increases adverse land use and

visual effects, such as when large towers and multiple equipment structures would contrast significantly with the surrounding area, would adversely affect the predominant visual character of an area, or would significantly diminish scenic or open space resource values. Generally a marginal increase in antenna or tower height does not significantly increase adverse land use effects when compared to the effect of multiple towers.

Clustering may not be appropriate where multiple facilities will stand out or have the appearance of clutter on a highly visible site. In these situations, a greater scattering of facilities at visually inconspicuous locations may be preferable. When sites are clustered, multiple telecommunication facility structures should be placed strategically to minimize their obtrusiveness from the locations that are most sensitive to such effects (e.g., dwellings and public spaces). Co-location and clustering also should not be required under the following circumstances:

- When it would prohibit or have the effect of prohibiting the provision of wireless service in a given service, or unreasonably discriminate among services or providers;

- When a potential site does not have the space or capacity and cannot be altered practicably to structurally accommodate proposed antenna and other components, or when an antenna at such a site does not provide adequate coverage over the service area in question or adequate reliability;

- When it would result in excessive radio frequency (RF) interference (although not within local agency jurisdiction to regulate); and

- When it would cause a site to violate federal or state provisions (e.g., the emission standards promulgated by the FCC).

If substantial evidence in the record of a particular application raises questions about the practicability of co-location or clustering in a given case, the County could refer the analysis of this issue to independent review.

The County can and should require new commercial wireless systems to accommodate co-location and clustering in their design and in facility site leases unless doing so precludes a service or is intended to give one service provider a competitive advantage over another service provider.

The extent to which the first commercial wireless facility in a given service area is required to accommodate co-located antennas may depend on the service area plans in the County's possession and other relevant information, such as service areas of other licensed service providers in the County whether or not their sites are built-out.

Land use compatibility and other effects of a given commercial wireless facility are warranted only when that facility is part of an operating system. If a given site is abandoned or otherwise

no longer is a useful part of a system, the facility should be required to be removed. If a telecommunications facility is abandoned, it should be removed in a timely manner, and the applicant for the facility should be required to post a bond or other acceptable means of security to assure removal of the facility and restoration of the project area if necessary.

b. Consumption of Land and Natural Resources

Land requirements for a telecommunications facility can range from no land (in the case of a building-mounted antenna) to multiple acres. A typical multi-user tower and equipment building will comprise an area of 5,000 square feet to one acre including guy wire areas. This area will generally be fenced off, precluding other uses of the site. A very tall guyed-structure may encompass as much as 50 acres, not all of which need be fenced off. Typically, the tower base and equipment building area and each guy anchor area are individually fenced off. Satellite earth stations such as the RCA and AT&T facilities in West Marin, are the most land-extensive sites, comprising hundreds of acres in some cases.

In comparison, a typical stand-alone commercial wireless system consumes a very small area, in the order of 200 to 500 square feet, plus land for parking, landscaping and other site improvements. Therefore, these types of minor facility sites generally do not have a potential significant adverse effect on land consumption. In cases where land consumption may be an issue due to project-specific factors, the adverse effects should be minimized by requiring a commercial wireless system site to be as small as it can be to accommodate the facility and accessory features. Consumption of any land for a minor telecommunications facility can be avoided altogether by co-locating antennas on an existing tower, monopole, or other structure.

The proposed sites of new telecommunications facilities may contain important natural resources or sites essential for other kinds of land use. The evaluation of proposed new sites should include consideration of any loss of natural resources or whether the proposed facility uses a site needed for other kinds of development, such as housing or economic activity, to implement Countywide Plan or specific plan policies. For proposed sites in sensitive locations, the size of the site should be limited to the minimum necessary to accommodate the telecommunications services found to be necessary.

Specific resource values of the land consumed for a facility also should be considered so that land with significant natural or cultural resource values can be preserved by appropriately locating and designing the proposed facility, including access roadways to the transmission equipment and antennas. The policies of this Telecommunications Plan encourage efficient use of land for telecommunications facilities and discourage use of land with significant resource values.

One potential alternative to consuming land for new facility sites is integrating antennas into public utility structures in public rights of way, such as light poles and high power electric line towers, where it provides adequate service. This alternative has not been used widely to date, but it should be explored to encourage alternatives to traditional stand-alone commercial wireless facility sites.

c. Conflicts with Open Space, Recreational, Plant, Animal, and Cultural Resources

Many of the ridge tops where major telecommunications facilities are sited are also the location of recreational trails or designated open space lands. The expansion of existing telecommunications facilities or the development of new facility sites have the potential to conflict with recreation or open space uses. Sites in proximity to such uses should be subject to regulations to ensure that the continuity and ease of use of trails and open space areas are not affected by telecommunications facilities, the visual effects of the telecommunications site are minimized for recreational areas, and that potential radio frequency energy will not pose a hazard to users of these areas.

Of all the County's ridge tops, Mt. Tamalpais is the most visible. Residents and visitors throughout the Bay Area cherish Mt. Tamalpais as an important, unspoiled natural feature. Mt. Tamalpais provides a glimpse of the natural environment to hundreds of thousands of Bay Area residents as the most visible peak for 30 miles. The importance of preserving the natural appearance of Mt. Tamalpais and its surroundings has been recognized by the state and federal governments which have created the Mt. Tamalpais State Park and the Golden Gate National Recreation Area to protect the area's natural features. Since Mt. Tamalpais is such an important aesthetic and natural resource to so many Bay Area residents and visitors, Marin County seeks to eliminate existing telecommunications facilities on Mt. Tamalpais.

Telecommunications facilities may affect plant and animal resources. The construction of a telecommunications facility may temporarily disrupt plant and animal communities as would any other construction process. Electromagnetic field (EMF) emissions may affect wildlife, but no reliable documentation on this subject exists. Like many forms of human development, telecommunications facilities may pose a threat to birds. Migratory bird strikes of telecommunications facilities are more likely to happen at night or during poor weather conditions such as rain or fog.

While there is no evidence to suggest that the presence of telecommunications facilities poses a threat to the continued survival and health of any species of bird, siting and design mitigations can reduce the potential hazards to birds within migratory flyways or in flight paths used by significant numbers of local birds, such as those between feeding areas and roosting areas Particular care should be taken to assess the potential risk of bird strikes in these areas by carefully reviewing the siting and design of the particular facility, and identifying appropriate design standards to minimize potential bird strikes. Such standards may include siting away from migration paths or local flight paths, reducing or eliminating the use of virtually invisible structural elements such as guy wires, use of recorded sounds to drive birds away, or such other techniques as may be found effective.

In comparison to major facilities, a commercial wireless system generally does not have as much potential for adversely affecting open space, recreational, and plant and wildlife resources because their smaller size reduces the amount of land area subject to disturbance and the visibility of the equipment from public vantage points. Nonetheless, commercial wireless systems and other minor facilities should be carefully sited and designed to avoid or minimize

potential conflicts with other natural resource values on and around the site. A commercial wireless facility may be located in an open space zone or where there are recreational resources or significant plant or animal species if adverse effects are comparatively lower than alternative sites elsewhere, if significant adverse effects can be mitigated, and if the use and enjoyment of the area will not be substantially diminished.

The Countywide Plan designates specific conservation areas where special development restrictions and standards are established to prevent environmental deterioration and provide for enhancement and restoration of the environment when telecommunications projects and other development is approved. The conservation areas of the Countywide Plan that are most relevant to telecommunications projects are the Stream and Creekside Conservation Area, Bayfront Conservation Zone, and Coastal Recreation Corridor.

Proposals for new or modified telecommunications projects, including major and minor facilities, should be reviewed for conformance with the policies and standards that apply in each of these conservation zones as well as other conservation policies and standards. Among the principal policy objectives that apply to telecommunications projects located in these conservation zones are:

- Maintain adequate buffer zones along natural water courses in the Stream and Creekside Conservation Area;

- Avoid dredging, filling, and other development activities that may affect wetlands, upland habitat, agriculture, and scenic resources in the Bayfront Conservation Zone; and

- Minimize or avoid development that will adversely affect wildlife habitat, scenic resources, recreational use and enjoyment of State and Federal Parklands, and historic community character in the Coastal Zone.

Potential conflicts between telecommunication facility sites and open space, recreational, and plant and animal resources can be avoided or minimized by:

- Requiring erosion control, landscaping and/or other methods to prevent long term soil erosion or instability and to protect plant and animal habitat off-site;

- Prohibiting new facility sites in designated open space and conservation areas (among others) unless there is no technically feasible alternative site available in the coverage area and the facility will not have or will minimize adverse effects related to land use compatibility, visual resources and public safety;

- Locating new facility sites in areas where special status species (i.e., species listed as rare, threatened or endangered by the State or Federal government) do not exist unless there is no technically feasible alternative site available in the coverage area and adequate mitigation of potential adverse effects on such species can be implemented;

- Locating new facility sites in areas devoid of important historic or prehistoric resources where development of the facility will damage or destroy such resources; and

- Requiring use of a monopole or other structure designed to minimize removal of vegetation and to reduce the potential for birds striking the structure.

POLICIES FOR LAND USE COMPATIBILITY

Objective LU 1: To ensure that the siting of telecommunications facilities is compatible with other land uses.

Policy LU 1.1. New telecommunications facilities should not be permitted in Ridge and Upland Greenbelt areas unless no other technically feasible and available site exists, provided, wireless communications facilities should be permitted in ridge and upland greenbelt areas where they are co-located with existing structures consistent with the policies and programs of this Telecommunications Plan.

Program LU 1.1.1: Development of new telecommunications facilities in Ridge and Upland Greenbelt areas should be minimized through stringent tests of need for development of new ridgetop telecommunications sites. Such tests shall be provided by the applicant for a new ridgetop telecommunications site and include technical information prepared by qualified professionals that sufficiently demonstrates to the satisfaction of the County that no other technically feasible site is available to provide adequate coverage.

Program LU 1.1.2: New or expanded sites should ensure co-location and other efficient use of facilities to minimize the need for new sites, particularly on ridgeline locations, without imposing unreasonable burdens on telecommunications service providers or operators.

Program LU 1.1.3: Site users and operators should be encouraged to share and/or consolidate facilities to the greatest extent possible. Facilities that may be shared may include buildings, access roads, parking areas, utilities, transmitters, towers and other structures, and antennas.

Program LU 1.1.4: New ridgetop or upland sites shall not be approved by the County where technically feasible non-ridge sites are available, or when capacity exists and is available for the proposed use at existing sites.

Program LU 1.1.5: New telecommunications facilities proposed on parcels restricted by agricultural, open space, scenic or other public easement or restriction will only be permitted in accordance with the terms of such public easement or restriction.

Program LU 1.1.6: Applications for new or expanded major telecommunications facilities shall contain long range plans which project market demand and long-range facility expansion needs. Where three or more of the facilities are located along the same ridgeline, service providers shall prepare a Ridgeline Facility Plan to coordinate access, non-interference, and consolidation issues for the respective sites. In conjunction with submittal of a discretionary permit application for the third facility, the property owner, in cooperation with the service providers shall prepare and submit a Ridgeline Facilities Plan to promote coordination, non-interference, and consolidation.

Policy LU 1.2. The policy of the County shall be to reduce the number of ridge top telecommunications sites wherever possible.

Policy LU 1.3. Telecommunications facilities in ridgetop areas shall be sited in areas already in use for telecommunications to preserve the aesthetic and scenic value of undeveloped ridge lines in the County.

Policy LU 1.4. New construction or substantial expansion of telecommunications facilities should not occur in or near areas where they will cause land use conflicts, particularly in residential areas, unless there are no other suitable and available sites in more suitable areas.

Program LU 1.4.1: Where a major telecommunications facility must be located in or close to a residential area, the facility shall be located to reduce its visual obtrusiveness and aesthetic contrast with the surrounding area.

Program LU 1.4.2: New commercial wireless systems and other minor facilities should be co-located or clustered, as further specified in Policy LU 2.1 below, and adhere to the preferred locations, as generally prioritized below, unless a priority site does not exist within the coverage area, or requiring the priority location within the coverage area would prohibit or have the effect of prohibiting wireless service or result in adverse land use effects that would otherwise be avoided or reduced to an acceptable level at another location:

1) Industrial sites
2) Commercial sites
3) Public facilities sites
4) Agricultural sites
5) Mixed use sites (e.g., commercial and residential area)
6) Open space and recreational sites
7) Residential sites

New facilities should be approved in these locations when they are sited, designed, operated, and maintained in a manner that avoids or minimizes potential land use effects to an acceptable level and is otherwise compatible with the predominant land use character of the affected area. In general, service providers should consider selecting proposed facility sites as advised by Policy EMF 1.1.

Program LU 1.4.3: To evaluate whether a proposed facility conforms to the location standards contained in this Telecommunications Plan, service providers shall submit with their development applications an updated network facilities plan consisting of the following:

a. A written description of the type of technology and consumer services that will be provided to customers;

b. A list enumerating the service providers' facilities sites, including existing sites (operative and abandoned), approved sites, proposed sites (i.e., applications pending), and planned site (i.e., sites that can be reasonably predicted but have not been formally proposed by the filing of development applications);

c. A map depicting the geographic location and boundaries of all coverage areas or search rings existing or planned by the service provider and the approximate location of service providers' facility sites within each coverage area;

d. A coverage area map for the proposed facility site including the information described in item B above as it pertains to the individual coverage area. Note: The coverage area map may be combined with the network facilities map so long as the scale of the map is large enough to provide for detailed analysis of proposed and potential facilities sites within the coverage area.

Program LU 1.4.4: To evaluate whether a proposed facility conforms to the location preferred standards contained in this Telecommunications Plan, applicants shall submit an analysis of alternative facility sites when determined necessary. The analysis shall include enough information to provide adequate consideration of technically feasible alternative sites and/or facility designs that would avoid or minimize adverse land use and other effects included in this Telecommunications Plan. The analysis shall include in writing the specific factors considered by the service provider for selecting the proposed facility site over alternative sites. In particular, proposed facilities that are not co-located or clustered at existing telecommunications sites shall provide information substantiating the unfeasibility of such sites.

Program LU 1.4.5: Proposals for new or modified telecommunications facilities within the environs of the Marin County Airport (Gnoss Field) shall be reviewed for conformance with the Marin County Airport Land Use Plan.

Policy LU 1.5. Development of telecommunications facilities in areas identified for conservation in the Marin Countywide Plan, which include, but are not limited to Stream and Creekside Conservation Areas, the Bayfront Conservation Zone, Ridge and Upland Greenbelt Areas, and the Coastal Recreational Corridor, should conform to the development policies of the Environmental Quality Element of the Countywide Plan.

Policy LU 1.6. Locating telecommunications facilities on sites where they cause the loss of important natural or cultural (i.e., prehistoric or historic) resources or on sites designated by the County for other kinds of land uses that may be precluded or impeded by development of a telecommunications facility should be discouraged.

Program LU 1.6.1: Proposed sites may be denied where there are alternative sites available which reduce or eliminate potential significant adverse effects on natural or cultural resources, or reduce impediments to the implementation of Countywide Plan and specific plan land use policies.

Program LU 1.6.2: The size of telecommunications sites should be limited to the minimum required to provide the proposed telecommunications services, while allowing for the possibility of future co-location and clustering, particularly for sensitive locations in terms of natural resources or implementation of Countywide and specific plan land use objectives.

Policy LU 1.7. Telecommunications sites in proximity to existing or proposed recreational trails or open space lands should be subject to requirements to ensure that these public uses are not adversely affected.

Program LU 1.7.1: Telecommunications sites in the vicinity of existing or proposed recreational trails or open space areas should be sited and designed to preserve the continuity of public access and ease of public use.

Program LU 1.7.2: Telecommunications sites should be selected and designed to minimize the visual effects for nearby recreational trails and open space areas.

Program LU 1.7.3: Development guidelines for telecommunications sites shall ensure that users of recreational trails and open space areas will not be exposed to radio frequency energy in excess of FCC limits.

Program LU 1.7.4: Existing roads should be used for access to telecommunications sites whenever possible to prevent the disturbance of ridge and open space lands.

Policy LU 1.8. New construction or expansion of telecommunications facilities on Mt. Tamalpais shall be discouraged. However, if new facilities must be constructed and/or existing facilities will remain, then the County should consider consolidation of Mt. Tamalpais facilities onto a single peak.

Program LU 1.8.1: The County shall use its best efforts, including correspondence, lobbying, and contacting legislative representatives, to strongly discourage federal, state and local agencies not subject to County land use controls from expanding the number of telecommunications facilities on Mt. Tamalpais and to encourage the removal or consolidation of existing facilities.

Program LU 1.8.2: The County should discourage the expansion or new construction of telecommunications facilities on Mt. Tamalpais and encourage the consolidation of facilities.

Program LU 1.8.3: The County may allow new or existing commercial wireless systems to be co-located on existing structures on Mt. Tamalpais if such co-located antennas do not significantly increase adverse visual effects from the facility and promotes consolidation.

Objective LU 2: To minimize the number of stand-alone commercial wireless and other minor facility sites.

Policy LU 2.1. New commercial wireless facility sites should be co-located or clustered at an existing or planned telecommunications site unless requiring the proposed facility to be located at another stand-alone location would either prohibit service or have the effect of prohibiting wireless service, or result in adverse land use effects that would otherwise be avoided or minimized to an acceptable level.

Program LU 2.1.1: If the County approves a new commercial wireless facility site, that site shall accommodate co-location or clustering in the future if additional use is reasonably likely and co-location or clustering will not be incompatible with surrounding land uses.

Program LU 2.1.2: The County shall identify County-owned property where co-located or clustered commercial wireless communications facilities could be accommodated without creating significant adverse effects, and shall encourage wireless communications facilities to locate at those sites.

Program LU 2.1.3: The County shall allow innovative design solutions to siting wireless communications facilities where they are not obtrusive, such as on light poles and other structures in the public right of way.

Objective LU 3: To ensure that the siting or expansion of telecommunications facilities does not significantly adversely affect plant or animal species.

Policy LU 3.1. The construction or expansion of a telecommunications facility shall be denied if it creates a significant threat to the health and survival of threatened or endangered species or species of migratory birds.

Policy LU 3.2. Environmental review for the proposed construction or expansion of a telecommunications facility shall evaluate the potential for significant adverse effects on plants or animal species, including, but not limited to telecommunications towers that have the potential to interfere with the migratory flyway or flight paths used by resident bird species, where facilities could affect sensitive resource areas, and where clearing native vegetation is required for facility construction or expansion. Where potential significant effects are identified, the

environmental review shall also identify appropriate mitigations including re-siting, changes in the design of the facility and/or techniques found to be effective and acceptable to discourage birds from approaching the tower area, and monitoring studies of bird strikes.

3. VISUAL AND AESTHETIC COMPATIBILITY

Visual effects are one of the most commonly cited concerns about telecommunications facilities in general. Historically, the County's telecommunications policies were primarily aimed at protecting scenic qualities of ridgelines and upland areas. However, the shear number of commercial wireless facilities that have been proposed in lowland areas since 1990 make visual effects of minor telecommunications facilities as important as major telecommunications facilities.

Sources of Visual Effects - General

The visual effects of a telecommunications facility are a function of its siting and site design, the height and bulk of structures, the nature of lighting, exterior finish colors or materials, landscaping, and the physical context of the site.

Site location is to a large extent determined by the needs of the service provider who has identified line-of-sight and elevation requirements for their telecommunications technology and coverage area. Highly elevated sites with expansive lines-of-sight, such as Mt. Tamalpais and Big Rock Ridge, are typically used for major facilities and will thus attract many service providers. Because such prominent ridgeline locations also have great potential for visual effects, design considerations become more significant. Generally within such a site it would be more desirable to co-locate or cluster buildings, towers and antennas rather than have them scattered over a wide expanse of ridgetop. Whenever possible, facilities should be located below the ridgeline to eliminate or reduce the visibility of the facility.

Certain types of facilities are likely in residential and commercial areas. These may include point-to-point microwave dishes, land mobile antennas, satellite earth stations for cable television, and commercial wireless antennas. The extent of their visual effect depends on the size and nature of the antenna and support structure as well as the visual setting of the area. A stealth design that visually or architecturally integrates antennas into the design or appearance of an existing structure or site has the least visual effect. Similarly, a panel antenna attached to an existing structure or a relatively short pole antenna located adjacent to a large water tank may also be visually unobtrusive. As a general rule, visual effects will increase commensurate with the number and size of the antennas and associated support structures.

The height and type of towers, other antenna support structures, and related buildings are significant determinants of the visual effect of the facilities. Generally, the taller a tower, the greater its visual effect. To minimize its visual effects, tower heights should be limited to the minimum height necessary to permit the telecommunications services proposed for that location. However, tower height is also related to capacity. Permitting a taller tower at a telecommunications site may postpone the need for development of additional towers or sites or

permit co-locating antennas in the future. Also, taller towers permit antennas to be mounted higher which would reduce EMF emissions on the ground.

Guyed towers have less visual effect in medium- to long-distance views than self-supporting towers, because the guyed tower itself is less massive, and the guy wires disappear when viewed from some distance. However, guyed towers provide less capacity as they cannot generally support the same antenna and transmission line load as self-supporting towers. Because of the wires, guyed towers require a larger site, and it is more difficult to screen a guyed tower for views from immediately adjacent properties. All these trade-offs need to be considered in determining what combination of height and tower type provides the best mitigation for a particular site.

The equipment building for a telecommunications facility should be sited where it can be most easily screened and designed to be compatible with the surrounding natural and built environments. In ridgeline areas, the building should be placed below the ridgetop, depressed into the ground where possible or earth bermed. In other locations, the building should be sited to minimize visual effects from adjacent sites. Existing or proposed vegetation should screen buildings.

The color and reflectiveness of buildings, antennas, towers and cables will affect the degree to which these facilities are visually obtrusive. Facilities should be painted to blend in with the landscape against which they will be seen. Facilities that are primarily viewed against a backdrop of soils, trees or grasslands will be less obtrusive when painted colors matching these landscapes. Facilities that rise above the horizon line should be painted in non-reflective blues or grays. The visibility of microwave and satellite dishes can be minimized by using mesh construction whenever possible. Care should be taken that the mountings of antennas are also non-reflective and an appropriate color to blend with their background.

Appropriate provision of landscaping can also reduce the visual effects of telecommunications facilities. In all cases, vegetated areas disturbed during construction shall be replanted. This is to minimize erosion and to remove or reduce the visual effect caused by the disturbed soil area. The restorative plantings should be predominantly native and compatible with the existing vegetation in the area. For sites adjacent to or in developed areas, additional landscaping to provide screening of telecommunications buildings, towers and antennas may be required. The line-of-sight for some antennas may be impeded by plantings, which must be taken into consideration in the development and approval of landscape plans.

The aggregate visual effect of telecommunications facilities can also be reduced by minimizing the number of sites needed through the efficient use of existing and planned facilities. Wherever possible, new telecommunications facilities should be placed at existing facility sites, and multiple devices consolidated in the course of facility renovation, as discussed in Chapter II, Section 6 ("Potential Engineering Efficiencies for Telecommunications"). New sites should be permitted only upon clear demonstration of need after analysis substantiates the impracticality of upgrading or expanding existing sites to accommodate the proposed facility. New sites should also be subject to conditions of approval that allow for future co-location, clustering, and other site efficiencies.

The roads providing access to ridgetop and hillside locations also may detract from the visual qualities of the affected area. To the extent possible, new sites on ridgetops and hillsides should use existing access roads to avoid the visual effects of a new roadway. The proposed access to expanded or new sites should be evaluated to ensure that new roads are permitted only when no existing roads are available and suitable.

Visual Effects of Commercial Wireless Facilities

The visual effects of commercial wireless facility sites can be characterized and addressed much the same as major telecommunications facility sites. For instance, site location provides a visual context for the facility and the height, cross section, and appearance of structures for the facility provide the source of potential visual effects. The visibility and appearance of the facility depend largely on the extent to which it differs and stands out from the visual setting of the surrounding area. The visual contrast between the proposed facility and the surrounding environment can be reduced and made less obtrusive by distance, design, color, vegetation, lighting, height limits, site layout and other variables.

Although most commercial wireless facilities are located in lower elevation areas, they do exist on ridgelines and open space areas. New facilities are likely to be proposed in these locations in the future as service providers expand their networks into less populated communities of Marin County. The visual effects of a new commercial wireless facility on a ridgetop or other elevated site may be greater than a lower elevation site due to the prominence of the facility site location. Because of the relatively small size and cross section of a typical commercial wireless facility, that visual effect may be relatively small when viewed from a substantial distance. Even a small visual effect can, however, be significant where it introduces a new and inconsistent element into view.

A new stand-alone facility is likely to have a more significant visual effect than one co-located at an existing ridgetop telecommunications facility site or on another existing structure. In general, it is consistent with the policies in this Telecommunications Plan to allow such co-location rather than to create new sites when a ridgetop site is needed for a commercial wireless facility, notwithstanding the incrementally greater visual effect of the co-location site.

Commercial wireless facilities are typically located in lower elevation sites adjacent to Highway 101, arterial roadways, and densely populated areas. The visual settings for new facility sites in these locales can include, but is not necessarily limited to industrial, commercial, agricultural, residential, or mixed use (e.g., agricultural/residential, commercial/residential).

In general, industrial sites offer the best visual setting for commercial wireless facilities because the appearance of a monopole, antennas, and other equipment will merge easily with industrial buildings and equipment. Thus, the potential visual effects of a commercial wireless facility within or directly adjacent to an industrial site are typically minimal.

Commercial areas also generally provide a compatible setting for commercial wireless facilities because they can be integrated visually and architecturally with larger buildings, signs, and other

structures commonly found in commercial centers. Careful attention should be given to the specific location and design of the facility structures, antennas, and transmitter equipment to ensure they do not detract from the appearance and architectural qualities of commercial properties.

Agricultural and other rural areas define much of the undeveloped visual character of inland, western, and far northern portions of Marin County. Most of these areas are largely undeveloped and are open to expansive views of grassy flatlands and rolling hillsides. This type of visual setting usually has limited opportunities for screening or visually blending new wireless facilities with existing built and natural features. The indiscriminate siting of commercial wireless facilities within agricultural land can create a contrast to the bucolic scenery that is prevalent. Tree clusters, rock outcroppings, and agricultural buildings can be used to minimize the visibility of wireless facilities. Creative stealth design solutions can also assist in this regard, such as disguising a monopole as a windmill or designing an equipment building as an agricultural accessory structure.

Marin's residential neighborhoods are another valued source of visual context. Although it is difficult to generalize about all such settings, typical neighborhoods are characterized by small scale structures and extensive vegetation. Many kinds of utilities are present, but few if any involve structures more than about forty feet tall. In such a setting, a commercial wireless facility can create adverse visual effects insofar as it is usually taller and has an industrial/mechanical appearance in comparison to residential structures in the area. Therefore, the land use policies contained above in Section 2 of this chapter that discourage a stand-alone facility in or near residential areas also support policies for avoiding or minimizing visual effects.

Co-location - Benefits and Limitations

If antennas for a new commercial wireless facility can be attached to or sited adjacent to an existing structure, generally the magnitude of its visual effect will be less. Co-location is, therefore, a preferred approach to minimizing the visual effects of new commercial wireless facilities in virtually all areas of Marin County, especially in or near residential areas where the potential for such effects can be considerable.

However, there is a limit to how much co-location should occur. As additional users are added to a site, the visual effects become incrementally more significant as the combined size and height of antennas and support structures increases and becomes more noticeable. In addition to increasing the number of antennas, a co-located facility may require an additional 10 to 15 feet of tower height per user to provide vertical separation between antennas that is needed to reduce radiofrequency interference. At some point, the additional users contribute to an adverse visual effect that may be worse than a new stand-alone site. Therefore, the policies of this Telecommunications Plan promote co-location with the understanding that it may not be appropriate in every case where it is technically feasible depending upon the availability of alternative sites and the trade-offs relative to visual effects.

Reducing Visual Effects of New Commercial Wireless Facility Sites

Where a proposed commercial wireless facility is located in a visually sensitive area or will contrast with its surroundings, the County should consider whether co-locating the proposed facility at existing facility sites or structures could accommodate that facility with fewer visual effects. Local agencies can use the telecommunications facility sites inventory in Appendix A of this Telecommunications Plan, information about facility networks and coverage areas throughout Marin County, and alternative sites analysis, if needed, to evaluate proposed facility sites for consistency with the policy objective of minimizing adverse visual effects.

Visual effects can be reduced by locating monopoles, antennas and other equipment behind or next to existing buildings, public utilities, such as water tanks, and other structures to screen or minimize their appearance, particularly if the adjacent structure is as large or larger than the proposed facility. The implementation of siting and design standards should be considered for telecommunications facilities located at water tanks and other public or private utility structures within or adjacent to open space areas to ensure the preservation of scenic resources. In general, telecommunications facilities should be sited and designed to appear as an integral part of the utility structure. It may also be possible to locate a proposed facility site where the existing utility structure screens it from surrounding views. Other more specific siting and design standards may be necessary on a project-by-project basis.

Visual effects also can be reduced by limiting the height of a facility support structure to the minimum necessary to provide the requisite level of service and to allow for co-location, although co-location often will increase tower height. A maximum height limit would cap the potential effect but may limit or impede co-location opportunities. The ultimate height of monopoles and other support structures should, therefore, be evaluated on a case-by-case basis.

The visibility of wireless facilities can be mitigated by placing a facility site within or next to existing landscaping and/or landscaping the area around the facility site. Although the antennas at or near the top of a pole or other support structure must have an unobstructed line-of-sight, the remainder of most towers can be obscured. Evergreen trees and shrubs can more effectively obscure views of a facility than deciduous plant species because foliage is present throughout the year. Landscaping introduced to screen facilities should be predominantly native to reinforce the natural landscape of the surrounding area.

A commercial wireless facility site typically includes a relatively small accessory building. Visual effects of that building can be reduced by limiting its size and height to the minimum needed for the proposed facility and potential co-locators, and by requiring the use of building materials common to the visual context. For instance, concrete or aggregate finishes may be common in an industrial area, whereas lap siding or brick may be common in a residential area. In agricultural and other rural areas, simple architectural styles and natural wood materials that reflect an agrarian setting should be used for equipment buildings, as should agricultural fences (e.g., wood post and wire). If accessory structures on a commercial wireless site are visible, use of compatible materials and architectural style will reduce their obtrusiveness.

If accessory structures are below ground, there can be very little or no post-construction visual effect if the graded area is recontoured to reflect the surrounding natural topography. Undergrounding transmitters and other components of a wireless communications facility that can operate below the ground surface may be warranted in visually sensitive areas, such as residential neighborhoods or open space areas, or in urban areas where competition for land is high.

Different forms of antennas can be used to minimize visual effect. For instance, instead of putting panel or omni-directional antennas on a triangular platform at the top of a tower, flush-mounted panels can be used or fluted supports can attach antennas to the tower, creating a much smaller visual cross section.

Stealth Design

One of the most successful techniques for minimizing or avoiding visual effects is to integrate antennas and other telecommunications equipment into the design of existing buildings and other structures so they are essentially invisible or not readily recognizable to the casual observer. Such "stealth" designs hold the most promise for no or low visual effects. The options available to achieve a stealth design depend on the nature of the antennas used in a particular commercial wireless facility application. Provided below are some examples of how stealth designs can be accomplished.

- In appropriate settings, panel antennas can be installed on short poles on hillsides. The visual effect of the panels can be reduced by painting them to blend in with the hillside and surrounding vegetation or rocks. In some cases the antennas may be concealed behind vegetation or rock outcrops so long as coverage is not obstructed. However, unless access to the site is otherwise restricted, a fence must be built around the installation to prevent unauthorized persons from approaching the antennas. The fence can substantially increase the visual effect of the site unless designed with materials and colors that reflect the context of the site.

- Panels also can be mounted on monopoles, towers, roof tops or building surfaces. They are especially suited for buildings, because their slab-like monolithic shape can often be integrated into the architectural style of a wall, fascia, parapet, etc.

- The simplest integration may be accomplished by painting the panel, feed cable and mounting hardware a suitable color and mounting it directly to the exterior surface. For a better visual integration, the panel and its appurtenances are entirely concealed behind a covering that is visually opaque but radio frequency-transparent, such as the fiberglass covers commonly seen over microwave dishes. The latter method is more expensive, but offers the most effective solution to minimizing the visual effect of the panel antenna.

- Panel antennas can be concealed in a 16-inch fiberglass cylinder which is only slightly longer than the length of a single panel. When mounted on a cluttered roof and painted to match its surroundings, this antenna array assumes the appearance of a ventilation duct. This technique can be employed for two panels back-to-back to achieve a bi-directional pattern, or three panels arranged in an omni-directional pattern.

- The best engineering solution for complex coverage requirements will usually call for a roof-mounted antenna installation. A roof-mounted installation requires less cabling and expense. When viewed from ground level near the building, short antennas mounted low near the center of a roof will often be less visible than building-mounted panels. However, antennas at roof level will be more visible from a distance unless they are somehow concealed or disguised.

- Omni-directional antennas are typically mounted on roof-tops, poles, monopoles and towers. By use of stand-off mounting brackets, omni-directional antennas can be mounted on the sides of towers and monopoles, but not buildings. Omni-directional antennas cannot be mounted close to building surfaces.

- In some areas power utilities may allow antenna arrays to be mounted on the tops or sides of existing high-voltage electrical transmission line support structures. Smaller antennas, such as micro facilities, can be mounted on street telephone and light poles with the consent of local utilities, or other structures so as to be effectively unnoticeable to the casual observer. However, antenna concealment may be difficult or impossible for street pole mounted installations.

- Monopoles can be disguised as free-standing building elements and artificial trees (e.g., pines, oaks, palms, etc.), and special appurtenances on the monopole can conceal or draw attention away from the antenna array. The ability of these structures to minimize the visual effect of an antenna installation is highly dependent on site specifics, and it is difficult to draw general conclusions about their effectiveness.

- Self-supporting signs, like those found in mall parking lots or along freeways, can be used to support and conceal antenna arrays. Usually top-mounted fiberglass or plastic sign boards conceal the antenna array. These boards present substantial wind loads, thus self-supporting signs typically require two or more legs for added strength. Such a sign will be wider than a monopole of equivalent height, and the overall visual effect of the sign may be greater than that of a conventional monopole with unscreened antennas.

- On buildings, antenna arrays can be concealed behind screens that are opaque to view but not to RF signals, such as fiberglass.

- Sometimes a component of a building can be replaced or modified to conceal antennas with little or no change in the visual character of the building. For example, in an historic residential neighborhood, an entire existing church steeple could be replaced with a fiberglass one to conceal a cellular omni antenna.

- Other stealth structures include smokestacks, stadium light standards, flag poles, theater marquees, windmills, rock outcrops and "public art." In a forest setting, an entire fiberglass ranger lookout station could be constructed to conceal a large antenna array.

Stealth siting can be a viable alternative to an outright prohibition on wireless communications facilities in historic or architecturally significant areas where such sites may be unavoidable due to coverage requirements or other concerns.[1]

POLICIES FOR VISUAL AND AESTHETIC COMPATIBILITY

Objective VIS 1: To protect the visual quality of the County by regulating the number, location, and design of telecommunications facilities so that adverse visual effects are eliminated or reduced to the maximum extent possible while allowing for adequate telecommunications services.

Policy VIS 1.1. The cumulative visual effect of telecommunications facilities can be minimized by encouraging the most efficient use of existing sites and facilities and thereby postponing the need to develop new sites.

Program VIS 1.1.1: New sites should be permitted only upon clear demonstration of need, the impracticality of upgrading or expanding an existing site or co-locating on an existing telecommunications structure, and subject to conditions to ensure the new facility minimizes adverse visual effects. The necessity of the proposed facility should be assessed by reviewing the wireless communications site inventory contained in Appendix A, and evaluating a service providers network facilities plan and, if determined necessary, an alternative sites analysis (refer to Program LU 1.4.3 and LU 1.4.4).

Program VIS 1.1.2: Wherever possible, new telecommunications devices should be co-located or clustered at existing facilities and multiple devices consolidated in the course of facility renovation, unless co-location or clustering will result in significant adverse visual effects that could be avoided or minimized by alternative facility locations and/or design.

[1] On May 29th the FCC ruled that a proposed 480-foot tall, self-supporting FM broadcast tower in Bronx, New York, would adversely affect the nearby historical New York Botanical Garden. Specifically, the Commission concluded that the tower would "...introduce a visual element out of character with the property and its setting under 36 C.F.R. 800.9." Although commercial wireless facilities are smaller, the FCC decision suggests they would be less likely to supersede local action based on similar concerns.

Program VIS 1.1.3: New facilities or modifications to existing facilities should be reviewed for potential consolidation or co-location of existing and proposed antennas, towers or tower sites, sharing of ancillary facilities and/or use of engineering techniques to make the most efficient use of transmitters, towers and antennas. The potential for co-locating a proposed facility should be assessed by reviewing the wireless communications site inventory contained in Appendix A, and evaluating a service providers network facilities plan, and, if determined necessary, an alternative sites analysis (refer to Program LU 1.4.3 and LU 1.4.4).

Program VIS 1.1.4: To minimize visual effect, service providers should be encouraged to share facilities to the greatest extent possible. Joint use should be strongly encouraged within multiple antenna sites, including buildings, access roads, parking areas, utilities, towers and antennas.

Objective VIS 2: To ensure that new telecommunications facilities or modification of existing facilities are sited, designed and built in a manner which minimizes visual effects to surrounding areas.

Policy VIS 2.1. The sites of new telecommunications facilities or substantially modified ones should be selected to minimize potential visual effects.

Program VIS 2.1.1: To the greatest extent feasible, all telecommunications facilities should be sited below visually prominent ridgelines. If determined necessary by the County review authority, an alternative sites analysis should be used to evaluate potential telecommunications sites situated below visually prominent ridgelines (refer to Program LU 1.4.4).

Program VIS 2.1.2: Multiple telecommunications facilities including buildings, towers and antennas should be co-located or clustered rather than scattered along a ridgetop or hillside to the extent feasible given the need to minimize radio frequency interference. In wooded hillside areas, a greater scattering of facilities may be appropriate to minimize the visibility of a larger co-location facility or cluster of multiple facilities (e.g., antenna farm).

Program VIS 2.1.3: A visual analysis of telecommunications facilities that could have a significant adverse visual effect shall be submitted with the application materials to assess the proposed facility at design capacity. The visual analysis shall include a photo-montage or photo-simulation, and/or poles or other similar device erected at the proposed facility site. The visual analysis shall address views of the proposed facility from public vantage points and private property if determined necessary by the County review authority. The visual analysis shall also depict cumulative conditions by including information on existing, approved, and proposed telecommunications facilities that will or may eventually be approved at the proposed site. The visual analysis may be expanded to address alternative locations within the coverage area.

Policy VIS 2.2. Buildings, towers and antennas should be located on each site and designed in a manner which minimizes visual effects.

Program VIS 2.2.1: Telecommunications support facilities such as vaults and equipment rooms, utilities and other support structures should be placed underground, depressed, earth bermed, or sited below ridgelines or other significant public line of sight to the greatest extent feasible particularly in areas of high visibility where other visual screening techniques are inappropriate to the project area or cannot be successfully implemented. Earth berming and other topographic alterations should be compatible with the surrounding natural topography and not block significant public views. All facilities should visually blend with the surrounding natural and built environments.

Program VIS 2.2.2: Due to their high visibility, dish and parabolic antennas should be located at as low an elevation as possible without compromising the function of the device, preferably on the sides of buildings or ground mounted on slopes below the ridgeline wherever possible, rather than elevated on towers.

Program VIS 2.2.3: Utilities extended to service telecommunications sites shall be undergrounded or placed within existing or proposed structures to eliminate their visibility.

Program VIS 2.2.4: Telecommunications facilities, particularly equipment buildings, should be located below the ridgeline or other significant public line of sight wherever possible.

Program VIS 2.2.5: Telecommunications towers should be the minimum height required to permit the services proposed for that location and services that could co-locate at that location in the future without causing significant adverse visual effects. The proposed maximum height of a tower, monopole or other support structure may be confirmed through an independent analysis or peer review of technical information submitted by the service provider.

Program VIS 2.2.6: Microwave dishes within the regulatory purview of the County should be closely regulated, particularly in urban areas, to minimize their visual effects through appropriate siting, design, materials, and colors as recommended herein.

Program VIS 2.2.7: In order to minimize visual effects, guyed towers for major telecommunications facilities should be used instead of self-supported towers to minimize the size of the site, to minimize the need for screening from adjacent properties, or to reduce the potential for bird strikes in migratory pathways or significant flight paths used by local bird populations, except where self-supported towers are required to provide the height and/or capacity necessary for the proposed telecommunications uses.

Program VIS 2.2.8: The placement of towers, equipment buildings, etc. within a particular site should avoid or minimize encroachment into scenic views or otherwise cause adverse visual effects, particularly from any adjacent residential development or public viewpoint.

Program VIS 2.2.9: Antennas and other equipment should be integrated into an existing or proposed non-communications structure or co-located on an existing structure rather than on a new stand-alone structure whenever possible, provided that it does not significantly increase adverse visual effects of the facility.

Program VIS 2.2.10: When a new stand-alone structure is necessary, a monopole should be used for commercial wireless and other minor telecommunication facilities except where another type of support structure (e.g., lattice or guyed tower) must be used to provide necessary structural support or to minimize adverse visual effects. The height of the monopole or tower should be the minimum necessary for the proposed service and for other services that could co-locate on the tower. In appropriate situations, a monopole or tower could be required to resemble a natural feature or less obtrusive built feature that is consistent with the visual character of the surroundings.

Program VIS 2.2.11: Telecommunications facilities located on or adjacent to water tanks and other public utility or public service facilities shall be sited to minimize their visibility to the maximum extent feasible, particularly where existing public utility/service structures are sited within or adjacent to designated open space or other scenic areas. Public utility and other existing structures should be used to screen the telecommunications facility from off-site vantage points. Telecommunications facilities should be clustered and designed to appear as part of the existing public utility/service structure, including but not limited to materials and colors that visually blend with the predominant visual backdrop. Where appropriate, other site-specific development standards should be implemented in connection with Design Review for a proposed telecommunications facility site.

Program VIS 2.2.12: Building-mounted telecommunications facilities shall be sited and designed to appear as an integral part of the structure or otherwise minimize their appearance, such as by being screened from view or being placed above the pedestrian line-of-sight on a secondary facade. Roof-mounted facilities should be clustered in one area and set back from the edge of the roof, unless an alternative facility design will further minimize visual impacts, or hidden behind a parapet or screen to minimize visibility from street-level locations.

Program VIS 2.2.13: The County shall encourage equipment for a wireless communications facility to be enclosed in an existing structure or placed underground.

Program VIS 2.2.14: Accessory structures containing equipment for wireless communications facilities shall reflect the predominant architectural style(s) of the surrounding area and shall visually blend with the natural and built environments. The

materials, colors, and design of fences erected around the perimeter of the wireless site shall also reflect the natural and built environments of the surrounding area.

Program VIS 2.2.15: Wireless communications facilities should be permitted on historically or architecturally significant structures if there are no other available support structures or site locations that will avoid or reduce potential adverse visual effects and if the facilities are integrated with the structure or its setting so it is not visually inconsistent to a casual observer from a prominent vista or significant public corridor.

Policy VIS 2.3. The colors, materials, and lighting of towers, antennas and buildings shall be selected to minimize visibility as follows, unless specific colors or lighting are required by Federal or State agencies.

Program VIS 2.3.1: Materials used for equipment buildings and other telecommunications structures should be compatible with the surrounding natural and built environments. No advertising signage or logos shall be displayed on telecommunications facilities except for small identification plates used for emergency notification.

Program VIS 2.3.2: Telecommunication facilities should be painted to blend with the landscape or visual backdrop against which they will be seen.

Program VIS 2.3.3: Telecommunication facilities which will be primarily viewed against soils, trees or grasslands should be painted colors matching these landscapes.

Program VIS 2.3.4: Telecommunication facilities which rise above the horizon line should be painted in non-reflective blues or grays.

Program VIS 2.3.5: The mountings of antennas should be nonreflective and the appropriate color to blend with their background.

Program VIS 2.3.6: Microwave and satellite dishes within the regulatory purview of the County should be of mesh construction wherever possible.

Program VIS 2.3.7: The use of exterior lighting shall be permitted for safety purposes only and shall be manually operated (i.e., kept off except during nighttime maintenance activities), low wattage, hooded, and directed downward to minimized visual effects.

Program VIS 2.3.8: Tower lighting required by the FAA should, to the greatest extent feasible, be shielded or directed to minimize glare as viewed from off-site locations.

Policy VIS 2.4. Landscaping shall be used to minimize and mitigate visual effects of telecommunications facilities.

Program VIS 2.4.1: Vegetation adjacent to the disturbance area for a telecommunication facility shall be protected from construction effects by fencing. Applicants for telecommunications facilities may be required to submit a tree protection plan with construction permits to demonstrate compliance with this program. Vegetated areas disturbed during construction should be replanted to minimize erosion and to enhance the natural aesthetics of the site.

Program VIS 2.4.2: Landscaping to screen telecommunications buildings, towers and antennas should be required particularly for sites adjacent to or in developed areas. For a wireless communications site adjacent to residential uses, landscaping should be selected and situated to maximize screening of the site from those residences. However, the performance of antennas should not be impeded by plantings. This needs to be taken into consideration in the development, review and approval of landscape plans.

Program VIS 2.4.3: Applications for telecommunications facilities shall include a landscape plan that shows existing vegetation to remain and to be removed entirely or in part (i.e., trimming), and indicates the location, species type, and size of vegetation proposed for planting. Proposed landscaping shall be consistent with the predominant existing vegetation in the area and should consist of native, evergreen, and drought tolerant species unless other species are approved for the purpose of maximizing the amount of screening as soon as possible.

Program VIS 2.4.4: Applicants for telecommunications facilities may be required to enter into a landscape performance and maintenance agreement with the County to ensure the installation and long-term survival of required landscaping. The agreement shall include a financial security and shall be effective for a duration sufficient to ensure survival of the vegetation.

Policy VIS 2.5. The access roads to telecommunications facilities, particularly on ridgelines, should be subject to evaluation to minimize their visibility.

Program VIS 2.5.1: To the extent possible, new telecommunication sites should take access over existing fire roads or other existing roads or drives to avoid the visual effects of a new roadway.

Program VIS 2.5.2: The proposed access to expanded or new sites shall be evaluated to ensure that new roads are permitted only when no existing ones are available and suitable. New roads in agricultural and other rural areas should have the minimum width necessary to satisfy access and safety requirements.

Program VIS 2.5.3: Proposed repair and/or maintenance of the access roadway should be evaluated for potential visual effects and mitigations of these effects.

Program VIS 2.5.4: Whenever feasible, parking areas for telecommunications facilities should be shared by different service providers. Parking areas shall be no larger than required to accommodate reasonably likely post-construction traffic volume and shall be situated, designed and landscaped to minimize their visual effect.

4. ELECTROMAGNETIC FIELDS

This section of the Plan Update discusses the issues of human health effects from electromagnetic fields (EMF) and government regulation of EMF exposure. There is considerable public interest in Marin County and elsewhere regarding EMF exposure from telecommunications facilities and its effect on people. This issue has become increasingly controversial due in large part to the proliferation of commercial wireless facilities and continuing health studies on the matter. Local government control over EMF emitted by telecommunications facilities has also become controversial because federal law clearly prohibits local agencies from regulating commercial wireless facilities based on EMF if the facility complies with FCC standards for permissible exposure to EMF emissions. Accordingly, the County does not have jurisdiction to regulate the placement, design, or operation of telecommunications facilities based solely on EMF emissions if they comply with the federal standards. The County does, however, encourage service providers to avoid siting new telecommunications facilities in areas where EMF exposure may be of particular concern in order to avoid conflicts over this issue.

Electromagnetic Frequency Radiation and Research About its Effects

A radio frequency (RF) signal consists of EMF that radiates from a transmitting antenna at near the speed of light. The EMF interacts with objects in their path. An object may absorb the EMF completely or partially or the EMF may pass through an object unaffected or re-radiate from an object.

All radio frequency transmitters emit non-ionizing EMF which increases with the strength of the signal. High levels of non-ionizing EMF can produce physical effects on humans, but the threshold of all these effects are still being studied and are the subject of ongoing debate in the scientific community and elsewhere. Experts disagree on how much and under what conditions these effects begin to occur and the significance of the effects.

In the past thirty years, researchers have undertaken thousands of studies addressing the potential human health effects of exposure to non-ionizing energy in EMF. Among the health measures that have been studied are cellular and subcellular systems, hematologic and immunologic systems, reproductive systems and genetics, central nervous system, behavior, cataracts, auditory system, endocrine system, metabolism and growth, cardiovascular system, longevity and mortality, carcinogenesis and mutagenesis, shock, burns, and effects on pacemakers.

Most studies of EMF exposure are on non-human subjects. Because most potential effects of EMF exposure vary considerably with the nature of the subject, effects observed with non-human subjects are not necessarily the same for humans. Epidemiological studies of humans exposed to

high levels of EMF are considered inconclusive because of confounding factors, such as exposure to carcinogens in the workplace. Although some studies indicate EMF at frequencies and power levels used for telecommunications can affect the central nervous system, behavior, auditory system, and carcinogenesis, a causal link has yet to be accepted by the majority of the scientific and medical community.

Based on the research, there are three kinds of potential effects of EMF exposure on humans: thermal effects, non-thermal effects and shock/burn effects.

- Thermal Effects

When an electromagnetic field interacts with an object with high water content, such as human tissue, the energy in that field can induce motion in the cells that comprise the object. The effect of this motion is perceived as frictional heat.

The energy absorbed by a person can cause heating that raises a person's basal metabolic rate or core temperature. If a person's core temperature rises a little, as it does when a person exercises or is ill, the body's thermoregulatory system dissipates the heat with no lasting effect. Increasing core temperature beyond that amount can cause lasting harm or death. High levels of RF energy, in excess of 10,000 milliwatts per square centimeter (mw/cm^2), would cause a body to heat in potentially hazardous amounts. EMF levels due to telecommunications facilities are seldom more than a few mw/cm^2. They cannot cause acute thermal effects.

The relative potential health risk of thermal effects is based on four principal factors:

- Power: The higher the power output of a transmitter or group of transmitters at a site, the greater the likelihood of effects due to EMF exposure, because EMF levels on the ground will tend to be higher.

- Frequency: The potential effect of EMF varies with the frequency of the signal. Humans absorb most energy from frequencies in the 30 to 300 megahertz (MHz) range. Frequencies in this range are called "resonant frequencies." A given effect will occur at lower power in the resonant frequencies. Electromagnetic fields (EMF) that are above and below the resonant frequencies either does not penetrate tissue or penetrates such a small distance that it does not cause heating or other lasting effects.

- Distance: The EMF level associated with a transmitting antenna drops off inversely in proportion to the square of the distance from the antenna, (e.g., increasing distance from an antenna by a factor of three units reduces EMF levels by a factor of nine units). Therefore, to the extent EMFs pose increased risk of harm, that risk dissipates rapidly with distance from the source of the emission.

- Duration of exposure: The potential for health effects from thermal causes will be greater with more prolonged exposure. Residents on or immediately abutting the

site of an EMF source would be expected to have the longest exposure and be subject to greater risks. Full-time on-site workers (eight hours of exposure per day) would have the next highest exposure risk, followed by occasional maintenance workers or members of the general public who might visit the site or abutting land several times a month.

- Nonthermal Effects

When an electromagnetic field interacts with an object with electrical potential, such as human tissue, the energy in that field can affect the tissue or system in which it is a part through means other than heating. Increasingly, scientists and medical researchers have studied these non-thermal effects of EMF exposure. Some studies have linked EMF exposure to changes in calcium ion influx across the blood brain barrier, atypical hormone secretions, behavioral changes, and changes in vision and eye tissue. But the existence of such effects does not mean that they are caused by EMF exposure or that they are significant or adverse to human health.

Reasonable and responsible people continue to be concerned about the potential for adverse health effects due to long-term exposure to low levels of EMF. The scientific and medical community continue to research the issue and to dispute its merits. It is a dispute that goes on far beyond the borders and expertise of local land use agencies in Marin County.

In response to the concern about non-thermal effects from EMF exposure, the County regularly advises telecommunications service providers that it is prudent to site new transmitting facilities in areas that will avoid or minimize the long-term human exposure to EMF in residential neighborhoods and locations where persons may be immunologically compromised such as elementary schools, pre-schools, and hospitals. Although not a regulation, this advisory policy of "prudent avoidance" is intended to avoid or minimize community conflicts over EMF and non-thermal effects. This policy is not intended to regulate the location of new facilities or otherwise replace, modify or supplement the FCC-adopted Maximum Permissible Exposure levels for electric and magnetic field strength and equivalent plane-wave power density.

- Shock/Burn Effects

Radio frequency energy also can cause a burn or shock response in people under some conditions. This burn is caused by an induced current. It is most likely to occur at frequencies in the resonant range or lower (i.e., less than 300 MHz) and particularly in frequencies below 30 MHz.

Recent EMF Emission Standards

In 1992, the Institute of Electronic and Electrical Engineers (IEEE) adopted guides and standards for the safe use and measurement of RF energy recommended by the American Natural Standards Institute (ANSI).[2] The standard is referred to as "ANSI/IEEE C95.1-1992." The standard has different provisions for occupational and general public exposure. There are five frequency ranges within which different Maximum Permitted EMF Exposure levels are permitted, corresponding to human sensitivity. Various means can be used to comply with the EMF standard, including:

- Reducing the effective radiated power of a facility;
- Prohibiting public access to areas exposed to EMF exceeding the standard;
- Posting warning signs in areas exposed to excess EMF;
- Installing shielding on building-based antenna towers;
- Installing reflective material on adjacent building windows;
- Changing the power-to-gain ratio;
- Replacing existing antenna with a more efficient model;
- Optimizing spacing of antenna elements for minimal downward energy; and
- Raising the antenna.

These standards reflect years of research and discussion by leading scientists and practitioners throughout the country about thermal and non-thermal effects. By and large, the wireless communications facilities emit EMF levels that are well below the maximum permissible levels allowed by the FCC standards.[3]

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2 IEEE is the world's largest technical professional society comprised of more than 320,000 engineers throughout the world. It is a non-profit organization that promotes the development and application of electrotechnology and applied sciences for the benefit of humanity, the advancement of the profession and the well being of its members. ANSI is a non-profit, privately funded membership organization that coordinates development of voluntary natural standards in the United States. Its membership includes more than 1,200 companies, 250 professional, technical, trade, labor and consumer organizations and about 30 government agencies. The County adopted the 1982 ANSI standard for EMF exposure in 1990 as part of the Telecommunications Facilities Policy Plan.

3 The earth radiates an estimated 0.3 to 0.0003 $\mu W/cm^2$ at frequencies of 30 to 300 GHz. The mean level of RF energy from broadcast radiofrequency sources is estimated to be .001 $\mu W/cm^2$. The US Environmental Protection Agency described population-weighted average exposure levels from RF sources in urban areas calculated from measurements in 15 large cities. The estimated residential median exposure for people in these areas was 0.005 $\mu W/cm^2$ at FM radio and television broadcast frequencies and 0.019 $\mu W/cm^2$ at AM broadcast frequencies (30 Hz - 806 MHz). The report concluded there is negligible background exposure above 806 MHz. On Mt. Barnabe, a new cellular facility in combination with other sources of RF energy on the site was estimated to cause EMF levels on the ground of less than 1% of the amount permitted by IEEE/ANSI C95.1-1992 (i.e., 569 $\mu W/cm^2$ for 869 MHz).

Federal and County Regulation of EMF Emissions

Federal Standard. Section 704 of the Telecom Act expressly preempts local government jurisdiction over EMF emissions from commercial wireless facilities. That section provides:

> No State or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

The FCC has adopted an EMF exposure standard based largely on ANSI/IEEE C95.1-1992 and a similar standard promulgated by the National Council on Radiation Protection and Measurement (NCRP) in 1986.[4] (See Appendix F.) The FCC is considering rules about how to calculate and measure EMF and what local governments can request an applicant to do to show it does or will comply with the FCC standard (refer to footnote 13 at page II-40). In the meantime, the FCC decides on a case-by-case basis whether local requirements impede siting commercial wireless facilities and whether local EMF regulations are inconsistent with the Telecom Act or FCC rules implementing it.

County Standard: The County presently cannot do more with regard to regulation of EMF emissions than the FCC rule allows. Given the low levels of EMF emissions typical of commercial wireless facilities, the County will not regulate EMF emissions from such facilities that do or will comply with the FCC rule.[5] However, the County has adopted the FCC standard as its own and requires an applicant to demonstrate that a proposed communications facility, in combination with other sources of emissions, will not exceed that standard. The County may also require verification of calculated EMF levels by field testing after the facility is constructed.

The County also supports public and private research efforts by allowing for the adoption of a different exposure standard if the FCC revokes or changes its rule, or if Congress relaxes federal preemption of the issue.

County Review Process: Transmitters operating at power levels of 1,000 watts or more, particularly in the resonant frequencies between 30 MHz and 300 MHz, pose a greater risk due to EMF emissions than lower-powered facilities, and should be subject to discretionary permit review process (e.g., Use Permit and/or Design Review) to determine their acceptability and conditions of operation. Applications for modifications at existing telecommunications sites or the development of new sites should include information on proposed power levels and frequencies in order to determine if discretionary review should be required.

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[4] NCRP is a non-profit organization chartered by the United States Congress to provide government, the public, and industry with recommendations and guidance concerning human exposure to ionizing and non-ionizing radiation.

[5] The FCC categorically exempts from NEPA transmitters located 10 meters or more off the ground (other than on a rooftop), or if the total power of all channels is not more than 1,000 watts ERP (cellular, certain SMRs and narrowband PCS) or 2,000 watts ERP (broadband PCS). A facility must comply with the FCC limits whether or not categorically exempt from NEPA.

Where a discretionary permit is required, the permit application materials should include projected EMF exposure levels caused by the proposed facility in combination with other significant sources of EMF in the vicinity. If a new source combined with existing EMF sources would cause field strengths or power densities exceeding the allowable standard at ground level at the nearest point to which the general public has access, the source would violate the FCC standard, and the permit application should be denied, consistent with that standard, or approved subject to conditions under which compliance with the standard is assured.

Radio frequency energy is affected by objects and topography that contribute some uncertainty in the calculation of EMF levels for a new transmission source. As a safety check, where predicted levels of EMF are greater than one-third of the allowable standard at the point(s) where the public has the closest access to the antennas, EMF levels should be measured in the field at such point(s) after the new source is constructed but before the permit allows it to operate. If the measurements show EMF levels exceed the standard, the permit should be suspended or altered to ensure compliance.

Methods of Calculating and Measuring EMF: Calculations of EMF should be done in accordance with methods that have been field tested to assure that the methods result in accurate predictions. Currently, the best methods are published by the Office of Science and Technology (OST) based on work by the U. S. Environmental Protection Agency. The accuracy of these methods has been verified by measurements in the field. The OST manual is being updated to reflect changes warranted by technology, the Telecom Act and FCC rules. The County should follow closely the rulemaking process at the FCC, and be prepared to amend implementing regulations and informational guides accordingly.

Unless the FCC provides otherwise, the methods in the OST manual should be used to predict EMF levels until the County finds alternative methods that are at least as accurate. These methods can predict the electric and magnetic field strengths and equivalent plane-wave power density on the ground at a given distance from a given antenna transmitting at a given power.

The OST has graphed these relationships for specific antennas to make it easy to implement EMF standards. The graphs do not deal with a site where more than one source of EMFs is transmitting at the same time. In that case, the separate contribution of each source in the frequency range in question can be computed separately and the results added to create a conservative composite.

Sometimes, the calculations need to be checked in the field, or measurements are necessary to establish existing EMF levels. Field measurements of EMFs take skill, experience, time and the proper tools. Two kinds of tools are commonly used to measure EMF levels:

> A broadband meter - is used to measure the total field from all sources in all directions, and can measure ambient EMF levels down to as little as a few microwatts per centimeter. Although a broadband meter does not distinguish between frequencies, it can show whether ambient EMF levels in the area of a proposed or problematic facility warrant more detailed and expensive measurements using a narrow band meter or spectrum analyzer.

A narrow band meter - can measure the amount of energy contributed in each frequency where two or more telecommunications facilities have transmitters near each other.

Other tools may be needed to measure accurately radio frequency energy levels caused by microwave facilities, including a spectrum analyzer, calibrated horn antennas, and waveguides.

Care must be taken to avoid inducing errors due to the misuse of equipment or the failure to adapt to surrounding conditions. Many kinds of errors can be caused, particularly if measurements are made near metal objects that can re-radiate energy, creating the appearance EMF levels are higher than they are in fact.

In a complex radio frequency environment, measurements can be verified by using more than one tool. Different kinds of probes, attenuators, and antennas may be needed to enable each tool to work in a given environment. Also, to avoid errors about the energy emitted by a given source in a multiple-source environment, other transmitters in the area may have to be turned off.

Because of the technical nature of EMF calculations and measurements, the County should require applicants to provide for independent, peer review of calculations and measurements when warranted.

POLICIES FOR ELECTROMAGNETIC FIELD (EMF) EMISSIONS

Objective EMF 1: To avoid or minimize community conflicts over the potential adverse health effects from new commercial wireless and other telecommunications facilities by the prudent avoidance of locating such facilities in close proximity to areas where persons will be exposed to pro-longed electromagnetic frequency (EMF) emissions.

Policy EMF 1.1. The County should regularly advise service providers that it is prudent to avoid siting new transmitting facilities where prolonged EMF exposure will be experienced in residential neighborhoods and other locations where persons may be immunologically compromised such as elementary schools, pre-schools, senior facilities, and hospitals. This advisory policy of "prudent avoidance" is intended to avoid or minimize the degree of community conflict that can arise when telecommunications facilitates are located in residential and other areas where prolonged exposure to EMF occurs. This advisory policy may also facilitate the approval of new commercial wireless and other telecommunications facilities by reducing or avoiding the potential for a protracted decision-making process that can occur as a result of the controversy over EMFs and non-thermal effects. This policy is advisory only and is not intended to regulate the location of new facilities, deny a proposed facility, require site modifications or otherwise replace, modify or supplement the Maximum Permissible Exposure levels for electric and magnetic field strength and equivalent plane-wave power density in the EMF emission guidelines adopted by the FCC.[6]

6 47 CFR 1.1310.0. See Appendix D for a copy.

Objective EMF 2: To ensure that new sites or modification of existing telecommunications facilities are sited, designed, and built in a manner which minimizes potential health risks from electromagnetic field (EMF) radiation.

Policy EMF 2.1. The County shall ensure a proposed new or modified telecommunications facility will not cause electromagnetic field (EMF) strengths or equivalent plane-wave power densities in excess of the Maximum Permitted Exposure levels for electric and magnetic field strength and equivalent plane-wave power density in the EMF emission guidelines adopted by the FCC.[6]

Program EMF 2.1.1: The County should apply the Federal Communications Commission's EMF emission guidelines[6] as the County standard for evaluating potential adverse health risks from EMFs unless and until the FCC and other appropriate Federal or State agency provides otherwise and the County adopts a different standard.

Program EMF 2.1.2: Applications for modifications that could increase EMF levels at existing telecommunications sites or the development of new sites shall include a site specific report on existing and predicted electric and magnetic field strengths or equivalent plane-wave power density levels for the relevant frequency range(s) at the closest point(s) of public access. The report shall demonstrate whether the proposed facility, in combination with other existing sources of EMF in the affected area, will not cause EMFs to exceed the Maximum Permitted Exposure level.

Program EMF 2.1.3: EMF reports shall be prepared by a qualified radio frequency engineer based upon superior methods of calculation of EMF levels as they may be improved in the future.

Program EMF 2.1.4: A Use Permit, Design Review, or other discretionary permit application for a new source of EMF should be denied where calculations show that the new source combined with existing sources would expose members of the general public to EMF in excess of the Maximum Permitted Exposure level. In the event the FCC adopts a more restrictive Maximum Permitted Exposure Level, or the County adopts a more restrictive EMF exposure standard if allowed by future changes in Federal law, the service provider shall be required to demonstrate compliance with the more restrictive standard unless such a requirement is preempted by State or Federal law. If the service providers cannot demonstrate compliance with the more restrictive standard, the discretionary permit should be revoked unless revocation is preempted by State or Federal law.

Program EMF 2.1.5: Where the actual or predicted level of EMF are more than one-third of a Maximum Permitted Exposure level (in the relevant frequency range) where the public has nearest access to the EMF-emitting equipment, or when changes in a facility not otherwise regulated by the County could increase EMF levels significantly, the County should require the independent preparation or peer review of the following information: a) measurements of the predicted and/or actual EMF levels at the closest

point to which the public has access to a facility before taking discretionary action on the permit request; b) measurements of the actual EMF levels at the closest point to which the public has access to a facility after the facility is constructed but before it becomes operational on a permanent basis; and c) periodic EMF monitoring reports after the approved facility is constructed and operational to verify ongoing compliance with applicable EMF standards.

Program EMF 2.1.6: Safety standards shall be required, where appropriate, to protect persons working in areas that are not accessible to the general public who might be exposed to EMF levels in excess of the Maximum Permitted Exposure Level adopted herein. Such standards may include restricted access to telecommunications facilities, temporarily ceasing operating of the facility for work required within specified distances of antennas, and posting safety signage in compliance with FCC requirements. Safety standards shall be recommended in EMF reports required by Policy EMF 2.1.2 above.

Program EMF 2.1.7: Signage notifying persons about the presence of EMF-emitting telecommunications facilities should be required in open space areas accessible to the public where such facilities may be inconspicuously sited and/or designed and unnoticeable to the casual observer. Signage shall be subject to review and approval by the County in consultation with the Marin County Open Space District staff where appropriate.

5. PUBLIC SAFETY

There are three principle safety-related issues for wireless communications facilities: structural safety, access, and maintenance.

Structural Safety

An antenna, its attaching members and its supporting structure can pose hazards to public safety like any other structure and its parts. It can fail due to design errors, faulty materials, poor workmanship or fabrication, accidents, vandalism, lack of maintenance or natural hazards. Such failures, however, are rare.

The potential for failure can be reduced by subjecting building permits for telecommunications facilities to the latest building and industry codes. The latest update to the RS-222-C standards by the Telecommunications Industry Association and Electronics Industry Association is TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures."

Access

It is in the service providers interests to ensure a wireless communications facility is secure by design. Most stand-alone sites are fenced or surrounded by bollards. Fences prevent casual pedestrian access to a tower and equipment, but can have an industrial visual quality (e.g., chain link).

Bollards present a less industrial appearance, such as where a wireless communications facility is integrated with other public utilities or art. They protect against vehicles but not against casual pedestrian access. When such access exists, additional attention to safety is warranted in the design review process. Rooftop sites also may be fenced depending on the accessibility and sensitivity of the installation. Building-mounted sites typically are not readily accessible.

A tower may attract unauthorized climbers. There are a variety of ways to secure a tower against unauthorized access, such as anti-climbing devices and elevated ladders. These measures should be required as a precaution where public access is possible.

Equipment for a typical wireless communications facilities is combined into a small building or one or more vaults. These fully enclosed structures generally protect against casual or imprudent contact with the equipment or exposure to electrical hazards. Underground utilities for a wireless communications facility pose no particular hazard if installed consistent with codes.

Maintenance

It is in the service providers' interest to maintain a tower, given its relatively high initial cost. On rare occasions, connectors have failed due to lack of maintenance. The County should encourage necessary maintenance of the structural safety of wireless communications facilities, as it does for all structures. But administration and enforcement of regulations requiring approval and execution of a maintenance program or the like for each facility is not warranted by the magnitude of the risk of such failure. Service providers' interest will suffice for structural safety.

POLICIES FOR PUBLIC SAFETY

Objective PS 1: To ensure that new facilities or modifications of existing telecommunications facilities provide adequate structural integrity as well as protection from fire hazards and vandalism.

Policy PS 1.1. Telecommunications facilities should be designed and built in compliance with applicable building code and TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" and its amendments and revisions.

> Program PS 1.1.1: Service providers should be required to submit a report from a professional engineer describing the tower structure, including the number and type of antennas it is designed to accommodate and the basis for calculation of capacity, and

demonstrating that it complies with applicable structural standards. This information should be submitted with applications for building permit.

Policy PS 1.2. Each site shall be designed and constructed to prevent unauthorized access and vandalism.

Program PS1.2.1. The design of telecommunications sites should include specific features to prevent unauthorized access and vandalism. Such features may include, but not be limited to fencing, anti-climbing devices, elevated tower ladders, and security monitoring by electronic means or personnel.

Policy PS 1.3. Towers should be regularly checked and maintained by service providers to keep them in a sound and safe condition until the towers are dismantled and removed from the site.

Policy PS 1.4. The towers should be designed so that in the event of failure they will fall within the fenced portion of the site and/or away from adjacent development to the extent feasible.

Program PS 1.4.1: Structures should be set back from nearby towers and from adjacent parcels or public property or street to the extent feasible.

Policy PS 1.5. Towers should be adequately spaced so that the failure of one tower will not cause adjacent towers to fall, provided that clustering of more than one tower is appropriate pursuant to policies of this Telecommunications Plan.

Policy PS 1.6. Fire and safety hazard reduction around the facility should be accomplished in accordance with applicable laws, regulations, orders, and ordinances.

Program PS 1.6.1: Buildings should be equipped with a fire suppression system to prevent the spread of fire in the hillsides.

Program PS 1.6.2: Telecommunications sites should be landscaped with drought, wind and fire resistant plants. Applications for new and/or expanded facilities shall provide landscaping plans that detail planting and indicate how landscaping will be watered until it is established. Refer also to landscape plan requirements in Policy VIS 2.4.

Program PS 1.6.3: Service providers and owners of property on which telecommunications facilities are located should be required to dismantle and remove antennas, towers and accessory structures which have been inoperative or abandoned for one year unless the service provider requests an extension of time to propose or allow future reuse of the inoperative site for a future telecommunications facility. Service providers may be required to post a bond or other suitable security as a condition of a County permit in order to guarantee removal of abandoned structures.

Program PS 1.6.4: Applications should be conditioned to prohibit smoking and require proper disposal of smoking materials at telecommunications facilities in fire hazardous or wildland areas.

Program PS 1.6.5: Applicants for facilities in fire hazard or wildland areas shall be required to submit a lands management plan detailing proposals for removing and controlling brush at a telecommunications site.

Policy PS 1.7. Earthquake standards for telecommunications facilities shall ensure that communications will be maintained in the event of an earthquake.

6. OPERATION OF TELECOMMUNICATIONS FACILITIES

Telecommunications facilities may cause noise, traffic and parking effects and radio frequency interference, and they require maintenance for more than public safety reasons.

Noise: Noise may result from the testing or use of backup generators or from air conditioners. Power cells can be used in place of generators in some applications. Wind blowing through a guyed tower or through the framework of a lattice tower also may cause noise.

Traffic: Post-construction traffic typically consists of a maintenance vehicle once every week or two. If care is taken to avoid land use and visual incompatibility, vehicular traffic associated with maintenance and operation of a facility has negligible impacts.

The County can regulate noise emissions and can require adequate access to and parking at telecommunications facilities using clear and objective standards. Access and parking improvements for such a low volume of vehicle trips should not increase the visual and natural resource effects from development and use of the site. Noise producing equipment, such as generators or air conditioners, should be sited and/or insulated to minimize noise effects for adjacent properties and comply with noise guidelines in the Countywide Plan Noise Element.

RF Interference: Telecommunications facilities can cause radio frequency interference, particularly high-powered broadcast services. Typically lower-power facilities, such as for commercial wireless services, have less potential for such effects. Interference can be reduced or eliminated by installing appropriate filters on transmitting and/or receiving equipment, by combining transmitters with multiplexing and common antennas, by separating receiving and transmitting devices, or by using natural topographic features to shield one facility from the transmission of another nearby facility.

The FCC has exclusive jurisdiction over RF interference. FCC rules require broadcast licensees (i.e., service providers) to satisfy at no cost to the consumer most types of interference complaints received by the licensee within a year after the license is issued. Thereafter, a licensee must provide information and help complainants remedy interference with consumer devices. Mobile receivers and non-radio frequency devices such as tape recorders and hi-fi amplifiers are not protected by the FCC rule. Often interference can be corrected by shielding or filtering the consumer device or by altering the energy patterns of transmitting equipment.

While the County is precluded from regulating radio frequency interference, it is not restricted from helping to facilitate remedies to reduce interference. To the extent radio frequency interference impedes co-location of commercial wireless facilities, it is in the County's interests to help remedy those problems to reduce the number of facility sites in the County.

Maintenance: Because of the importance of landscaping to mitigating visual effects, a telecommunications facility operator should be required to maintain and irrigate required landscape materials as needed to ensure their survival and to replace them if they do not survive.

Some wireless facilities present unique maintenance needs. For instance, plastic bark and leaves on some tree-look-a-like towers have degraded in sunlight and fallen off creating a potentially hazardous roadside mess and negating the mitigating value of the faux materials. When a service provider proposes an innovative approach to siting a wireless communication facility, local agencies should determine whether it creates specific maintenance needs to prevent public safety hazards or to assure that visual mitigation or other policy objectives are successfully implemented over the life of the facility.

POLICIES FOR TELECOMMUNICATIONS FACILITY OPERATION

Objective OI 1: To ensure that the potential effects from the operation of a telecommunications facility for adjacent uses or other telecommunications facilities are minimized.

Policy OI 1.1. Development approval for expansion or establishment of new sites should include mitigation for traffic and noise effects.

Program OI 1.1.1: Adequate employee parking should be provided within the telecommunications site.

Program OI 1.1.2: The siting and design of telecommunications facilities shall be consistent with the objectives, policies, and programs of the Countywide Plan Noise Element. In particular, noise producing equipment should be sited and/or insulated to minimize noise effects on adjacent properties consistent with the guidelines in the Countywide Noise Plan Element.

Program OI 1.1.3: Guyed towers or lattice towers should not be located in close proximity to residential areas if the noise generated by wind blowing through the tower will exceed the guidelines in the Countywide Plan Noise Element.

Program OI 1.1.4: The County may require a noise assessment, if determined necessary, to verify whether the location, design, or operation of telecommunications facilities will comply with the Countywide Plan Noise Element.

Program OI 1.1.5: In residential areas, traffic to and from telecommunications sites should be limited to the minimum number of vehicle trips required for routine

maintenance, testing, and emergency repairs. The number of vehicle trips associated with routine maintenance and testing may be prescribed a condition of project approval.

Policy OI 1.2. The County should encourage efforts, such as the non-interference agreement being promoted among the Big Rock Ridge operators, to reduce radio frequency interference and encourage site operators to cooperate in such agreements where sites are located near one another.

V. IMPLEMENTATION

V. IMPLEMENTATION

1. IMPLEMENTATION OF THIS POLICY PLAN

The basic actions required to implement the policies and programs of this Telecommunications Plan are to:

- Adopt this Telecommunications Plan.
- Amend Title 22 (Zoning) to revise permit requirements and criteria that provide procedural incentives for preferred facility locations (e.g., co-location) and innovative design.
- Maintain a data base of telecommunications sites and disseminate that data for use in identifying potential co-location and clustered sites for new telecommunications facilities throughout Marin County.

2. REVIEW PROCESS FOR TELECOMMUNICATIONS FACILITIES

Network Facilities Plan Review

The County has a strong interest in becoming fully informed about the various technical and planning aspects of telecommunications systems, particularly wireless communications services, and the long-term effects of developing new telecommunications facilities in Marin County. It is beneficial in this regard for service providers to submit as much information as possible about the type of service they are proposing to operate and a comprehensive plan of their facilities network. This information should be reviewed by the County prior to taking action on permit applications for site-specific facilities so that decisionmakers, interested agencies, and the public have a clear and complete understanding of the service providers' "big-picture" plan and how individual facility sites relate to their network as a whole. Subsequent decisions on site-specific facilities should be based on their conformance with this Telecommunications Plan and other applicable policies and standards.

Discretionary Review

To promote consistent decisions for telecommunications proposals, efficient use of available resources, and common approaches to addressing and resolving land use issues and concerns, telecommunications facilities should, to the extent possible, be regulated using the same procedures and approval standards throughout the jurisdictions of Marin County.

The particular procedure that applies, and the amount of discretion in the applicable approval standards, should be proportionate to the likelihood and significance of the potential adverse impacts of the facility. The greater the likelihood and more significant the potential impacts, the greater the amount of review and discretion in the approval standards.

The three levels of discretionary review applied by the County to telecommunications facilities are Master Plan, Use Permit with concurrent Design Review, or Design Review only. In addition, telecommunications proposals that are minor and incidental may be exempt from discretionary review. The County must also conduct environmental review for telecommunications proposals within the unincorporated areas of Marin in accordance with the California Environmental Quality Act (CEQA). The County's specific procedures for conducting environmental review are established in the Marin County Environmental Impact Review (EIR) Guidelines.

The basic levels of discretionary review that should be applied by the County for telecommunications proposals are described below. The following procedures pertain only to the unincorporated County jurisdiction and may not reflect the administrative process or zoning nomenclature used by cities or towns.

A. Master Plan/Use Permit and Design Review

Unless otherwise indicated below, all telecommunications proposals should be subject to: 1) Master Plan; or 2) Use Permit with concurrent Design Review. A Master Plan should be required for development of new major facilities or substantial modifications to existing major facilities. What constitutes substantial modification to an existing facility is determined on a case-by-case basis taking into consideration the setting of the facility site, the size and scale of the proposed modifications, the land use issues surrounding the proposal, and other site specific factors that may be relevant. Master Plans must be acted on at noticed public hearings by both the Planning Commission and Board of Supervisors.

Use Permit with concurrent Design Review should be required for development of new minor facilities (e.g. commercial wireless facilities) or substantial modifications to existing minor facilities. Applications for Use Permit with concurrent Design Review can be acted on at public hearings by either the Planning Commission or Deputy Zoning Administrator, and are subject to appeal to the appropriate decisionmaking body.

The review processes summarized above provide for detailed evaluation of a telecommunications proposal, including environmental review pursuant to CEQA, and consideration of issues and concerns from the public and interested agencies through public notice and hearings.

The County also has the authority under these processes to impose conditions of approval to ensure compliance with County policy and standards, or to deny a proposed facility if it is inappropriately sited or if its adverse effects cannot be reduced to an acceptable level. Master Plans and Use Permits allow the County to regulate the ongoing operational aspects of telecommunications facilities, if warranted, and can be used to require periodic permit review and/or renewal to evaluate future changes in policies, physical circumstances in the project area, or telecommunications technology.

B. Design Review

Design Review (without concurrent Use Permit) should be required for commercial wireless and other minor facility proposals that promote the location and design standards of this Telecommunications Plan and are otherwise generally considered to be appropriate in terms of scale and character. In these situations, Design Review is appropriate to determine compliance with policies and development standards, and to provide a procedural mechanism for imposing conditions of approval that implement such policies and standards. Design Review proposals may be acted on administratively by the Community Development Director without a public hearing, although the Director may refer Design Review proposals to the Planning Commission if important policy questions or substantial public controversy arise during review of the proposal. Decisions on Design Review proposals are also subject to appeal. The types of facilities that are typically subject to Design Review include:

- New facilities in a commercial or industrial zone;
- New co-located facilities; and
- New minor facilities with antennas that are architecturally integrated with an existing or proposed public facility, commercial, industrial, or agricultural building (e.g., stealth design).

C. Exempt Projects

Some telecommunications projects have little or no potential for impacts and should, therefore, be exempt from additional review and requirements. The types of facilities that are typically exempt include minor modifications to existing approved telecommunications facilities, including, but not limited to replacement of antennas or other equipment with different or upgraded technologies where no new significant land use or environmental issues are present.

As discussed in Chapter 2, Marin County's land use control over a particular project may be preempted in whole or in part by Federal or State agencies. However, the County and cities and towns in Marin may be able to pursue the objectives of this Telecommunications Plan through informal means, such as commenting on applications before the CPUC or FCC. In order to comment on applications where preemption may occur, local agencies must actively seek information on pending applications, review applications for projects to be located in Marin County, and submit written comments where appropriate.

Procedural Incentives

The County and other local agencies also can promote good wireless facility design by recognizing it when it occurs. The County's review process implements this objective by conducting Design Review only (i.e., not requiring Master Plan or Use Permit), for wireless communications proposals that are co-located, located at preferred sites (i.e., industrial or commercial properties), or have effective stealth designs. Limiting the discretionary review

process in this manner will mean lower permit application fees, and more importantly to service providers, an expedited review process because public hearings are normally not required for Design Review proposals.

POLICIES FOR THE REVIEW PROCESS

Objective RP 1: To establish an effective planning and permitting review process for telecommunications facilities which accords a greater level of review to projects with potentially greater impacts.

Policy RP 1.1. Prior to making a decision on a site-specific telecommunications proposal that is part of a larger network or system, the service provider shall submit to the County information that sufficiently describes the nature of the proposed telecommunications service and technology and a long-range network facilities plan showing the existing, proposed, and planned future facility sites and separate coverage areas for such sites as can be reasonably predicted (refer to Program LU 1.4.3). This information should be considered by the appropriate decisionmaking body prior to acting on a permit request for a site-specific facility that is part of the overall network or system.

Policy RP 1.2. Telecommunications facilities should be regulated using uniform procedures and development standards throughout the unincorporated area of Marin County regardless of the zoning districts where the facilities are located, provided that proposals for telecommunications facilities may be subject to different review processes and/or standards depending upon project-specific factors pertaining to the proposed facility site, facility design and location, intensity of use, and degree of compatibility with surrounding land uses

Policy RP 1.3. The level of discretionary review for a proposed telecommunications proposal should correspond to the degree of potential impact and the significance of land use issues arising from the proposal. Incentives for telecommunications proposals that implement the location and design policies of this Telecommunications Plan should be provided by limiting the administrative processing time and permit fees for such proposals. The level of discretionary review shall be determined by the Community Development Director or other appropriate County decisionmaking authority.

> Program RP 1.3.1: Unless otherwise specified by Program RP 1.3.2 or RP 1.3.3 below, proposed telecommunications facilities shall be subject to Master Plan or Use Permit with concurrent Design Review requirements in order to provide sufficient discretionary review and a mechanism of imposing conditions of approval and necessary mitigation measures.

Program RP 1.3.2: Design Review only (i.e., Master Plan or Use Permit waived) should be required for proposed telecommunications projects that implement the following policy objectives:

a. Co-location;

b. Locating new minor telecommunications facilities at preferred commercial or industrial sites; and

c. Implementing stealth design for a new minor telecommunications facility.

Design Review should be required for these types of proposals to determine compliance with discretionary development standards such as siting, landscaping, colors, etc., and to solicit community input on the proposal prior to the County's decision on the permit application. The determination regarding whether a particular telecommunications proposal qualifies for Master Plan or Use Permit waiver (i.e., only Design Review required) should be made by the Community Development Director after initial review of a complete development application. This determination should also be based on the extent to which the service provider has consulted with the affected community prior to submittal of the Design Review application as recommended by Policy RP 4.3.

Program RP 1.3.3: Telecommunications facility proposals that have little or no potential for impacts should be exempt from discretionary review, including but not necessarily limited to replacement of existing approved antennas, transmitters, or other equipment with new or upgraded technology that is substantially consistent with the scale and design of the existing approved facility and does not result in new adverse effects or significant land use issues. The determination regarding whether a particular telecommunications proposal is exempt from discretionary review should be made through a Design Review exemption request by the service provider.

Program RP 1.3.4: The County should amend Title 22, the Zoning Ordinance, to establish review processes for telecommunications projects, including wireless communications facilities, consistent with Policy RP 1.3 and Programs RP 1.3.1-1.3.3 above.

Policy RP 1.4. Applications for telecommunications facilities shall be required to include information sufficient to address the policies and programs of this Telecommunications Plan in addition to permit application submittal requirements and environmental review pursuant to CEQA. For commercial wireless facilities, service providers should be required to provide the information listed in the Community Development Agency "Guide to The Marin County Telecommunications Facilities Policy Plan" (refer to Appendix E), including, but not limited to network system plans, facility coverage area maps, EMF reports, and visual analysis, and other information as determined by the County to properly evaluate such proposals for conformance with County policy and CEQA.

Program RP 1.4.1: The County may require peer review or the independent preparation of any technical information submitted with permit applications for telecommunications facilities, such as the feasibility of alternative facility sites and/or facility designs, or to verify the predicted and actual EMF emissions from an approved facility for compliance with the EMF emissions standard adopted in this Telecommunications Plan.

Objective RP 2: To promote interjurisdictional review of telecommunications proposals by establishing uniform policies and procedures and coordinating permit review of facility siting.

Policy RP 2.1. Incorporated cities and towns in Marin County should consider adopting rules and regulations similar to those in this Telecommunications Plan with respect to regulating telecommunications within their jurisdictions.

Policy RP 2.2. The County, cities, and towns should consider land use and environmental issues on an interjurisdictional level.

Program RP 2.2.1: The County, cities, and towns should transmit development applications for proposed telecommunications facilities to jurisdictions that are located adjacent to or within the coverage area of the proposed facility to evaluate facility site and design opportunities that further conformance with the policies and standards of the affected jurisdictions. In this regard, jurisdictions within Marin County should review network system plans and coverage area maps during the initial stages of permit processing.

Objective RP 3: To maintain a periodic review procedure for evaluating the compliance of telecommunications facilities with this Telecommunications Plan and with conditions of project approval and new telecommunications technology that may further the objectives and policies of this Telecommunications Plan.

Policy RP 3.1. All discretionary permit approvals granted by the County for telecommunications facilities shall be reviewed at least every 10 years, or more frequently, as specified by the conditions of a project approval. When reviewing requests for permit renewal, the County should work with service providers to evaluate the feasibility and practicality of replacing existing facilities (or components thereof) with new technology that would minimize visual or other land use effects addressed in this Telecommunications Plan.

Policy RP 3.2. Telecommunications facilities that are abandoned or inoperative for a minimum two year period shall be removed from the site by the service provider and property owner. As a condition of permit approval, the County shall require a performance agreement with financial security to ensure the removal of an abandoned or inoperative facility.

Policy RP 3.3. The County shall establish and maintain a data base of existing and potential co-location sites for telecommunications facilities and provide information about them to service providers and other interested parties (refer to Appendix A).

Objective RP 4: To utilize opportunities for advisory or environmental review comments on telecommunications facilities to pursue implementation of this Telecommunications Plan's objectives where the County's land use control is preempted and to use other non-regulatory approaches to promote such objectives.

Policy RP 4.1. The County should request Federal and State agencies, particularly the FCC and CPUC, to notify the County of proposed telecommunications facilities, especially those which may be exempted from local land use control.

Policy RP 4.2. The County should use opportunities for commenting on environmental review documents to recommend compliance with the policies of this Telecommunications Plan as mitigations for various environmental impacts.

Policy RP 4.3. Prior to filing development applications with the County, service providers are encouraged to meet with community organizations (i.e., homeowners associates, local design review boards, etc.) and affected residents within the area of their proposed telecommunications facilities to present the proposal, solicit input, and consider possible site or design modifications to address community concerns.

APPENDIX A

INVENTORIES OF TELECOMMUNICATIONS FACILITIES IN MARIN COUNTY

MAP 1: MAJOR TELECOMMUNICATIONS FACILITY SITES IN MARIN COUNTY

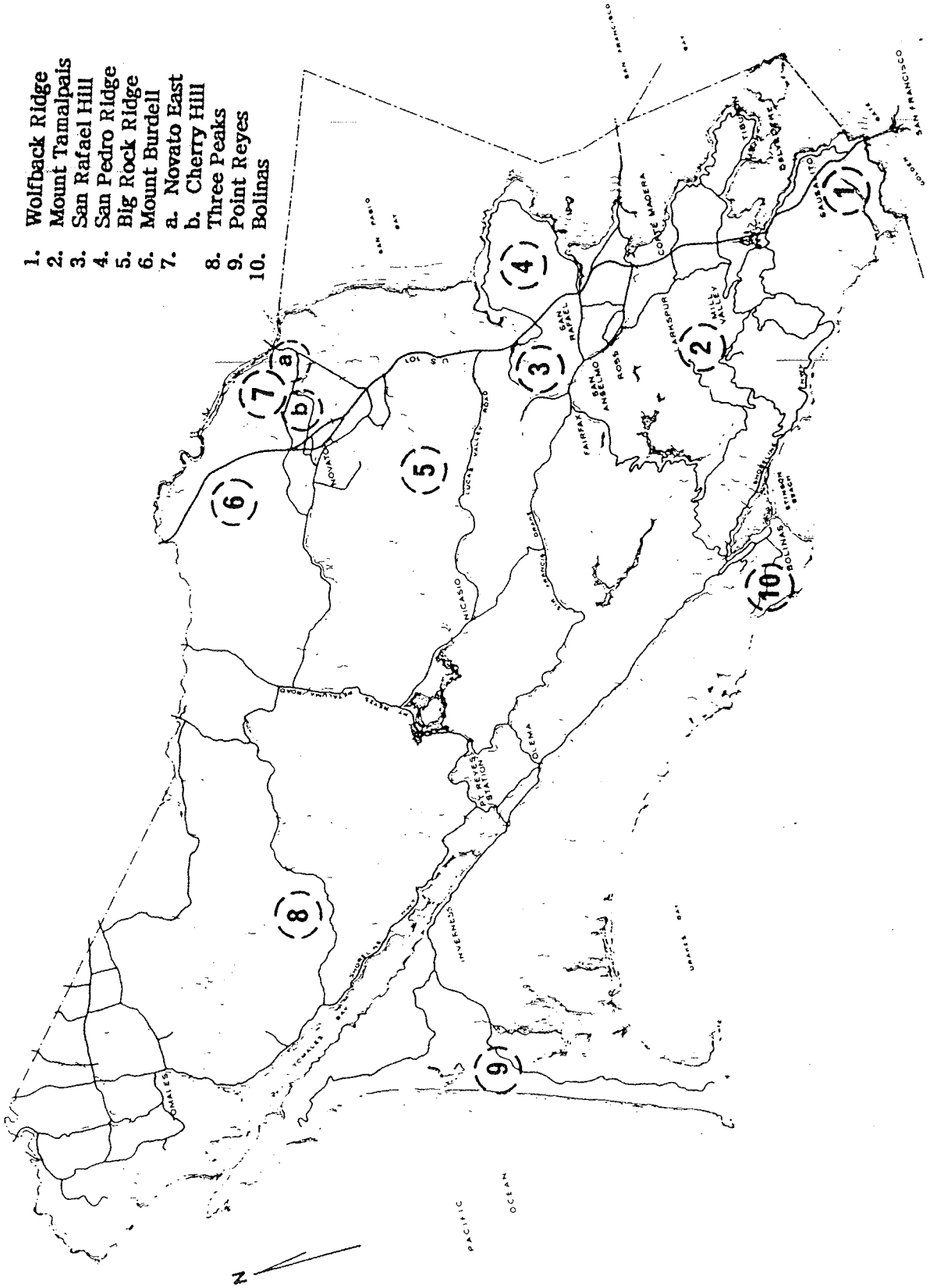


TABLE 2: MAJOR TELECOMMUNICATIONS FACILITY SITES IN MARIN COUNTY (1990)

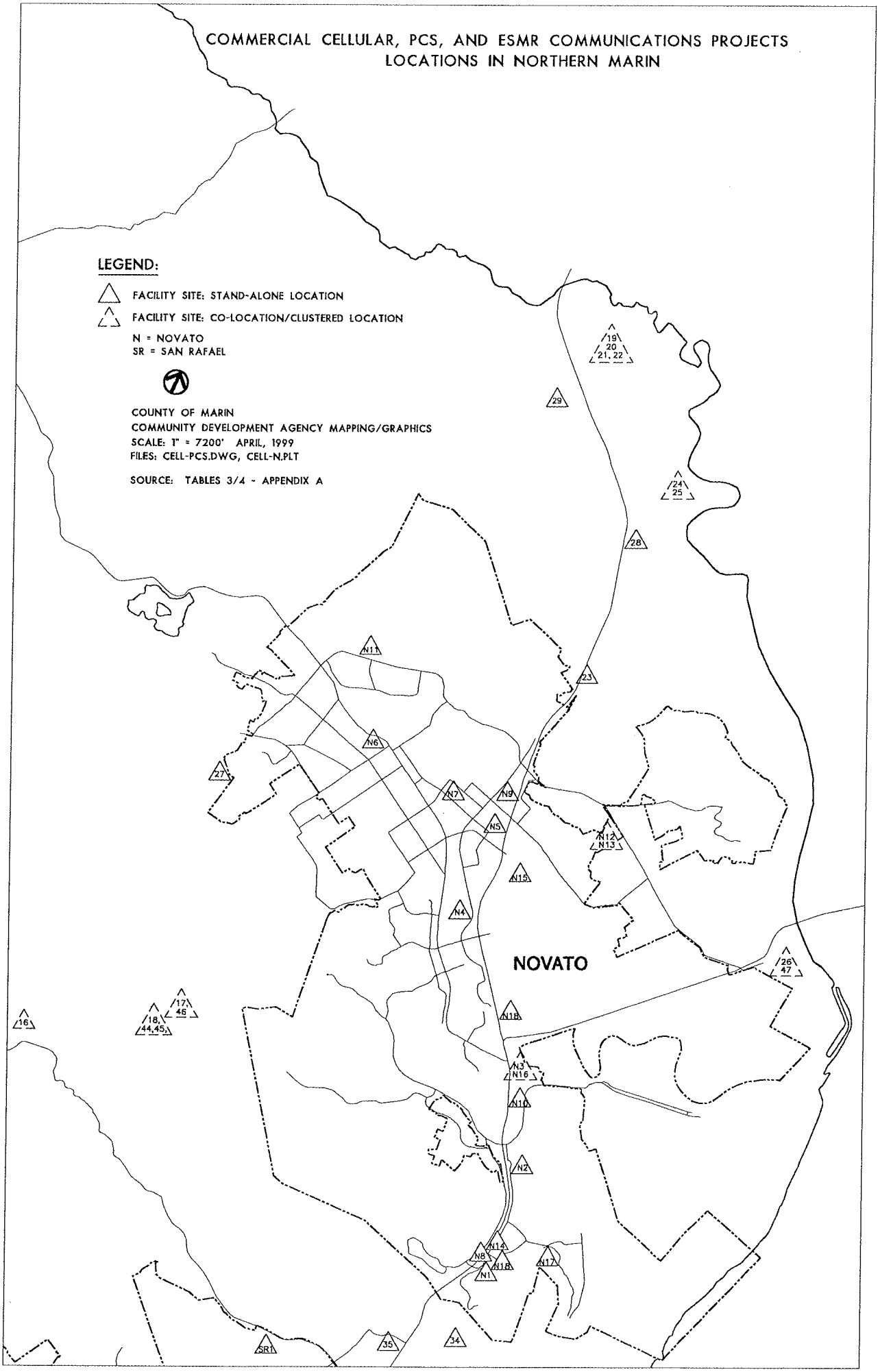
SITE #	SITE NAME & ELEVATION*	OPERATORS	PRINCIPAL USES	LONG & LAT	APN	OWNER
1	Wolfback Ridge elev. 1120	Sundial Broadcasting	FM Broadcast	37 50 57 122 29 56	200-120-02	Sundial Broadcasting
2	Mount Tamalpais elev. 2520 (mid peak)	Telecommunications Properties, FAA, and Air Force	Land mobile, cellular, paging	37 55 44 122 35 11		MMWD Federal Park Service
3	San Rafael Hill elev. 630	United Radiophone System, City of San Rafael	Land mobile, cellular, paging	37 58 52 122 31 11	011-084-42 011-084-41	Angelo Turrini City of San Rafael
4	San Pedro Ridge elev. 1050	C&C Equipment Co., Pacific Bell	Land mobile, cellular, paging	37 59 25 122 29 58	015-250-21 015-250-49	Gayle Corbin Pacific Tel & Tel
5	Big Rock Ridge elev. 1887 (west peak)	Motorola C&C Inc., W. site C&C Equipment Co., and Viacom Cablevision, E. site	Land mobile, cellular, paging	38 03 20 122 35 53	164-310-07 164-300-04 164-310-13	G. Lucas R. Hill G. Lucas
6	Mount Burdell elev. 1500	AT&T Communications	Satellite earth station	38 08 42 122 35 35	125-180-17	AT&T
7a	Novato East sea level	CBS	AM Broadcast	38 08 23 122 31 43	125-190-20	Rancho Del Pantano, Inc.
7b	Cherry Hill elev. 446	Chambers Cable	Satellite earth station	38 06 47 122 32 56	143-110-01	Schwartz, et al
8	Three Peaks elev. 390	AT&T Communications	Satellite earth station	38 08 52 122 47 38	106-241-04	AT&T
9	Pt. Reyes sea level	AT&T Communications, MCI/RCA Global Communications	Satellite earth station, receive site for marine radio	38 05 45 122 56 45	109-090-07 109-090-14 109-090-16	AT&T RCA Global National Park Service
10	Bolinas sea level	MCI International/RCA, Global Communications	Maritime mobile receiving station	37 54 30 122 43 40	188-170-60 180-170-06	National Park Service

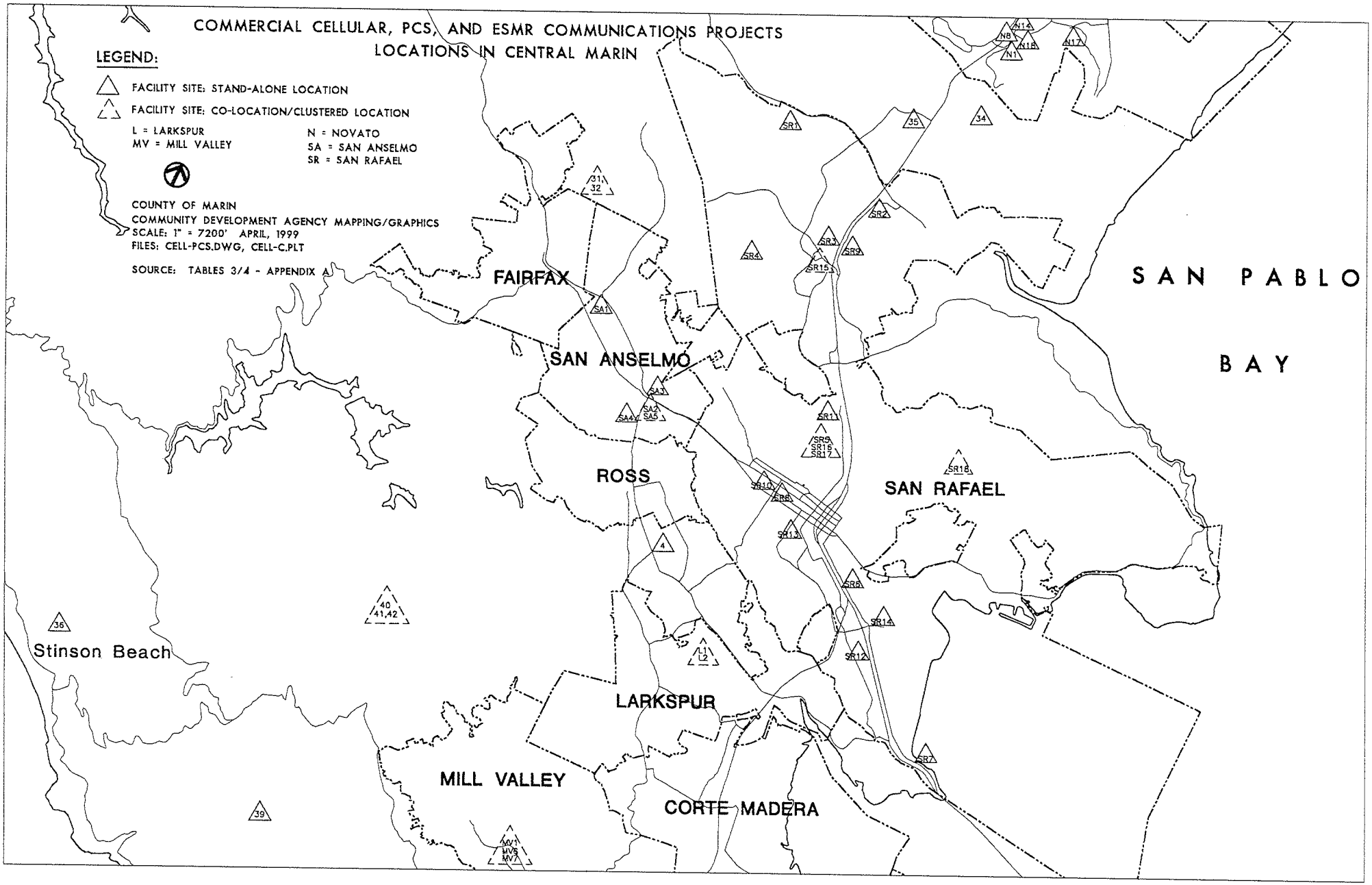
* Elevation figures are above mean sea level.

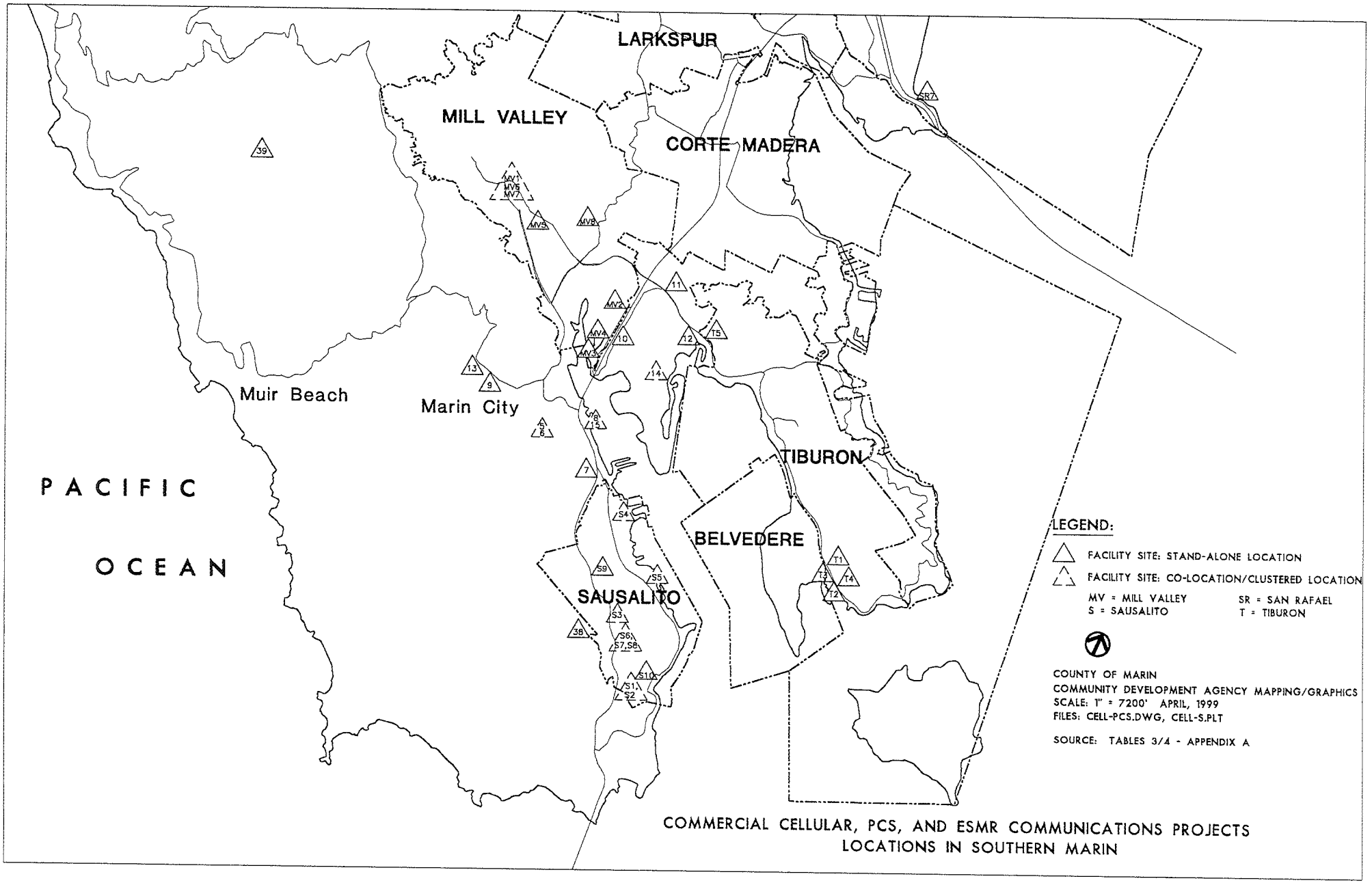
MAP 2: SELECTED MINOR TELECOMMUNICATIONS FACILITY SITES IN MARIN COUNTY

Refer to following maps.

COMMERCIAL CELLULAR, PCS, AND ESMR COMMUNICATIONS PROJECTS LOCATIONS IN NORTHERN MARIN

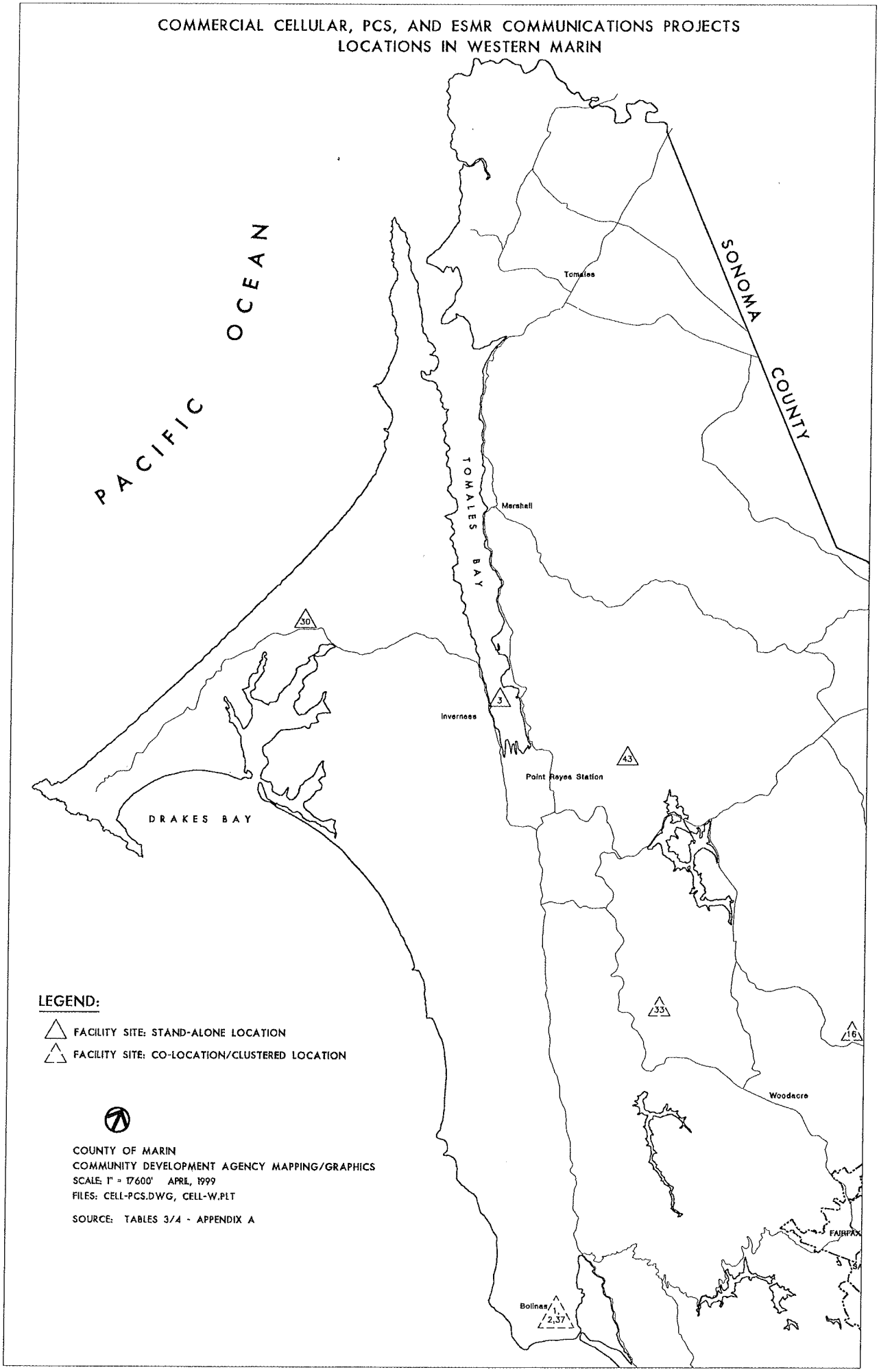



COMMERCIAL CELLULAR, PCS, AND ESMR COMMUNICATIONS PROJECTS
LOCATIONS IN CENTRAL MARIN
LEGEND:
FACILITY SITE: STAND-ALONE LOCATION
FACILITY SITE: CO-LOCATION/CLUSTERED LOCATION
L = LARKSPUR
MV = MILL VALLEY
N = NOVATO
SA = SAN ANSELMO
SR = SAN RAFAEL
COUNTY OF MARIN
COMMUNITY DEVELOPMENT AGENCY MAPPING/GRAPHICS
SCALE: 1" = 7200' APRIL, 1999
FILES: CELL-PCS.DWG, CELL-C.PLT
SOURCE: TABLES 3/4 - APPENDIX A
FAIRFAX
SAN ANSELMO
ROSS
SAN RAFAEL
LARKSPUR
MILL VALLEY
CORTE MADERA
Stinson Beach
SAN PABLO
BAY



COMMERCIAL CELLULAR, PCS, AND ESMR COMMUNICATIONS PROJECTS
LOCATIONS IN SOUTHERN MARIN

COMMERCIAL CELLULAR, PCS, AND ESMR COMMUNICATIONS PROJECTS
LOCATIONS IN WESTERN MARIN



LEGEND:

△ FACILITY SITE: STAND-ALONE LOCATION

△ FACILITY SITE: CO-LOCATION/CLUSTERED LOCATION

COUNTY OF MARIN
COMMUNITY DEVELOPMENT AGENCY MAPPING/GRAPHICS
SCALE: 1" = 17600' APRIL, 1999
FILES: CELL-PCS.DWG, CELL-W.PLT

SOURCE: TABLES 3/4 - APPENDIX A

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
1. Sprint Spectrum PCS A Block	CP97-91 DM97-92 UP97-93	193-020-55 Bolinas 100 Mesa Road Bolinas Fire/PD Station	MP/CLU	3/57.5'	Installed
2. Cellular One Cellular A Block	CP97-479 DM97-441 UP97-445	193-020-55 Bolinas 100 Mesa Road Bolinas Fire/PD Station	MP/CLU	12/57.5'	Installed
3. Three Guys Cell Comm. Cellular B Block	UP97-72 DR97-71	112-310-26 Inverness 12786 Sir Francis Drake Blvd. Chevron Station	MP	2/44'	Installed
4. Pacific Bell PCS B Block	UP96-400 DX96-399	071-143-58 Kentfield 1004 Sir Francis Drake Blvd. Kentfield Fire/PD Station	RM	6/32.5'	Installed
5. Sprint PCS A Block	UP97-133 DR97-132	052-140-27 Marin City MMWD Tank	MP/CLU	6/24.5'	Installed
6. Pacific Bell PCS B Block	UP97-781 DR97-782	052-140-27 Marin City MMWD Tank	MP/CLU	3/25'	Installed
7. Cellular One Cellular A Block	DM97-808 UP97-809	052-490-04 Marin City Marin City	MP	2/32'	Installed
8. Pac Bell PCS B Block	UP96-406 DX96-405	052-247-01 Mill Valley 242 Redwood Hwy. Heliport, North of Sausalito	ATF/CLU	2/33'	Withdrawn

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
9. Pacific Bell PCS B Block	UP96-013 DX96-028	050-252-26 Mill Valley 303 Poplar St. Poplar Plaza	ATF	6/38'	Installed
10. Sprint PCS A Block	UP97-137 DR97-136	043-151-03,09 Mill Valley 680 Redwood Hwy Tam Motel	ATF	6/31.5'	Installed
11. Sprint PCS A Block	UP97-125 DR97-124	034-141-08 Mill Valley 7 North Knoll Rd. Eagle Rock Professional Bldg.	ATF	4/40'	Installed
12. Sprint PCS A Block	UP97-127 DR97-126	055-051-20,21,22 Mill Valley 240 Tiburon Westminster Church	ATF	6/41'	Withdrawn
13. Sprint Spectrum PCS A Block	DR97-592 UP97-593	050-241-10 Mill Valley 414 Ash Street Mt. Tam Methodist Church	ATF	6/36'	Withdrawn
14. Sprint PCS A Block	UP97-531 DR97-529	043-261-21 Mill Valley 308 Reed Blvd. Alto-Richardson Fire District.	LT/COL	4/60'	Installed
15. Sprint	UP97-135 DR97-134	052-247-01 Mill Valley 242 Redwood Highway Heliport, North of Sausalito	ATF/CLU	4/41.5'	Withdrawn
16. GTE Mobilnet Cellular B Block	UP95-020 DR95-032	164-310-02 Nicasio Lucasfilm Skywalker Ranch	MP/COL	3 ea./ (2) - 16' / (1) - 19'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
17. Cellular One Cellular A Block	UP93-050	164-300-04 Novato Big Rock Ridge C&C site	GM/ATFCOL	5/60'	Installed
18. Motorola		164-310-07 Novato Big Rock Ridge Motorola site	LT/ATF/COL	Multiple/ 80'	Installed
19. GTE Mobilnet FCC db Cellular B Block	UP91-026 DR91-092	125-130-04 Novato Redwood Hwy. Corda Ranch	ATF(1)/MP(5)/CLU	6/15'	Installed
20. Cellular One (FCC db) Cellular A Block	DR96-278	125-130-04 Novato 10300 Redwood Highway Corda Ranch, Redwood Hwy	MP/CLU	6/22'	Installed
21. Nextel 800 MHz SMR/ESMR	UP96-352 DX96-487	125-130-04 Novato 10300 Redwood Highway Corda Ranch, Redwood Hwy	TM/CLU	3/40'	Installed
22. PacBell PCS B Block		125-130-04 Novato 10300 Redwood Highway Corda Ranch, Redwood Hwy	MP/CLU	6/15'	Installed
23. Sprint PCS A Block	UP97-121 DR97-120	125-190-57 Novato 8121 Binford Road Cervantes, Redwood Hwy	ATF/MP	2 ea./ (1) - 38' /(1) - 26.5',	Installed
24. Pac Bell PCS B Block	UP96-404 DR96-403	125-160-13 Novato 8950 Redwood Highway Redwood Landfill	MP/COL	6/35'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
25. Nextel 800 MHz SMR/ESMR	UP97-470 DR97-469	125-160-13 Novato 8950 Redwood Highway Redwood Landfill	MP/COL	3/60'	Withdrawn
26. Sprint PCS A Block	UP97-123 DR97-122	157-091-45 Novato 100 Phillip Terrace Rosenberg, Black Point	MP/COL	4/32.5'"	Installed
27. Sprint Spectrum PCS A Block	UP97-356	146-360-24 Novato 135 Wild Horse Valley Rd. Wild Horse Valley	MP	6/48'	Withdrawn
28. Sprint PCS A Block	UP97-313 DR97-312	125-160-12 Novato 8900 Redwood Highway Silviera Ranch	MP	2/35'	Installed
29. Sprint Spectrum PCS A Block	DR97-319 UP97-320	125-130-24 Novato 8900 Redwood Highway Silviera Ranch	MP	4/35'	Installed
30. MCI/ARINC (3 Sis)	UP94-024	109-090-14 Pt. Reyes National Seashore	GT	1/92'	Installed
31. Sprint PCS A Block	UP97-65 DR97-62	174-190-07 San Anselmo 41 Wilder Blvd. Cappe	MP/CLU	6/38.5'	Withdrawn
32. Cellular One Cellular A Block	DR97-180 UP97-181	174-190-07 San Anselmo 41 Wilder Blvd. Cappe	ATF/CLU	12/15'	Withdrawn

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
33. Cellular One et al. (FCC lic. db) Cellular A Block	UP93-034 DR93-076	168-240-01 San Geronimo Mt. Barnabe Forest Knoll	ATF/COL	4/39'	Installed
34. Nextel 800 MHz SMR/ESMR	UP95-008 DR95-009	155-010-44 San Rafael Redwood Highway Pacheco East	MP	4/45'	Installed
35. Sprint PCS A Block	UP97-335 DR97-334	164-471-63,65,69 San Rafael 190 Marinwood Ave. Marinwood Plaza	MP	6/37.5'	Installed
36. Sprint Spectrum PCS A Block	CP97-83 DM97-84 UP97-85	195-260-31 Stinson Beach SBCWD Tank	MP	4/18'	Installed
37. GTE Mobilnet (FCC lic. db) Cellular B Block		193-020-55 Bolinas 100 Mesa Drive Dowtown Bolinas	LT/CLU	*/*	Installed
38. Smart SMR of Cal. (FCC lic. db) 800 MHz SMR/ESMR		200-120-06 Sausalito Wolfback Ridge North of Mt Beacon	*	*/*	Installed
39. Smart SMR of Cal. (FCC lic. db) 800 MHz SMR/ESMR		199-070-18 GGNRA, West of Mill Valley 4.4 mi WNW SR 1 & Hwy 101	*	*/200'	Installed
40. Bay Area Cellular (FCC lic. db) Cellular A Block		197-120-31 2001 E. Ridge Crest Blvd. Diablo Comm., Mt. Tamalpais	MP/COL	*/80'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 3: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN UNINCORPORATED MARIN COUNTY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
41. Smart SMR of Calif. (FCC lic. db) 800 MHz SMR/ESMR		197-120-31 2001 E. Ridge Crest Blvd. Diablo Comm., Mt Tamalpais	MP/COL	*/ 60'	Installed
42. FCI 900, Inc. (FCC lic. db) 900 MHz SMR/ESMR		197-120-31 2001 E. Ridge Crest Blvd. Diablo Comm., Mt Tamalpais	MP/COL	*/ 50'	Installed
43. Bay Area Cellular (FCC lic./struc. db) Cellular A Block		119-030-03 East Northeast of Pt Reyes Stn 1.7 mi. N. of Black Mtn	MP	*/ 220'	Installed
44. Smart SMR of Cal. (FCC lic. db) 800 MHz SMR/ESMR		4.5 miles southwest of Novato Big Rock Ridge Motorola site	LT/ATF/COL	*/ 85'	Installed
45. Power Spectrum (FCC lic. db) 900 MHz SMR/ESMR		4.5 miles southwest of Novato Big Rock Ridge Motorola site	LT/ATF/COL	*/ 80'	Installed
46. FCI 900, Inc. (FCC lic. db) 900 MHz SMR/ESMR		4.5 miles southwest of Novato Big Rock Ridge C&C site	GM/ATF/COL	*/ 100'	Installed
47. Nextel	UP98-18 DR98-51	157-091-45 & 46 Novato 100 Philip Terrace Rosenberg, Black Point	MP/COL	2/ 25.5'	Approved 2/23/98

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

LARKSPUR

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
1. GTE Mobilnet (FCC lic. db) Cellular B Block		022-161-07 Greenbrae 510 Via Casitas	*	*/*	Installed
2. Smart SMR of Cal. (FCC lic. db) 800 MHz SMR/ESMR		022-161-07 Greenbrae 510 Via Casitas	*	*/*	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

MILL VALLEY

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
1. GTE Mobilnet		028-013-18 Mill Valley 25 Throckmorton	ATF/CLU	5/35'	Installed
2. Pac-Bell		030-211-49 Mill Valley 817 Redwood Hwy.	ATF	2/35'	Installed
3. Cell One		030-260-26 Mill Valley 591 Redwood Hwy.	ATF	1/45'	Installed
4. GTE Mobilnet		030-260-33 Mill Valley 655 Redwood Hwy.	ATF	2/5'	Installed
5. Pacific Bell		028-233-36 Mill Valley 300 E. Blithedale	ATF	2/5'	Installed
6. Pacific Bell		028-013-18 Mill Valley 25 Throckmorton	ATF/CLU	4/35'	Installed
7. Page Net		028-013-18 Mill Valley 25 Throckmorton	ATF/CLU	2/45'	Installed
8. Sprint		033-101-25 Mill Valley Alto Tank (MMWD)	GM	1/8'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

NOVATO

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY TYPE/ SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/DATE
1. Sprint Spectrum (Hamilton Bldg.)	DR97-001 UP 97-012	155-020-47 Novato 5390 Nave Drive	ATF	2/41'6"	Installed
2. Sprint Spectrum (Nave Bowl)	DR 97-011 UP 96-031	157-400-24 Novato 5778 Nave Drive	ATF	4/39'6"	Installed
3. Sprint Spectrum (PG & E Substation)	DR 97-009 UP 97-010	157-171-17, Novato 157-400-18 895 Bel Marin Keys Blvd.	ATF/CLU	6/55'	Installed
4. Sprint Spectrum (Holley Transmission)	DR 96-047 UP 97-011	152-051-08 Novato 170 Ford Way	ATF	6/39'6"	Installed
5. Sprint Spectrum (Grant/Madrone)	DR 97-012 UP 96-027	153-053-13 Novato	MP	6/28'	Installed
6. Sprint (Square Shop. Ctr.)	DR 96-028	132-183-14 Novato 2055 Novato Blvd.	ATF	4/35'6"	Installed
7. Pacific Bell Mobile Services	DR 95-024	141-252-29 Novato 1500 Grant Ave.	ATF	2/40'	Installed
8. Pacific Bell Mobile Services	DR 95-025	155-020-45 Novato	ATF	2/40'	Installed
9. Pacific Bell Mobile Services	DR 97-031 UP 96-033	143-073-01 Novato 801 Golden Gate Way	MP	6/40'	Approved 7/2/97
10. Pacific Bell Mobile Services	DR	157-332-18 Novato 83 Hamilton Drive	ATF	5/40'	Installed
11. GTE Mobilnet (San Marin Plaza)	DR 94-033	124-202-28 Novato 155 San Marin Dr.	ATF	8/27'6"	Installed
12. GTE Mobilnet	UP 84-071	143-110-01 Novato 615 Atherton Ave.	DP/CLU	7/54'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
13. Cellular One	DR 89-051 UP 89-018 UP 94-040	143-110-01 Novato 615 Atherton Ave.	DP/CLU	3/75'	Installed
14. Cellular One	UP 93-031	155-020-42 Novato 5420 Nave Drive	MP	3/40'	Approved 8/12/93
15. Nextel	DR 97-014 UP 96-039	153-180-21 Novato 586 Davidson Ave.	DP	6/24'	Approved 7/22/94
16. Cellular One	DR 97-065 UP 97-041	157-171-17 Novato 150 Hamilton Drive	ATF/CLU	9/105"	Approved 1/21/98
17. GTE Mobilnet (FCC lic/struc.db) Cellular B Block		157-180-35 Southeast of Ignacio Hamilton Air Force Base	MP	UI/137'	*
18. Bay Area Cellular (FCC struc. db) Cellular A Block		155-020-50 Southeast of Ignacio 5480-A Nave Drive,	MP	*/45'	*

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

SAN RAFAEL

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
1. Sprint Spectrum (Lucas Valley Water Tank)	ED 96-96	165-010-03 San Rafael Old Lucas Valley Rd.	MP	1/*	Installed
2. Sprint Spectrum	ED 96-94	155-131-26 San Rafael 55 Mitchell Blvd.	MP	1/*	Installed
3. Sprint Spectrum	ED 96-104	178-240-21 San Rafael 1010 Northgate Dr.	ATF	4/*	Installed
4. Sprint Spectrum	ED 96-97	175-060-44 San Rafael 1 Wellbrook Heights	ATF	5/*	Installed
5. Sprint Spectrum	ED 96-105	011-084-92 San Rafael Robert Dollar Dr.	LT/COL	4/*	Installed
6. Sprint Spectrum	ED 96-98	014-203-07 San Rafael 647 Francisco Blvd.	ATF/RM	4/*	Installed
7. Sprint Spectrum	ED 96-144	009-161-52 San Rafael 2175 Francisco Blvd.	ATF	4/*	Installed
8. GTE Mobilnet	ED 95-78	011-255-21 San Rafael 1299 Fourth St.	ATF	5/*	Installed
9. Pacific Bell Mobile Services	ED 96-21	155-072-03 San Rafael 7 Professional Ctr. Pkwy.	ATF	4/*	Installed
10. Pacific Bell Mobile Services	ED 96-13	011-245-38 San Rafael 220 Shaver St.	ATF	4/*	Installed
11. Pacific Bell Mobile Services	ED 95-94	011-041-29 San Rafael 1825 Lincoln Ave.	ATF	4/*	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY/SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/ DATE
12. Pacific Bell Mobile Services	ED 96-135	018-142-71 San Rafael 1011 Andersen Dr.	ATF	4/*	Installed
13. Pacific Bell Mobile Services	ED 96-134	San Rafael 773 Lincoln Ave.	MP	1/*	Approved 1/23/97
14. Page Net	ED 97-41	008-082-46 San Rafael 3301 Kerner Blvd.	ATF	4/*	Installed
15. Page Net	ED 97-42	178-240-20 San Rafael 1050 Nortgate Dr.	RM/COL	4/*	Installed
16. Smart SMR of CA (FCC lic. db) 800 MHz SMR/ESMR		San Rafael Hill San Rafael Robert Dollar Scenic Drive,	COL	*/85'	Installed
17. GTE Mobilnet (FCC lic. db) Cellular B Block		011-051-27 San Rafael San Rafael Hill North of downtown,	COL	*/ *	
18. Bay Area Cellular (FCC lic./struc. db) Cellular A Block		015-250-49 San Rafael 2000 Bayhills San Pedro Ridge 1.5 mi. NE of San Rafael,	LT/CLU FCC structure #113842	*/118'	

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

SAN ANSELMO

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY TYPE/ SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/DATE
1. Pacific Bell Mobile Services	*	005-153-03 San Anselmo 1509 Sir Francis Drake	PCS ATF	3/30'	Installed
2. Pacific Bell Mobile Services	*	006-251-04 San Anselmo 324 Sir Francis Drake	PCS ATF/CLU	3/35'	Installed
3. Cellular One	*	006-092-08 San Anselmo 640 Sir Francis Drake	ATF	6-9/25'	Installed
4. GTE Mobilnet	*	007-282-20 San Anselmo 305 San Anselmo Ave.	ATF	4/35'	Installed
5. Sprint Spectrum	*	006-251-04 San Anselmo 324 Sir Francis Drake	PCS ATF/CLU:	3/35'	Installed

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

TIBURON

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY TYPE/ SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/DATE
1. Sprint PCS	19705	058-171-83 Tiburon 1505 Tiburon Blvd.	ATF	6/41'	Installed
2. Page Net	19706	059-102-20 Tiburon 78 Main St.	RM	3/45'	Installed
3. Pacific Bell	19606	059-101-03 Tiburon 1620-1632 Tiburon Blvd.	RM	3/30'	Installed
4. GTE Mobilnet	19403	058-171-11 Tiburon 1679 Tiburon Blvd.	GM	3/6'	Installed
5. Sprint	19710	034-212-18 Tiburon 1 Blackfield Drive	ATF	3/27'-8"	Approved 10/8/97

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 4: SELECTED MINOR TELECOMMUNICATIONS FACILITIES IN INCORPORATED CITIES

SAUSALITO

SERVICE PROVIDER	APPLICATION NO.	LOCATION (APN/AREA)	FACILITY TYPE/ SITE TYPE	NUMBER OF ANTENNAS/ MAX. HEIGHT	STATUS/DATE
1. Nextel		Hecht Ave./ Waldo Tunnel Sausalito	ATF (temp. structure) CLU	4/15'	Installed
2. Pac-Bell/Sprint		Hecht Ave./ Waldo Tunnel Sausalito	MP/COL	6/32'	Installed
3. Pac Bell		064-252-09 Crecienta Lane Sausalito	2MP/GM CLU	4/20'	Installed
4. Page Net		063-140-24 475 Gate 5 Road Sausalito	RM/ATF CLU	2/10'	Installed
5. Cellular One		064-082-02 1750 Bridgeway Sausalito	ATF/CLU	9/2'	Installed
6. Cellular One		065-181-44 300 Spencer Sausalito	RM/GM COL/CLU	6/2.5'	Installed
7. Pacific Bell		065-181-44 300 Spencer Sausalito	ATF/GM COL/CLU	3/5'	Installed
8. GTE		300 Spencer Sausalito	CLU	3/*	Installed
9. Sprint Spectrum	UP/DR 97-02	Rodeo Ave. exit Sausalito	ATF	3/30'	Approved
10. Cellular One	DR 97-68	065-238-08 300 Main Street Sausalito	ATF	2/30'	Approved

Facility Type: MP = Monopole; ATF = Attached Facility (structure mounted); GT = Guyed Tower; LT = Latticed Tower; GM = Ground Mounted; TM = Tree Mounted; DP = Dipole;
Facility Site Type: COL = Co-location; CLU = Clustered.
* Information not available or currently unknown

TABLE 5: SELECTED MINOR TELECOMMUNICATIONS SITES BY SERVICE, OPERATOR & ELEVATION

SERVICE	LICENSEE	ELEVATION		
		LOW (< 500' AMSL)	HIGHER (500-1000'AMSL)	RIDGETOP (> 1000' AMSL)
SMR/ESMR, Trunked 806-821 & 851-866 MHz, FCC Pt 90, 2-WAY VOICE & DATA	Nextel Communi-cations, Inc., aka Smart SMR of California (formerly owned by Motorola)	• Pacheco East, San Rafael • 510 Via Casitas, Greenbrae • Redwood Landfill, Novato • Corda Ranch, Novato	• GGNRA, west of Mill Valley • San Rafael Hill, San Rafael	• Wolfback Ridge, Sausalito • Big Rock Ridge, Motorola site, Novato • Mt Tamalpais
CELLULAR (CRS), 824-849 & 869-894 MHz, FCC Pt 22, 2-WAY VOICE & DATA: A Block	Cellular One (aka Bay Area Cellular Telephone Company)	• BFPD Stn, Bolinas • Marin City • 5480-A Nave Drive, Ignacio • Corda Ranch, Novato	• North of Black Mtn, Pt Reyes Stn • 615 Atherton Ave, Novato	• Wolfback Ridge, Sausalito • San Pedro Ridge, San Rafael • Mt Barnabe, San Geronimo • Big Rock Ridge, C & C site, Novato • Mt Tamalpais
CELLULAR A Block	Three Sisters Cell Company	• Point Reyes, Nat'l Seashore (unconfirmed)		
CELLULAR (CRS), 824-849 & 869-894 MHz, FCC Pt 22, 2-WAY VOICE & DATA: B Block	GTE Mobilenet	• 100 Mesa Drive, Bolinas • 510 Via Casitas, Greenbrae • Hamilton AFB, Ignacio • 155 San Marin Drive, Novato • Corda Ranch, Novato	• San Rafael Hill, San Rafael • Robinwood Drive, Novato	• Lucasfilm, Skywalker Ranch, Nicasio • Wolfback Ridge, Sausalito • Big Rock Ridge, C & C site • Mt Tamalpais
CELLULAR B Block	Three Guys Cell Commmunication	• Chevron Station, Inverness		
SMR/ESMR, Trunked 896-901 & 935-940 MHz, FCC Pt 24, 2-WAY VOICE & DATA	Power Spectrum, Inc.			• Big Rock Ridge, Motorola site
SMR/ESMR	FCI 900, Inc.			• Big Rock Ridge, C & C site • Mt Tamalpais

TABLE 5: SELECTED MINOR TELECOMMUNICATIONS SITES BY SERVICE, OPERATOR & ELEVATION

SERVICE	LICENSEE	ELEVATION		
		LOW (< 500' AMSL)	HIGHER (500-1000'AMSL)	RIDGETOP (> 1000' AMSL)
PCS, Narrow-band, 901-902, 930-931, 940-941 MHz, FCC Pt 24, PAGING & RADIOLOCA-TION	• Paging Network of Virginia • KDM Messaging Company • Nationwide Wireless Network • Airtouch Paging • BellSouth • Pagemart II • Conxus Prop.	Locations unknown		
PCS, Broadband, 1850-1990 MHz, FCC Pt 24, 2-WAY VOICE & DATA, A MTA Block	Sprint Spectrum L.P. (also listed as Sprint PCS)	• BFPD, Bolinas • SBCWD tank, Stinson Beach • MMWD tank, Marin City • Tam Motel, Mill Valley • Eagle Rock Bldg, Mill Valley • Westminster Church, Mill Val. • Mt Tam Metho-dist, Mill Valley • Alto-Richardson Fire, Mill Valley • Marinwood Plaza, San Rafael • Cervantes, Novato • Rosenberg, Black Pt, Novato • Silviera Ranch, Novato		

TABLE 5: SELECTED MINOR TELECOMMUNICATIONS SITES BY SERVICE, OPERATOR & ELEVATION

SERVICE	LICENSEE	ELEVATION		
		LOW (< 500' AMSL)	HIGHER (500-1000'AMSL)	RIDGETOP (> 1000' AMSL)
PCS, Broadband, B MTA Block	Pacific Bell Mobile Services (also listed as Pacific Telesis Mobile Services, Pacific Bell and PacBell; recently merged with SBC Communications)	• MMWD tank, Marin City • Poplar Plaza, Mill Valley • KFPD station, Kentfield • Redwood Land-fill, Novato • Corda Ranch, Novato		
PCS Broadband	GWI PCS, Inc.	Locations unk		
PCS Broadband	AT&T Wireless	Locations unk		
PCS Broadband	Western PCS	Locations unk		
PCS Broadband	NextWave Power Partners, Inc.	Locations unk		

APPENDIX B

INDEX AND PHOTOGRAPHS OF SELECTED TELECOMMUNICATIONS FACILITIES

INDEX TO PHOTOGRAPHS

NO.	SITE LOCATION	MAJOR TELECOMMUNICATIONS FACILITY/FEATURE PICTURED
1	Big Rock Ridge	Guyed-Mast Tower: C & C Equipment Company
2	Mount Burdell	Self Supporting Tower: AT&T
3	Gnoss Field (East)	AM Radio Towers: CBS Radio
4	Mt. Tamalpais (Middle Peak)	Telcommunications Properties Site
5	San Rafael Hill	United Radiophone Site
6	San Pedro Ridge	C & C Equipment Company Site
7	San Pedro Ridge	AT& T Site
8	Big Rock Ridge (West Site)	Motorola Site
9	Cherry Hill	Chambers Cable Site
10	Three Peaks	AT&T Communications Site

Photo 1

Big Rock Ridge
C&C Equipment Company

Photo 2

Mount Burdell
AT&T

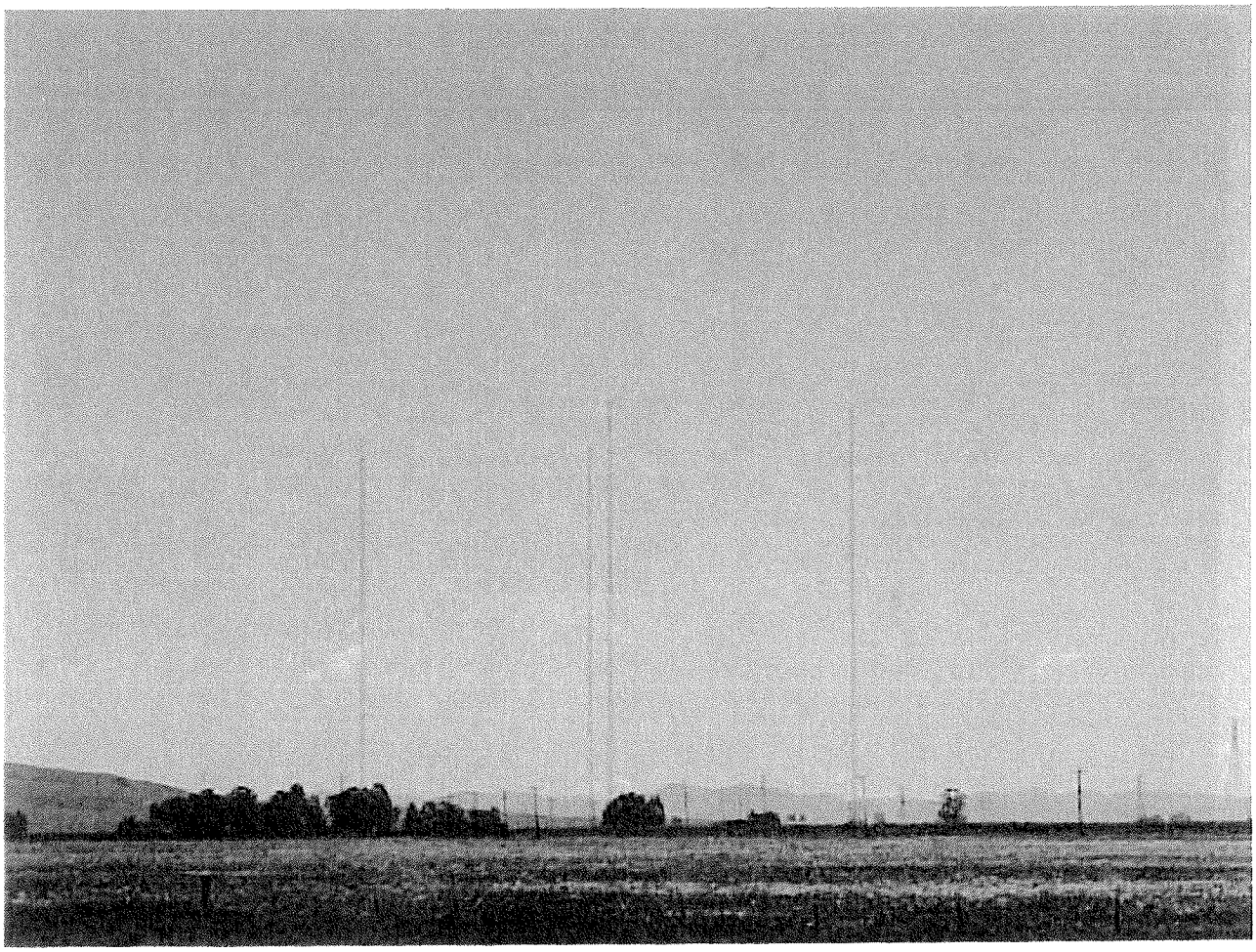


Photo 3

Gnoss Field (East)
AM Radio Towers: CBS Radio

Photo 4

Mt. Tamalpais (Middle Peak)
Telecommunications Properties Site

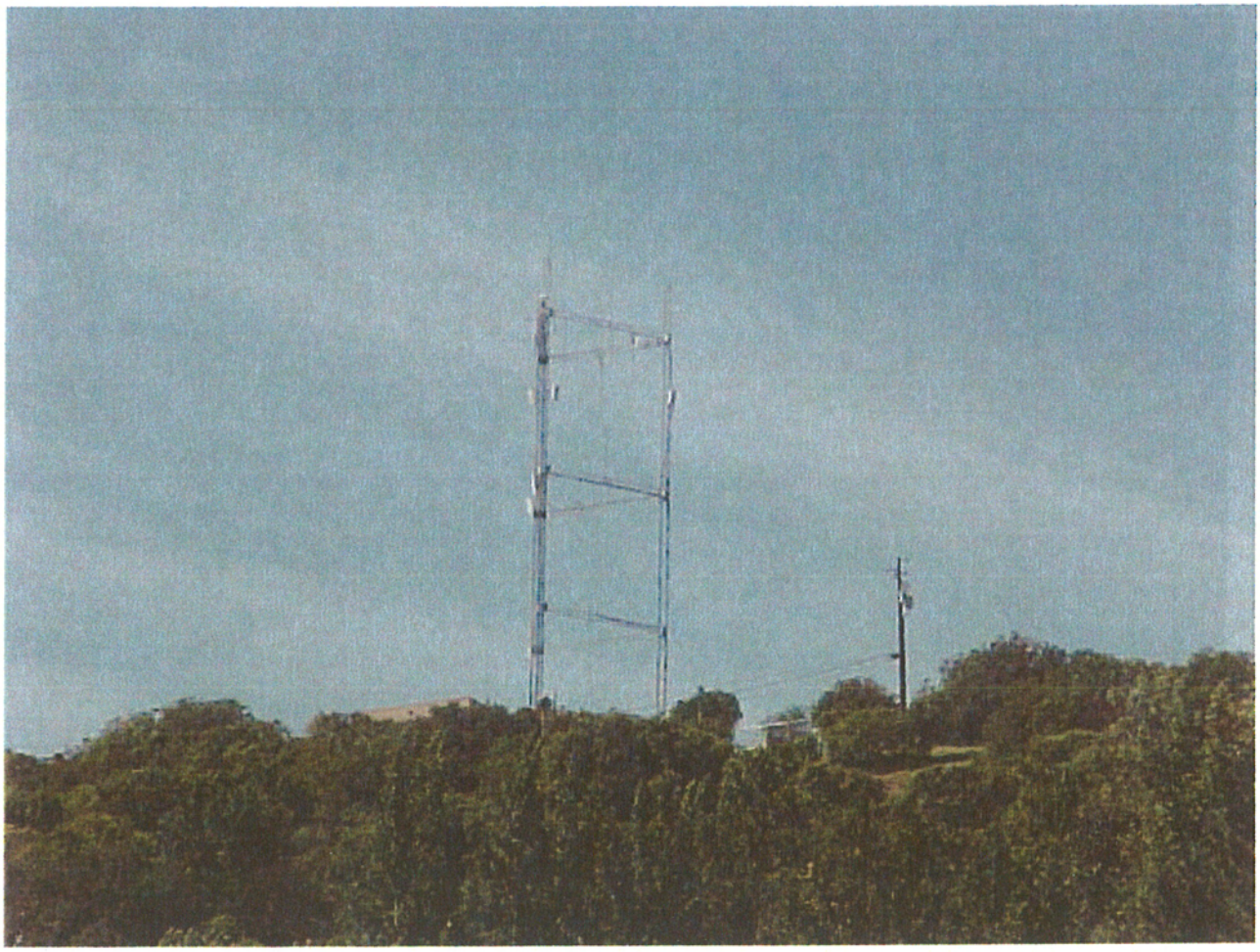


Photo 5

San Rafael Hill
United Radiophone Site

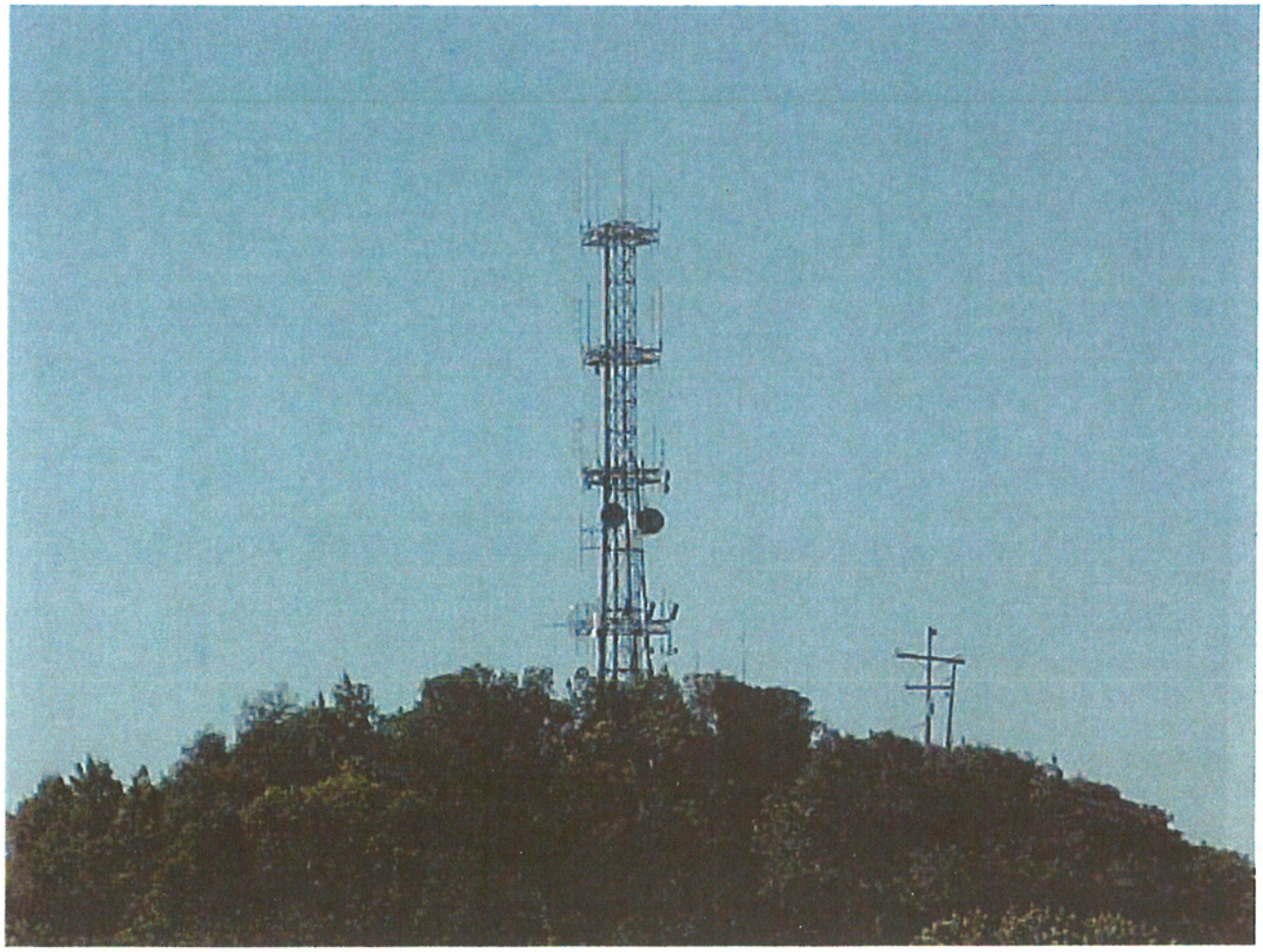


Photo 6

San Pedro Ridge
C&C Equipment Site

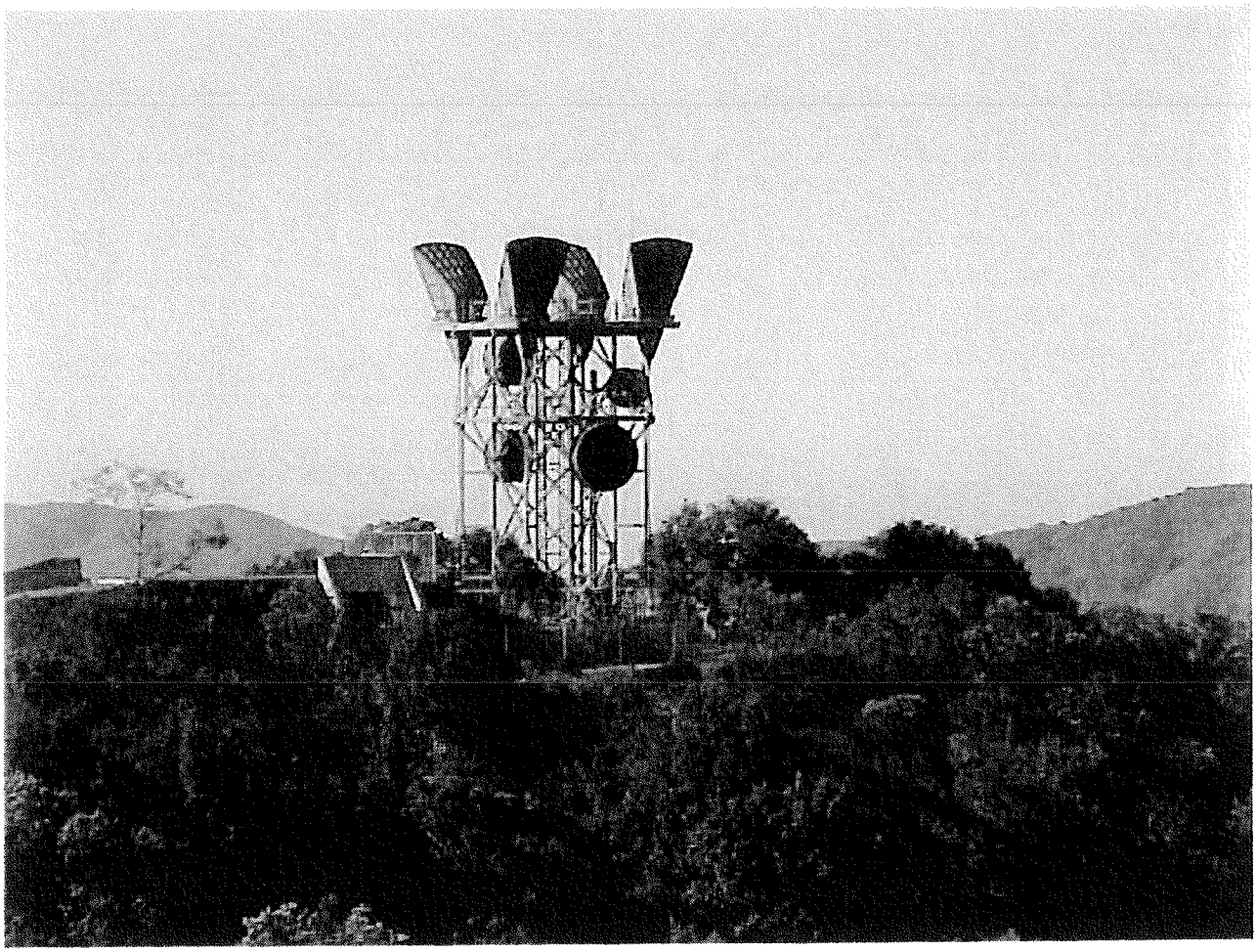


Photo 7

San Pedro Ridge
AT&T Site

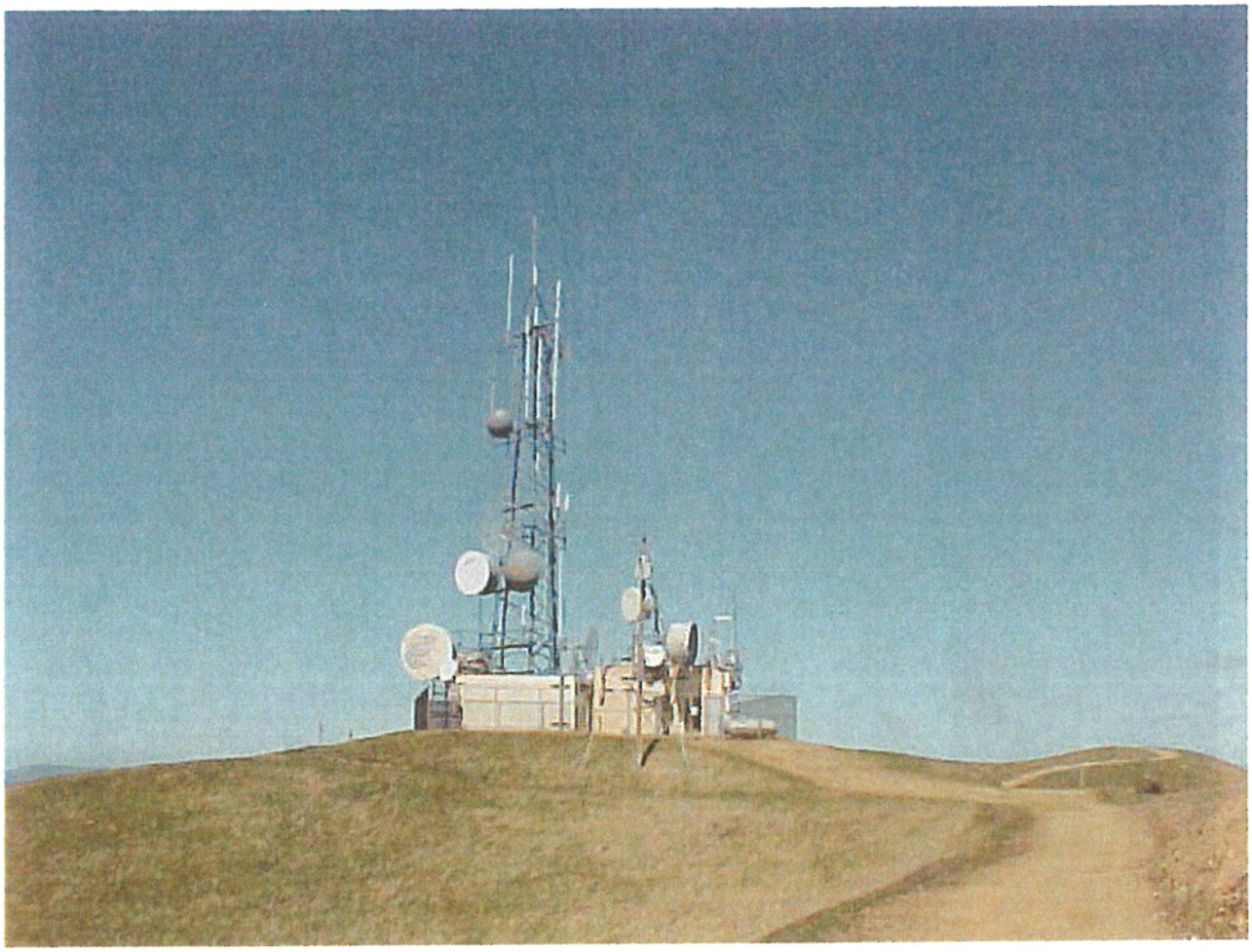


Photo 8

Big Rock Ridge (West Site)
Motorola Site

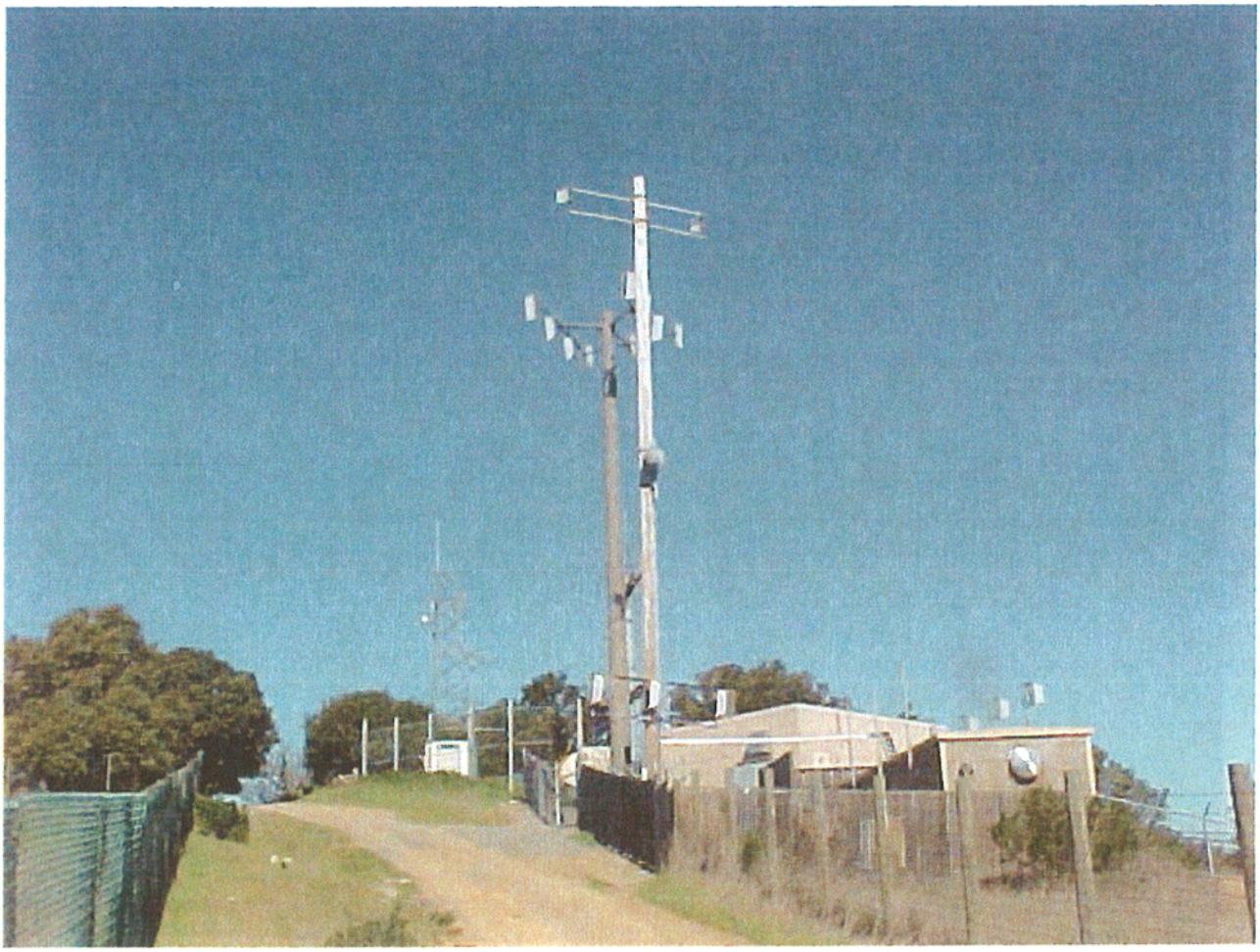


Photo 9

Cherry Hill
Chambers Cable Site

Photo 10

Three Peaks
AT&T Communications Site

INDEX TO PHOTOGRAPHS

NO.	SITE LOCATION	COMMERCIAL WIRELESS FACILITY/FEATURE PICTURED
1	Gateway Center Marin City	Attached Facility: Stand alone facility with panel antennas attached to parking lot light standard
2	Marin Municipal Water Tank Marin City	Monopole tower: Co-located facility with panel antennas
3	7 North Knoll Road Mill Valley (Eagle Rock Professional Building)	Attached Facility: Stand alone facility with roof-top mounted panel antennas
4	Pacheco Ridge East Marinwood	Monopole tower: Stand alone facility with dipole antennas
5	5420 Nave Drive Novato	Telephone pole (monopole) with panel antenna array
6	680 Redwood Highway Mill Valley (Tam Motel)	Stealth Design: Panel antennas located behind false chimney element at front of building
7	5300 Nave Drive Novato (Nave Bowl)	Stealth design: Roof-mounted dipole antennas disguised as architectural roof ornament
8	300 Main Street Sausalito	Stealth design: Microfacility attached to light pole

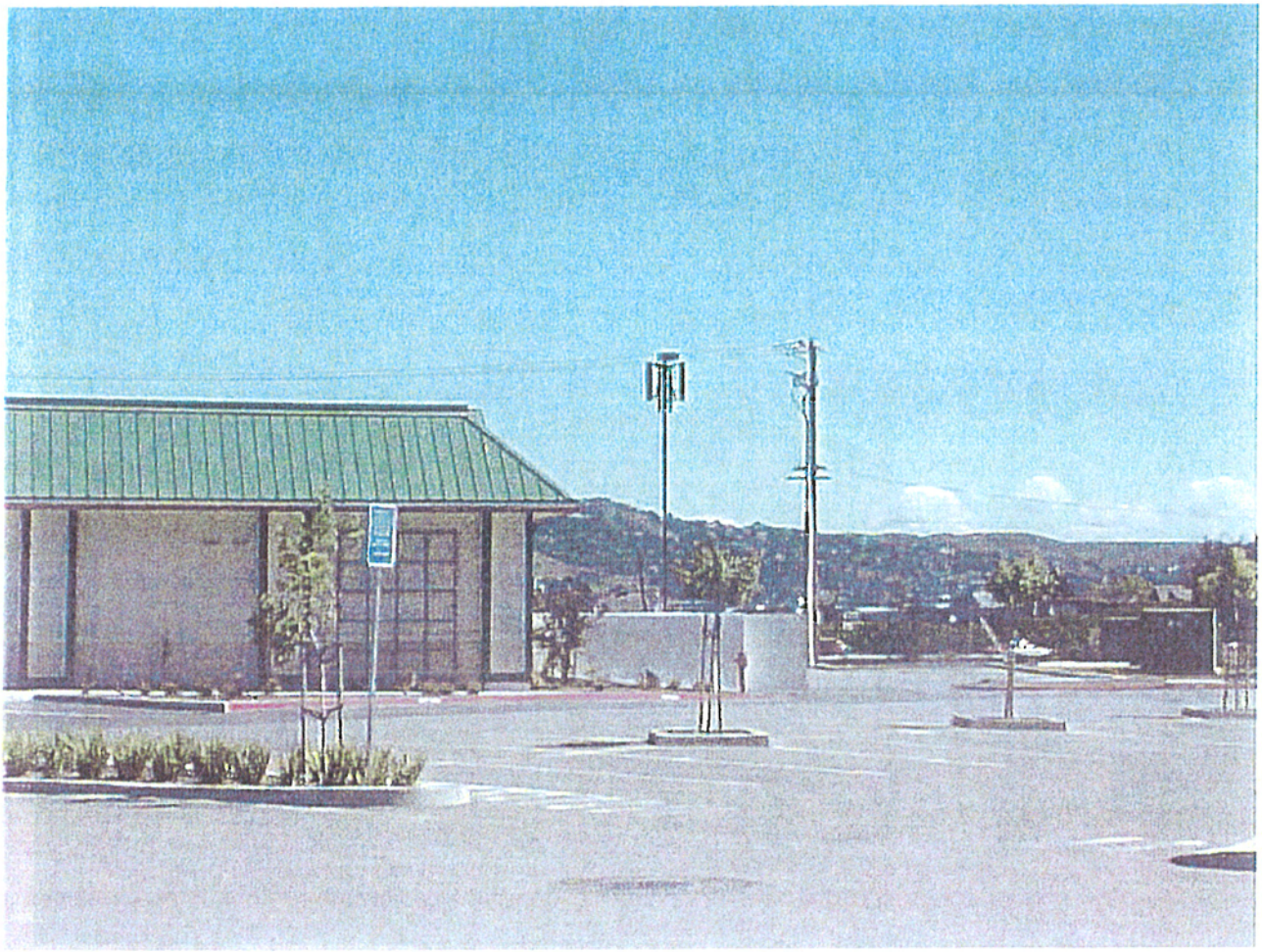


Photo 1

Gateway Center – Marin City

Facility Type: Panel Antennas Attached to Light Standard

Photo 2

Marin Municipal Water Tank – Marin City

Facility Type: Monopole Located Adjacent to Water Tank

Photo 3

7 North Knoll Road, Mill Valley

Facility Type: Panel Antennas Mounted at Far Right Edged of Parapet Roof

Photo 4

Pacheco Ridge East - Marinwood

Facility Type: Dipole Antennas

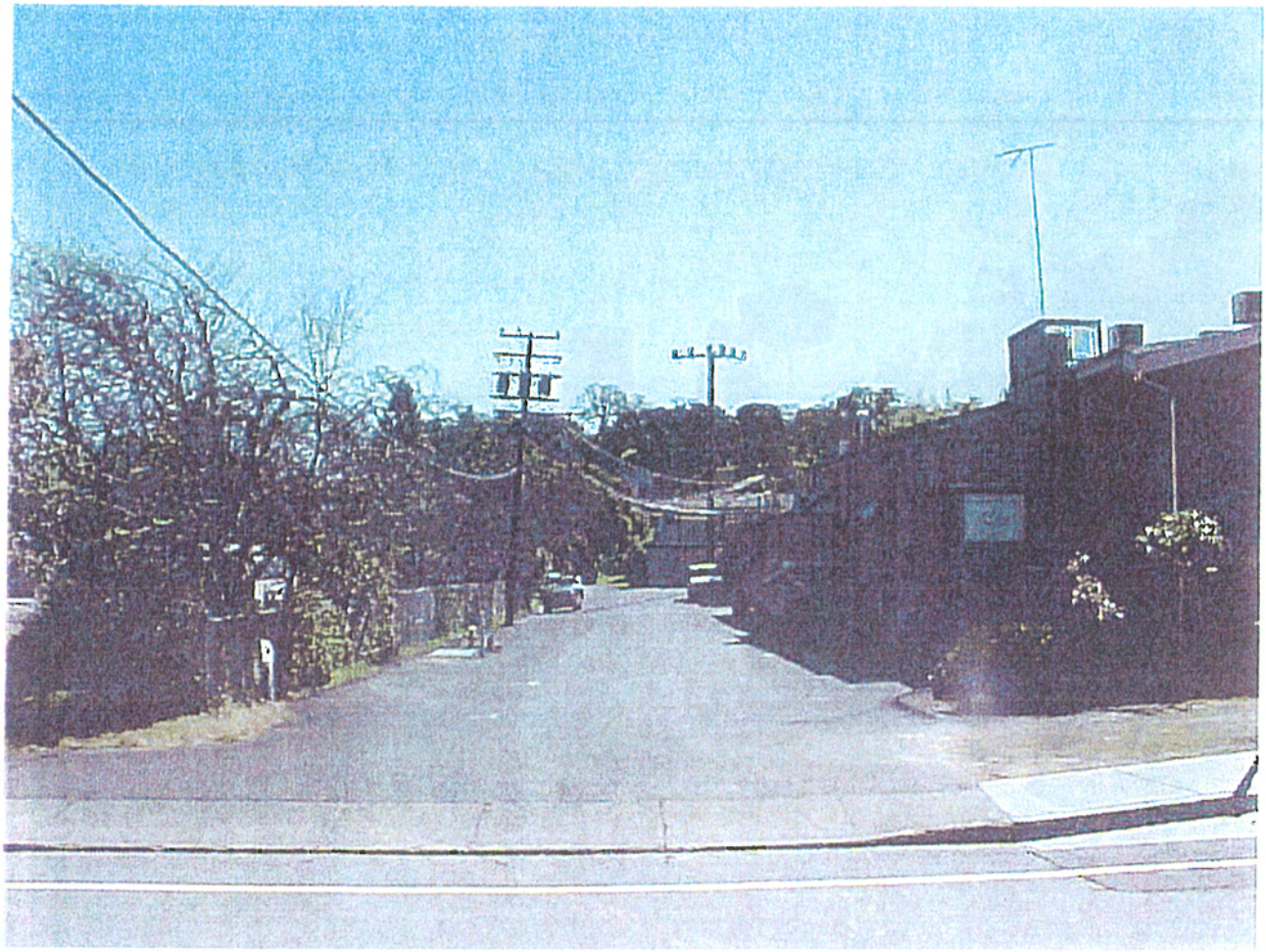


Photo 5

5420 Nave Drive - Novato

Facility Type: Panel Antennas Mounted on Utility Pole

Photo 6

680 Redwood Highway – Mill Valley

Facility Type: Panel Antennas Mounted Inside of False Chimney

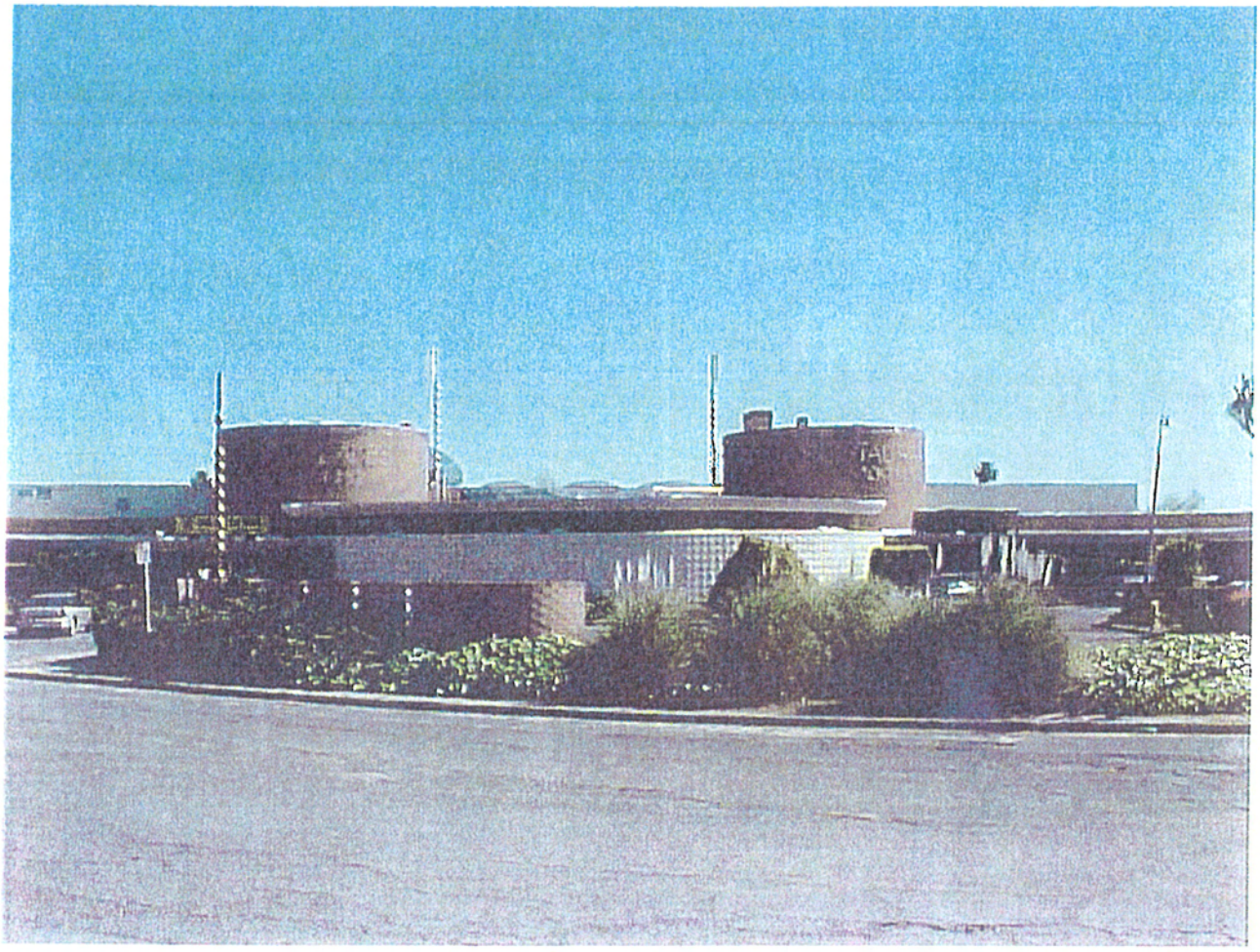


Photo 7

5300 Nave Drive - Novato

Facility Type: Panel Antennas Mounted on Roof Ornaments

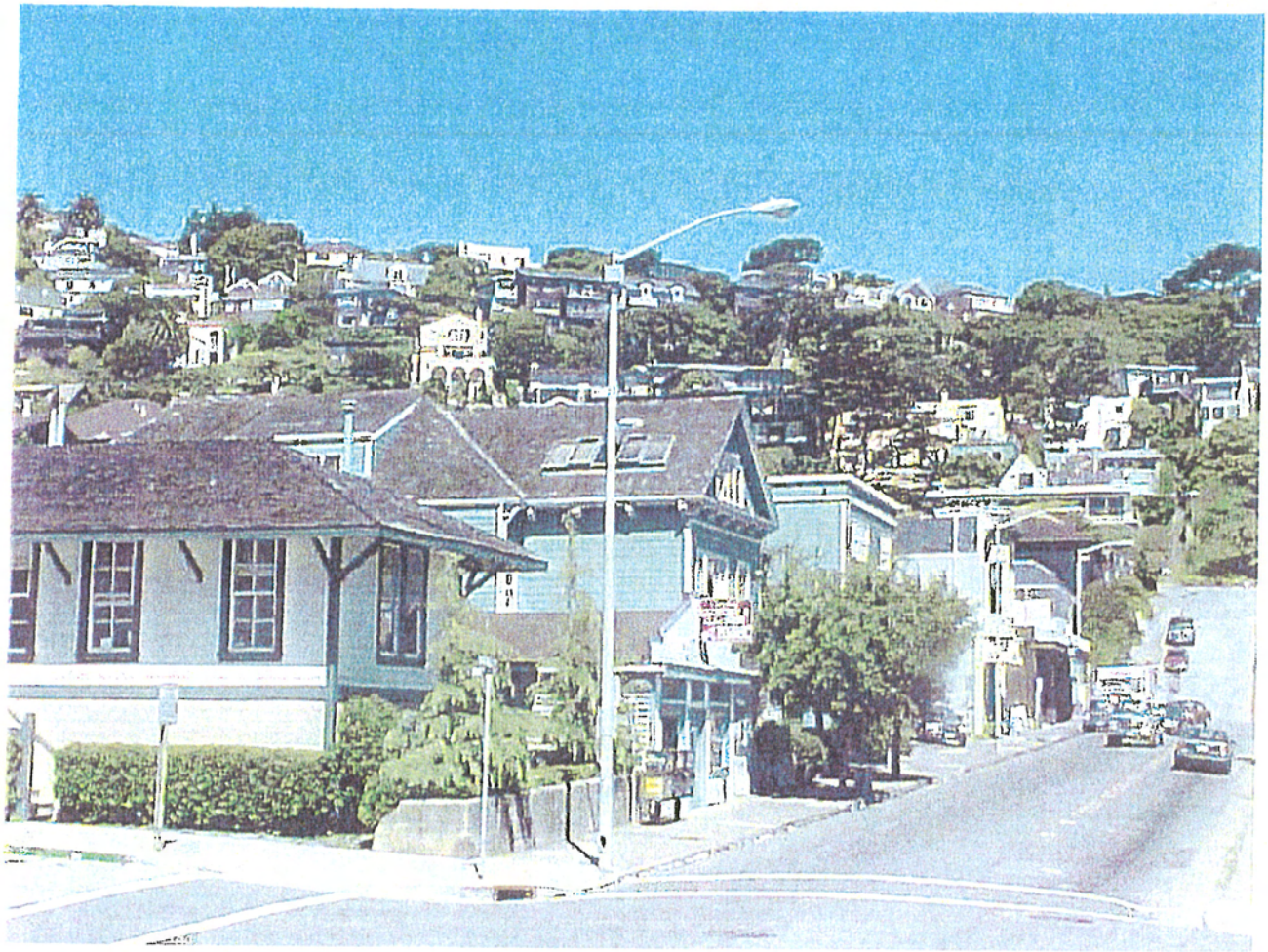


Photo 8

300 Main Street – Sausalito

Facility Type: Micro-facility Mounted at Top of Vertical Section of Light Standard

APPENDIX C

FCC DATABASE

APPENDIX C:

FCC ANTENNA STRUCTURE DATABASE

This appendix contains information about the antenna structure database maintained by the Federal Communications Commission (FCC). This database provides limited information about antenna structures within the US, including Marin County. The following information and database description was provided by the FCC.

Part 17 of the FCC Rules specifically define the term "antenna structures" as "[t]he radiating or receive system, its supporting structures and any appurtenances mounted thereon." The FCC has adopted an antenna structure registration process under which each antenna structure that requires Federal Aviation Administration (FAA) notification -- including new and existing structures -- must be registered with the FCC by its owner.

An antenna structure could be a free standing structure, built specifically to support or act as an antenna, or it could be a structure mounted on some other man-made object (such as a building or bridge). In the latter case, note that the structure must be registered with the FCC, not the building or bridge. Objects such as buildings, observation towers, bridges, windmills, and water towers that do not have an antenna mounted on them are not antenna structures and should not be registered. Keep in mind that the FCC only has jurisdiction over antenna structures, and thus, other objects that do not support antennas are not required to be registered with the FCC -- regardless of their location or height.

Most antenna structures that are higher than 60.96 meters (200 feet) above ground level or that may interfere with the flight path of a nearby airport must be studied by the FAA and registered with the FCC.

A proposed antenna structure must be registered with the FCC and be assigned a Registration Number prior to construction.

Regardless of whether an antenna structure must be registered with the Commission, there may be state and/or local regulations (separate from the requirements of the FCC and FAA) which must be satisfied prior to construction.

The owner must modify the registration information submitted to the FCC for the following:

- A change in painting and/or lighting specifications as recommended by the FAA.

- A change in coordinates or height for the structure. (This means that the originally submitted data was in error or that the structure has been relocated. If a structure's coordinates change by more than one second or height increases by more than one foot, a new FAA determination will be required.)

- A change in ownership information (name, mailing address, telephone number).

- Dismantling of the antenna structure.

The FCC's Wireless Telecommunications Bureau (WTB) provides detailed information on antenna support registration filing procedures and database access on its internet homepage on the World Wide Web at http://www.fcc.gov/wtb/antstruc.html.

ANTENNA STRUCTURES IN MARIN COUNTY

The FCC antenna structure database was accessed in July, 1997. A search was performed which extended 22.5 miles from the town of Tocaloma. The results of that search were used to complete the inventory of the minor telecommunications facilities in Tables 3 through 5 of Appendix A. The database provided the correct geographic location of several of the inventoried commercial wirless facility sites and detailed elevation data for towers at those sites. Also several entries were added to the inventory based on new information found in the database.

The database can serve as a useful tool for County planners who wish to corroborate existing CMRS site information from other sources or to discover the location of new sites. However, the following shortcomings of the antenna structure database must be considered:

1. Many antenna structures in the County will not appear in the database because they are exempt from FAA notification. Exempt structures are those which are low in elevation and far from airports, or those which are shielded by terrain or existing man-made structures. For example, none of the Mt. Tamalpais towers are recorded.

2. Many of the structures that are listed in the database do not support antennas. Older structures may have been removed or abandoned. Other listings may indicate structures that were planned for but never built. Still other entries may be duplicates. For example, there are seven listings for the Big Rock ridge sites.

3. The database does not reveal which FCC-licensed services are using the structure, or how many and what kind of antennas of antennas it supports. Often the applicant's name is the only clue as to the structure's use.

4. Like any large database, it contains erroneous information. Certain errors may propagate. The most insidious are inaccurate geographic coordinates. If the early applicants at a major facility provides bad coordinates, later applications for new structures will tend to reflect the errors. Also, applicants at new sites will simply use the coordinates and elevation of existing nearby sites rather than determining the correct information. On Big Rock, the Motorola and C&C sites are 400 feet apart, yet applicants routinely use one set of coordinates to describe either site.

5. The "CITY" location information is often wrong. This makes it difficult to determine which sites are actually within the County. At least one entry indicates "PETALUMA" for a site near Novato, and the KCBS AM towers are listed in "SAN FRANCISCO." When in doubt, the actual location should be determined by coordinates.

The following pages show all of the database entries for Marin County.
Bolinas Point; site of RCA Global Communications tower:

LATITUDE ->375447
LONGITUDE ->1224328
STREET -> RCA ANTENNA FARM
CITY -> BOLINAS
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 031172
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> .0
TOWER METERS -> .0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 300.0
FCC AGL METERS -> 91.0
FCC AMSL FT -> 475.0
FCC AMSL METERS -> 144.0
APPLICANT NAME ->
ACTION DATE -> 00000 TYPE -> OLD

Point Reyes Station; Cellular A Block site:

LATITUDE ->380620
LONGITUDE ->1224619
STREET -> N BLK MTN
APPLICANT NAME -> BAY AREA CELLULAR
CITY -> PT. REYES STATION
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 084982
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> .0
TOWER METERS -> .0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 220.0
FCC AGL METERS -> 67.0
FCC AMSL FT -> 870.0
FCC AMSL METERS -> 265.0
ACTION DATE -> 880718
TYPE -> ADD
REMARKS: A BAND CELLULAR

Three Peaks; near Marshall, includes AT&T satellite earth stations:

LATITUDE ->380852
LONGITUDE ->1224736
STREET -> 5.5 MILES NNE OF
APPLICANT NAME -> AT&T
CITY -> POINT REYES
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 094877
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> 259.0
TOWER METERS -> 78.0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 259.0
FCC AGL METERS -> 78.0
FCC AMSL FT -> 617.0
FCC AMSL METERS -> 188.0
ACTION DATE -> 930324
TYPE -> MOD
REMARKS: FAA LTR OF 5/9/89 RE COMPLIANCE WITH ORDINANCE OF MARIN

Mt Beacon, Wolfback Ridge; KDFC-FM, 800MHz SMR (Cellular A&B Block):

LATITUDE ->375058
STREET ->
CITY -> SAUSALITO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 303.0
FCC AMSL FT ->1378.0FCC
ACTION DATE -> 610404

LONGITUDE ->1222956
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031049
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 92.0
AMSL METERS -> 420.0
TYPE -> OLD

San Pedro Ridge; site of Pacific Bell microwave facility:

LATITUDE ->375919
STREET -> 1.5 MI NE OF CITY
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 64.0
ANTENNA FT -> 17.0
BEACON FT -> 0
FCC AGL FT -> 81.0
FCC AMSL FT ->1107.0
ACTION DATE -> 921013

LONGITUDE ->1223006
APPLICANT NAME -> PACIFIC BELL
STATE -> CA
FCC TOWER # -> 031358
SUPPORT METERS -> .0
TOWER METERS -> 19.0
ANTENNA METERS -> 17.0
BEACON METERS -> .0
FCC AGL METERS -> 24.0
FCC AMSL METERS -> 337.0
TYPE -> MOD

San Pedro Ridge; C&C site:

LATITUDE ->375924
STREET -> 2.6 KM E OF CIVC CTR
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 38.0
ANTENNA FT -> 12.0
BEACON FT -> 0
FCC AGL FT -> 50.0
FCC AMSL FT ->1108.0
ACTION DATE -> 910325

LONGITUDE ->1222957
APPLICANT NAME -> MARIN BROADCASTING
STATE -> CA
FCC TOWER # -> 112629
SUPPORT METERS -> .0
TOWER METERS -> 11.0
ANTENNA METERS -> 12.0
BEACON METERS -> .0
FCC AGL METERS -> 15.0
FCC AMSL METERS -> 337.0
TYPE -> ADD

San Pedro Ridge; Cellular A Block site and KKHI-FM:

LATITUDE ->375925
LONGITUDE ->1222958
STREET -> SAN PEDRO MTN
APPLICANT NAME -> MARIN BROADCASTING
CITY -> SAN RAFAEL
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 113842
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> 118.0
TOWER METERS -> 36.0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 118.0
FCC AGL METERS -> 36.0
FCC AMSL FT ->1175.0
FCC AMSL METERS -> 358.0
ACTION DATE -> 920911
TYPE -> MOD

San Pedro Ridge:

LATITUDE ->375949
LONGITUDE ->1223041
STREET -> SAN PEDRO HILL
APPLICANT NAME -> CERTIFIED LOCK & SAFE
CITY -> SANTA VENITIA
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 122906
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> 60.0
TOWER METERS -> 18.0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 60.0
FCC AGL METERS -> 18.0
FCC AMSL FT ->1010.0
FCC AMSL METERS -> 307.0
ACTION DATE -> 931119
TYPE -> ADD
REMARKS: SPONSOR STATED PROPOSAL IS NOT ON FAA LEASED PROPERTY.

San Rafael:

LATITUDE ->380101
LONGITUDE ->1223136
STREET ->
APPLICANT NAME ->
CITY -> SAN RAFAEL
STATE -> CA
STRUCTURE TYPE -> TOWER
FCC TOWER # -> 031430
SUPPORT FT -> .0
SUPPORT METERS -> .0
TOWER FT -> .0
TOWER METERS -> .0
ANTENNA FT -> .0
ANTENNA METERS -> .0
BEACON FT -> 0
BEACON METERS -> .0
FCC AGL FT -> 211.0
FCC AGL METERS -> 64.0
FCC AMSL FT -> 216.0
FCC AMSL METERS -> 65.0
ACTION DATE -> 581230
TYPE -> OLD

San Rafael; north of downtown:

LATITUDE ->380111
STREET -> 1600 LOSGAMOS DR
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 81.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 81.0
FCC AMSL FT -> 111.0
ACTION DATE -> 890222

LONGITUDE ->1223225
APPLICANT NAME -> BAY AREA TELEPORT
STATE -> CA
FCC TOWER # -> 093751
SUPPORT METERS -> .0
TOWER METERS -> 24.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 24.0
FCC AMSL METERS -> 33.0
TYPE -> ADD

San Rafael; north of downtown:

LATITUDE ->380134
STREET -> 4570 REDWOOD HWY
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 210.0
FCC AMSL FT -> 210.0
ACTION DATE -> 720509

LONGITUDE ->1223102
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031450
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 64.0
FCC AMSL METERS -> 64.0
TYPE -> OLD

San Rafael; north of downtown:

LATITUDE ->380138
STREET ->SE OF SILVERA BRCH
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 213.0
FCC AMSL FT -> 219.0
ACTION DATE -> 821229

LONGITUDE ->1223113
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031453
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 64.0
FCC AMSL METERS -> 66.0
TYPE -> OLD

Fairfax:

LATITUDE ->380215
STREET -> 5 MI NW OF CITY
CITY -> SAN RAFAEL
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 55.0
FCC AMSL FT ->1135.0
ACTION DATE -> 660720

LONGITUDE ->1223400
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031490
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 16.0
FCC AMSL METERS -> 346.0
TYPE -> OLD

Fairfax:

LATITUDE ->380224
STREET -> 1.5 M NW
CITY -> FAIRFAX
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 68.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 68.0
FCC AMSL FT ->1158.0
ACTION DATE -> 880423

LONGITUDE ->1223418
APPLICANT NAME -> HORIZON CABLE TV, INC.
STATE -> CA
FCC TOWER # -> 081978
SUPPORT METERS -> .0
TOWER METERS -> 20.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 20.0
FCC AMSL METERS -> 353.0
TYPE -> ADD

Ignacio; southeast of downtown:

LATITUDE ->380300
STREET ->BOLING & SELFRIDGE
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 60.0
FCC AMSL FT -> 270.0
ACTION DATE -> 880405

LONGITUDE ->1223120
APPLICANT NAME -> HORIZON CABLE TV, INC.
STATE -> CA
FCC TOWER # -> 081663
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 18.0
FCC AMSL METERS -> 82.0
TYPE -> ADD

Ignacio; Cellular A Block site:

LATITUDE ->380307	LONGITUDE ->1223143
STREET -> 5480-A NAVE DR	APPLICANT NAME -> BAY AREA CELLULAR
CITY -> NOVATO	STATE -> CA
STRUCTURE TYPE -> TOWER	FCC TOWER # -> 124606
SUPPORT FT -> .0	SUPPORT METERS -> .0
TOWER FT -> 45.0	TOWER METERS -> 13.0
ANTENNA FT -> .0	ANTENNA METERS -> .0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 45.0	FCC AGL METERS -> 13.0
FCC AMSL FT -> 125.0	FCC AMSL METERS -> 38.0
ACTION DATE -> 940510	TYPE -> ADD

Ignacio; Hamilton Air Force Base, Cellular B Block site:

LATITUDE ->380318	LONGITUDE ->1223108
STREET ->	APPLICANT NAME -> GTE MOBILNET
CITY -> HAMILTON	STATE -> CA
STRUCTURE TYPE -> TOWER	FCC TOWER # -> 123739
SUPPORT FT -> .0	SUPPORT METERS -> .0
TOWER FT -> 137.0	TOWER METERS -> 41.0
ANTENNA FT -> .0	ANTENNA METERS -> .0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 137.0	FCC AGL METERS -> 41.0
FCC AMSL FT -> 247.0	FCC AMSL METERS -> 75.0
ACTION DATE -> 940217	TYPE -> ADD

Ignacio; southeast of downtown:

LATITUDE ->380322	LONGITUDE ->1223132
STREET -> 99 SMITH RANCH RD	APPLICANT NAME -> CAL STATE AUTO ASSN
CITY -> SAN RAFAEL	STATE -> CA
STRUCTURE TYPE -> BTWR	FCC TOWER # -> 117998
SUPPORT FT -> 35.0	SUPPORT METERS -> 10.0
TOWER FT -> 15.0	TOWER METERS -> 4.0
ANTENNA FT -> 10.0	ANTENNA METERS -> 10.0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 60.0	FCC AGL METERS -> 18.0
FCC AMSL FT -> 90.0	FCC AMSL METERS -> 27.0
ACTION DATE -> 920803	TYPE -> ADD

REMARKS: 8/3/92 -- EXISTING LICENSE KAS450.

Big Rock Ridge; C&C site tenant? Note longitude error is 10 minutes !

LATITUDE ->380333
STREET -> BIG ROCK 4.5 MI W
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 65.0
ANTENNA FT -> 20.0
BEACON FT -> 0
FCC AGL FT -> 85.0
FCC AMSL FT ->1953.0
ACTION DATE -> 890320
LONGITUDE ->1222610
APPLICANT NAME -> PINOLE VALLEY TRUCKING
STATE -> CA
FCC TOWER # -> 095123
SUPPORT METERS -> .0
TOWER METERS -> 19.0
ANTENNA METERS -> 20.0
BEACON METERS -> .0
FCC AGL METERS -> 25.0
FCC AMSL METERS -> 595.0
TYPE -> ADD

Big Rock Ridge; C&C site, Cellular A (& B?) Block, 900 Mhz SMR:

LATITUDE ->380333
STREET -> 4 1/2 MI E.
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 85.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 85.0
FCC AMSL FT ->1972.0
ACTION DATE -> 910625
LONGITUDE ->1223610
APPLICANT NAME -> CAL STATE AUTO ASSN.
STATE -> CA
FCC TOWER # -> 113578
SUPPORT METERS -> .0
TOWER METERS -> 25.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 25.0
FCC AMSL METERS -> 601.0
TYPE -> ADD

Big Rock Ridge; correct NAD 27 coordinates & elev. of C&C site:

LATITUDE ->380333
STREET -> BIG ROCK, 4 MI SW
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 100.0
ANTENNA FT -> 18.0
BEACON FT -> 0
FCC AGL FT -> 118.0
FCC AMSL FT ->2007.0
ACTION DATE -> 930413
LONGITUDE ->1223611
APPLICANT NAME -> CALIFORNIA, STATE OF
STATE -> CA
FCC TOWER # -> 113827
SUPPORT METERS -> .0
TOWER METERS -> 30.0
ANTENNA METERS -> 18.0
BEACON METERS -> .0
FCC AGL METERS -> 36.0
FCC AMSL METERS -> 611.0
TYPE -> MOD
REMARKS: FILED BY C & C EQUIPMENT CO. 3/11/93 -- INCREASED AGL/AMSL

Big Rock Ridge; Motorola site? This pole may not exist:

LATITUDE ->380334
STREET -> 1/2 MI SW OF
CITY -> NOVATO
STRUCTURE TYPE -> POLE
SUPPORT FT -> .0
TOWER FT -> 80.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 80.0
FCC AMSL FT ->1967.0
ACTION DATE -> 920731

LONGITUDE ->1223617
APPLICANT NAME -> ALL CITY PAGING INC
STATE -> CA
FCC TOWER # -> 114562
SUPPORT METERS -> .0
TOWER METERS -> 24.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 24.0
FCC AMSL METERS -> 599.0
TYPE -> MOD

Big Rock Ridge; correct NAD 27 coordinates of Motorola site:

LATITUDE ->380335
STREET -> BIG ROCK RIDGE
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 104.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 104.0
FCC AMSL FT ->1988.0
ACTION DATE -> 920319

LONGITUDE ->1223617
APPLICANT NAME -> PAGING NETWORK OF SF INC
STATE -> CA
FCC TOWER # -> 114325
SUPPORT METERS -> .0
TOWER METERS -> 31.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 31.0
FCC AMSL METERS -> 605.0
TYPE -> MOD

Big Rock Ridge; Motorola site ? 800 & 900 MHz SMRs are here:

LATITUDE ->380338
STREET -> BIG ROCK RIDGE
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 80.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 80.0
FCC AMSL FT ->1967.0
ACTION DATE -> 930727

LONGITUDE ->1223617
APPLICANT NAME -> MOTOROLA INC
STATE -> CA
FCC TOWER # -> 121644
SUPPORT METERS -> .0
TOWER METERS -> 24.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 24.0
FCC AMSL METERS -> 599.0
TYPE -> ADD

Big Rock; Motorola site ? erroneous coordinates & elevations:

LATITUDE ->380340
STREET -> BIG ROCK RIDGE
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 60.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 60.0
FCC AMSL FT ->1940.0
ACTION DATE -> 910506

LONGITUDE ->1223616
APPLICANT NAME -> LAIDLAW ENV SERVICES
STATE -> CA
FCC TOWER # -> 113057
SUPPORT METERS -> .0
TOWER METERS -> 18.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 18.0
FCC AMSL METERS -> 591.0
TYPE -> ADD

Ignacio; south of downtown:

LATITUDE ->380342
STREET -> 1225 ESCONDIDA
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 44.0
FCC AMSL FT -> 164.0
ACTION DATE -> 780421

LONGITUDE ->1223239
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031568
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 13.0
FCC AMSL METERS -> 50.0
TYPE -> OLD

Ignacio; north of downtown:

LATITUDE ->380434
STREET -> 37 HAMILTON DR.
CITY -> IGNACIO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 90.0
FCC AMSL FT -> 130.0
ACTION DATE -> 771101

LONGITUDE ->1223216
APPLICANT NAME ->
STATE -> CA
FCC TOWER # -> 031598
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 27.0
FCC AMSL METERS -> 39.0
TYPE -> OLD

Novato; State of California site:

LATITUDE ->380515
STREET -> 1 MI E HWY 37
CITY -> NOVATO
STRUCTURE TYPE -> POLE
SUPPORT FT -> 25.0
TOWER FT -> .0
ANTENNA FT -> 24.0
BEACON FT -> 0
FCC AGL FT -> 49.0
FCC AMSL FT -> 57.0
ACTION DATE -> 960523
LONGITUDE ->1223202
APPLICANT NAME -> CALIFORNIA, STATE OF
STATE -> CA
FCC TOWER # -> 120183
SUPPORT METERS -> 7.0
TOWER METERS -> .0
ANTENNA METERS -> 24.0
BEACON METERS -> .0
FCC AGL METERS -> 14.0
FCC AMSL METERS -> 17.0
TYPE -> MOD
REMARKS: INCREASE TO EXISTING TOWER # 120183, FAA 92-AWP-1205-OE.

Novato; this tower may not have been built:

LATITUDE ->380542
STREET -> 3.8 MI SW OF CITY
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 298.0
FCC AMSL FT ->1658.0
ACTION DATE -> 850930
LONGITUDE ->1224019
APPLICANT NAME -> N. BAY BROADCASTING
STATE -> CA
FCC TOWER # -> 065602
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 90.0
FCC AMSL METERS -> 505.0
TYPE -> MOD

Novato; City of Novato site:

LATITUDE ->380615
STREET -> N END HAYDEN DR
CITY -> NAVATO
STRUCTURE TYPE -> POLE
SUPPORT FT -> 20.0
TOWER FT -> .0
ANTENNA FT -> 20.0
BEACON FT -> 0
FCC AGL FT -> 40.0
FCC AMSL FT -> 195.0
ACTION DATE -> 920602
REMARKS: SITE IS SHIELDED
LONGITUDE ->1223400
APPLICANT NAME -> NOVATO, CITY OF
STATE -> CA
FCC TOWER # -> 117203
SUPPORT METERS -> 6.0
TOWER METERS -> .0
ANTENNA METERS -> 20.0
BEACON METERS -> .0
FCC AGL METERS -> 12.0
FCC AMSL METERS -> 59.0
TYPE -> MOD

Novato; Cellular A Block site:

LATITUDE ->380646	LONGITUDE ->1223257
STREET -> 615 ATHERTON AVE	APPLICANT NAME -> BAY AREA CELLULAR
CITY -> NOVATO	STATE -> CA
STRUCTURE TYPE -> TOWER	FCC TOWER # -> 115965
SUPPORT FT -> .0	SUPPORT METERS -> .0
TOWER FT -> 80.0	TOWER METERS -> 24.0
ANTENNA FT -> .0	ANTENNA METERS -> .0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 80.0	FCC AGL METERS -> 24.0
FCC AMSL FT -> 535.0	FCC AMSL METERS -> 163.0
ACTION DATE -> 920219	TYPE -> ADD

Novato; Cellular B Block site:

LATITUDE ->380647	LONGITUDE ->1223256
STREET -> ROBINHOOD DRIVE	APPLICANT NAME ->
CITY -> NOVATO	STATE -> CA
STRUCTURE TYPE -> TOWER	FCC TOWER # -> 031679
SUPPORT FT -> .0	SUPPORT METERS -> .0
TOWER FT -> .0	TOWER METERS -> .0
ANTENNA FT -> .0	ANTENNA METERS -> .0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 54.0	FCC AGL METERS -> 16.0
FCC AMSL FT -> 504.0	FCC AMSL METERS -> 153.0
ACTION DATE -> 840208	TYPE -> OLD

Novato; KCBS AM array east of Gnoss Field:

LATITUDE ->380823	LONGITUDE ->1223145
STREET ->	APPLICANT NAME -> KCBS
CITY -> SAN FRANCISCO	STATE -> CA
STRUCTURE TYPE -> 4 TWR ARRAY	FCC TOWER # -> 117392
SUPPORT FT -> .0	SUPPORT METERS -> .0
TOWER FT -> 505.0	TOWER METERS -> 153.0
ANTENNA FT -> .0	ANTENNA METERS -> .0
BEACON FT -> 0	BEACON METERS -> .0
FCC AGL FT -> 505.0	FCC AGL METERS -> 153.0
FCC AMSL FT -> 511.0	FCC AMSL METERS -> 155.0
ACTION DATE -> 920608	TYPE -> MOD
REMARKS: ALL TOWERS OF EQUAL HEIGHT.	

Burdell Mountain:

LATITUDE ->380842
STREET -> 2.5 MILRD NO.OF
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 91.0
FCC AMSL FT ->1591.0
ACTION DATE -> 890130

LONGITUDE ->1223535
APPLICANT NAME -> AT&T
STATE -> CA
FCC TOWER # -> 091883
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 27.0
FCC AMSL METERS -> 484.0
TYPE -> ADD

Burdell Mountain:

LATITUDE ->380846
STREET ->BURDELL MT 6.3 M N
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 100.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 100.0
FCC AMSL FT ->1658.0
ACTION DATE -> 880218

LONGITUDE ->1223525
APPLICANT NAME -> MOBILECOMM OF SF
STATE -> CA
FCC TOWER # -> 080646
SUPPORT METERS -> .0
TOWER METERS -> 30.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 30.0
FCC AMSL METERS -> 505.0
TYPE -> ADD

Burdell Mountain; possible site of new UHF TV station KWOK, chl 68:

LATITUDE ->380853
STREET -> BURDELL MOUNTAIN
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 300.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 300.0
FCC AMSL FT ->1780.0
ACTION DATE -> 910417

LONGITUDE ->1223533
APPLICANT NAME -> NORTH BAY TV
STATE -> CA
FCC TOWER # -> 112882
SUPPORT METERS -> .0
TOWER METERS -> 91.0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 91.0
FCC AMSL METERS -> 542.0
TYPE -> ADD

Burdell Mountain; State of California tower:

LATITUDE ->380900
STREET ->BURDELL MTN 3 MI N
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> 200.0
ANTENNA FT -> 15.0
BEACON FT -> 0
FCC AGL FT -> 215.0
FCC AMSL FT ->1773.0
ACTION DATE -> 930825
LONGITUDE ->1223531
APPLICANT NAME -> CALIFORNIA, STATE OF
STATE -> CA
FCC TOWER # -> 121943
SUPPORT METERS -> .0
TOWER METERS -> 61.0
ANTENNA METERS -> 15.0
BEACON METERS -> .0
FCC AGL METERS -> 65.0
FCC AMSL METERS -> 540.0
TYPE -> ADD
REMARKS: FINAL 9-9-93 PROVIDED NO PETITIONS ARE FILED; EXPIRES 3-9-94.

Novato; Corda Ranch Cellular A Block provider:

LATITUDE ->381057
STREET ->
CITY -> PETALUMA
STRUCTURE TYPE -> TOWER
SUPPORT FT -> 16.0
TOWER FT -> 2.0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 18.0
FCC AMSL FT -> 293.0
ACTION DATE -> 920109
LONGITUDE ->1223537
APPLICANT NAME -> CELLULAR ONE
STATE -> CA [East side Redwood Hwy]
FCC TOWER # -> 115458
SUPPORT METERS -> .0
TOWER METERS -> 4.0
ANTENNA METERS -> 2.0
BEACON METERS -> .0
FCC AGL METERS -> 5.0
FCC AMSL METERS -> 89.0
TYPE -> ADD

Novato; Corda Ranch Cellular B Block provider:

LATITUDE ->381103
STREET -> 103000 REDWD HWY
CITY -> NOVATO
STRUCTURE TYPE -> TOWER
SUPPORT FT -> .0
TOWER FT -> .0
ANTENNA FT -> .0
BEACON FT -> 0
FCC AGL FT -> 22.0
FCC AMSL FT -> 182.0
ACTION DATE -> 930119
LONGITUDE ->1223553
APPLICANT NAME -> GTE MOBILNET
STATE -> CA [East side Redwood Hwy]
FCC TOWER # -> 119657
SUPPORT METERS -> .0
TOWER METERS -> .0
ANTENNA METERS -> .0
BEACON METERS -> .0
FCC AGL METERS -> 6.0
FCC AMSL METERS -> 55.0
TYPE -> MOD

APPENDIX D

FCC LIMITS ON MAXIMUM PERMISSIBLE EXPOSURE TO EMF

Sec. 1.1310 Radiofrequency radiation exposure limits.

The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, ``Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."

Note to Introductory Paragraph: These limits are generally based on recommended exposure guidelines published by the National Council on Radiation Protection and Measurements (NCRP) in ``Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3. Copyright NCRP, 1986, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, exposure limits for field strength and power density are also generally based on guidelines recommended by the American National Standards Institute (ANSI) in Section 4.1 of ``IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

Table 1--Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magenetic Field Strength (A/m)	Power Density (mW/cm\2\)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0.	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f\2\)	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f\2\)	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note 1 to Table 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Citation: Code of Federal Regulations, Title 47, Chapter 1, Part 1

APPENDIX E

GUIDE TO ISSUES, POLICIES, AND CRITERIA

APPENDIX E:

COUNTY OF MARIN
COMMUNITY DEVELOPMENT AGENCY - PLANNING DIVISION

GUIDE TO THE MARIN COUNTY TELECOMMUNICATIONS FACILITIES POLICY PLAN

Telecommunications facilities are typically permitted subject to Design Review and Use Permit approvals. The administrative process for securing such approvals can be complex and time consuming. To facilitate preparation and review of telecommunications applications, the Community Development Agency has prepared this guide to provide industry representatives, community members, and County decision makers with an understanding of the issues, policies, and criteria which will be evaluated during review of telecommunications facilities.

ISSUES

The County has a long tradition of protecting the important natural and built environments which define Marin. To this end, the County has adopted a comprehensive Countywide Plan and specific community plans which provide for housing and economic development for County residents while also protecting ridgelines, open space and sensitive environmental areas, the unique aesthetic qualities of the Marin communities, and the health and safety of its citizens. In 1990, the County adopted the Marin County Telecommunications Facilities Policy Plan (Telecommunications Plan) to identify potential impacts arising from the growth of major telecommunications facilities and to establish appropriate policies, standards, and guidelines that implement the overall goals and objectives of the Countywide Plan. The 1990 Telecommunications Plan was prepared prior to the advent of commercial wireless communications and thus focuses primarily on the anticipated expansion of major telecommunication facilities located in ridgeline areas.

The recent proliferation of commercial wireless facilities and other telecommunications technologies facilities has prompted the County to update the Telecommunications Plan. The update of the Telecommunications Plan sets forth policies and programs that respond to the land use issues and community concerns relating to the commercial wireless networks currently being developed in Marin County.

The basic administrative and land use elements addressed by the Telecommunications Plan include:

- Requirements for materials accompanying permit applications
- Location preferences for telecommunications facilities
- Co-location and clustering of telecommunications facilities
- Electromagnetic frequency radiation

- Lighting, Noise, and traffic
- Roads and accessways
- Vegetation
- Public safety
- Visual Compatibility and facility site design
- Removal of abandoned telecommunications facilities

PRUDENT AVOIDANCE

The County has experienced a growing community awareness about the perceived health effects from human exposure to electromagnetic frequency radiation (EMF) emitted by the operation of wireless communications facilities. The Telecommunications Plan addresses the potential health effects from EMF radiation by requiring new or expanded wireless communications facilities to meet standards for permissible exposure to EMF as adopted by the Federal Communications Commission (FCC). These requirements are consistent with the Federal Communications Facilities Act of 1996 which stipulates that permitting agencies cannot deny or require relocation of a proposed wireless communications facility on the basis of health effects if the facility meets EMF exposure standards adopted by the FCC.

Notwithstanding the County's adoption of federal standards that minimize exposure to EMF, there is continued interest and debate in Marin County about the potential health effects of such exposure. In response to this concern, the County regularly advises service providers that it is prudent to avoid locating new wireless communication facilities in areas that will result in prolonged human exposure to EMF. This advisory policy of "prudent avoidance" is intended to avoid or minimize, where possible, community conflicts over EMF exposure from new or modified telecommunications facilities. The policy is not intended to regulate the location of new wireless communications facilities or otherwise replace or supplement the standards for permissible human exposure to EMF as adopted by the FCC and the County.

APPLICATION INFORMATION

To facilitate application preparation and review, each telecommunications provider shall complete the attached checklists and submit them with their applications. These checklists require applicants to clearly indicate whether they have submitted information which responds to each of the land use elements described above, and where that information may be found.

GENERAL STANDARDS - APPLICATION REQUIREMENTS

Development application shall be accompanied by the following:

Page No./
Document No.

_____ 1. A written description of the technology proposed.

_____ 2. A written description of the type of consumer services to be provided.

3. A list of applicant's facilities sites, including location, type, number of antennae, and base transceiver stations for:

_____ Existing Sites

_____ Approved sites not yet constructed

_____ Proposed sites (applications filed and pending) in all County jurisdictions

_____ Anticipated planned sites for new, upgraded and abandoned facilities (applications not yet filed)

4. A map (or maps) depicting:

_____ The geographic location and boundaries of all coverage areas (search rings) planned by applicant in all of the County's jurisdictions. (10 copies)

_____ The location of applicant's facilities sites within each coverage area (map symbols and numbers correspond to Item 3). (10 copies)

_____ 5. A map depicting the coverage area of proposed facility, including all information required by Item 3. (USGS topographic base maps are suggested.) (10 copies)

_____ 6. As determined by the Director of Community Development, payment, in full, for all costs associated with the peer review of any technical information submitted by applicant, or

_____ 7. As determined by the Director of Community Development, payment, in full, for all costs associated with the independent preparation of such information prepared by the County, or consultants to the County.

8. Graphic and technical information including the following for all submittals:

_____ Site plan, architectural plan, landscape plan and other information as required by Design Review Supplemental Checklist (10 copies)

_____ Radio frequency radiation reports

_____ Visual analysis

_____ Alternative sites analysis, including co-location and shared-location

_____ Additional information which may be required based upon preliminary review of the initial submittal:

_____ Traffic analysis

_____ Noise analysis

_____ Biological assessment

_____ Independent peer review of information submitted by the applicant

The graphic and technical information listed above shall be prepared by qualified professionals acceptable to the Director of Community Development.

_____ 9. Copies of land use easements or restrictions (including open space and scenic) that encumber the proposed facility site.

_____ 10. Ten (10) copies of any photographs, maps, photosimulations, graphs and charts included as part of the application.

11. In addition to the information listed above, the County will require the applicant to enter into a performance agreement(s) as a condition of permit approval for the following:

_____ a. Removal of the approved facility should it be abandoned

_____ b. Maintenance of required landscaping

_____ c. Periodic independent monitoring of EMF emissions from the approved facility by County, paid for by provider _____.

LOCATION OF WIRELESS COMMUNICATION FACILITIES

Checklist

All wireless telecommunications facilities shall satisfy, or answer, the conditions or questions listed below. If answering "Yes" refer to appropriate submittal information (e.g., project plans, technical report, etc.). If answering "No" provide explanation as to why the information is not submitted or relevant.

		Yes	Page No./ Document No.	No	Explanation
1.	Will the proposed facility be sited in a location where it unreasonably interferes with the operation of the Marin County Airport?				
2.	Can the proposed facility be located on:				
	A publicly used structure?				
	A co-location site?				
	A shared location?				
	An industrial site?				
	A commercial site?				
3.	Does the proposed location avoid:				
	Residential areas?				
	Demonstrate prudent avoidance of sensitive receptor sites?				
	Schools and other sensitive receptors relative to EMF issue? (e.g., daycare, hospitals, elderly care, etc.)				
4.	Can the proposed facility be attached or sited adjacent to existing structures?				
5.	Is the proposed facility a monopole?				

		Yes	Page No./ Document No.	No	Explanation
6.	Is the proposed monopole facility to be located in:				
	A residential area?				
	An agricultural area?				
	A commercial area?				
	Next to public lands? (e.g., GGNRA, MCOSD, etc.)				
	Other areas?				
7.	Have all feasible alternatives to a separate monopole facility been considered?				

CO-LOCATION AND SHARED-LOCATION STANDARDS

In order to be considered for approval as a co-location or shared-location site, the application for a proposed wireless communication facility must include, or answer, the following:

		Yes	Page No./ Document No.	No	Explanation
1.	A graphic and written analysis that identifies all technically feasible sites within the coverage area that would accommodate the proposed service.				
	This analysis shall include information regarding technically feasible alternative sites and/or facility designs that would avoid or minimize adverse effects related to:				
	Land use compatibility				
	Visual resources				
	Public safety				
	Other factors address by CEQA				

CO-LOCATION AND SHARED-LOCATION STANDARDS (continuation)

		Yes	Page No./ Document No.	No	Explanation
2.	A written analysis of the specific factors resulting in selection of the preferred site over the alternatives, including the reasons for not selecting co-location or shared-location sites.				
3.	Are there other existing or planned facilities in the coverage area of the proposed project? (Either owned/operated by applicant or other providers/carriers)				
4.	Are the facilities leases exclusive? Describe.				
5.	Does the design of the co-location or shared-location site promote shared use by different carriers?				
6.	Does the design of the co-location or shared-location facilities consolidate future planned facilities?				
7.	Does the application include a request for multiple antenna support structures?				
8.	Does the application include facilities with unutilized space for co-location of other antennas and equipment?				
	For competing carriers?				

RADIO FREQUENCY RADIATION

		Yes	Page No./ Document No.	No	Explanation
1.	Does the proposed facility, operating alone or in conjunction with other telecommunication facilities, exceed the standards established by the Federal Communications Commission for permissible human exposure to radio frequency radiation (RFR)?				
2.	Does the application include an "RFR" report?				
3.	Does the "RFR" report measure the predicted and actual levels of "RFR" radiation emitted by the proposed facility?				

LIGHTING

		Yes	Page No./ Document No.	No	Explanation
1.	Does the application include a detailed lighting plan?				
2.	Is the proposed lighting manually operated, low wattage, hooded and directed downward?				
3.	Is the tower lighting shielded or otherwise directed to minimize light and glare impacts of nearby properties and residents?				
4.	Are warning signs lighted by low-wattage fixtures, directed downward and hooded?				

ROAD AND ACCESSWAYS

The application must include a description of the facility's access roads and parking areas and must answer the following:

		Yes	Page No./ Document No.	No	Explanation
1.	Are existing roads and parking areas used to access and service the proposed facilities?				
	If not, why not? _____ _____				
2.	Will any new roads or parking areas be capable of being shared with subsequent telecommunication facilities and/or other permitted uses?				
3.	If any new access roads are to be constructed in agricultural or open space areas, will such road meet the minimum width and surface standards necessary to conform to fire safety and emergency access requirements?				
4.	What is the size of the proposed parking area? _____				
	Is the size of the parking area limited to minimum necessary to accommodate maintenance vehicles?				

VEGETATION

		Yes	Page No./ Document No.	No	Explanation
1.	Does the application include a landscape plan?				
2.	Does the landscape plan indicate all existing vegetation?				
3.	Does the landscape plan indicate vegetation to be removed or trimmed?				
4,	Does the landscape plan identify proposed plantings by type, size and location?				
5.	Will the proposed landscape screen the proposed facility?				
6.	Will the proposed landscaping contribute to the stabilization of the soils on sloping sites?				
7.	Are the proposed landscape materials native, drought tolerant species compatible with the natural setting of the facility site?				
8.	Is there a plan to protect the existing trees and screening vegetation from damage during construction and operation?				
9.	Is there a revegetation plan?				
10.	Is there an erosion control plan?				
11.	Does the application include a landscape performance and maintenance agreement between the applicant and the County?				

NOISE AND TRAFFIC

		Yes	Page No./ Document No.	No	Explanation
1.	Does the application identify the location and type of noise generating equipment (generators, air conditioning units, etc.)?				
2.	Does the application include an operation plan that complies with the noise exposure standards of the Marin Countywide Plan (maximum allowable exterior noise level of 60 dB at the property line, maximum interior noise level of 45 dB)?				
3.	Does the application specify the maximum number of vehicle trips required for maintenance and testing?				

VISUAL COMPATIBILITY AND FACILITY SITE DESIGN

		Yes	Page No./ Document No.	No	Explanation
1.	Does the application include a visual analysis of the proposed facility at full buildout?				
	Does the application describe anticipated future expansion of the proposed facility?				
2.	Does the visual analysis include:				
	A photo montage of the proposed facility?				
	A computer based simulation of the proposed facility?				
	Story poles (or similar techniques) erected on the proposed site?				
3.	Can the proposed facilities be sited or designed to appear as an integral part of the support structure?				

VISUAL COMPATIBILITY AND FACILITY SITE DESIGN (continued)

		Yes	Page No./ Document No.	No	Explanation
4.	If wall-mounted, can the proposed facilities be integrated with the architectural style and character of the supporting structure?				
5.	Can the proposed facilities be completely screened from view?				
6.	Are the proposed facilities to be located on the front, or most prominent, facade of a structure?				
7.	Are the proposed facilities to be located above the pedestrian line of sight?				
8.	If roof mounted, can the proposed facilities be seen from the street?				
9.	If constructed, would a parapet conceal a roof mounted facility?				
10.	Can support facilities (base stations, equipment cabinets, back-up generators) for building mounted facilities be installed within the existing building envelope?				
	Underground?				
11.	Are the proposed support facilities compatible with the architectural style and construction materials of the surrounding development and/or land use setting?				
12.	If necessary, can the proposed support equipment be painted, screened/fenced, landscaped, or otherwise treated to minimize its visual impact?				
13.	If the proposed facility is to be sited in open space or undeveloped hillside areas that are highly visible, can the facility be designed to resemble natural landscape elements such as rock outcroppings or trees?				
14.	Can the proposed facility be designed as a piece of public area?				

VISUAL COMPATIBILITY AND FACILITY SITE DESIGN (continued)

		Yes	Page No./ Document No.	No	Explanation
15.	Is the proposed facility to be located on, or near, a historic or architecturally significant structure?				
	If so, can the proposed facility be visually integrated with the architecture of the existing structure?				
16.	Do the proposed facilities interfere with prominent vistas or significant public view corridors?				
17.	Do the proposed facilities interfere with views from surrounding residences?				
18.	Do the proposed facilities display any advertising signage or identifying logos?				
19.	Are the proposed facilities to be located adjacent to existing rooftop equipment to avoid visual clutter?				
20.	Does the application demonstrate that the proposed facility has been designed to attain the minimum height from a technical point of view?				
21.	Will the proposed facilities be painted to blend with the structures, vegetation, sky, or landscape against which they will be viewed?				

INDEMNIFICATION

		Yes	Page No./ Document No.	No	Explanation
1.	Has the applicant agreed to defend, indemnify, hold harmless the County from any claims, actions, or proceedings?				

APPENDIX F

HUMAN EXPOSURE CONDITIONS FROM ELECTROMAGNETIC FREQUENCY

APPENDIX F: HUMAN EXPOSURE CONDITIONS FROM ELECTROMAGNETIC FIELDS

Electromagnetic fields (EMFs) have an electric and a magnetic component. Electric field strength is expressed in units of volts per meter (V/m). Magnetic field strengths are expressed in units of Gauss (G), and is commonly reported in thousandths of a Gauss (milligauss, or mG). Both electric and magnetic fields can be stated in terms of power density, which is the conventional measure of human exposure conditions near broadcast and wireless communications facilities. Power density can be reported in thousands of a watt (milliwatts) per square centimeter (mW/sq.cm).

The frequencies of EMFs is measured in units of hertz (Hz) which is cycles per second. Power lines have frequencies of 60 Hz in the U.S. Radio frequencies (RF) are much higher, ranging from thousands of hertz (kilohertz, or kHz) to millions and billions of hertz (megahertz and gigahertz, MHz and GHz). Broadcast and wireless communications services (e.g., cellular and PCS) on frequencies expressed in MHz. Microwave facilities are in the GHz range.

The RF power radiated from broadcast FM and television facilities range from a few thousand to five million watts (for UHF TV). For cellular and PCS facilities, the power radiated from each transmitting antenna is usually several hundred watts, which is much less than the power radiated by most broadcast facilities. Cellular and PCS facilities radiate much more power than portable telephones, but human exposure conditions are much greater from the portable telephone than a wireless communications facility because the portable telephone is held within a couple of inches of the ear, while the closest public approach to a wireless communications facility is typically tens to hundreds of feet.

The power density, and thus the exposure level, near a wireless communications facility generally decreases with an increase in distance from the transmitting antenna. However, the decrease in power density is not monotonic due to the pattern characteristics of transmission antennas, the height of the antennas above ground level, and other environmental factors unique to each facility. In fact, the highest power densities are not directly beneath the antennas. Instead, the maximum exposure levels usually occur at distances between 50 to 800 feet from the base of the antenna support structure in the direction of maximum radiation.

The following table presents a summary comparison of EMF levels emitted by a typical stand-alone wireless communications facility and other common sources of EMF.

TABLE 7: COMPARISON OF EMF LEVELS

Source of EMF	Power Density	Notes
CMRS Cellular or PCS Facility	0.0001 to 0.001 mW/sq.cm max at approximately 50 to 800 feet from the facility.	The range of exposure levels for this type of equipment is between one-thousand and ten-thousand times less than the limits established by the FCC for public exposure to radio frequency (RF) EMF in the cellular and PCS operating frequency range.
Portable Cordless, Cellular, or PCS Phone	1.0 to 10.0 mW/sq.cm near the user's head. Note: The FCC requires cellular and PCS portable phones to meet public MPE limits when the portable's antenna is approximately 8" from the user.	Exposure to this type of equipment results in much higher levels than cellular or PCS facilities, even though such phones usually transmit with less than 1 watt. At two inches from the phone, power density levels can be in the 1.0 to 10.0 mW/sq.cm. Higher power portable devices, such as the hand-held radios used by public safety workers can generate even higher exposure levels.
Microwave Ovens	1.0 mW/sq.cm	Leakage from microwave ovens which operate at RF frequencies, can cause exposure levels of approximately 1.0 mW/sq.cm within a couple of inches of the oven door. Older or damaged ovens can cause far higher exposure levels.

Source of EMF	Power Density	Notes
Television Sets or Computer Video Displays	greater than 1000 mW/Sq. cm	Extremely Low Frequency (ELF) fields from this type of equipment can be greater than 1000 mW/Sq.cm at a distance of one foot from the screen. However, the propagation of ELF fields and their reputed biological effects are different from the EMFs generated by commercial wireless facilities. Thus, a direct comparison of exposure levels may not be meaningful.
Overhead Powerlines, in-house wiring, electric blankets, and electric motors in certain appliances	60 Hz EMFs	Humans can be exposed to 60 Hz EMF from these sources which are ten to hundreds of times higher than the EMFs generated by a nearby wireless facility. However, 60 Hz fields differ in frequency from wireless EMFs by a factor of approximately 15 million, and thus a direct comparison of biological effects based on exposure levels alone is problematic.

APPENDIX G

REFERENCES AND RESOURCES

APPENDIX G: REFERENCES AND RESOURCES

Organizational Resources

Federal Communications Commission (FCC)
1919 M Street, NW
Washington, DC 20554
(202) 418-0200
http://www.fcc.gov

National Telecommunications and Information Agency (NTIA) Department of Commerce
14th Street and Constitution Avenue, NW
Washington, DC 20230
(202) 377-5802
http://www.ntia.doc.gov

Alliance for Public Technology (APT)
901 15th Street, NW
Suite 230
Washington, DC 20005-2301
(202) 408-1403
apt@apt.org

International City/County Management Association (ICMA)
777 North Capitol Street, NE
Washington, DC 20002
(800) 745-8780

National Association of Telecommunications Officers and Advisors (NATOA)
1200 19th Street, NW, Suite 300
Washington, DC 20036
(202) 429-5101
natoa@sba.com

National League of Cities
1301 Pennsylvania Avenue, NW
Washington, DC 20004

Internet locations of Interest

FCC information on the Telecommunications Act of 1996 *http://www.fcc.gov/telecom.html*

FCC information on state and local government issues *http://www.fcc.gov/state&local*

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FCC Wireless Telecommunications Bureau, "Fact Sheet #2," Washington, DC, September 17, 1996.

"Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation - Final Rule," Vol. 61, No. 153, Federal Register 41006, August 7, 1996.

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APPENDIX H

GLOSSARY

APPENDIX H: GLOSSARY

Amateur Radio Service (ARS): An International and FCC-regulated voluntary, non-commercial radio communications service implemented for the purpose of self-training, intercommunication, emergency communication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

American National Standards Institute (ANSI): The U.S. standards organization that establishes procedures for the development and coordination of voluntary American National Standards.

ANSI: Abbreviation for American National Standards Institute.

Antenna: Any structure or device used to radiate or collect electromagnetic fields or waves. Specifically, a device that converts radio frequency electrical energy into radiated electromagnetic energy and vice versa; in a transmitting station, the device from which radio waves are emitted.

Dipole antenna: A 2-conductor antenna, usually straight, one-half wavelength long, and center-fed so as to have equal current in both halves. When mounted vertically it has a radiation pattern which is omnidirectional in the horizontal plane.

Directional antenna: An antenna which has a radiation pattern which is not omnidirectional.

Isotropic antenna: A hypothetical, point-source antenna having equal gain in all directions, and used as a reference antenna for determining the gain of other antennas, especially those that operate at microwave frequencies.

Micro facility antenna: A small, visually unobtrusive directional or omnidirectional antenna installed at a micro communications facility. Micro facility antennas are unobtrusive enough to be effectively unnoticed by a casual observer when installed on light standards, utility poles, flag poles, traffic signals or building interiors and exteriors. See "Stealth design."

Omnidirectional antenna: An antenna that has a radiation pattern that is nondirectional in azimuth (i.e., uniform in the horizontal plane). Note that the vertical radiation pattern may be of any shape.

Panel antenna: A directional antenna that is shaped like a square or rectangular panel and that transmits and/or receives radio frequency signals in a horizontal beamwidth of typically not more than 120 degrees.

Parabolic antenna: A specialized directional antenna consisting of a parabolic reflector and a radiating or receiving element at or near its focus to transmit or receive signals in the UHF or microwave portion of the radio frequency spectrum. In general, the antenna has a circular shape , ranging in diameter from approximately one foot to forty feet or more. Some specialized parabolic antennas are shaped like a horn. Because of their shape and function, they are often also called "dish" antennas, microwave dishes, and satellite dishes.

Yagi antenna: A linear end-fire directional antenna consisting of three or more parallel dipole elements: one driven, one reflector, and one or more directors to improve its function. A Yagi antenna offers very high directivity and gain. The formal name for a "Yagi antenna" is "Yagi-Uda array."

Whip antenna: A vertical wire or rod-shaped omnidirectional antenna. Whip antennas are often quite flexible, hence the name "whip." See "Antenna - omnidirectional "

Antenna support structure: A structure consisting of a pole, tower, building or other device that supports antennas, and any surmounting appurtenances (attachments such as beacons or lightning rods).

Guyed tower: A tower which is supported by the use of cables (guy wires) which are anchored to the ground. Most guyed tower are of steel lattice construction with a uniform cross-section dimension along the entire length.

Lattice tower: A tower characterized by an open framework of lateral cross members. A lattice tower can be either guyed or self-supporting.

Monopole: A single upright pole engineered to be self-supporting and does not require guy wires.

Self-supporting: Any antenna support structure which does not require guy wires, buildings, or other devices for support. Most self-supporting towers are steel lattice, but others are made from wood or concrete.

Applicant: A person(s) or entity who has filed a zoning, building, or other permit application with the County of Marin. Also person(s) or entity who has filed an application for an FCC license.

Attached wireless communications facility: A wireless communications facility in which the antenna(s) is affixed, fastened or joined to a structure used for a purpose other than wireless communications.

Base station: See "Station - Base station".

Broadband : The property of any communications facility, equipment, channel or system in which the range of frequencies used for transmission (i.e., bandwidth) is greater than 0.1% of the midband frequency. Also, "broadband" is often used to distinguish a system from its "narrowband" counterpart, where both terms are subjectively defined relative to the implied context. For example, Personal Communications Services systems operate in both broadband and narrowband frequency ranges. See "Narrowband."

Broadcasting: General term for transmission of audio, visual and other types of information intended for direct reception by the general public.

Broadcast Services: FCC-authorized Broadcasting Services that include primarily commercial and non-commercial educational (NCE) radio and television , such as AM radio, FM radio, high and low power television, digital television (DTV), and the Broadcasting-Satellite Service. Broadcast Services are regulated by the Mass Media Bureau of the FCC.

Broadcasting-Satellite Service: An FCC-regulated broadcasting service in which signals transmitted or retransmitted by space stations (i.e., satellites) are intended for direct reception by the general public. In the broadcasting-satellite service, the term "direct reception" shall encompass both individual reception and community reception. See "Direct Broadcast Satellite (DBS) services."

Build-out transmitters: In the Cellular Radiotelephone Service, transmitters added to the first cellular system authorized on a channel block in a cellular market during the five year build-out period in order to expand the coverage of the system within the market.

California Environmental Quality Act (CEQA): A statute enacted by the California Legislature in 1970 that requires public agency decisionmakers to assess and consider the environmental effects of their decisions on projects.

California Public Utility Commission (CPUC): A State commission that regulates the construction and operation of public utilities, including telecommunications systems.

Cell: In a cellular-based mobile radio system, a cell is a portion of a larger geographical service area which is served by one base station, or a subsystem (e.g., sectorized antenna) of that base station. See "Microcell."

Cell site: A wireless communications facility site in a Cellular Radiotelephone Service system, personal communications services system, or Specialized or Enhanced Specialized Mobile Radio Services system, or any other radio system that provides geographic coverage in a cellular fashion.

Cellular Radiotelephone Service (CRS): The oldest of the Commercial Mobile Radio Services. Cellular systems operate in the frequency range between 824 to 849 MHz, and between 869 to 894 MHz.

Channel: A path for conveying electromagnetic signals, usually distinguished from other parallel paths. For example, a channel used in a wireless communications system can be a segment of a frequency band.

Clustering: Siting two or more separate telecommunications towers, other antenna support structures, and equipment buildings on the same site in close proximity to each other; the consolidation of wireless facilities to increase joint location efficiency.

Combiner: Any radio frequency equipment which permits an antenna and possibly its associated transmission line to be shared by more than one transmitter, receiver or transceiver. The use of the term "combiner" in this report is very general: it includes equipment for receiving antennas (multicoupler) and for transmission and reception by a single antenna (duplexer).

Combining: The sharing of antennas and transmission lines by more than one wireless communications service provider through the use of combiners. Note that, generally, only those service providers that operate within the same frequency band, and attempt to serve the same geographic area, such as FM radio broadcasters, are able to use combiners.

Commercial Mobile Radio Services (CMRS): A wireless communications service that is provided for profit (i.e., with the intent of receiving compensation or monetary gain), is an interconnected service, and is available to the public, or to such classes of eligible users as to be effectively available to a substantial portion of the public. CMRS includes the Cellular Radiotelephone Service (CRS), Specialized Mobile Radio Service (SMR), Enhanced Specialized

Mobile Radio Services (ESMR), Personal Communications Services (PCS), paging services (excluding not-for-profit paging systems that serve only the licensee's own internal communications needs) and certain other mobile radio services that offer interconnected service for profit.

Communications: Information transfer, among users or processes, according to agreed conventions. Also, the branch of technology or engineering concerned with the representation, transfer, interpretation, and processing of information and data among persons, places and machines. See "Telecommunications."

Common carrier: A wired or wireless telecommunications service provider which furnishes interstate communications service or interstate access service for hire--whether by wire, radio or cable. The Common Carrier Bureau and the Wireless Telecommunications Bureau of the FCC regulate common carriers within the United States. See "Commercial Mobile Radio Services."

Co-locate: To use a single support structure for the placement of antennas for more than one wireless communications system or service provider.

Communications system: See "Wireless communications system"

Coverage area: The geographical area within which a wireless communications facility or system can provide acceptable service. See "Service area."

CPUC: Abbreviation for California [State ?] Public Utilities Commission.

Data: The representation of information, facts, concepts or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or automatic means, Also, any representations such as characters or analog quantities to which meaning is or might be assigned.

DBS: Abbreviation for Direct Broadcast Satellite.

Dead spots: Small areas within a service area where the field strength is lower than the minimum level for reliable service. See "Fill-in transmitters."

Digital Television (DTV): Television that is transmitted using digital technology. DTV transmissions can include HDTV, standard definition television, and one-way data.

Dipole: See "Antenna- Dipole".

Directionality: A quality of an antenna, loosely defined as the ability to concentrate and "directionalize" the intensity of an emitted or received radio frequency signal. See "Directivity," and "Radiation pattern."

Directivity: A quality of an antenna which is the ratio of its radiation intensity in the direction of its maximum value to the radiation intensity of a reference antenna. See "Gain."

Direct Broadcast Satellite (DBS) services: General term for the distribution or broadcasting of programming or services by satellite directly to the subscriber's premises without the use of ground receiving or distribution equipment, except at the subscriber's premises or in the uplink process to the satellite. See "Broadcasting-Satellite Service."

Direct-to-consumer or direct-to-home satellite services: See "Direct Broadcast Satellite (DBS) services."

Downlink: A wireless communications link from a satellite, spacecraft, aircraft or any other airborne station to a ground-based fixed station or mobile station. Also, a link from a satellite to an aircraft or other lower-altitude airborne station. See "Link."

Duplexers: A special type of combiner that allows a transceiver to use a single antenna for transmitting and receiving. See "Combiner."

E: The symbol for Electric field.

Earth station: See "Station - Earth station."

Effective Isotropic Radiated Power: See "Equivalent Isotropically Radiated Power."

Effective Radiated Power (ERP): The power supplied to an antenna multiplied by the net gain of the antenna in a given direction. If a direction is not specified, the direction of maximum net gain is assumed. The type of reference antenna should be specified; if no reference type is specified then it is often assumed that a half-wave dipole is the reference antenna. See "Antenna - Dipole antenna," and "Gain."

EIRP: Abbreviation for Equivalent Isotropically Radiated Power or Effective Isotropic Radiated Power.

Electric field (E): The effect produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds the charge. Also, the electric force that acts on a unit electric charge independently of that charge. Note that this term is often used interchangeably with "electric field strength."

Electric field strength: The magnitude of the electric field at a point in space, expressed as the RMS value of the field in volts per meter (V/m). *Note:* the term has sometimes been called the electric field *intensity*, but such use is deprecated, since intensity connotes power in other areas of electromagnetic study, such as optics.

Electromagnetic Field (EMF): The influence or effect created by a combination of electric and magnetic energy that makes up a wave which propagates at or near the speed of light. EMFs are generated by transmitters, antennas or other sources of electromagnetic energy. Within the context of this report, EMFs refer primarily to RF phenomena. Note that EMFs and electromagnetic waves, often mistakenly called "RF signals," can be thought of as manifestations of the same phenomena. In fact, the term "wave" is no more than a label used for a category of time-varying fields for which a propagation velocity may be defined. See "Electromagnetic waves."

Electromagnetic Radiation (EMR): Radiation made up of electromagnetic waves. The term EMR includes gamma radiation, X-rays and other forms of ionizing radiation, as well as non-ionizing optical and radio waves. For non-ionizing RF radiation, which is the subject of this report, the preferred term is EMF. See "Electromagnetic Field," "Electromagnetic spectrum," and "Radiation."

Electromagnetic spectrum: The spectrum of electromagnetic radiation (EMR), defined here in terms of wavelength: gamma radiation, shorter than 0.006 nm; X-rays, 0.006 to 5 nm; ultraviolet light, 5 to 400 nm; visible light, 400 to 700 nm; infrared light, 700 nm to 0.1 mm; radio, greater than 0.1 mm. See "Radio spectrum."

Electromagnetic waves: Waves characterized by temporal and spatial variations of electric and magnetic fields. Electromagnetic waves are known as radio waves, infrared waves, light waves, etc. depending on the wavelength. See "Radio waves," and "Wavelength."

EMF: Abbreviation for Electromagnetic Field.

Emission: Electromagnetic energy propagated from a source by radiation or conduction. The emission may be either desired or undesired. Emissions radiated from an RF source give rise to EMFs. See "Electromagnetic Fields," and "Radiation."

EMR: Abbreviation for Electromagnetic Radiation.

Energy density: The instantaneous power density integrated over its duration. Also, the electromagnetic energy per unit of volume or surface area.

Environmental Protection Agency (EPA): The federal agency responsible for promulgating and enforcing rules and regulations pertaining to the public health, welfare, and environmental quality.

EPA: Abbreviation for Environmental Protection Agency.

Equivalent Isotropically Radiated Power (EIRP): The power supplied to an antenna multiplied by the gain of the antenna, relative to a theoretical isotropic antenna, in a given direction. If a direction is not specified, the direction of maximum gain is assumed. Maximum EIRP is often specified for microwave antennas. See "Antenna - Isotropic antenna," and "Gain."

ERP: Abbreviation for Effective Radiated Power.

FAA: Abbreviation for the Federal Aviation Administration.

Facility: Generally a fixed, mobile or transportable structure including the aggregate of equipment, such as transmitters, receivers, antennas, supporting structures, transmission lines, power supplies, cables, switches, etc. used for providing wireless communications services. Also, a real property entity consisting of one or more of the following: a building, a support structure, a utility system, pavement, and underlying land.

Far-field region: The region at a distance sufficiently removed from an antenna or other RF source where the electromagnetic fields radiated by that source are approximately plane-wave in nature. The radiation pattern of an antenna is usually measured or calculated in the far-field region.

FCC: Abbreviation for the Federal Communications Commission.

Federal Aviation Administration (FAA): The federal agency responsible for promulgating and enforcing rules and regulations pertaining to the use of airspace by aircraft and the operation of airports and other aircraft landing and departure areas, including development of land uses within airport environs.

Federal Communications Commission (FCC): The federal agency responsible for regulating the development and operation of civilian telecommunications systems, including but not limited to the implementation of the Federal Telecommunications Act of 1996. The FCC is composed of five (5) members who are appointed by the President subject to confirmation by the Senate. Normally, one Commissioner is appointed or reappointed each year, for a term of five (5) years. The rules and regulations of the Commission are contained in Chapter I of Title 47 of the Code of Federal Regulations (47 CFR).

Field strength: See "Electric field strength."

Fill-in transmitters: Transmitters added to a wireless communications system or station that do not expand the existing service area, but are established for the purpose of improving reception in dead spots. See "Dead spots."

Fixed Service: A radio service operating between specified fixed points.

Fixed station: See "Station - Fixed station".

Free space: Literally, in the vacuum of space and clear of the Earth or other bodies. Antenna characteristics are often predicted or calculated based on the assumption that the antenna is in free space.

Frequency (f): Of a periodic oscillation or wave, the number of identical cycles per one second; expressed in units of hertz (Hz). See "Hertz."

Frequency sharing: The sharing of a common radio frequency or frequency band, or common group of frequencies by more than one wireless service provider or user in the same geographical area on a non-interference basis.

Gain: A quality of an antenna, often referred to as "net power gain," which is closely related to directivity. Gain is the ratio of radiated power in a given direction to that of a reference antenna *for equal power input.* When a direction is not stated, the gain is usually taken to be in the direction of maximum radiation. Gain differs from directivity in that it takes into consideration the actual efficiency of an antenna as well as the shape of its radiation pattern. See "Directivity," and "Radiation pattern."

Guyed tower: See "Antenna support structure - Guyed tower."

H: Symbol for Magnetic field.

Hand-held or handheld transceiver: A portable mobile station capable of being hand-carried by an individual and normally operated while being held in the hands of the user (e.g., two-way "walkie-talkies" and portable cellular phones).

Hertz (Hz): A unit for expressing frequency: 1 Hz = 1 cycle per second. 1 kilohertz (kHz) = 1000 Hz; 1 megahertz (MHz) = 1000 kHz or 1,000,000 Hz; 1 gigahertz (GHz) = 1000 MHz, or 1 billion Hz. See "Frequency (f)."

High-Definition Television (HDTV): Television that has approximately twice the horizontal and twice the vertical transmitted resolution specified by the existing NTSC standard.

Horn: An directional antenna formed by an open-ended wave guide, of increasing cross-sectional area, which radiates directly in a desired direction or couples to a reflector which forms a desired radiation pattern. A very wide range of radiation patterns may be formed by controlling the horn dimension and shape, placement of the reflector, and reflector shape and dimension. Horns may have longitudinal cross-section shapes that are elliptical, conical, hyperbolic or parabolic curves. Horn antennas are usually used to transmit and receive signals in the microwave portion of the radio frequency spectrum.

Intensity: The square of the electric field strength of an electromagnetic wave. Under certain circumstances, the intensity of an electric field is proportional to the power per unit area in the direction of propagation of the electromagnetic wave (i.e., the irradiance). *Note:* intensity is NOT synonymous with field strength. See "Electric field strength," and "irradiance."

Interconnected service: A radio service that is interconnected with a public switched network, or interconnected with a public switched network through an interconnected service provider, that gives subscribers the capability to communicate to or receive communication from all other users on the public switched network. See "Public switched network."

Intermittent: Transmitter operation that is non-continuous, that is stopping and starting at intervals.

Interference: In general, energy from any source that impedes the reception of desired signals. Permissible or acceptable interference is observed or predicted interference which complies with quantitative interference and sharing criteria contained in International and FCC Regulations. Harmful interference endangers the functioning of a radionavigation service or of other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radio service operating in accordance with International and FCC Regulations. Note that with the US, the FCC has

exclusive jurisdiction over civilian interference matters. Interference from radio frequency sources is sometimes abbreviated as "RFI" for Radio Frequency Interference."

Irradiance: Radiant power incident per unit area upon a surface, usually expressed in watts per square meter, but may also be expressed in joules per square meter. The deprecated synonym for irradiance is "power density."

Land mobile service: A mobile service between base stations and land mobile stations, or between land mobile stations. See "Commercial Mobile Radio Services," and "Private Land Mobile Radio Service."

Land mobile station: A mobile station in the land mobile service capable of surface movement. See "Station - Mobile station."

Lattice tower: See "Antenna support structure - Lattice tower."

Link: A general term used to indicate the existence of communications between two points or between two stations. A radio path between two points is often called a radio link, or a microwave link if microwave radio frequencies are used. In all cases, the type of link should be identified, such as downlink, uplink, point-to-point link, or data link.

Major wireless communications facility: See "Wireless communications facility - Major wireless communications facility".

Magnetic field (H): The effect produced by the existence of a moving electrically-charged particle, in the volume of space or medium that surrounds the moving charge. Note that this term is often used interchangeably with "magnetic field strength."

Magnetic field strength: The magnitude of the magnetic field at a point in space, expressed as the RMS value of the field in ampere per meter (A/m) or in oersteds.

Microcell: In a cellular-based mobile radio system, a microcell is a small portion of a larger geographical service **area** which may be indoors or otherwise isolated from other system facilities. A microcell may be served by either a full-sized or micro communications facility. See "Cell."

Micro communications facility: A wireless communications facility that utilizes a micro facility antenna and possibly other stealth design features so as to be effectively unnoticeable to a casual observer. A micro communications facility has limited power, and can be located indoors or outdoors to serve a microcell area. See "Antenna - Micro facility antenna."

Micro facility antenna: See "Antenna - Micro facility antenna."

Microwave: Loosely defined as an electromagnetic wave having a wavelength of 300 to 1 mm (i.e., frequencies from 1 to 300 GHz); highly directional when used for radio frequency transmission; uses relatively low transmitter power levels compared to other forms of transmission. Microwaves exhibit many of the properties associated with visible light, e.g., they are easily concentrated into a beam.

Minor wireless communications facility: See "Wireless communications facility - Minor wireless communications facility".

Mobile Service: A radio communication service carried on between mobile stations or receivers and land stations, and by mobile stations communicating among themselves, and includes: (a) both one-way and two-way radio communication services; (b) a mobile service which provides a regularly interacting group of base, mobile, portable, and associated control and relay stations (whether licensed on an individual, cooperative, or multiple basis) for private one-way or two-way land mobile radio communications by eligible users over designated areas of operation.

Mobile station: See "Station - Mobile station".

Mobile Telephone Switching Office (MSTO): The interface between the radio system and the public switched telephone network (PSTN). The MTSO performs all signaling functions that are necessary to establish calls to and from mobile stations.

Monopole: See "Antenna support structure - Monopole."

Multicouplers: For receivers, a type of combiner that permits a receiving antenna to be shared by two or more receivers. Generally, a device for connecting several receivers or transmitters to one antenna in such a way that the equipment is properly matched to the antenna. See "Combiner."

Multiplexing: The combining of two or more independent signals or information channels onto a single transmission path or medium. Two basic forms of multiplexing are time-division multiplexing (TDM), and frequency-division multiplexing (FDM).

Narrowband: The property of any communications facility, equipment, channel or system in which the range of frequencies used for transmission (i.e., bandwidth) is less than 0.1% of the midband frequency. Also, "narrowband" is often used to distinguish a system from its

"broadband" counterpart, where both terms are subjectively defined relative to the implied context. For example, Personal Communications Services systems operate in both narrowband and broadband frequency ranges. See "Broadband."

National Environmental Protection Act (NEPA): A federal law that establishes national policies aimed at protecting the environment, providing a interdisciplinary framework for federal agencies to prevent environmental damage, and procedures to ensure that federal agency decisionmakers take environmental factors into account. Under NEPA, telecommunications projects that involve discretionary approval and/or funding from a federal agency are subject to environmental assessments and/or other procedural requirements undertaken by federal agencies.

Network: Generally, an interconnection of three or more communicating entities, for example a system comprised of interconnected wireless communications facilities that provide a wireless service within a common coverage area. See "Wireless communications system."

NIER: Abbreviation for Non-ionizing Electromagnetic Radiation.

Non-broadcast services: FCC-authorized radio services that are not in the Broadcast Services, include the ARS, CRS, ESMR, PCS, fixed-point microwave and satellite services (except the Broadcasting-Satellite Service), and private land mobile radio services (PLMRS). See "Broadcast Service."

Non-ionizing Electromagnetic Radiation (NIER): Electromagnetic waves of low frequency, long wavelength, and low photon energy unable to cause ionization (i.e., to remove an electron from an atom). See "Radio spectrum."

Nonthermal effect: An effect of exposure to non-ionizing electromagnetic radiation that is not attributable to heating caused by the absorption of electromagnetic energy in animals or the human body. Also called an "athermal" or "field-specific" effect.

OSHA: Abbreviation for Occupational Safety and Health Administration, a Federal agency.

Omnidirectional antenna: See "Antenna - omnidirectional antenna".

Panel Antenna: See "Antenna - panel antenna".

Parabolic antenna: See "Antenna - parabolic antenna".

PCS: Abbreviation for the Personal Communications Services.

Personal Communications Services (PCS): one of the Commercial Mobile Radio Services regulated by the Wireless Telecommunications Bureau (WTB) of the FCC under 47 CFR Part 24; also identified as one of the Personal Wireless Services regulated by the Telecommunications Act of 1996. The PCS provide a wide array of mobile and ancillary fixed communications services to individuals and businesses including unlicensed wireless services and common carrier wireless exchange access services as defined in 47 USC 332(c)(7)(C)(i).

Plane wave: A wave in which the wave fronts are planar, the electric and magnetic field vectors have constant values in the plane of the wave front, and the field vectors and the direction of propagation are all mutually perpendicular. Plane wave conditions tend to exist in free space and in the far-field region of antennas.

Plane-wave power density: The power density of an electromagnetic wave that predominates in the far-field region of an antenna, and has a wavefront that is essentially in a plane. See "Power density," and "Far-field region."

PLMRS: Abbreviation for the Private Land Mobile Radio Service.

Point-to-Point: Refers to a link, transmission path, or communications between two stations or facilities. See "Link."

Power: The rate of transfer or absorption of energy per unit time in a system. The output power of an RF transmitter is measured in watts (W). See "Watt."

Power density: The magnitude of the electromagnetic energy flux density at a point in space, in power per unit area (watts per square meter). Also, it is the power incident on a surface per unit surface area (i.e., irradiance). For plane waves, power density is the quantity measured by a survey meter when the sensing element is sensitive to the square to the magnitude of the electric and magnetic fields. See "Plane-wave power density," and "Irradiance."

Private Land Mobile Radio Service (PLMRS): A mobile service that is neither a commercial mobile radio service nor the functional equivalent of a service that meets the definition of commercial mobile radio service. Private Land Mobile Radio Services include not-for-profit land mobile radio and paging services that serve the licensee's internal communications needs and mobile radio service offered to restricted classes of eligible users (e.g., the Public Safety Radio Services).

Propagation: In general terms, a transfer of energy without a transfer of matter.

PSTN: Abbreviation for the Public Switched Telephone Network.

Public Switched Telephone Network (PSTN): Commonly refereed to as the "public telephone network." Specifically, any common carrier switched network, whether by wire or radio, including local exchange carriers, interexchange carriers, and mobile service providers, that use the North American Numbering Plan in connection with the provision of switched services.

PUC: Abbreviation for the Public Utilities Commission.

Radiation: Generally, a type of emission; specifically the energy flux produced in the form of waves by a source, or the energy itself.

Radiation pattern: An attribute of an antenna which is the variation in its radiation qualities, usually far-field power gain, as a function of an angular direction from the center of the antenna with respect to a given horizontal or vertical axis. A radiation pattern is a three dimensional concept, but it can be represented graphically in two-dimensions in either the horizontal (azimuth) or vertical (elevation) planes with respect to the surface of the earth. See "Gain."

Radio: A generic term referring to telecommunication by means of modulation and radiation of electromagnetic waves in the radio portion of the electromagnetic spectrum. Also, a general term applied to the use of the radio spectrum. RF transmitters, receivers and transceivers are often called "radios." See "Radio spectrum," and "Telecommunications."

Radio device: Any equipment that facilitates wireless telecommunications through the reception, transmission, or both, of RF electromagnetic waves. Common radio devices are antennas, receivers, transmitters and transceivers.

Radio frequency (RF): A frequency in the radio spectrum. See "Radio Spectrum."

Radio services: A broadcast or communications service involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes. FCC-regulated radio services include the Amateur, Broadcast, and Wireless Communications Services.

Radio spectrum: The radio frequency (RF) portion of the electromagnetic spectrum. The frequency ranges for radio are: Ultra Low Frequency (ULF), lower than 3 Hz; Extremely Low Frequency (ELF), 3 Hz to 3 kHz; Very Low Frequency (VLF), 3 to 30 kHz; Low Frequency (LF), 30 to 300 kHz; Medium Frequency (MF), 300 kHz to 3 MHz; High Frequency (HF), 3 to 30 MHz; Very High Frequency (VHF), 30 to 300 MHz; Ultra High Frequency (UHF), 300 MHz to 3 GHz; Super High Frequency (SHF), 3 to 30 GHz; Extremely High Frequency (EHF), 30 to 300 GHz; Submillimeter, 300 GHz to 3 THz (3000 GHz). See "Electromagnetic spectrum," "Frequency," and "Non-ionizing Electromagnetic Radiation (NIER)."

Radio waves: An electromagnetic wave of radio frequency. See "Electromagnetic waves."

Receive-only RF facility: An RF facility that only receives and does not transmit signals.

RF: Abbreviation for Radio frequency.

RFI: Abbreviation for Radio Frequency Interference. See "Interference."

Satellite dish: See parabolic antenna.

Satellite downlink: See "Downlink."

Satellite uplink: See "Uplink."

Satellite earth station: See "Stations - Earth station."

Service area: The geographic area considered by the FCC to be reliably served by a wireless communications station, system or transmitter.

Service contour: The locus of points surrounding a station or transmitter where the predicted median field strength of the signal from that station or transmitter is the minimum field strength that is considered sufficient to provide reliable service to mobile stations or other intended receivers.

Service provider: In the context of this report it is an entity that provides an FCC-regulated radio communications service, and/or operates a wireless communications facility. See "Radio services," and "Wireless communications facility (WCF)."

Shadow: Area within a service area where the field strength is lower than the minimum level for reliable service due to manmade or natural obstructions between a transmitter and a receiver. See "Dead spots."

Sources of EMF: Typically a transmitting antenna operating between 100 kHz and 30. GHz. Other sources of EMF include man-made equipment, such as computers, television receivers, power lines and automobiles; and natural sources such as lightning, auroras and planetary bodies, including the Sun.

Signal strength: See "Field strength."

Specialized Mobile Radio Service (SMR) and Enhanced Specialized Mobile Radio Service (ESMR): Two of the Wireless Communications Services regulated by the Wireless Telecommunications Bureau (WTB) of the FCC. SMR/ESMR services operate at either 800 MHz or 900 MHz. In general, these are wide geographic area Commercial Mobile Radio Services (CMRS) that offer real-time, two-way switched voice service that is interconnected with the public switched network, either on a stand-alone basis or packaged with other telecommunications services. However, some local SMR licensees offer mainly dispatch and paging services to specialized customers in a non-cellular system configuration which is not interconnected to the public switched network. These local SMR services are generally considered a Private Land Mobile Radio Service (PLMRS) rather than a CMRS. See "Wireless Communications Services.

Specific Absorption Rate (SAR): The rate at which energy is absorbed in the tissue, due to exposure to electromagnetic waves, in watts per kilogram (W/kg). SAR values have been related to threshold levels for potential biological hazards.

Spectrum: The arrangement of a broad range of frequencies or wavelengths in ascending or descending order. See "Electromagnetic spectrum," and "Radio spectrum."

Station: One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location, facility or vehicle for implementing a radio or wireless communication service.

Base station: The common name for all the radio equipment located at one specified site, and that is used for serving one or more mobile stations. Also, a stationary transmitter that provides radio telecommunications service to mobile and/or fixed receivers, including those associated with mobile stations. A base station in a land

mobile service is sometimes called a "land station."

Earth station: A station located either on the Earth's surface or within the major portion of Earth's atmosphere and intended for communication with one or more space stations; or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space. An Earth station may be a base station in the fixed-satellite service, or, in some cases, in the land mobile-satellite service, located at a specified fixed point or within a specified area on land to provide a feeder link for the land mobile-satellite service.

Fixed station: Stations that are permanently installed at a wireless communications facility. Also, any station in the Fixed Services.

Mobile station: A hand-held portable or vehicle mounted station in a mobile service intended to be used while in motion or during halts at unspecified points. A mobile station in a land mobile service is sometimes called a "land mobile" station. Note that airborne and marine mobile stations are included in this definition.

Stealth design: A wireless communications facility that is designed or located in such a way that the equipment installed at the facility is not readily recognizable as communications equipment to an average person. See "Antenna - Micro facility antenna."

Telecommunications: Any transmission, emission, or reception of signals, signs, writing, images, sounds, or intelligence of any nature, by wire, radio, cable, satellite, fiber optics, laser, visual or other electronic, electric, electromagnetic, or acoustically coupled means, or any combination thereof. This report is primarily concerned with wireless telecommunications, specifically wireless communications services, systems and facilities.

Telecommunications Act of 1996: A comprehensive telecommunications law that establishes a federal policy of encouraging competition among telecommunications service providers. The Act also provides a regulatory framework for the exercise of jurisdiction by state and local agencies over the construction, modification, and placement of wireless communications facilities.

Telephone network: See "Public Switched Telephone Network."

Thermal effect: In a biological system, an effect that is related to the heating of the tissue through the absorption of electromagnetic energy.

Time-Multiplexing: Shared use of a channel or transmitter by several users by means of time sharing whereby only one user is allowed to use the channel or transmitter at any given time. Time multiplexing can facilitate frequency sharing. Also see "Frequency sharing."

Transceiver: A radio device that performs, within a single chassis or common housing, both transmitting and receiving functions.

Transmission line: The structure that forms all or part of a path between radio devices for directing the transmission of electromagnetic energy. Examples of transmission lines include wires, coaxial cables, and waveguides.

Transmitter: A radio device which intentionally generates RF energy for the purposes of wireless telecommunications.

Trunking: A method of operation in which a number of closely-spaced radio frequency channel pairs are assigned to mobile and base stations in a wireless communications facility or system. Trunking allows for the efficient sharing of radio devices at a wireless communications facility, including transmitters, combiners, transmission lines, and antenna(s), by a large number of mobile users.

UHF: Abbreviation for Ultra High Frequency. See "Radio spectrum."

Unlicensed wireless services: The offering of telecommunications services using duly authorized devices which do not require individual licenses; direct-to-home satellite services are excluded from this definition. Note that unlicensed wireless service, and unlicensed radio operators, devices and facilities are still regulated by the FCC. See 47 U.S.C. Section 332(c)(7)(C)(iii)

Uplink: A wireless communications link from a ground-based fixed station or mobile station to a satellite, spacecraft, aircraft or any other airborne station. Also, a link from an aircraft or other airborne station to higher-altitude satellite. See "Link."

VHF: Abbreviation for Very High Frequency. See "Radio spectrum."

Volt: A unit of electromotive force which will cause a current of one ampere to flow through a conductor whose resistance is one ohm.

Watt: A unit of power. In an electrical circuit, a watt is equal to a current of one ampere under one volt of force. See "Power."

Wavelength: The distance, in meters (m), between points of corresponding phase of two consecutive cycles of a periodic wave. . Wavelength = (wave propagation velocity) / frequency. For electromagnetic waves in the Earth's atmosphere, the propagation velocity is close to the speed of light in a vacuum: 3×10^8 meters per second. See "Frequency," and "Electromagnetic waves."

WCF: Abbreviation for wireless communications facility.

Whip antenna: See "Antenna - Whip antenna".

Wireless communications facility (WCF): A land use that sends and/or receives radio frequency signals, including antennas, microwave dishes or horns, structures or towers to support receiving and/or transmitting devices, accessory development and structures, and the land on which they all are situated.

Major wireless communications facility: Large wireless communications towers, typically ranging in height from 70-200 feet, used by multiple service providers. Major wireless communications facilities are usually located on prominent ridgetop areas.

Minor wireless communications facility: Small wireless communications facilities (typically less than 70 feet in height) usually consisting of a monopole or attached wireless communications facility.

Wireless Communications Services: Radio services regulated by the Wireless Telecommunications Bureau (WTB) of the FCC. The primary mobile radio services regulated by the WTB are the Commercial Mobile Radio Services and the Private Land Mobile Radio Service.

Wireless communications system: A collection of individual wireless communications facilities and stations, usually capable of interconnection and interoperation to form an integrated whole system. The components of wireless communications systems generally serve a common purpose, are technically compatible, use common procedures, respond to controls, and operate in unison. See "Network."

Wireless Telecommunications Bureau (WTB): A bureau of the FCC. The Wireless Telecommunications Bureau develops, recommends and administers the programs and policies for the regulation of the terms and conditions under which communications entities offer domestic wireless communications services and of ancillary operations related to the provision of such services (satellite communications excluded). These functions include all wireless communications service providers' and licensees' activities.

Yagi antenna: See "Antenna - Yagi antenna".

ARTICLE I

Development Code Enactment and Applicability

CHAPTER 22.01 – PURPOSE AND EFFECT OF DEVELOPMENT CODE.....I-3

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CHAPTER 22.01 – PURPOSE AND EFFECT OF DEVELOPMENT CODE

Sections:

22.01.010 – Title
22.01.020 – Purpose of Development Code
22.01.030 – Authority, Relationship to Marin Countywide Plan and Applicable Plans
22.01.040 – Applicability of the Development Code
22.01.050 – Responsibility for Administration
22.01.060 – Partial Invalidation of Development Code

22.01.010 – Title

This Title is and may be cited as the Marin County Development Code, Title 22 of the Marin County Code, hereafter referred to as "this Development Code."

22.01.020 – Purpose of Development Code

This Development Code carries out the policies of the Marin Countywide Plan by classifying and regulating the uses of land and structures within the unincorporated areas of Marin County. The Marin Countywide Plan includes policies to preserve and enhance the natural environment of the County, and to strive for a high quality built environment. The Marin Countywide Plan also includes adopted Community Plans that are intended to further detail the policies of the Countywide Plan as they pertain to specific areas.

The County has adopted this Development Code to protect and to promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses in the County. Specifically, the purposes of this Development Code are to:

A. Implement the Marin Countywide Plan, adopted community plans and other specific plans, and the Local Coastal Program (LCP) by encouraging the uses of land envisioned by these land use documents, and by avoiding conflicts between land uses;

B. Protect the character and social and economic stability of agricultural, residential, commercial, industrial, and other areas within the County and ensure the orderly and beneficial development of those areas as part of a well-coordinated community;

C. Conserve and protect the natural resources of the County, provide open space resources for passive and active recreational activities, and protect the public from safety hazards in the natural and built environments;

D. Provide a diversity of areas characterized by differing land use activity, scale and intensity, while maintaining community identity and quality development;

E. Create a comprehensive and stable pattern of land uses upon which to plan efficient systems for transportation, water supply, sewerage and other public facilities and utilities;

F. Maintain Marin County as a unique, distinctive and secure environment for the County's residents and businesses; and

G. Provide regulations for the subdivision of land in compliance with the Subdivision Map Act, Title 7, Section 4, Chapter 2 of the California Government Code.

22.01.030 – Authority, Relationship to Marin Countywide Plan and Applicable Plans

A. This Development Code is enacted based on the authority vested in the County of Marin by the State of California, including: the State Constitution, Sections 65800 and subsequent sections of the California Government Code, the California Environmental Quality Act, the Coastal Act, the Housing Act, the Subdivision Map Act, the Health and Safety Code, and case law of the courts of California and the Supreme Court as they may all be modified from time to time.

B. The County of Marin uses this Development Code as the primary tool to carry out the goals, objectives, and policies of the Marin Countywide Plan and applicable community and specific plans. The Marin County Board of Supervisors intends that this Development Code be consistent with the Marin Countywide Plan, and that any land use, subdivision, or development approved in compliance with this Development Code will also be consistent with the Marin Countywide Plan and applicable specific plans. However, the Countywide Plan, specific plans, and Local Coastal Program may contain policies or standards that are not included in this Development Code, but may be applicable to a land use or development proposal. Therefore, the users of this Development Code should consult with the Community Development Agency regarding such policies or standards. It is not the intent of this Development Code to implement private land use standards, such as Conditions, Covenants, and Restrictions (CC&Rs), which are generally administered and enforced outside of the County's regulatory authority.

22.01.040 – Applicability of Development Code

This Development Code applies to all land uses, subdivisions, and development within unincorporated Marin County.

A. New land uses, structures, and changes to them. Compliance with the following requirements is necessary for any person or public agency to lawfully establish a new land use or structure, or to alter or replace any land use or structure:

1. **Allowable use.** The proposed use of land shall be allowed by Article II of this Development Code (Zoning Districts and Allowable Land Uses) within the zoning district that applies to the site;

2. **Development standards.** The proposed use of land or structure shall satisfy or be exempted from all applicable requirements of this Development Code, including but not limited to minimum lot area, height limits, required yard and street setbacks, residential density, sign standards, etc.; and

3. **Permit/approval requirements.** Any land use permit or other approval required by Article II (Zoning Districts and Allowable Land Uses) or Article V shall be obtained. The preparation, filing, and processing of land use permit applications shall comply with Article IV (Land Use and Development Permits).

B. Issuance of building permits. The Building and Safety Inspection Division may issue building permits only when:

1. The proposed land use and/or structure satisfy the requirements of Subsection A. above;

2. The Director determines that the site was subdivided in compliance with Article VI (Subdivision Procedures) of this Development Code; and

3. The Director determines that the permit application contains all materials necessary to determine compliance with this Section.

C. Subdivision of land. Any subdivision of land within Marin County occurring after the effective date of this Development Code shall be consistent with the minimum lot size or maximum density requirements of Article II (Zoning Districts and Allowable Land Uses) or Article V (Coastal Zones – Permit Requirements and Development Standards), the subdivision requirements of Chapter 22.82 (Subdivision Design Standards), the procedures set forth in Article VI (Subdivision Procedures), and all other applicable requirements of this Development Code.

D. Continuation of an existing structure or land use. An existing land use is lawful and not in violation of the Marin County Code only when operated and maintained in compliance with all applicable provisions of this Development Code. However, the requirements of this Development Code are not retroactive in their effect on a land use that was lawfully established before this Development Code or any applicable amendment became effective. See Chapter 22.112 (Nonconforming Structures, Uses, and Lots).

E. Alteration or expansion of an existing structure or land use. Any alteration, expansion or modification of an existing land use shall comply with all provisions of this Development Code, specifically including Chapter 22.112 (Nonconforming Structures, Uses, and Lots).

F. Effect of Development Code changes on projects in progress. The enactment of this Development Code or amendments to its requirements may impose different standards on new land uses than those that applied to existing development. For example, this Development Code, or a future amendment, could require larger building setbacks for a particular land use than former Zoning Ordinance or Development Code provisions. The following provisions determine how the requirements of this Development Code apply to development projects in progress at the time requirements are changed.

1. **Projects with pending applications.** Land use permit and subdivision applications and extension requests that have been determined by the Community Development Agency to be complete before the effective date of this Development Code or any amendment, will be processed in compliance with the requirements in effect when the application was accepted as complete.

2. **Approved projects not yet under construction.** An approved development for which construction has not begun as of the effective date of this Development Code or amendment, may still be constructed as approved, as long as required building permits have been obtained before the expiration of any applicable land use permit or, where applicable, before the expiration of any approved time extension. (See Section 22.70.050 (Time Limits and Extensions).)

3. **Approved projects not requiring construction.** An approved land use not requiring construction that has not been established by its land use permit being exercised (see Section 22.70.020 (Effective Date of Permits)) as of the effective date of this Development Code or amendment, may still be established in compliance with its approved permit, as long as establishment occurs before the expiration of the permit or, where applicable, before the expiration of any approved time extension. (See Section 22.70.050 (Time Limits and Extensions).)

4. **Approved subdivisions not yet recorded.** An approved subdivision for which a parcel or final map has not been recorded as of the effective date of this Development Code or amendment, may still have a parcel or final map recorded in compliance with the approved Tentative Map, as long as recordation occurs before the expiration of the Tentative Map (Section 22.84.120 (Tentative Map Time Limits)) or, where applicable, before the expiration of any approved time extension granted under Section 22.84.140 (Extensions of Time for Tentative Maps) or authorized by State Law.

5. **Projects under construction.** A structure that is being constructed under a valid building permit on the effective date of this Development Code or any amendment, need not be changed to satisfy any new or different requirements of this Development Code.

G. Structures related to an emergency. During a period of emergency declared by the Board, the Director may waive the height limit and setback requirements of this Development Code applying to structures, including provisions for public notices and public hearings; provided, that the Director finds:

1. The proposed structure is necessary in order to provide water during emergency circumstances; and

2. The waiver of zoning requirements is necessary to meet the intent and purpose of the structure effectively.

The Director may include appropriate conditions in the waiver of requirements, including but not limited to height, placement, design, color, materials, landscaping, and time limit for removing any structures.

H. Other requirements may still apply. Nothing in this Development Code eliminates the need to comply with other County, regional, State, or Federal laws or to obtain permits required by the County, or any permit, approval or entitlement required by other provisions of the County Code, the regulations of any County department, or any regional, State, or Federal agency. No use shall be allowed that is illegal under State or Federal law.

I. Conflicting permits and licenses to be void. All permits or licenses shall be issued by the County in compliance with the provisions of this Development Code, after the effective date of this Development Code or any applicable amendment. Any permit or license issued in conflict with this Development Code shall be void, except as provided in Subsection D., above.

22.01.050 – Responsibility for Administration

This Development Code shall be administered by the Marin County Board of Supervisors, Planning Commission, Community Development Director, Zoning Administrator, and the Marin County Community Development Agency, as provided in Chapter 22.110 (Administrative Responsibility).

22.01.060 – Partial Invalidation of Development Code

If any article, section, Subsection, paragraph, subparagraph, sentence, clause, phrase or portion of this Development Code is for any reason held to be invalid, unconstitutional or unenforceable, these decisions shall not affect the validity of the remaining portions of this Development Code. The Marin County Board of Supervisors hereby declares that this Development Code and each article, section, Subsection, paragraph, subparagraph, sentence, clause, phrase and portion thereof would have been adopted irrespective of the fact that one or more of portions of this Development Code be declared invalid, unconstitutional or unenforceable.

CHAPTER 22.02 – INTERPRETATION OF CODE PROVISIONS

Sections:

22.02.010 – Purpose of Chapter
22.02.020 – Rules of Interpretation
22.02.030 – Procedures for Interpretation

22.02.010 – Purpose of Chapter

This Chapter provides rules for resolving questions about the meaning or applicability of any part of this Development Code. The provisions of this Chapter are intended to ensure the consistent interpretation and application of the provisions of this Development Code and the Marin Countywide Plan.

22.02.020 – Rules of Interpretation

A. Authority. The Director is assigned the responsibility and authority to interpret the requirements of this Development Code.

B. Language:

1. Abbreviated titles and phrases. For the purpose of brevity, the following phrases, personnel and document titles are shortened in this Development Code:

The County of Marin	"County"
This Development Code	"this Development Code"
The Board of Supervisors	"Board"
The Planning Commission	"Commission"
The Community Development Agency	"Agency"
The Community Development Director	"Director"
Buildings and structures	"structures"
The California Subdivision Map Act	"Map Act"
California Government Code	"Government Code"

2. Terminology. When used in this Development Code, the words "shall," "will," "is to," and "are to" are always mandatory. "Should" is not mandatory but is strongly recommended; and "may" is permissive. The present tense includes the past and future tenses; and the future tense includes the present. The singular number includes the plural number, and the plural the singular, unless the natural construction of the word indicates otherwise. "Including" means ". . . including but not limited to. . .".

3. Number of days. Whenever a number of days is specified in this Development Code, or in any permit, condition of approval, or notice issued or given as provided in this Development Code, the number of days shall be construed as calendar days, unless business days are specified. Time limits will extend to the following business day where the last of the specified number of days falls on a weekend or holiday acknowledged by the Board as a County-observed holiday.

4. Minimum requirements. When the regulations of this Development Code are being interpreted and applied, all provisions shall be considered to be minimum requirements, unless stated otherwise (e.g., height limits, site coverage requirements for structures, and the numbers and size of signs allowed are identified as maximums, not minimums). Residential densities shall be construed as maximums, but not entitlements. For purposes of subdivision, the maximum allowable density shall be determined on a case-by-case basis.

C. Calculations – Rounding. Where provisions of this Development Code require calculations to determine applicable requirements, any fractional/decimal results of the calculations shall be rounded as provided by this Subsection.

1. Minimum lot area and number of lots. The fractional/decimal results of calculations of the number of parcels allowed through subdivision based on a minimum lot area requirement shall be rounded down to the next lowest whole number. For example, the R-1 zoning district minimum lot area requirement of 7,500 square feet would allow division of a 21,000 lot into two lots (21,000 / 7,500 = 2.66, rounded down to two).

2. Residential density. When the number of housing units allowed on a site are calculated based on density limits established by a zoning district, any fraction of a unit of 0.9 or greater shall be counted as a whole unit; any fraction of a unit less than 0.9 shall be rounded down to the next lowest whole number. For example, a planned zoning district allows one housing unit for each 1,000 square feet of lot area; a lot of 8,500 square feet would be allowed eight housing units (8,500 / 1,000 = 8.5, rounded down to eight). A lot of 8,900 square feet would be allowed nine housing units (8,900 / 1,000 = 8.9, rounded up to nine).

3. Floor Area Ratio (FAR). When calculating the allowable floor area of a structure based on the FAR established by the applicable zoning district, the fractional/decimal results of calculations shall be rounded to the next highest whole number when the fraction/decimal is 0.5 or more, and to the next lowest whole number when the fraction is less than 0.5. For example, a maximum Floor Area Ratio of 0.30 applied to a lot of 25,856 square feet results in a maximum allowable floor area of 7,757 square feet (25,856 x .030 = 7,756.8, rounded up to 7,757).

4. All other calculations. For all calculations required by this Development Code other than those described in Subsections C.1 and C.2 above, the fractional/decimal results of calculations shall be rounded to the next highest whole number when the fraction/decimal is 0.5 or more, and to the next lowest whole number when the fraction is less than 0.5.

D. Zoning Map boundaries. If there is uncertainty about the location of any zoning district boundary shown on the official Zoning Map, the following rules are to be used in resolving the uncertainty:

1. Where zoning district boundaries approximately follow lot, alley, or street lines, the lot lines and street and alley centerlines shall be construed as the zoning district boundaries;

2. If a zoning district boundary divides a parcel and the boundary line location is not specified by distances printed on the zoning map, the location of the boundary will be determined by using the scale appearing on the zoning map;

3. Where a public street or alley is officially vacated or abandoned, the property that was formerly in the street or alley will be included within the zoning district of the adjoining property on either side of the centerline of the vacated or abandoned street or alley; and

4. Any property not clearly designated on the Zoning Map in any of the zoning districts established by Section 22.06.020 (Zoning Districts Established) shall hereby be designated as being in the A2 (Agriculture, Limited) zoning district (Chapter 22.08 (Agricultural and Resource-Related Districts)).

E. Allowable uses of land. If a proposed use of land is not specifically listed in Article II (Zoning Districts and Allowable Land Uses) the use shall not be allowed, except as follows.

1. The Director may determine that a proposed use not listed in Article II (Zoning Districts and Allowable Land Uses) is allowable if all of the following findings are made:

   a. The characteristics of, and activities associated with, the proposed use are equivalent to those of one or more of the allowable uses listed in the zoning district;

   b. The proposed use will not involve a higher level of activity or population density than the uses listed in the zoning district;

   c. The proposed use will meet the purpose/intent of the zoning district that is applied to the site; and

   d. The proposed use will be consistent with the goals, objectives and policies of the Marin Countywide Plan.

2. When the Director determines that a proposed, but unlisted, use is equivalent to a listed allowable use, the proposed use will be treated in the same manner as the listed use in determining where it is allowed, what permits are required and what other standards and requirements of this Development Code apply.

3. The Director may forward questions about equivalent uses directly to the Commission for a determination at a public hearing.

F. Conflicting requirements:

1. Other County Code provisions. If conflicts occur between requirements of this Development Code, or between this Development Code and a Community Plan or other regulations of the County where a discretionary permit is applicable, the most restrictive provision shall apply.

2. Private agreements. It is not intended that the requirements of this Development Code are to interfere with, repeal, abrogate or annul any easement, covenant, or other agreement that existed when this Development Code became effective. This Development Code applies to all land uses and development regardless of whether it imposes a greater or lesser restriction on the development or use of structures or land than a private agreement or restriction, without affecting the applicability of any agreement or restriction.

Many communities have private conditions, covenants, and restrictions (CC&Rs) administered by homeowners' associations. The County cannot enforce any private covenant or agreement unless it is a party to the covenant or agreement.

22.02.030 – Procedures for Interpretations

The Director shall respond in writing to any written request for interpretation of the provisions of this Development Code. Any member of the public may submit an interpretation request to the Director.

A. Request for interpretation. The written request shall state the provision(s) in question, and provide any information that the Director deems necessary to assist in the review.

B. Record of interpretations. Whenever the Director determines that the meaning or applicability of any of the requirements of this Development Code are subject to interpretation generally or as applied to a specific case, the Director may issue an official interpretation. Official interpretations shall be:

1. In writing, and shall quote the provisions of this Development Code being interpreted, and explain their meaning or applicability in the particular or general circumstances that caused the need for interpretation; and

2. Distributed to the Board, Commission, County Counsel, County Clerk, and Agency staff.

Any provisions of this Development Code that are determined by the Director to need refinement or revision will be corrected by amending this Development Code as soon as is practical. Until amendments can occur, the Director will maintain a complete record of all official interpretations, available for public review, and indexed by the number of the Section that is the subject of the interpretation.

C. Referrals. The Director may refer a written interpretation to the Commission for a determination.

Chapter 22.20 – General Property Development and Use Standards

…

22.20.020 – Applicability – General Standards

A. The standards of this Chapter shall be considered in combination with the standards for each zoning district in Article II (Zoning Districts and Allowable Land Uses) and Article V (Coastal Zone Development and Resource Management Standards), and any standards established by Chapter 22.30 (Standards for Specific Communities). Where a conflict is perceived, the standards specific to the zoning district or specific community shall override these general standards (e.g., Section 22.30.050 (Sleepy Hollow Community Standards) shall control).

B. All proposed development and new land uses shall conform with *all* of the standards of this Chapter and any applicable Community and Specific Plan prior to construction, unless specifically exempted by the Director. All uses requiring a discretionary land use permit or entitlement shall comply with any applicable Community and Specific Plan as determined by the review authority.

C. The Director may modify or waive any one or more of the standards of this Chapter as they may apply to a development, based upon findings consistent with the provisions of this Chapter.

…

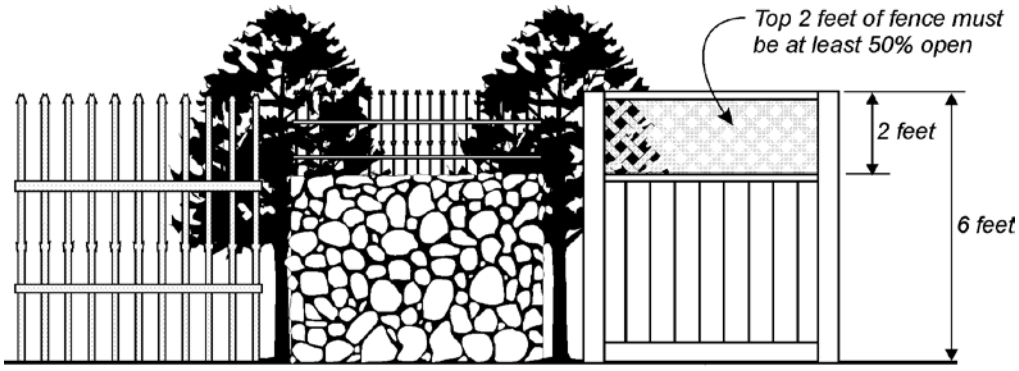
22.20.050 – Fencing and Screening Standards

The following standards shall apply to the installation of all fences and walls in the A, A2, OA, RA, RR, RE, R1, R2, C-RA, C-R1, and C-R2 zoning districts. Fences may require Design Review in all other zoning districts.

A. Height limitations. Fences, walls, and trellises are subject to the following height limitations.

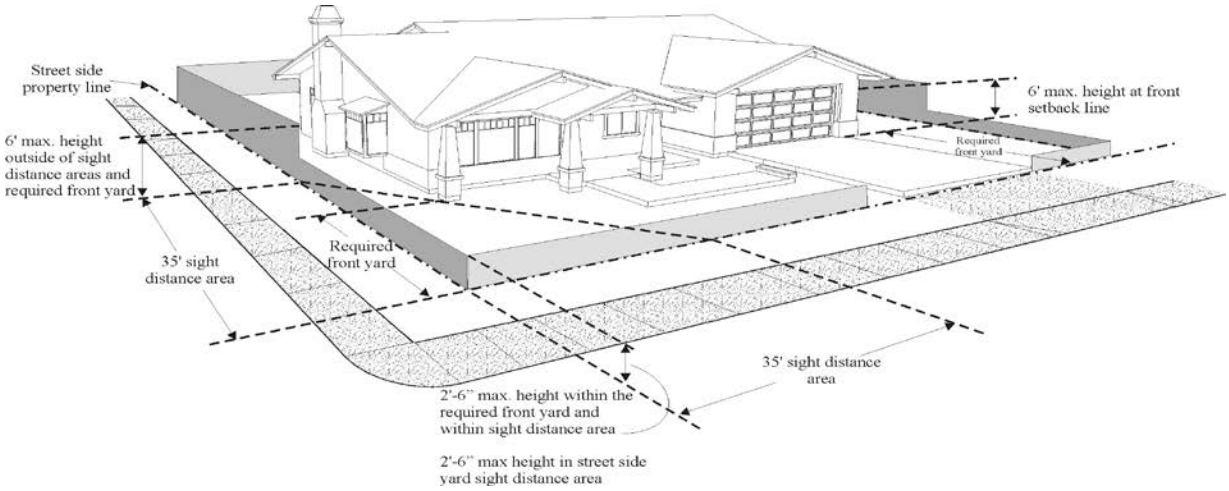
1. General height limit. A fence or wall having a maximum height of four feet or less above grade may be located within a required setback for a front yard or side yard that abuts a street. A fence or wall having a maximum height exceeding four feet but no more than six feet above grade may be located within a required setback for a front yard or side yard that abuts a street if the entire section or portion of the fence or wall above four feet in height above grade has a surface area that is at least 50% open and unobstructed by structural elements. (See Figure 3-1.) A solid fence or wall having a maximum height of six feet above grade may be located within a required interior yard setback, a rear yard setback, a rear yard setback of a through lot, or on the property line defining such yards. A trellis above a gate or opening along the line of a fence, not exceeding a maximum height of eight feet above grade and a width of six feet, is permitted within a required setback for a front, side, or rear yard that abuts a street. A fence, wall, trellis, or other similar detached structure that exceeds the above height limits may be authorized subject to the requirements for Design Review.

FIGURE 3-1
EXAMPLES OF FENCES WITH THE AREA ABOVE FOUR FEET AT LEAST 50% OPEN



2. **Corner lots.** Fences within the front and/or street side setbacks of a corner lot shall not exceed a height of two feet, six inches above the street level of an adjacent intersection, within the area between the property lines and a diagonal line joining points on the property lines which are 35 feet from their intersection. See Chapter 13.18 (Visibility Obstructions) of the County Code. See Figure 3-2.

FIGURE 3-2
HEIGHT LIMITATIONS FOR FENCES ON CORNER LOTS



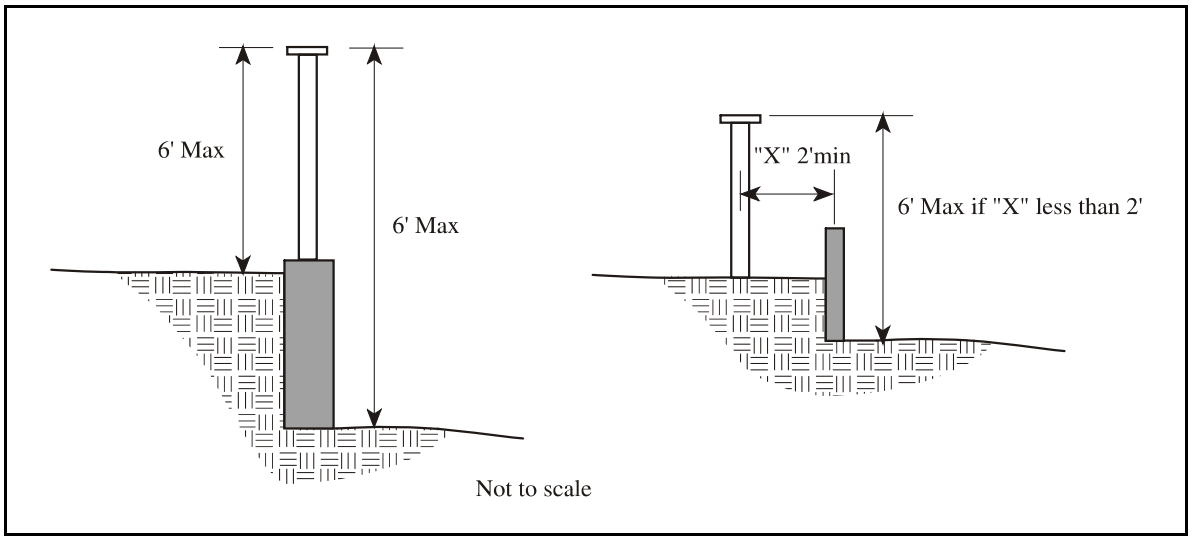
3. **Lots with grade differential.** Where there is a difference in the ground level between two adjoining lots, the height of the fence or wall shall not exceed six feet as measured from grade on either side of the structure. See Figure 3-3 (Fence Height Limits).

4. **Parallel fences and walls.** Two approximately parallel fences and/or walls shall maintain a separation of at least two feet to encourage landscaping between the separation, or the height of both structures shall be computed as one structure, subject to the six foot height limitation. See Figure 3-3 (Fence Height Limits).

B. Setback requirements. Fences or walls up to four feet in height or six feet in height above grade may be located within a required setback or on property lines in compliance with the height limits of Subsection A., above. Fences, walls, trellises, or other similar detached structures exceeding the height limits specified in Subsection A, shall be subject to the same

setback requirements of this Development Code applicable to the primary structure, unless approved through Design Review.

FIGURE 3-3
FENCE HEIGHT LIMITS



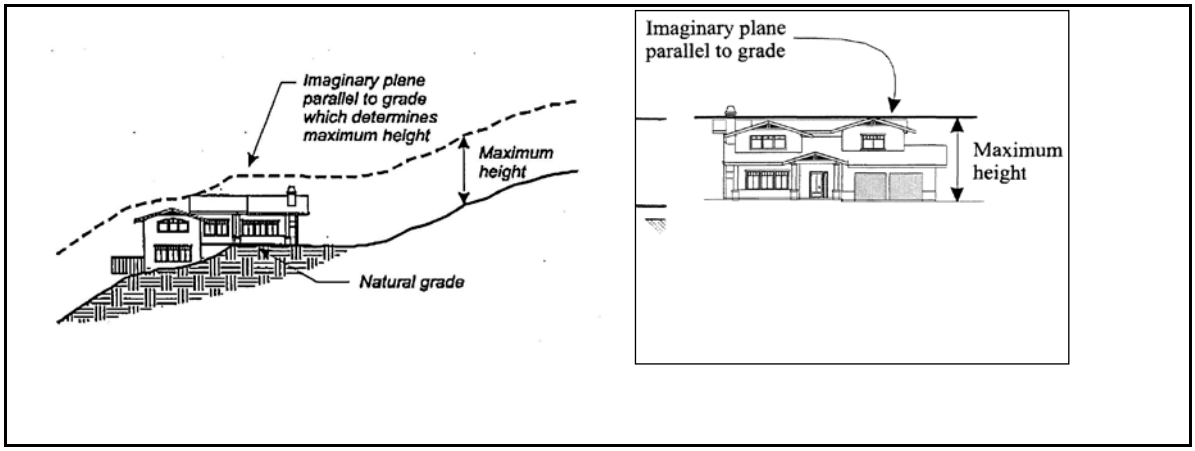
…

22.20.060 – Height Measurement and Height Limit Exceptions

All structures shall meet the following standards relating to height, except for fences, which shall comply with 22.20.050 (Fencing and Screening Standards), above.

A. Maximum height. The height of any structure shall not exceed the standard established by the applicable zoning district in Article II (Zoning Districts and Allowable Land Uses) and Article V (Coastal Zone Development and Resource Management Standards). Maximum height shall be measured as the vertical distance from grade to an imaginary plane located the allowed number of feet above and parallel to the grade. See Figure 3-4 (Measurement of Maximum Height) and definition of "Grade" in Article VIII (Definitions).

FIGURE 3-4
MEASUREMENT OF MAXIMUM HEIGHT



B. Detached accessory structures. A detached accessory structure shall not exceed 15 feet in height above grade. However, a detached accessory structure may be constructed to the height allowed for primary structures, by the applicable zoning district, if the accessory structure is located at least 40 feet from all property lines.

C. Structures for parking. A detached parking structure is subject to the height limit required by Section 22.20.060.B (Detached accessory structures), above. Where a garage or other parking structure is located three feet from a front or side property line, in compliance with Section 22.32.130.B.2 (Residential Accessory Uses and Structures - Front setback exception), its height shall be measured from the floor level of the parking area.

D. Fences. Height limits for fences are established by Section 22.20.050.A (Fencing and Screening Standards—Height Limitations), above.

E. Exceptions to height limits:

1. Institutional buildings. Where the maximum height established by the applicable zoning district is less than 75 feet, public and semi-public buildings, churches, hospitals, schools, and other institutional structures allowed in the zoning district may be erected to a height not exceeding 75 feet; provided that:

a. The front, side, and rear yard setbacks shall be increased one foot for each one foot by which the structure exceeds the height limit established by the zoning district; and

b. The Director determines that the amount of structure height allowed above the height limit of the underlying zoning district will not result in significant glare, light, privacy, shadow, or visual impacts to surrounding properties or scenic locations.

2. Single-family dwellings. Single-family dwellings in an A, A2, RA, RR, RE, R1, and R2 zoning district may be increased in height without Variance approval by a maximum of 10 feet when side setbacks of 15 feet or greater are provided, subject to the regulations of Chapter 22.42 (Design Review).

3. Solar panels. In A, A2, RA, RR, RE, R1, R2, H1, and VCR zoning districts, roof-mounted solar electric and solar thermal panels may exceed 30 feet above grade, provided no part of the equipment exceeds a height of 32 feet above grade unless approved through Design Review. The requirements of Sections 22.16.030.F.1, 22.16.030.F.2., 22.16.030.J relative to protection of rural visual character, 22.16.030.K.1.c., and 22.16.030.K.2, 22.42.060.A (Decisions and Findings) shall not apply to Design Review for solar panels.

4. Spires, towers, water tanks, etc. Chimneys, cupolas, flag poles, gables, monuments, spires, towers (e.g., transmission, utility, etc.), water tanks, similar structures and necessary mechanical appurtenances may be allowed to exceed the height limit established for the applicable zoning district, subject to the following standards.

a. The structure shall not cover more than 15 percent of the lot area at any level.

b. The area of the base of the structure shall not exceed 1,600 square feet.

c. No gable, spire, tower or similar structure shall be used for sleeping or eating quarters or for any commercial purpose other than that which is incidental to the allowed uses of the primary structure.

d. No structure shall exceed a maximum height of 150 feet above grade, except with Design Review approval. See Chapter 22.42 (Design Review).

5. Wind Energy Conversion Systems. Height limits for WECS are established in Section 22.32.180 (Wind Energy Conversion Systems (WECS)).

F. Height limit exceptions by Variance or Design Review:

1. Primary structure. A primary structure may exceed the height limit of the applicable conventional zoning district with Variance approval. See exceptions for single-family dwellings in certain zoning districts contained in Section 22.20.060.E.2. See Chapter 22.54 (Variances).

2. Detached accessory structure. A detached accessory structure may exceed the height limit of the applicable conventional zoning district with Design Review approval provided that the structure shall not exceed the height limit for the primary structure. See Chapter 22.42 (Design Review).

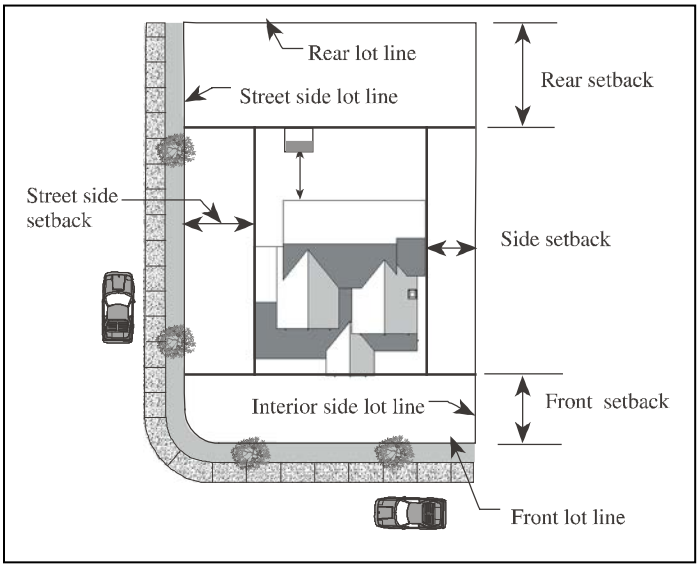
3. Agricultural structure. An agricultural structure may exceed the height limit of the applicable zoning district with Design Review approval. See Chapter 22.42 (Design Review).

…

22.20.090 – Setback Requirements and Exceptions

A. Purpose. This Section establishes standards for the use and minimum size of setbacks. These standards are intended to provide for open areas around structures for: visibility and traffic safety; access to and around structures; access to natural light, ventilation and direct sunlight; separation of incompatible land uses; and space for privacy, landscaping, recreation, and fire safety.

FIGURE 3-5
LOCATION AND MEASUREMENT OF SETBACKS



B. Measurement of Setbacks. Setbacks shall be measured from property lines, as shown by Figure 3-5 (Location and Measurement of Setbacks), and as follows; however, if an access easement or street right-of-way line extends into or through a yard setback, the measurement shall be taken from the nearest point of the easement or right-of-way line, not the more distant property line. See Figure 3-6 (Front and Side Setbacks with Easements).

1. Front yard setbacks. The front yard setback shall be measured at right angles from the nearest point on the front property line of the lot to the nearest point of the wall of the structure, establishing a setback line parallel to the front property line.

a. Flag lots. For a lot with a fee ownership strip extending from a street or right-of-way to the building area of the parcel, the measurement shall be taken from the nearest point of the wall of the structure to the point where the access strip meets the bulk of the lot along a continuous line, establishing a setback line parallel to it. See Figure 3-7 (Flag Lot Setbacks).

FIGURE 3-6
FRONT AND SIDE SETBACKS WITH EASEMENTS

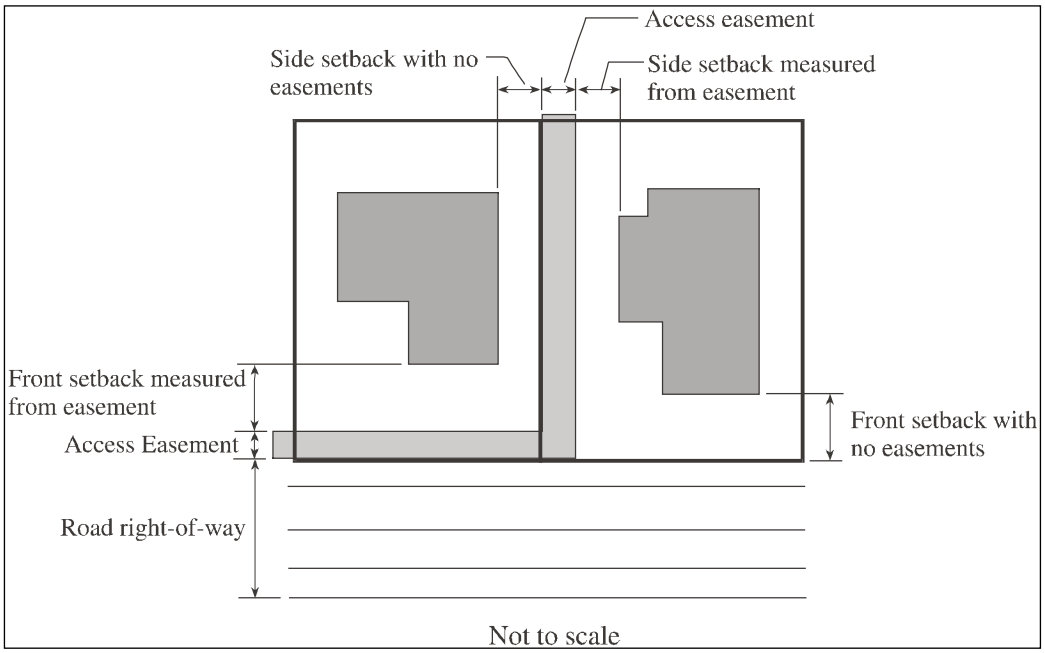
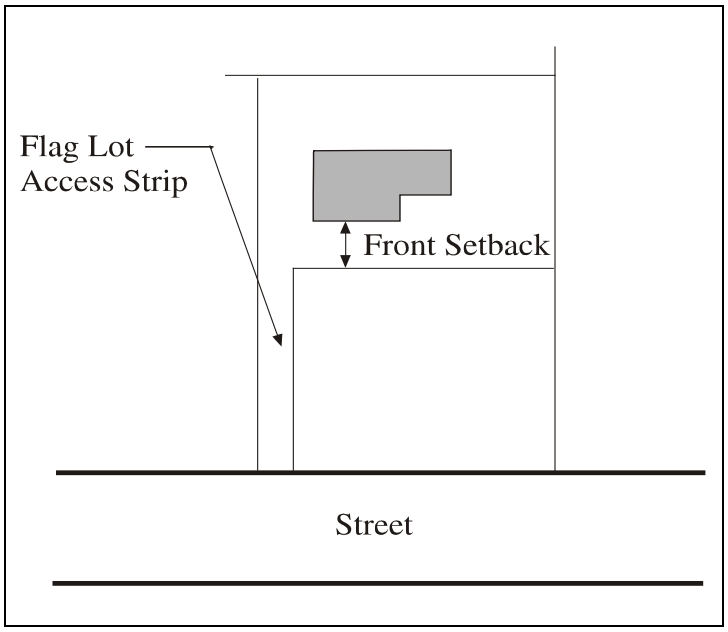


FIGURE 3-7
FLAG LOT SETBACKS



b. Corner lots. The measurement shall be taken from the nearest point of the structure to the nearest point of the property line adjoining the street to which the property is addressed and the street from which access to the property is taken.

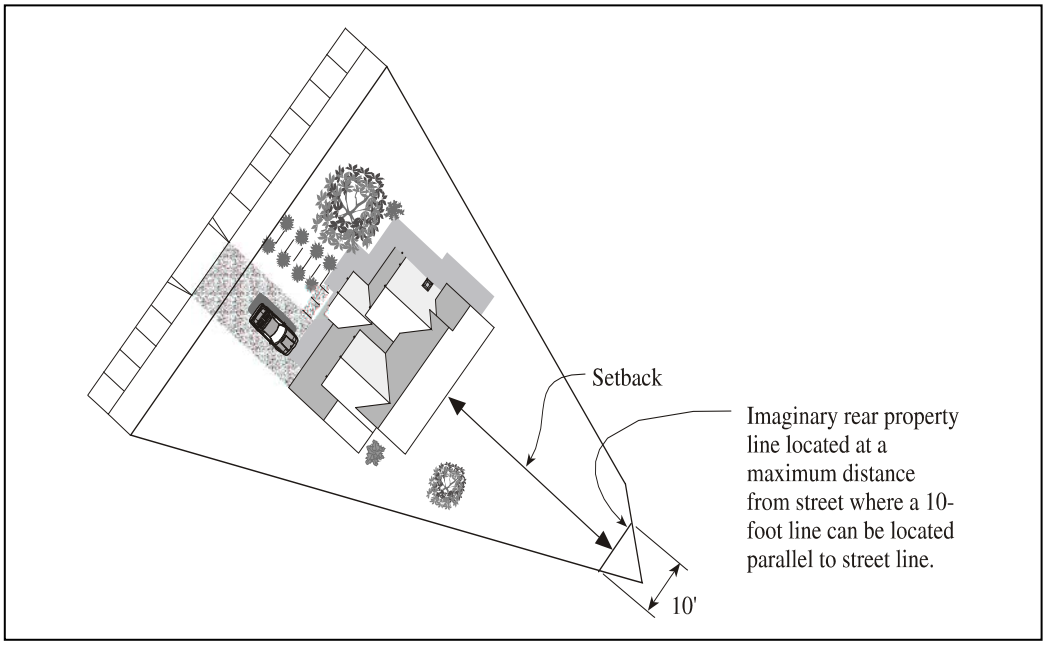
2. Side yard setbacks. The side yard setback shall be measured at right angles from the nearest point on the side property line of the lot to the nearest point of the wall of the structure; establishing a setback line parallel to the side property line, which extends between the front and rear yards.

3. Street side yard setbacks. The side yard on the street side of a corner lot shall be measured at right angles from the nearest point of the side property line adjoining the street to the nearest point of the wall of the structure, establishing a setback line parallel to the side property line which extends between the front and rear yards.

4. Rear yard setbacks. The rear yard shall be measured at right angles from the nearest point on the rear property line to the nearest point of the wall of the structure, establishing a setback line parallel to the rear property line.

5. Rear yard setbacks in irregular, triangular, or gore-shaped lots. On an irregular, triangular, or gore-shaped parcel, where it is difficult to identify a rear lot line, the rear yard shall be measured at right angles from a line 10 feet in length within the lot, parallel to and at a maximum distance from the front property line. See Figure 3-8 (Rear Setback in Irregular Parcels).

FIGURE 3-8
REAR SETBACK IN IRREGULAR PARCELS



C. Setback requirements. Unless exempted in compliance with Subsections D and E, below, all structures shall conform with the setback requirements established for each zoning district by Article II (Zoning Districts and Allowable Land Uses) and Article V (Coastal Zone Development and Resource Management Standards), and with any special setbacks established for specific uses by this Development Code, except as otherwise provided by this Section.

1. General requirements. In no case shall any portion of a structure, including eaves or roof overhangs, extend beyond a property line, or into an access easement or street right-of-way.

2. Accessory structures. Detached accessory structures shall comply with the same setback requirements established by the applicable conventional zoning district for primary structures, except as follows.

a. The rear yard setback for a detached accessory structure shall equal the required side setback to a maximum rear setback of 10 feet; except that the rear setback on a through lot shall be 20 percent of the lot depth to a maximum of 25 feet.

b. The total aggregate floor area of all detached accessory structures shall not exceed 30 percent of the area contained within the boundaries of the setback required in the rear yard except with Design Review approval. See Chapter 22.42 (Design Review).

c. Detached accessory structures may be located within a required setback with Design Review approval. See Chapter 22.42 (Design Review).

3. Detached site elements. Detached decks, swimming pools and spas, steps, terraces, and other site design elements that are placed at or below grade, and which exceed a height of 18 inches above grade at any point, shall conform with the setback requirements of this Chapter for detached accessory structures. Hand railings and other

safety features required by the Uniform Building Code and attached directly to a detached site element shall not be included in the measurement of the maximum height of the detached site element.

4. Site design elements less than 18 inches above grade are exempt from setback requirements in compliance with Subsection D (Exemptions from setback requirements), below. Examples of site design elements less than 18 inches above grade include ponds, shuffleboard courts, and water elements (e.g., fountains, sprays, etc.).

D. Exemptions from setback requirements. The minimum setback requirements of this Development Code apply to all uses except the following:

1. Fences or walls that comply with the height limits specified in Section 22.20.050 (Fencing and Screening Standards) and as restricted by Chapter 13.18 (Visibility Obstructions) of the County Code;

2. Detached energy efficiency devices located within required rear yard and side yards that do not exceed a height of four feet in height above grade;

3. Decks, free-standing solar devices, swimming pools and spas, steps, terraces, and other site design elements which are placed at or below grade and do not exceed a height of 18 inches above grade at any point. Hand railings and other safety features required by the Uniform Building Code and attached directly to a detached site element which meets the criteria herein are exempt from the minimum setback requirements;

4. Flag poles that do not exceed a height of 30 feet above grade; and

5. An application for single-family residential development that requires Design Review pursuant to Section 22.42.030 (Design Review for Substandard and Hillside Building Sites).

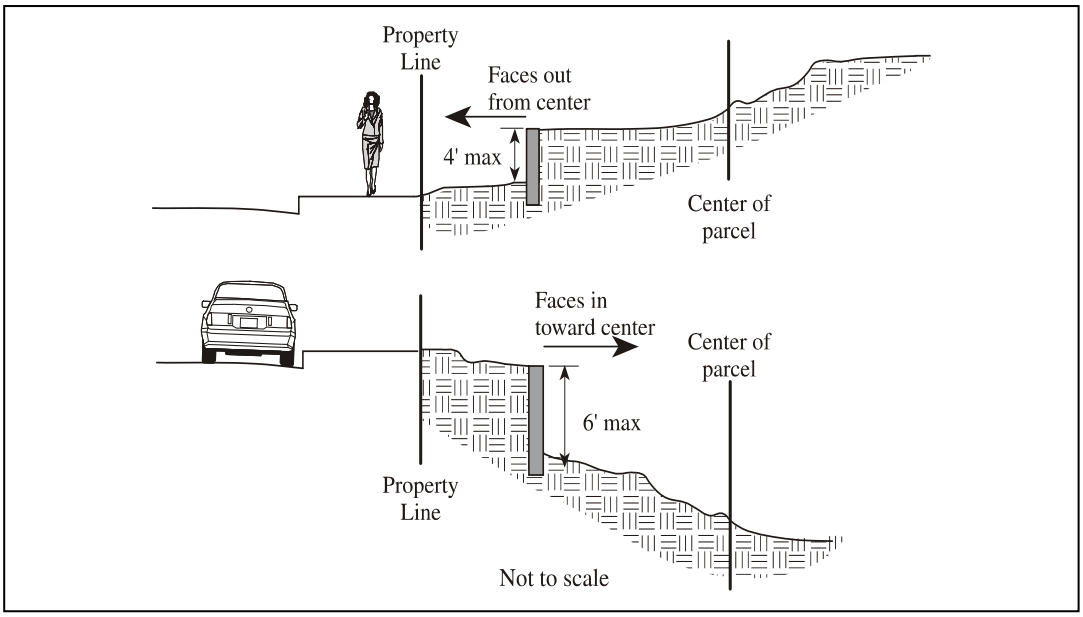
6. Retaining walls. The following standards shall apply to all retaining walls. See Figure 3-9 (Maximum Height for Retaining Walls Exempt from Setbacks).

   a. Retaining walls greater than six feet in height above grade shall be subject to the same setback requirements as the primary structure if the exposed face of the retaining wall faces into the center of the property.

   b. Retaining walls greater than four feet in height above grade shall be subject to the same setback requirements as the primary structure if the exposed face of the retaining wall faces outward from the center of the property.

   c. All other retaining walls that encroach into setbacks are subject to Chapter 22.42 (Design Review).

FIGURE 3-9
MAXIMUM HEIGHT FOR RETAINING WALLS EXEMPT FROM SETBACKS



E. Allowed projections into setbacks. Attached architectural features and certain detached structures may project into or be placed within a required setback in compliance with the following requirements.

1. Architectural features. Architectural features attached to the primary structure may extend beyond the wall of the structure and into the front, side and rear yard setbacks, in compliance with Table 3-1 (Allowed Projections into Setbacks). See also Figure 3-10 (Examples of Allowed Projections into Required Setbacks).

TABLE 3-1
ALLOWED PROJECTIONS INTO SETBACKS

Feature	Allowed Projection into Specified Setback		
	Front Setback	Side Setback	Rear Setback
Chimney (1)	30 in.	30 in.	30 in.
Cantilevered architectural features (2)	30 in.	30 in.	30 in.
Deck (3)	6 ft.	3 ft. (1)	6 ft.
Porch (4)	6 ft.	3 ft. (1)	6 ft.
Solar devices and tankless water heaters	30 in.	30 in.	30 in.
Stairway (5)	6 ft.	3 ft. (1)	6 ft.

Notes:

(1) Feature may project no closer than three feet to the property line.

(2) Cantilevered architectural features including balconies, bay windows, cornices, eaves and roof overhangs may project into setbacks as shown.

(3) Decks less than 18 inches above grade are exempt, in compliance with 22.20.090.D.3 (Exemptions from Setback Requirements), above.

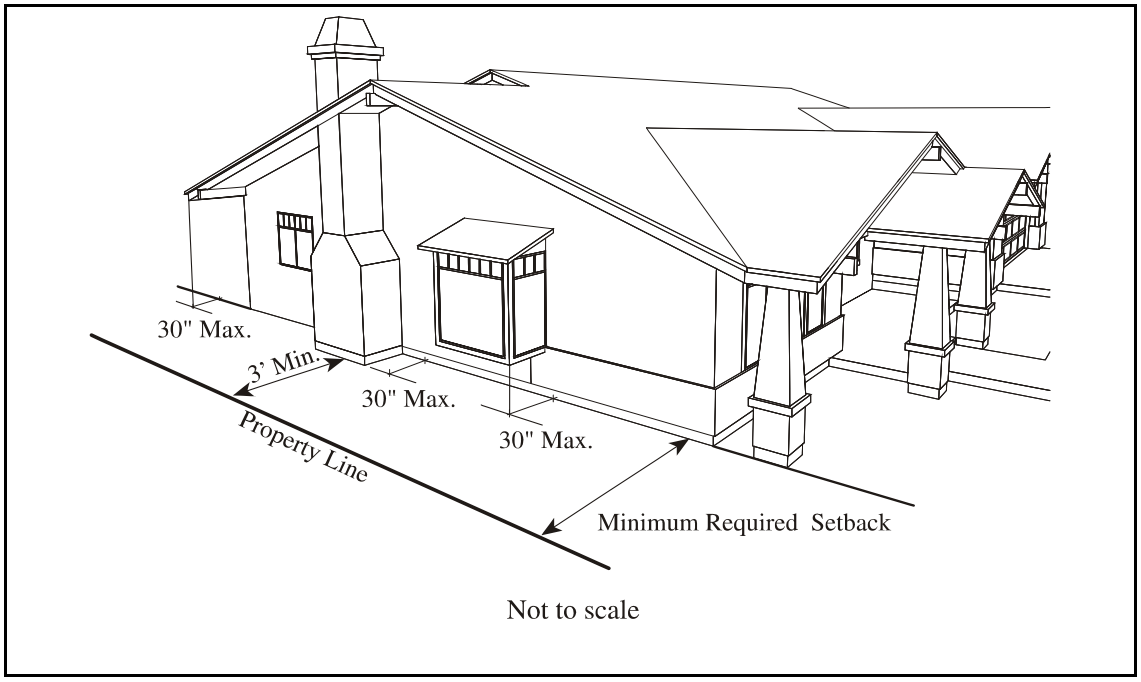
(4) A porch may project into a setback, provided it is enclosed only by a railing in compliance with Title 19 (Buildings) of the County Code, and is located at the same level as the entrance floor of the structure. An additional projection into the front yard setback may be allowed with Design Review approval, provided it does not exceed 40% of the required porch setback permitted by Table 3-1. (For example, in a R-1 zoning district, Table 3-1 would allow the porch to maintain a 19-foot front yard setback. An additional 7.6-foot encroachment (representing 40% of the 19-foot setback) resulting in an 11.4-foot front yard setback may be permitted with Design Review approval.)

(5) A stairway may project into a setback, provided it is not roofed or enclosed above the steps.

2. Parking structures on steep lots. In any zoning district allowing residential uses, where the slope of the one-half of the parcel beginning at the street-access side is 20 percent or more, or where the elevation of the parcel at the property line from which vehicular access is taken is five feet or more above or below the elevation of the adjoining street, a parking structure may be built to within three feet of the front and side property lines that abut the adjoining street from which vehicular access is taken.

3. Trellises. See Section 22.20.050.A.1 (Fencing and Screening Standards – Height Limitations).

FIGURE 3-10
EXAMPLES OF ALLOWED PROJECTIONS INTO REQUIRED SETBACKS



F. Restrictions on the use of front yard setbacks in residential districts. No junk or scrap shall be allowed in the front yard on any lot in any residential zoning district. This restriction includes the storage of operable or inoperable vehicles in other than improved parking or driveway areas.

22.20.100 – Solid Waste/Recyclable Materials Storage

A. Purpose. This Section provides for the construction and maintenance of storage areas for solid waste and recyclable materials in compliance with the California Solid Waste Reuse and Recycling Access Act (Public Resources Code Sections 42900-42911, as may be amended from time to time), and Chapter 7.02 (Theft of Recyclable Materials) of the County Code.

B. Applicability. This Section applies to the new construction or remodeling of multi-family residential projects with five or more dwelling units, commercial, and other non-residential projects requiring a discretionary land use permit or entitlement.

C. Multi-family residential structures. Multi-family residential projects with five or more dwellings shall provide on-site solid waste and recyclable material storage areas as follows:

1. **Individual unit storage requirements.** Each dwelling unit shall include an area, within the dwelling, designed for the storage of solid waste and recyclable material.

2. **Common storage area requirements.** Facilities shall be provided for the temporary storage of solid waste and recyclable materials, adequately sized to serve the needs of the project, as determined by the review authority. Table 3-2 provides suggested standards for shared solid waste and recyclable materials storage areas for individual structures within multi-family projects.

TABLE 3-2
SOLID WASTE STORAGE – MULTI-FAMILY PROJECTS

Number of Dwellings	Minimum Storage Areas (sq.ft.)		
	Solid Waste	Recycling	Total Area
5-6	12	12	24
7-15	24	24	48
16-25	48	48	96
26-50	96	96	192
51-75	144	144	288
76-100	192	192	384
101-125	240	240	480
126-150	288	288	576
151-175	322	322	672
176-200	384	384	768
201+	Every additional 25 dwellings should require an additional 100 sq.ft. for solid waste and 100 sq.ft. for recyclables.		

D. Non-residential structures and uses. Non-residential structures and uses shall be provided with solid waste and recyclable material storage areas, adequately sized to serve the needs of the project, as determined by the review authority. Table 3-3 provides suggested minimum storage area standards for each individual structure.

TABLE 3-3
SOLID WASTE STORAGE – NON-RESIDENTIAL PROJECTS

Building Floor Area (sq.ft.)	Minimum Storage Areas (sq.ft.)		
	Solid Waste	Recycling	Total Area
0-5,000	12	12	24
5,001-10,000	24	24	48
10,001-25,000	48	48	96
25,001-50,000	96	96	192
50,001-75,000	144	144	288
75,001-100,000	192	192	384
100,001+	Every additional 25,000 sq.ft. should require an additional 48 sq.ft. for solid waste and 48 sq.ft. for recyclables.		

E. Location requirements. Solid waste and recyclable materials storage areas may be located indoors or outdoors as long as they are accessible to all residents and employees, as follows:

1. Location and design of storage areas. Solid waste and recyclable material storage areas shall be adjacent to, or combined with one another. They may only be located inside a specially-designated structure; or outdoors, within an approved fence or wall enclosure, a designated interior court or yard area with appropriate access, or in a rear yard or interior side yard.

2. Accessibility. The storage area(s) shall be accessible to residents and employees. Storage areas within multi-family residential developments shall be located within 250 feet of the dwellings which they are intended to serve.

3. Unobstructed vehicle access. Driveways or aisles shall provide unobstructed access for collection vehicles and personnel, and shall provide at least the minimum clearance required by the collection methods and vehicles of the designated collector. Where a site is served by an alley, all exterior storage area(s) shall be directly accessible from the alley.

F. Design and construction requirements for multi-family and non-residential development. The design and construction of storage areas in multi-family residential and non-residential developments shall comply with the following standards.

1. Architectural compatibility, screening. The storage enclosure shall be architecturally compatible with the surrounding structures and subject to the approval of the Director. Storage areas shall be appropriately located and screened from view on at least three sides and shall not conflict or interfere with surrounding land uses.

2. Security. The storage enclosure shall be properly secured to prevent access by unauthorized persons while allowing authorized persons access for disposal of materials in compliance with Chapter 7.02 (Theft of Recyclable Materials) of the County Code.

3. Concrete pad and apron. The storage area shall include a concrete pad within a fenced or walled area, and a concrete apron, to facilitate the handling of the individual bins or containers.

3. Weather protection. The storage area and individual bins or containers shall be enclosed to protect the recyclable materials from adverse weather conditions which may render the materials unmarketable.

5. Runoff protection. The storage area and individual bins or containers shall, to the extent feasible, incorporate a curb or berm to protect the pad from run-on surface drainage, and a drainage system that connects to the sanitary sewer system.

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CHAPTER 22.22 – AFFORDABLE HOUSING REGULATIONS

Sections:

22.22.010 – Purpose of Chapter
22.22.020 – Applicability
22.22.030 – Application Filing
22.22.040 – Prohibitions
22.22.050 – Exemptions
22.22.060 – Waivers
22.22.080 – General Affordable Housing Standards
22.22.090 – Inclusionary Housing Standards- Lot Creation
22.22.100 – Non-Residential and Mixed Use Affordable Housing Standards
22.22.110 – Decision
22.22.120 – Affordable Housing Post Approval

22.22.010 – Purpose of Chapter

Marin County is experiencing a shortage of homes affordable to the workforce of the county, seniors and disabled individuals. The California Legislature has found that the availability of housing is of vital statewide importance and a priority of the highest order, and that local governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community.

To help attain local and state housing goals, this Chapter requires new developments to contribute to the County's affordable housing stock through the provision of housing units, land dedication, and/or fees. This Chapter provides procedures and requirements applicable to development proposals in the unincorporated areas of Marin County, which are intended to achieve the following goals:

A. **Countywide Plan housing goals.** Enhance the public welfare and ensure that further residential and non-residential development contribute to the attainment of the housing goals of the Countywide Plan by increasing the production of affordable housing, and stimulating funds for development of affordable housing.

B. **Reduce affordable housing shortage.** Reduce the housing shortage for income qualifying households.

C. **Balanced community.** Achieve a balanced community with housing available for households with a range of income levels.

D. **Affordable housing requirements.** Ensure that remaining developable land within the County is utilized in a manner consistent with the County's housing policies and needs. This can be accomplished in part by applying the residential and non-residential affordable housing requirements or fees contained in this Chapter.

22.22.020 – Applicability

The provisions of the Chapter apply to new development that entails the development of new residential floor area, lot creation, and the development of new non-residential floor area. Additional applicability standards are enumerated below. Table 3-4a provides examples of housing and fee requirements for different types of development.

TABLE 3-4a
EXAMPLES OF AFFORDABLE HOUSING REQUIRMENTS

Type of development	Requirement	Section
New Residences and residential floor area		
A. Single-family	Affordable Housing Impact fee	Ordinance 3500
B. Multi-family (rental)	Rental Housing Impact fee	22.22.020.B
C. Multi-family **(**ownership with subdivision map)	20% of units (In-lieu fee for up to 0.5 unit)	22.22.090.A
Lot Creation		
D. With proposed dwellings	20% of units (In-lieu fee for up to 0.5 unit)	22.22.090.A
E. Lots only	20% of lots (In-lieu fee for up to 0.5 unit)	22.22.090.A
Non-residential		
F. Non-residential only	Jobs/Housing Linkage fee	22.22.100.A
G. Mixed use	Jobs/Housing Linkage fee and/or units	22.22.100.B

A. **Single-family dwellings.** All new single-family dwellings greater than 2,000 square feet, except those located in subdivisions previously subject to an inclusionary requirement, shall pay an Affordable Housing Impact Fee per Ordinance 3500.

B. **Multi-family rental housing.** New multi-family housing developed without a subdivision map and where dwelling units cannot be sold separately shall be subject to a Rental Housing Impact Fee. The fee shall be established by the Board of Supervisors and shall be updated annually by the Director to compensate for inflation based on the higher of either the construction cost index published in the Engineering News Record (ENR) or the CPI (Shelter Only). The payment of the fee shall be due prior to issuance of Building Permits.

C. **Multi-family housing with a subdivision map.** All new multi-family housing and condominium conversions approved with a subdivision map or with dwelling units that can be sold separately, including multi-family housing, condominiums, townhouses, and stock cooperatives, shall provide affordable housing consistent with Section 22.22.090 (Inclusionary Housing Standards- Lot Creation).

D. **Lot creation with proposed dwellings.** Any subdivision with a proposed development of one or more dwellings shall provide affordable housing consistent with Section 22.22.090 (Inclusionary Housing Standards – Lot Creation).

E. **Lot creation without proposed dwellings.** Any subdivision creating one or more new lots shall provide inclusionary lots for the immediate or future development of affordable housing consistent with Section 22.22.090 (Inclusionary Housing Standards – Lot Creation).

F. **Non-residential developments.** Non-residential development shall pay a Jobs/Housing linkage fee consistent with Section 22.22.100 (Non-Residential and Mixed Use Affordable Housing Standards).

G. Mixed use developments. Mixed use developments are subject to both the non-residential and residential affordable housing requirements.

H. Applicability to density bonus projects. Any affordable housing units that qualify a project for a density bonus pursuant to Government Code Section 65915 must be provided in addition to the required affordable housing units and may not also be counted as affordable housing units pursuant to this Chapter.

I. Affordable housing regulations. The requirements of this Chapter shall be imposed only once on a given development approval. Affordable housing requirements imposed on a development shall be consistent with the affordable housing requirements in effect at the time of each successive Precise Development Plan or Design Review approved in conformance with a governing Master Plan. Subdivisions subject to an inclusionary requirement are not also subject to the Affordable Housing Impact Fee.

22.22.030 – Application Filing

An affordable housing plan shall be submitted as part of the first application for any development project subject to this Chapter, except single-family dwellings subject to the Affordable Housing Impact Fee, and shall be processed, reviewed, and approved, conditionally approved, or denied concurrently with all other applications required for the project. Any request for a waiver of requirements of this Chapter must be submitted as part of the affordable housing plan.

22.22.040 – Prohibitions

In Marin County, it is unlawful to restrict housing choice on the basis of race, color, disability, religion, sex, familial status, national origin, sexual orientation, marital status, ancestry, age, and source of income.

22.22.050 – Exemptions

The following shall be exempt from the provisions of this Chapter: agricultural development; agricultural worker housing and all accessory structures; residential second units; and residential projects developed at the targeted income level and percentage cited in the Housing Overlay Designation policies in the Countywide Plan. Affordable housing shall be exempt from Inclusionary Housing Standards.

22.22.060 – Waivers

The review authority may grant a waiver to the requirements of this Chapter if an alternative affordable housing proposal demonstrates a better means of serving the County in achieving its affordable housing goals than the requirements of Chapter 22.22 (Affordable Housing Regulations).

A. Residential projects. The review authority may approve one or more of the following alternative means of compliance with the requirements of Section 22.22.090 (Inclusionary Housing Standards – Lot Creation) or the mixed use residential inclusionary requirements of Section 22.22.100.B (Mixed use development). The options below are listed in order of priority, with the provision of in-lieu fees being the lowest priority. The applicant must demonstrate that each option is infeasible before the County may consider the next option.

1. Affordable units off-site. Inclusionary units may be constructed on one or more sites not contiguous with the proposed development. The off-site property shall be located in

an area with appropriate zoning, character and density, location, size, accessibility to public transportation, and other services, consistent with sound community planning principles and shall be devoid of contaminants and other hazardous wastes. The offsite location must include either a greater number of inclusionary units than required on-site or the same number of inclusionary units that are affordable at a lower income level.

2. **Lots.** The applicant may dedicate suitable real property to the County or its designee to develop the required inclusionary units. The property shall be located in an area with appropriate zoning, character and density, location, size, accessibility to public transportation, and other services, consistent with sound community planning principles and shall be devoid of contaminants and other hazardous wastes. The offsite location must include either a greater number of inclusionary units than required on-site or the same number of inclusionary units that are affordable to a lower income level. Required units may also be constructed within the boundaries of a City or Town provided there is an inter-agency agreement with the County which defines the sharing of affordable housing resources and compliance with fair share housing allocations.

3. **In-lieu fee.** The applicant may pay an in-lieu participation fee based on 125% of the requirement of Section 22.22.090 (Inclusionary Housing Standards – Lot Creation). The review authority shall apply the lowest preference to the payment of an in-lieu fee for compliance with the requirements of this chapter.

B. Non-Residential Development. If the review authority finds that an alternative provides a better means of serving the County in achieving its affordable housing goals, one or more of the following alternative means may be approved for compliance with the requirements of this chapter. A combination of both income-restricted units and affordable housing fees may be allowed. The options below are listed in order of priority, with the provision of in-lieu fees being the lowest priority. The applicant must demonstrate that each option is infeasible before the County may consider the next option.

1. **Affordable units off-site.** Affordable units may be provided off-site on an adjacent property or on one or more sites not contiguous with the proposed development. The off-site property shall be located in an area with appropriate zoning, character and density, location, size, accessibility to public transportation, and other services, consistent with sound community planning principles and shall be devoid of contaminants and other hazardous wastes. The offsite location must include either a greater number of inclusionary units than required on-site or the same number of inclusionary units that are affordable to a lower income level.

2. **Lots.** The applicant may dedicate suitable real property to the County or its designee to be developed for affordable housing by the County, or a profit or nonprofit, private or public applicant. The off-site property shall be located in the same planning area, and shall be appropriately sized and zoned for development equivalent to or more than the residential units that are not created on-site. The property shall be offered in a condition that is suitable for development, including appropriate access and services, consistent with sound community planning principles and shall be devoid of contaminants and other hazardous wastes.

3. **In-lieu fee.** The applicant may pay an in-lieu participation fee based on 125% of the requirement of Section 22.22.090 (Inclusionary Housing Standards – Lot Creation). The review authority shall apply the lowest preference to the payment of an in-lieu fee for compliance with the requirements of this chapter.

22.22.080 – General Affordable Housing Standards

A. Eligible occupants. All affordable housing units shall be sold or rented to Income Qualifying Households as certified by the County or its designee.

B. Income restriction. All affordable housing units shall be income-restricted in perpetuity, unless the review authority reduces the term of the affordability requirement to reflect the maximum term that is permitted by Federal or State financing sources.

C. Affordable unit cost. Required ownership units shall be affordable to households at 60 percent of the Area Median Income, adjusted for household size. Any affordable rental units proposed by an applicant shall be offered at an affordable rent not exceeding 30 percent of the gross income of households earning at most 50 percent of Area Median Income, adjusted for household size. The housing unit prices shall be established by the County or its designee and shall be based on the number of bedrooms. See Article VIII for definitions of Affordable Ownership Cost, Affordable Rent and Area Median Income.

D. Location of affordable housing units. All required affordable housing units on-site shall be disbursed throughout the development. This requirement may be modified for cause by the review authority.

E. Design and character of affordable housing units. Required affordable housing units shall contain on average the same number of bedrooms as the market rate units in a residential development, and shall be compatible with the exterior design and use of the remaining units in appearance, materials, amenities, and finished quality. Residential units constructed on behalf of, or funded by a public entity, must comply with the Department of Justice's *Standards for Accessible Design and other relevant state and federal requirements for accessibility.*

F. Lots dedicated to affordable housing. Any required inclusionary lot shall be offered in a condition that is suitable for development, including appropriate access and services, consistent with sound community planning principles, and shall be devoid of contaminants and other hazardous wastes.

G. Use and payment of affordable housing fees. Affordable housing fees (including Affordable Housing Impact Fees, Rental Housing Impact Fees, Jobs/Housing linkage fees, and In-lieu fees) shall be used by the County or its designee for the purpose of developing and preserving affordable housing for income qualifying households, with preference for use in the unincorporated areas of the county.

H. Requested rental affordable housing. An applicant may request to provide affordable rental units as an alternative to the provision of ownership units otherwise required by Sections 22.22.090 (Inclusionary Housing Standards – Lot Creation) and 22.22.100 (Non-Residential and Mixed Use Affordable Housing Standards) or as an alternative to the Rental Housing Impact Fee. To ensure compliance with the Costa-Hawkins Act (Chapter 2.7 of Title 5 of Part 4 of Division 3 of the California Civil Code) the County may only approve such a proposal if the applicant agrees in a rent regulatory agreement with the County to limit rents in consideration for a direct financial contribution or a form of assistance specified in Chapter 4.3 commencing with Section 65915 of Division 1 of Title 7 of the Government Code. All affordable rental units proposed by an applicant shall comply with all provisions related to rentals in Section 22.22.080 (General Affordable Housing Standards).

22.22.090 – Inclusionary Housing Standards – Lot Creation

This Section addresses the inclusionary housing standards for lot creation with or without proposed dwellings and the residential portion of mixed use developments. This Section also provides the means to levy in-lieu fees for the construction of affordable housing in cases where the inclusionary requirement includes a decimal fraction of a unit or lot or when a combination of both inclusionary units and an in-lieu fee is required.

A. Number of inclusionary units/lots required. 20 percent of the total number of dwelling units or lots within a subdivision shall be developed as, or dedicated to, affordable housing. Where the inclusionary housing calculation results in a decimal fraction greater than 0.50, the fraction shall be rounded up to one additional dwelling unit or lot. Where the inclusionary housing calculation results in any decimal fraction less than or equal to 0.50, the project applicant shall pay an in-lieu fee proportional to the decimal fraction.

1. Lots developed with a primary residence as of July 13, 2006 shall be deducted from the total number of lots in the proposed subdivision for the purpose of applying the inclusionary requirement.

B. In-lieu fee. A fee may be required in addition to inclusionary units or lots in cases where the inclusionary requirement includes a decimal fraction of a unit or lot or when a combination of both inclusionary units and in-lieu fees is required. The current fee as established by the County shall be multiplied by the fraction of the inclusionary requirement to determine the applicable fee to be paid.

22.22.100 – Non-Residential and Mixed Use Affordable Housing Standards

Developments with no residential component are required to pay a Jobs/Housing linkage fee. Mixed use developments proposing residential rental units are required to pay a Jobs/Housing linkage fee for the non-residential component and a Rental Housing Impact Fee for the residential component. Mixed use developments proposing residential units which can be sold separately shall comply with the applicable provision of Section 22.22.020.C through E (Applicability). Mixed use development shall also provide new affordable units for the non-residential component consistent with Table 3-4c rather than payment of a Jobs/Housing Linkage Fee. All required affordable housing units shall comply with Section 22.22.080 (General Affordable Housing Standards).

A. Non-residential development. The Jobs/Housing linkage fees for all non-residential development shall be determined based on the development type and floor area of the development; see Table 3-4b below. Alternatively, an applicant for a non-residential development may propose to provide the number of new affordable units required by Table 3-4c. All affordable housing units shall comply with Section 22.22.080 (General Affordable Housing Standards).

TABLE 3-4b
AFFORDABLE HOUSING FEES FOR NON-RESIDENTIAL DEVELOPMENT
(Per square foot of floor area[1] unless noted otherwise)

Development Type	Fee per square foot
Manufacturing/Light Industry/Assembly	$3.74
Office[2]/Research and Development	$7.19
Warehouse	$1.94
Hotel/Motel[3]	$1,745 per room
Retail/Restaurant	$5.40

[1] For purposes of this Chapter, the floor area excludes all areas permanently allocated for vehicle parking, unless such areas are used for commercial or industrial purposes.

[2] Office uses include those associated with professional, business, and medical services.
[3] Accessory uses, such as retail, restaurant, and meeting facilities within a hotel shall be subject to requirements for a retail use.

B. Mixed use development. Mixed use developments are subject to both the non-residential and residential affordable housing requirements. The residential inclusionary requirement shall be calculated consistent with the applicable Section 22.22.090 (Inclusionary Housing Standards – Lot Creation) and the non-residential inclusionary requirement shall be calculated consistent with Section 22.22.100.A (Non-residential development) above, except as described in this section. These requirements shall be combined to produce the total affordable unit and fee requirement.

1. Mixed use development with ownership housing. Where a mixed use development is proposed and the proposed residences can be sold separately, affordable housing units shall be provided for the non-residential development rather than payment of a linkage fee.

a. The number of affordable units required for non-residential development shall be established by multiplying the floor area of the development times the development type in Table 3-4c below. Other types of non-residential development shall provide housing for 25% of the income qualifying employee households associated with the new non-residential development.

b. Where the required unit calculation results in any decimal fraction less than or equal to 0.50, the project applicant shall pay a fee proportional to the decimal fraction in compliance with Table 3-4b. Any decimal fraction greater than 0.50 shall be interpreted as requiring one additional dwelling unit.

TABLE 3-4c
NUMBER OF NEW AFFORDABLE HOUSING UNITS REQUIRED FOR NEW NON-RESIDENTIAL DEVELOPMENT

Development Type	Number of required Affordable Housing Units per square foot of floor area[1]
Manufacturing/Light Industry/Assembly	0.000045
Office[2]/Research and Development	0.000085
Warehouse	0.000023
Hotel/Motel[3]	0.000020
Retail/Restaurant	0.000058

[1] Developments are required to provide 25% of the housing need generated by a non-residential development. For purposes of this Chapter, the floor area excludes all areas permanently allocated for residential vehicle parking, unless such areas are used for commercial or industrial purposes.

[2] Office uses include those associated with professional, business, and medical services.

[3] Accessory uses, such as retail, restaurant, and meeting facilities within a hotel shall be subject to requirements for a retail use.

2. **Housing Provisions.** Affordable housing units provided under this Section shall comply with the Section 22.22.080 (General Affordable Housing Standards).

22.22.110 – Decision

A. Conditions of approval. Any approval that is subject to the requirements of this Chapter shall contain conditions of approval that will ensure compliance with the provisions of this Chapter. The conditions of approval shall:

1. Specify the construction of the affordable units and/or the timing of payment of fees. All affordable housing units and other phases of a development shall be constructed prior to, or concurrent with, the construction of the primary project unless the review authority approves a different schedule;

2. Specify the number of units at appropriate price levels, as determined by the review authority;

3. Specify provisions for any incentives granted pursuant to Chapter 22.24 (Affordable Housing Incentives) where applicable;

4. Determine when in-lieu fees shall be paid, including whether payment shall be made in a single payment prior to recordation of the map or in an installment plan. If the installment method of payment is approved, the in-lieu fee shall in no case be due later than 24 months from the recordation of the map. If an installment plan is approved, the in-lieu fees shall constitute a lien on the property, which shall be recorded as a separate document at the recordation of the map. The lien shall include a provision for foreclosure under power of sale if the in-lieu payment is not made within 24 months from the recordation of the lien, regardless of whether or not the individual parcels have been sold. If payment of the in-lieu fee is not made in full at the end of the 24-month period, any unpaid balance shall accrue interest at the rate of 1% per month, or the highest amount allowed by law, whichever is less; and

5. Require a written agreement between the County and the applicant prior to recordation of any final or parcel map or issuance of any building permit which indicates the number, type, location, size, and construction scheduling of all affordable housing units, and the reasonable information that shall be required by the County for the

purpose of determining compliance with this Chapter. This agreement shall also specify provisions for income certification and screening of potential purchasers and/or renters of units, and specify resale control mechanisms, including the financing of ongoing administrative and monitoring costs. The applicant shall be responsible for any direct costs associated with the negotiation of this agreement.

B. Project review procedure. Affordable housing plans shall be analyzed by the County to ensure that the plan is consistent with the purpose and intent of this Chapter.

22.22.120 – Affordable Housing Post Approval

A. Administration. The County or its designee shall monitor required affordable housing units.

B. Required inclusionary units: In addition to the standards in Section 22.22.090 (Inclusionary Housing Standards – Lot Creation) the review authority shall insure that the following standards are applied to required affordable housing units.

1. Limitation on Resale Price. In order to maintain the affordability of the housing units constructed in compliance with this Chapter, the County shall impose the following resale condition. The price received by the seller of a resale unit shall be the lowest of the following:

a. Median income. The original price paid by the seller increased by an amount equal to purchase price multiplied by the percentage increase in the median household income for the San Francisco Primary Metropolitan Statistical Area since the date of purchase;

b. Index price. The original price increased by an amount equal to the original price multiplied by the percentage increase in the Consumer Price Index for the San Francisco Bay Area since the date of purchase; or

c. Fair market value. The fair market value of the resale unit as determined by an appraiser approved by the County or its designee and paid for by the seller.

2. Eligible purchasers. Ownership inclusionary units shall be sold and resold from the date of the original sale only to income qualifying households, as determined to be eligible for inclusionary units by the County or its designee, in compliance with the requirements of this Chapter.

a. Every purchaser of an inclusionary housing unit shall certify by a form acceptable to the County or its designee that the unit is being purchased for the purchaser's primary place of residence. The County or its designee shall verify this certification. Failure of the purchaser to maintain eligibility for a homeowner's property tax exemption shall be construed to mean that the inclusionary unit is not the primary place of residence of the purchaser.

b. The seller shall not levy or charge any additional fees nor shall any "finders' fee" or other monetary consideration be allowed other than customary real estate commissions and closing costs.

c. The County or its designee shall advertise the inclusionary units to the general public. Upon notification of the availability of ownership units by the applicant, the County or its designee shall seek and screen qualified purchasers through a process involving applications and interviews. Where necessary, the County or its

designee shall hold a lottery to select purchasers from a pool of income-eligible applicants.

3. **Income restrictions**. The owners of any inclusionary unit shall, upon purchase, sign and record appropriate resale and other restrictions, deeds of trust, and other documents as provided by the County or its designee, stating the restrictions imposed in compliance with this Chapter. The recorded documents shall afford the grantor and the County the right to enforce the restrictions. The restrictions shall include all applicable resale controls, occupancy restrictions, and prohibitions required by this Chapter.

4. **Notice of resale restrictions.** The County or its designee shall advise all prospective purchasers of the resale restriction applicable to ownership inclusionary units.

5. **Monitoring of Resales.** The County or its designee shall be given the responsibility of monitoring the resale of ownership inclusionary units. The County or its designee shall have the option to commence purchase of ownership inclusionary units after the owner gives notification of intent to sell or in the event of any default or violation of the income restrictions. Any abuse in the resale provisions shall be referred to the County for appropriate action.

C. **Requested affordable housing rental units.** In addition to the standards in Section 22.22.080 (General Affordable Housing Standards), the Review Authority shall insure that the following standards are applied to any requested affordable rental units after they are constructed.

1. **Advertising and screening.** The applicant or owner shall agree to advertise available rental housing, screen applicants, and perform annual income certifications for the affordable rental units, or retain a qualified entity to do so. The applicant or owner shall have final discretion in the selection of eligible tenants, provided that the same rental terms and conditions are applied to tenants of income-restricted units as are applied to all other tenants, with the exception of rent levels, household income, and any requirements of government subsidy programs.

2. **Recorded agreements.** For any requested rental units, the owner shall enter into recorded agreements with the County and take appropriate steps necessary to ensure that the required affordable rental units are provided, and that they are rented to income qualifying households. Recorded documentation may include a Marketing Plan, Rent Regulatory Agreement, Compliance Report, Notice of Affordability Restrictions on Transfer of Property, and other documents as may be required by the County to maintain the continued affordability of the affordable units.

3. **Monitoring.** The owner shall be required to provide tenant income qualification reports to the County or its designee for monitoring on an annual or biennial basis.

CHAPTER 22.24 – AFFORDABLE HOUSING INCENTIVES

Sections:

22.24.010 – Purpose of Chapter
22.24.020 – County Incentives for Affordable Housing
22.24.030 – Density Bonus and Other Incentives Pursuant to State Law

22.24.010 – Purpose of Chapter

This Chapter provides procedures for granting incentives for the construction of affordable housing to encourage the production of affordable housing and to achieve the following additional goals:

A. Countywide Plan goals and policies. To implement goals and policies contained in the Countywide Plan providing for incentives for the construction of affordable housing.

B. Compliance with State law. To comply with the provisions of Government Code Section 65915, which mandates the adoption of a County ordinance specifying procedures for providing density bonuses and other incentives and concessions, as required by that section.

22.24.020 – County Incentives for Affordable Housing

The incentives provided by this Section 22.24.020 are available to residential development projects which either: 1) comply with Chapter 22.22 (Affordable Housing Regulations); 2) are comprised of income-restricted housing that is affordable to income qualifying households; or 3) are developed pursuant to the Housing Overlay Designation policies included in the Countywide Plan. Residential development projects which have been granted a density bonus pursuant to Section 22.24.030 (Density Bonus and Other Incentives Pursuant to State Law) are not eligible for the County density bonus described in subsection (C) below but may be granted the other incentives included in this section.

A. Density for Affordable Housing Projects. For affordable housing located in all districts that allow residential uses, allowable density will be established by the maximum Marin Countywide Plan density range, subject to all applicable Countywide Plan policies.

B. Where allowed. Development of affordable housing may be allowed in any zoning district provided that the review authority first finds that residential uses are allowed by the applicable Countywide Plan land use designation.

C. County density bonus. The density bonus allowed by this Section shall not be combined with the density bonus permitted by Section 22.24.030 (Density Bonus and Other Incentives Pursuant to State Law) or with any other density bonus. No single residential development project shall be granted more than one density bonus.

1. Eligibility. The County density bonus may be granted only where the proposed density (including the density bonus) complies with all applicable Countywide Plan policies, including traffic standards, environmental standards, and Countywide Plan designations.

2. **Determination of bonus.** The granting of this density bonus shall be based on a project-by-project analysis and the determination that the increase in density will not be detrimental to the public health, safety, welfare, and/or environment.

3. **Amount of bonus.** The review authority may grant an increase in density of up to 10 percent of the number of dwelling units normally allowed by the applicable zoning district in a proposed residential development or subdivision.

D. Interior design. The applicant may have the option of reducing the interior amenity level and the square footage of affordable housing below that of large market-rate units, provided that all of the dwelling units conform to the requirements of County Building and Housing Codes and the Director finds that the reduction in interior amenity level will provide a quality and healthy living environment. The County strongly encourages the use of green building principles such as the use of environmentally preferable interior finishes and flooring, as well as the installation of water and energy efficient hardware, wherever feasible.

E. Unit types. In a residential development which contains single-family detached homes, affordable housing may be attached living units rather than detached homes or may be constructed on smaller lots, and in a residential project that contains attached multistory dwelling units, affordable housing may contain only one story, provided that all of the dwelling units conform to the requirements of County Building and Housing Codes and the Director finds that the modification of the design will provide a quality living environment.

F. On-site affordable housing included with non-residential development. As an inducement to the development of on-site affordable housing in non-residential development, the County may grant a reduction in the site development standards of this Development Code or architectural design requirements which exceed the minimum building standards approved by the State Building Standards Commission in compliance with State law (Health and Safety Code Sections 18901 et seq.), including, but not limited to setback, coverage, and/or parking requirements.

G. Affordable housing on mixed use and industrial sites. In commercial/mixed use and industrial land use categories, as designated in the Countywide Plan, the floor-area ratio may be exceeded for affordable housing, subject to any limitations in the Countywide Plan. For housing that is affordable to moderate-income households, the floor area ratio may be exceeded in areas with acceptable levels of traffic service, subject to any limitations in the Countywide Plan, and so long as the level of service standard is not exceeded.

H. Impacted roadways. In areas restricted to the lowest end of the density range due to vehicle Level of Service standards, affordable housing developments will be considered for densities higher than the lowest end standard per the Countywide Plan.

I. Fee waivers. The County may waive any County fees applicable to the affordable housing units of a proposed residential, commercial, or industrial development. In addition, for projects developed pursuant to Housing Overlay Designation policies and for income-restricted housing that is affordable to income qualifying households, the Director may waive fees or transfer In-lieu Housing Trust funds to pay for up to 100 percent of Community Development Agency fees, based on the proportion of the project that is

affordable to income qualifying households and the length of time that the housing shall remain affordable.

J. Projects developed pursuant to Housing Overlay Designation policies. Residential development projects developed in conformance with Housing Overlay Designation policies may be granted adjustments in development standards, such as parking, floor area ratio, and height, as provided in the Countywide Plan, not to exceed unit counts identified in the Countywide Plan.

K. Technical assistance. In order to emphasize the importance of securing affordable housing as a part of the County's affordable housing program, the County may provide assistance in obtaining financial subsidy programs to applicants.

L. Priority processing. The County shall priority process projects developed pursuant to Housing Overlay Designation policies and affordable housing developments that are affordable to income qualifying households.

22.24.030 – Density Bonus and Other Incentives Pursuant to State Law

This Section specifies procedures for providing density bonuses and other incentives and concessions as required by State law (Government Code Section 65915).

A. Density bonuses; calculation of bonuses. Pursuant to State law, a residential development project is eligible for a density bonus if it meets the requirements as described below and shown in Table 3-5a.

1. The residential development project must result in a net increase of at least 5 dwelling units.

2. A residential development project is eligible for a 20 percent density bonus if the applicant seeks and agrees to construct any one of the following, in addition to the income-restricted units required by Chapter 22.22 (Affordable Housing Regulations) and in addition to any affordable units required by Housing Overlay Designation policies:

    a. 10 percent of the units at affordable rent or affordable ownership cost for low income households;

    b. 5 percent of the units at affordable rent or affordable ownership cost for very low income households; or

    c. A senior citizen housing development of 35 units or more as defined in Section 51.3 of the Civil Code.

3. A residential development project is eligible for a 5 percent density bonus if the applicant seeks and agrees to construct the following, in addition to the inclusionary units required by Chapter 22.22 and in addition to any affordable units required by Housing Overlay Designation policies:

    a. 10 percent of the units at affordable ownership cost for moderate income households,

    b. Located in a common interest development, as defined in Section 1351 of the Civil Code; and

    c. All of the dwelling units in the project are offered to the public for purchase.

4. The density bonus for which the residential development project is eligible shall increase if the percentage of units affordable to very low, low, and moderate income households exceeds the base percentage established in subsections (2) and (3) above, as follows:

    a. Very low income units – For each 1 percent increase above 5 percent in the percentage of units affordable to very low income households, the density bonus shall be increased by 2.5 percent, up to a maximum of 35 percent.

b. Low income units – For each 1 percent increase above 10 percent in the percentage of units affordable to low income households, the density bonus shall be increased by 1.5 percent, up to a maximum of 35 percent.

c. Moderate income units – For each 1 percent increase above 10 percent in the percentage of units affordable to moderate income households, the density bonus shall be increased by 1 percent, up to a maximum of 35 percent.

TABLE 3-5a
CALIFORNIA STATE DENSITY BONUS CALCULATION
PER GOVERNMENT CODE SECTION 65915

Income Category	% Affordable Units*	Bonus Granted	Additional Bonus for Each 1% Increase in Affordable Units*	% Affordable Units Required for Maximum 35% Bonus*
Very low income	5%	20%	2.5%	11%
Low income	10%	20%	1.5%	20%
Moderate income (for-sale common interest development only)	10%	5%	1%	40%
Senior citizen housing development of 35 units or more	--	20%	--	--

*__Note__: Required inclusionary units and any affordable units required by Housing Overlay Designation policies will not be counted as affordable units for the purpose of granting incentives and concessions.

5. The following provisions apply to the calculation of density bonuses:

a. Each residential development project is entitled to only one density bonus, which may be selected based on the percentage of either units affordable to very low income households, units affordable to low income households, or units affordable to moderate income households, or the project's status as a senior citizen housing development. Density bonuses from more than one category may not be combined.

b. Consistent with Section 22.24.030.A.2 and 22.24.030.A.3 (Density bonuses; calculation of bonuses), required inclusionary units and any affordable units required by Housing Overlay Designation policies will not be counted as affordable units for the purpose of granting a density bonus. Affordable units qualifying a project for a density bonus must be provided in addition to required inclusionary units, in addition to affordable units required by Housing Overlay Designation policies, and must be included in the base density.

c. When calculating the number of permitted density bonus units, any calculations resulting in fractional units shall be rounded up to the next larger integer. When

calculating the number of required affordable units, any calculations resulting in fractional units shall be rounded up to the next larger integer.

d. The density bonus units shall not be included when determining the number of affordable units required to qualify for a density bonus.

e. A project proposed below the base density may qualify for incentives and concessions if it meets the requirements of Section 22.24.030.B.3 (Incentives and concessions).

f. The applicant may request a lesser density bonus than the project is entitled to, but no reduction will be permitted in the number of required affordable units.

g. The County may, at its sole discretion, grant a density bonus exceeding the state requirements where the applicant agrees to construct a greater number of affordable housing units or at greater affordability than required by this subsection (A). If an additional density bonus is granted by the County and accepted by the applicant, the additional density bonus shall be considered an incentive or concession for purposes of Section 65915.

6. Density bonuses may also be granted for child care facilities, and land donation in excess of that required by Chapter 22.22 (Affordable Housing Regulations), pursuant to Government Code Sections 65915(h) and 65915(i).

B. Incentives and concessions. Subject to the findings included in Section 22.24.030.E (Review of application), when an applicant seeks a density bonus and requests incentives or concessions, the County shall grant incentives or concessions as shown in Table 3-5b and as described in this section.

TABLE 3-5b
DENSITY BONUS INCENTIVES AND CONCESSIONS
REQUIRED BY GOVERNMENT CODE SECTION 65915

Affordability Category	% of Units		
Very low income (Health & Safety Code Section 50105)	5%	10%	15%
Low income (Health & Safety Code Section 50079.5)	10%	20%	30%
Moderate-income (ownership units only) (Health & Safety Code Section 50093)	10%	20%	30%
Maximum Incentive(s)/Concession(s)	**1**	**2**	**3**

Notes:
(A) A concession or incentive may be requested only if an application is also made for a density bonus, except as may be permitted pursuant to Section 22.24.030.B.3.
(B) Required inclusionary units and any affordable units required by Housing Overlay Designation policies will not be counted as affordable units for the purpose of granting incentives and concessions.
(C) Concessions or incentives may be selected from only one category (very low, low, or moderate).
(D) No concessions or incentives are available for land donation or senior housing.
(E) Day care centers may have one concession or a density bonus at the County's option, but not both.

1. For the purposes of this section, incentive or concession means the following:

   a. A reduction in the site development standards of this Development Code or other County policy, or local architectural design requirements which exceed the minimum building standards approved by the State Building Standards Commission in compliance with State law (Health and Safety Code Sections 18901 et seq.), including, but not limited to height, setback, coverage, floor area, and/or parking requirements, which result in identifiable, financially sufficient, and actual cost reductions based upon appropriate financial analysis and documentation as specified in Section 22.24.030.D (Application for density bonus, incentives and concessions).

   b. Approval of mixed use zoning in conjunction with the proposed residential development project if non-residential land uses will reduce the cost of the residential development, and the non-residential land uses are compatible with the residential development project and existing or planned surrounding development.

   c. Other regulatory incentives or concessions proposed by the applicant or the County that will result in identifiable, financially sufficient, and actual cost reductions, including those incentives listed in Section 22.24.020 (County Incentives for Affordable Housing), and based upon appropriate financial analysis and documentation as specified in Section 22.24.030.D (Application for density bonuses, incentives and concessions).

2. Nothing in this section requires the provision of direct financial incentives for the residential development project, including but not limited to the provision of financial subsidies, publicly owned land, fee waivers, or waiver of dedication requirements. The County at its sole discretion may choose to provide such direct financial

incentives. Any such incentives may require payment of prevailing wages by the residential development project if required by State law.

3. The County, at its sole discretion, may provide incentives or concessions for a residential development project that is eligible for a density bonus pursuant to Section 22.24.030.A (Density bonuses; calculation of bonuses) but where the applicant does not request a density bonus, providing the following findings can be made:

   a. The project is a deed-restricted housing development that is affordable to very low or low income persons, or is any residential development project developed pursuant to the Housing Overlay Designation policies included in the Countywide Plan.

   b. The incentive or concession is in compliance with the California Environmental Quality Act and will not be detrimental to the public interest, health, safety, convenience, or welfare of the County, or injurious to the property or improvements in the vicinity and zoning district in which the real property is located.

4. Pursuant to Government Code Section 65915(p), an applicant for a residential development project that is eligible for a density bonus pursuant to Section 22.24.030.A may request that onsite vehicular parking ratios, inclusive of handicapped and guest parking not exceed the following standards:

   a. For zero to one bedroom dwelling units: 1 onsite parking space.

   b. For two to three bedroom dwelling units: 2 onsite parking spaces.

   c. For four or more bedroom dwelling units: 2.5 onsite parking spaces.

   Onsite parking may include tandem and uncovered parking

5. An applicant for a residential development project that is eligible for a density bonus pursuant to Section 22.24.030.A and who requests a density bonus, incentives, or concessions may seek a waiver of development standards that have the effect of physically precluding the construction of the project with the density bonus or with the incentives or concessions permitted by this section..

C. Standards for affordable housing units. Affordable units that qualify a residential development project for a density bonus pursuant to this section shall conform to the provisions applicable to affordable housing units as established in Chapter 22.22.030.A through E (General Affordable Housing Standards), 22.22.110 (Decision and Findings), and 22.22.120 (Affordable Housing Post Approval), except:

1. Rental prices shall be determined pursuant to Health and Safety Code Section 50053 and Section 6922, Title 25, California Code of Regulations, and the units shall be affordable for at least 30 years.

2. Sales prices shall be determined pursuant to Health and Safety Code Section 50052.5 and Section 6924, Title 25, California Code of Regulations. Units affordable to very

low and low income households shall be affordable for 30 years or as long as a period of time permitted by current law, and units affordable to moderate income households shall be affordable in perpetuity.

D. Application for density bonus, incentives, and concessions. Any request for a density bonus, incentive, concession, parking reduction, or waiver pursuant to Section 22.24.030 shall be included in the affordable housing plan submitted as part of the first approval of any residential development project and shall be processed, reviewed, and approved, conditionally approved, or denied concurrently with all other applications required for the project. The affordable housing plan shall include, for all affordable units that qualify a residential development project for a density bonus pursuant to this section, the information that is required for inclusionary units as specified in Section 22.22.030 (Application Filing). In addition, when requested by staff, the affordable housing plan shall include the following information:

1. A description of any requested density bonus, incentive, concession, waiver of development standards, or modified parking standard.

2. Identification of the base project without the density bonus, number and location of all affordable units qualifying the project for a density bonus, and identification of the density bonus units.

3. A pro forma demonstrating that any requested incentives and concessions result in identifiable, financially sufficient, and actual cost reductions, unless the request for incentives and concessions is submitted pursuant to Section 22.24.030.B.3 (Incentives and concessions). The pro forma shall include: (a) the actual cost reduction achieved through the incentive or concession; and (b) evidence that the cost reduction allows the developer to provide affordable rents or affordable sales prices.

4. For waivers of development standards: evidence that the development standards for which the waivers are requested would have the effect of physically precluding the construction of the residential development project at the density or with the incentives or concessions requested.

5. The County may require that any pro forma submitted pursuant to Section 22.24.030.D.3 include information regarding capital costs, equity investment, debt service, projected revenues, operating expenses, and such other information as is required to evaluate the pro forma. The cost of reviewing any required pro forma data, including but not limited to the cost to the County of hiring a consultant to review the pro forma, shall be borne by the applicant.

6. If a density bonus is requested for a land donation, the application shall show the location of the land to be dedicated and provide evidence that each of the findings in Government Code Section 65915(h) can be made.

7. If a density bonus or concession is requested for a child care facility, the application shall provide evidence that the findings in Government Code Section 65915(i) can be made.

8. If a request for a density bonus, incentive, concession, parking reduction, or waiver is submitted after the first approval of any residential development project, an amendment to earlier approvals may be required if the requested density bonus, incentive, concession, parking reduction, or waiver would modify either the earlier approvals or the environmental review completed pursuant to the California Environmental Quality Act.

E. Review of application. Any request for a density bonus, incentive, concession, parking reduction, or waiver pursuant to this Section 22.24.030 shall be submitted as part of the first approval of any residential development project and shall be processed, reviewed, and approved or denied concurrently with the discretionary applications required for the project.

1. Before approving a request for a density bonus, incentive, concession, parking reduction, or waiver, the review authority shall make the following findings, as applicable:

    a. The residential development project is eligible for a density bonus and any concessions, incentives, waivers, or parking reductions requested; conforms to all standards for affordability included in this chapter; and includes a financing mechanism for all implementation and monitoring costs.

    b. Any requested incentive or concession will result in identifiable, financially sufficient, and actual cost reductions based upon appropriate financial analysis and documentation if required by Section 22.24.030.D unless the incentive or concession is provided pursuant to Section 22.24.030.B.3.

    c. If the density bonus is based all or in part on dedication of land, all of the findings included in Government Code Section 65915(h) can be made.

    d. If the density bonus, incentive, or concession is based all or in part on the inclusion of a child care facility, all of the findings included in Government Code Section 65915(i) can be made.

    e. If the incentive or concession includes mixed uses, all of the findings included in Government Code Section 65915(k)(2) can be made.

    f. If a waiver is requested, the waiver is necessary because the development standards would have the effect of physically precluding the construction of the residential development project at the densities or with the incentives or concessions permitted by this Section 22.24.030.

2. The review authority may deny a request for an incentive or concession for which the findings set forth in Section 22.24.030.E.1 (Review of application) above can be made only if it makes a written finding, based upon substantial evidence, of one of the following:

    a. The incentive or concession is not required to provide for affordable rents or affordable ownership costs; or

b. The incentive or concession would have a specific adverse impact upon public health or safety, or the physical environment, or on any real property that is listed in the California Register of Historic Resources, and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the development unaffordable to low, very low and moderate income households. For the purpose of this subsection, "specific adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, written public health or safety standards, policies, or conditions, as they existed on the date that the application was deemed complete; or

c. The incentive or concession would be contrary to State or federal law.

3. The review authority may deny a request for a waiver for which the findings set forth in Section 22.24.030.E.1 above can be made only if it makes a written finding, based upon substantial evidence, of one of the following:

a. The modification would have a specific adverse impact upon health, safety, or the physical environment, and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the development unaffordable to low, very low and moderate income households. For the purpose of this subsection, "specific adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, written public health or safety standards, policies, or conditions as they existed on the date that the application was deemed complete; or

b. The modification would have an adverse impact on any real property that is listed in the California Register of Historic Resources; or

c. The incentive or concession would be contrary to State or federal law.

4. The review authority may deny a density bonus, incentive, or concession that is based on the provision of child care facilities and for which the required findings can be made only if it makes a written finding, based on substantial evidence, that the County already has adequate child care facilities.

CHAPTER 22.27 – NATIVE TREE PROTECTION AND PRESERVATION

Sections:

22.27.010 – Purpose of Chapter
22.27.020 – Applicability
22.27.030 – Prohibition on Removal of Protected Trees
22.27.030 – Oak Woodland Management Guidelines
22.27.040 – Replacement Requirements for a Permit Validly Obtained
22.27.060 – Violations and Penalties
22.27.070 – Tree Replacement/Preservation Fund
22.27.080 – Site Inspection
22.27.090 – Liability

22.27.010 – Purpose of Chapter

The purpose of this chapter is to promote the health, safety, and general welfare of the residents of Marin County, insofar as trees provide a wide variety of functions, values and benefits including:

1. Providing an important and essential functional element of the plant communities that constitute Marin County's natural heritage;

2. Providing habitat for wildlife;

3. Stabilizing soil and improving water quality by reducing erosion and sedimentation;

4. Allowing for the natural replenishment of groundwater supplies by reducing stormwater runoff;

5. Controlling drainage and restoring denuded soil subsequent to construction or grading;

6. Preserving and enhancing aesthetic qualities of the natural and built environments and maintaining the quality of life and general welfare of the County;

7. Reducing air pollution by absorbing carbon dioxide, ozone, particulate matter, and producing oxygen;

8. Assisting in counteracting the effects of global warming resulting from the depletion of forest and urban trees;

9. Conserving energy by shading buildings and parking areas;

10. Maintaining and increasing real property values;

11. Reducing wind speed and human exposure to high winds and other severe weather; and

12. Assisting in reducing noise pollution through the effects of vegetative buffers.

22.27.020 – Applicability

This Chapter applies only to "protected trees" as defined in Article VIII (Development Code Definitions) on improved and unimproved lots as defined in Article VIII in the non-agricultural unincorporated areas of Marin County.

22.27.030 – Prohibition on Removal of Protected Trees

Protected Trees shall not be removed except in compliance with Section 22.62.050 (Exemptions), and as provided for in Chapter 22.62 (Tree Removal Permits).

22.27.035 – Oak Woodland Management Guidelines

When trees are removed and/or management plans are prepared in compliance with this Chapter, the County's Oak Woodland Management Guidelines provided by the Agency should be taken into consideration.

22.27.040 – Replacement Requirements for a Permit Validly Obtained

In order to mitigate for any trees removed under the provisions of this Chapter, the Director may require one or more of the following:

A. Establishment and maintenance of replacement trees in conformance with Countywide Plan policies, the Landscaping Objectives identified in section 22.26.040 of this Development Code, the Single Family Residential Design Guidelines, and/or the vegetation management requirements of the Marin County Fire Department or local Fire Protection District, as applicable.

B. For large properties, a management plan which designates areas of the property for preservation of stands of trees or saplings and replacement plantings as required.

C. Removal of invasive exotic species.

D. Posting of a bond to cover the cost of an inspection to ensure success of measures described above.

In the event that tree planting on the site is not feasible or appropriate, the Director may require in lieu of planting on the specific property, the payment of money in the amount of $500.00 per replacement tree to be deposited into the Tree Preservation Fund managed by the Marin County Parks and Open Space Department for planting, maintenance, and management of trees and other vegetation.

22.27.060 – Violations and Penalties

Where any person, firm, or corporation violates the provisions of this Chapter, the Director may pursue an enforcement action in compliance with Chapter 22.122 (Enforcement of Development Code Provisions), and County Code Chapter 1.05 (Nuisance Abatement). The enforcement action may result in substantial fines for enforcement costs and civil penalties over and above any funds paid into the Tree Preservation Fund, the exact amount to be determined through the abatement process.

22.27.070 – Tree Replacement/Preservation Fund

Money received in lieu of replacement planting shall be forwarded to the Director of the Marin County Parks and Open Space Department for deposit in a Tree Preservation Fund. Under no circumstances shall the monies collected by the Department for the Tree Preservation Fund be directed to any other account or used for any purpose other than the planting, maintenance, and management of trees or other vegetation:

A. On lands owned and managed for park or open space purposes by the Marin County Parks and Open Space Department or the County of Marin; and

B. For public uses as directed by the Marin County Board of Supervisors.

22.27.080 – Site Inspection

The Director may conduct a site inspection and require a site plan or arborist's report to determine whether trees have been removed in violation of this chapter.

22.27.090 – Liability

Nothing in this Chapter shall be deemed to impose any liability upon the County, its officers and employees, nor to relieve the owner of any private property from the responsibility to maintain any tree on his/her property in such condition as to prevent it from constituting a hazard or impediment to travel or vision upon any public right-of-way.

CHAPTER 22.62 – TREE REMOVAL PERMITS

Sections:

22.62.010 – Purpose of Chapter
22.62.020 – Applicability
22.62.030 – Application, Filing, Processing, and Noticing
22.62.040 – Exemptions
22.62.050 – Decision and Findings for a Tree Removal Permit

22.62.010 – Purpose of Chapter

The purpose of this chapter is to establish regulations for the preservation and protection of native trees in the unincorporated areas of Marin County by limiting tree removal in a manner which allows for reasonable use and enjoyment of such property and to establish a procedure for processing Tree Removal Permits.

22.62.020 – Applicability

This Chapter applies only to "protected and heritage trees" as defined in Article VIII (Definitions) on improved and unimproved lots as defined in Article VIII in the non-agricultural unincorporated areas of Marin County. Protected and heritage trees may be removed in specific circumstances as stated in Section 22.62.050 (Exemptions) without triggering a requirement for a permit. Woodlands shall be managed and trees shall be preserved or replaced in compliance with Chapter 22.27 (Native Tree Protection and Preservation).

22.62.030 – Application, Filing, Processing, and Noticing

A. **Purpose.** This Section provides procedures for filing, processing, and noticing of Tree Removal Permit applications.

B. **Filing and processing.** All Tree Removal Permit applications shall be completed, submitted, and processed in compliance with Chapter 22.40 (Application Filing and Processing, Fees) and Section 22.40.050 (Initial Application Review for Discretionary Permits).

C. **Notice of action.** Administrative decisions on a proposed Tree Removal Permit application shall be noticed in compliance with Chapter 22.118 (Notices, Public Hearings, and Administrative Actions).

22.62.040 – Exemptions

The removal of any protected or heritage tree on a lot is exempt from the requirements of this Chapter if it meets at least one of the following criteria for removal:

A. The general health of the tree is so poor due to disease, damage, or age that efforts to ensure its long-term health and survival are unlikely to be successful;

B. The tree is infected by a pathogen or attacked by insects that threaten surrounding trees as determined by an arborist report or other qualified professional;

C. The tree is a potential public health and safety hazard due to the risk of its falling and its structural instability cannot be remedied;

D. The tree is a public nuisance by causing damage to improvements, such as building foundations, retaining walls, roadways/driveways, patios, sidewalks and decks, or interfering with the operation, repair, or maintenance of public utilities;

E. The tree has been identified by a Fire Inspector as a fire hazard;

F. The tree was planted for a commercial tree enterprise, such as Christmas tree farms or orchards;

G. Prohibiting the removal of the tree will conflict with CC&R's which existed at the time this Chapter was adopted;

H. The tree is located on land which is zoned for agriculture (A, ARP, APZ, C-ARP or C-APZ) and that is being used for commercial agricultural purposes. (This criterion is provided to recognize the agricultural property owner's need to manage these large properties and continue their efforts to be good stewards of the land.);

I. The tree removal is by a public agency to provide for the routine management and maintenance of public land or to construct a fuel break;

J. The tree removal is on a developed lot and: 1) does not exceed two protected trees within a one-year timeframe; 2) does not entail the removal of any heritage trees; and 3) does not entail the removal of any protected or heritage trees within a Stream Conservation Area or a Wetland Conservation Area.

It is recommended that a property owner obtain a report from a licensed arborist or verify the status of the tree with photographs to document the applicability of the criteria listed above to a tree which is considered for removal in compliance with this section.

22.62.050 – Decision and Findings for a Tree Removal Permit

In considering a Tree Removal Permit application, the Director may only grant approval or conditional approval based on a finding that removal of the tree(s) is necessary for the reasonable use and enjoyment of land under current zoning regulations and Countywide Plan and Community Plan (if applicable) policies and programs, taking into consideration the following criteria:

A. Whether the preservation of the tree would unreasonably interfere with the development of land;

B. The number, species, size and location of trees remaining in the immediate area of the subject property;

C. The number of healthy trees that the subject property can support;

D. The topography of the surrounding land and the effects of tree removal on soil stability, erosion, and increased runoff;

E. The value of the tree to the surrounding area with respect to visual resources, maintenance of privacy between adjoining properties, and wind screening;

F. The potential for removal of a protected or heritage tree to cause a significant adverse effect on wildlife species listed as threatened or endangered by State or Federal resource agencies in compliance with the California Environmental Quality Act (CEQA);

G. Whether there are alternatives that would allow for the preservation of the tree(s), such as relocating proposed improvements, use of retaining walls, use of pier and grade beam foundations, paving with a permeable substance, the use of tree care practices, etc.

CHAPTER 22.112 – NONCONFORMING STRUCTURES, USES, AND LOTS

Sections:

22.112.010 – Purpose of Chapter
22.112.020 – Nonconforming Structures, Uses, and Lots
22.112.030 – Loss of Nonconforming Status
22.112.050 – Conformity of Uses Requiring Use Permits
22.112.060 – Previous Use Permits in Effect

22.112.010 – Purpose of Chapter

This Chapter provides uniform provisions for the regulation of legal nonconforming structures, land uses, and lots.

Within the zoning districts established by this Development Code, there exist structures, land uses, and lots which were lawful prior to the adoption, or amendment of this Development Code, but which would be prohibited, regulated, or restricted differently under the terms of this Development Code and future amendments, thereof. It is the intent of this Development Code to discourage the expansion of nonconformities, but to permit them to continue to exist and to be maintained and enhanced to protect public safety and property values.

22.112.020 – Nonconforming Structures, Uses, and Lots

Nonconforming uses and structures may continue, subject to the following provisions:

A. **Nonconforming uses of land.** A nonconforming use of land may be continued, transferred or sold, provided that the use shall not be enlarged, increased, or intensified (e.g., longer hours of operation, more employees, etc.), nor be extended to occupy a greater area than it lawfully occupied prior to becoming a nonconforming use. The nonconforming use may not be relocated to another location on the lot, or moved from the inside to an outside location.

B. **Nonconforming lots.** Lots that are nonconforming due to substandard lot area shall not be reduced in area in conventional zoning districts.

C. **Nonconforming structures.** A nonconforming structure may be allowed to continue being used unless the structure is demolished. However, if the nonconforming structure is demolished as a result of a natural disaster its reconstruction shall be allowed as provided for in section 22.112.020.E (Reconstruction after damage or destruction).

1. **Conforming additions.** Additions to a nonconforming structure may be made as long as the additions are in conformance with this Development Code.

2. **Floodplain compliance.** All repairs or alterations to a structure with a legal non-conforming setback in order to raise the structure to an elevation that meets but does not exceed by more than 18 inches the minimum flood elevation standards contained in Marin County Code Chapter 23.09 (Floodplain Management) shall be permitted provided the extent of the nonconformity with regard to the required setback is not

increased, and the maximum height limit for the governing zoning district is not exceeded.

D. Nonconforming use of a conforming structure. The nonconforming use of a structure may be continued, transferred, and sold, but not changed, increased, expanded, or intensified (e.g., longer hours of operation, more employees, etc.) Modifications to the nonconforming use of a structure may only occur as follows:

1. Expansion of use. The nonconforming use of a portion of a structure may be extended throughout the structure if it does not increase, expand, or intensify the nonconforming use.

2. Substitution of use. The nonconforming use of a structure may be changed to a use of the same or more restricted nature if the change does not result in an increase, expansion, or intensification of the nonconforming use as determined by the Director.

3. Relocation of use. The nonconforming use of a structure may not be relocated to another location on the parcel, or moved from the inside to an outside location, unless such relocation eliminates or substantially reduces the degree of nonconformity as determined by the Director.

E. Reconstruction after damage or destruction. The reconstruction of a nonconforming structure damaged or destroyed by fire, flood, earthquake or other natural disaster or as the result of an emergency may be allowed, provided that the following requirements are satisfied:

1. There is adequate information available regarding the pre-existing placement, height, bulk, and floor area of the structure to be reconstructed.

2. The extent of the nonconformity is not increased.

3. The structure shall be reconstructed on the same location on the lot (have the same structure footprint).

4. The structure shall be reconstructed with no greater height, bulk, or floor area than the original structure.

5. Reconstruction shall be vested within 24 months of the date of the damage, unless extended by the Director to respond to circumstances outside the property owner's control.

6. Reconstruction shall not adversely affect public the health, safety, and welfare.

22.112.030 – Loss of Nonconforming Status

If a nonconforming use of land or a nonconforming use of a conforming structure is discontinued for a continuous period of one year or is moved, the use shall be deemed to have been abandoned, and shall lose its nonconforming status. The one year period of discontinued use may be extended on a case by case basis at the discretion of the Director for reasons beyond the owner's control by up to a maximum of five additional years, based on a written request from the applicant submitted at least 10 business days before the use will otherwise be considered to be abandoned.
Without further action by the County, further use of the site or the structure shall comply with all of the regulations of the applicable zoning district and all other applicable provisions of this Development Code.

22.112.050 – Conformity of Uses Requiring Use Permits

Any use that exists and was legally established at the time that changes in the Development Code were adopted that allow the use subject to the granting of a Use Permit, shall be deemed a conforming use, but only to the extent that it previously existed (e.g., maintains the same site area boundaries, location, hours of operation, etc.). If the same use is abandoned for a continuous period of six months, the conforming status of the use shall expire, unless the Director approves a longer time period due to circumstances beyond the property owner's control.

22.112.060 – Previous Use Permits in Effect

Any use that exists and was legally established with a Use Permit, issued in compliance with the regulations in effect at the time of application, that is subsequently disallowed by adopted changes in the Development Code may continue, but only in compliance with the provisions and terms of the original Use Permit.

CHAPTER 22.122 – ENFORCEMENT OF DEVELOPMENT CODE PROVISIONS

Sections:

22.122.010 – Purpose of Chapter
22.122.020 – Sheriff's Duty to Enforce
22.122.030 – Violations
22.122.040 – Remedies are Cumulative
22.122.050 – Legal Remedies
22.122.060 – Additional Permit Processing Fees

22.122.010 – Purpose of Chapter

The provisions of this Chapter are intended to ensure compliance with the requirements of this Development Code and any conditions of land use permit or subdivision approval, to promote the County's planning efforts, and for the protection of the public interest, health, safety, convenience, and welfare.

22.122.020 – Sheriff's Duty to Enforce

It is the duty of the Sheriff and the officers of the County herein or otherwise charged by law with the enforcement of this Development Code to enforce the provisions of this Development Code.

22.122.030 – Violations

A. Any structure or use which is established, operated, erected, moved, altered, enlarged, or maintained, contrary to provisions of this Development Code or any applicable condition of approval, is hereby declared to be unlawful and a public nuisance, and shall be subject to the remedies and penalties specified in this Chapter and Title 1, Chapter 1.05 (Nuisance Abatement) of the County Code.

B. When County officials have reason to believe that a condition exists on a premise or property that violates this Development Code, they may inspect to determine whether the premise or property is in compliance with this Development Code.

C. Any construction in violation of this Development Code or any condition(s) imposed on a permit may result in the cessation of some or all work through the issuance of an order or notice requiring such construction to cease ("Stop Work Order"). Any violation of this order or notice shall constitute a misdemeanor.

22.122.040 – Remedies are Cumulative

All remedies contained in this Development Code for the handling of violations or enforcement of the provisions of this Development Code shall be cumulative and not exclusive of any other applicable provisions of County or State law. Should a person be found guilty and convicted of a misdemeanor or infraction for the violation of any provision of this Development Code, the conviction shall not prevent the County from pursuing any other available remedy to correct the violation.

22.122.050 – Legal Remedies

The County may choose to undertake any of the following legal actions to correct and/or abate nuisances and violations of this Development Code:

A. **Civil actions.** At the request of the Board, the County Counsel may apply to the Superior Court for injunctive relief to terminate a violation of this Development Code.

B. **Abatement.** Where any person, firm, or corporation fails to remove a violation after being provided an opportunity to correct or end the violation, the Director may pursue an enforcement action as provided in Title 1, Chapter 1.05 (Nuisance Abatement) of the County Code.

C. **Citations.** The Director is authorized to enforce the provisions of this Development Code by the issuance of citations.

D. **Citation Penalties.** Any person, partnership, firm, or corporation whether as principal, agent, employee, or otherwise, violating or failing to comply with any provisions(s) of this Development Code or any conditions imposed on any entitlement, development permit, map or license, shall be guilty of a misdemeanor as provided in Title 1, Section 1.04.160 (Violation Declared Misdemeanor) of the County Code.

Any person, partnership, firm, or corporation whether as principal, agent, employee, or otherwise, violating or failing to comply with the sign regulations of this Development Code or any conditions imposed on a Sign Permit or Sign Review, shall be guilty of an infraction.

E. **Infraction Fine Schedule.** The following schedule shall apply:

1. A fine not exceeding $100.00 for the first violation;

2. A fine not exceeding $200.00 for a second violation of the same Code provision within one year; and

3. A fine not exceeding $500.00 for each additional violation in excess of two, of the same Code provision within one year.

F. **Notice of Violation.** Failure to comply with any provision(s) of this Development Code or any conditions imposed on any entitlement, development permit, map, or license constitutes cause for filing for the record, with the County Recorder, a Notice of Violation and Lien for the estimated permit costs and penalties.

Permit costs shall consist of all application fees required for County review and processing of applications necessary to legalize the existing violation(s) and penalties. Where a violation exists which is strictly prohibited by this Development Code or the County Code

and no permit process is available to legalize the violation, a lien of $500.00 shall be recorded, to cover costs of enforcement.

G. Tentative Notice of Violation. The Director shall verify the violation exists and shall provide a Tentative Notice of Violation and the proposed Lien to the real property owner by mail. The Tentative Notice of Violation shall order the property owner to take corrective action within 10 days of receipt of the Notice, unless an extension of time is granted by the Director.

If the violation is corrected within 10 days or applications are submitted for permits necessary to bring the violation into conformance with this Development Code, no further action is required.

H. Notice of Intention to Record a Notice of Violation. Following verification that the violation has not been corrected, the Director shall mail an Intention to Record a Notice of Violation and the proposed Lien. The Intention to Record a Notice of Violation and the proposed Lien shall be sent Certified Mail to the current property owner of record 30 days prior to recordation of a Notice of Violation and Lien. The Notice shall specify a time, date, and place at which the property owner may present evidence to the advisory agency as to why a Notice of Violation and Lien should not be recorded.

I. Hearing. If, after the owner has presented evidence, it is determined that there is no violation, or that the violation has been eliminated and the property has been brought into compliance with Development Code requirements, no further action by the Director shall be required.

If it is determined that the violation exists, the Director shall record the Notice of Violation and Lien of the estimated permit costs and penalties with the County Recorder at the end of the 30-day notice period.

J. Notice of Violation and Lien. The Notice of Violation and Lien shall specify the violation, the names of the record owners, shall describe the real property, and provide the required permit fees and penalties. Upon recordation of the Notice of Violation and Lien, it shall be deemed to be constructive notice to all successors in interest in the property that the violation(s) exist and that the property is encumbered by certain permit and penalty costs, as cited in the Notice of Violation and Lien.

K. Release of Notice of Violation and Lien.

1. The property owner may request the Director to release the Notice of Violation and Lien if the violation has been eliminated, the property has been brought into compliance with this Development Code, and the Lien is satisfied. If the property is brought into compliance by submission of permit applications, the property owner is responsible for the lien amount and any additional fees required by the County Fee Ordinance at the time of submission of the application(s).

   The request for a release shall be accompanied by a recordation fee, as estimated by the County Recorder, and a retainer, at an hourly rate, for the verification inspection.
2. The request shall be reviewed by the Director and compliance with this Development Code verified. Upon verification, the Director shall file a Release of the Notice of Violation and Lien for the property. If the violation has not been eliminated, the request shall be denied by the Director.

L. Development permits and approvals withheld. If the Director, Zoning Administrator, Commission, or Board finds that the development of the real property for which a Notice of Violation and Lien have been recorded in compliance with this Chapter, is not contrary to the public health, safety, and general welfare, permits and approvals necessary for development may be issued for the real property.

If the acting authority finds that the development of the real property is contrary to the public health, safety, or general welfare due to the above cited violations on the property, permits may be withheld until the violations causing impacts on public health, safety, and welfare are eliminated, or the acting authority may issue a conditional approval and may impose conditions that are necessary to bring the violations into conformance and eliminate the hazard(s) to public health, safety, and general welfare.

The authority to deny or conditionally approve a permit or approval, based on the above referenced findings, shall apply whether the applicant was the owner of the real property at the time of the violations or whether the applicant is the current owner of the real property with or without actual or constructive knowledge of the violation at the time of the acquisition of the interest in the real property.

22.122.060 – Additional Permit Processing Fees

Any person who establishes a land use, or alters, constructs, enlarges, erects, maintains, or moves any structure without first obtaining a permit required by this Development Code, shall pay the additional permit processing fees established by the County Fee Ordinance for the correction of the violations, before being granted any permit for any structure or use on the subject site.

ARTICLE VI

Subdivisions

~~**IMPORTANT NOTE TO READER:**~~

~~Article VI was approved by the Marin County Board of Supervisors on June 24, 2003, as part of this Development Code. However, the provisions of this Development Code shall not apply to property or development proposals located within the coastal zone until approved by the California Coastal Commission. Land located within the coastal zone will continue to be regulated by relevant provisions of Title 20 of the Marin County Code (Subdivisions) that were in effect prior to the August 25, 2003, effective date of this Development Code. Where a conflict exists between Title 20 of the Marin County Code (Subdivisions) and this Development Code, the former shall prevail in the coastal zone until the Coastal Commission approves relevant sections of the Development Code. Copies of Title 20 of the Marin County Code (Subdivisions) are available for public inspection and purchase at the Marin County Community Development Agency Planning Division, Room 308, Civic Center, San Rafael.~~

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CHAPTER 22.80 – SUBDIVISION MAP APPROVAL REQUIREMENTS

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22.80.070 – Notice of Judicial Challenge

22.80.010 – Title

This Article is and may be cited as the Marin County Subdivision Ordinance.

22.80.020 – Purpose of Article

The regulations in this Article are intended to supplement, implement, and work with the Subdivision Map Act, Sections 66410 et seq. of the California Government Code (hereafter referred to as the Map Act). This Article is not intended to replace the Map Act, and must be used in conjunction with the Map Act in the preparation of applications, and the review, approval, and construction of proposed subdivisions.

22.80.030 – Applicability

Nothing contained in this Subdivision Map Approval Requirements Chapter relieves any person from the requirement to comply with any other ordinance of the County. The provisions of these regulations shall supplement and facilitate the County Development Code and the certified Local Coastal Program.

The Map Act and this Development Code require that the subdivision of an existing parcel into two or more proposed parcels be first approved by the County. In general, the procedure for subdivision first requires the approval of a Tentative Map, and then the approval of a Parcel Map or Final Map to complete the subdivision process. The Tentative Map review process is used to evaluate the compliance of the proposed subdivision with the standards of this Development Code, and the appropriateness of the proposed subdivision design. Parcel and Final Maps are precise engineering documents that detail the location and dimensions of all parcel boundaries in an approved subdivision and, after approval, are recorded in the office of the County Recorder.

A. Tentative Map requirements. Map Act Section 66426 requires that any subdivision or resubdivision of land shall require the filing and approval of a Tentative Map (see Chapter 22.84 (Tentative Maps)), Tentative Map Filing and Processing), except as otherwise provided by Section 22.80.040 (Exemptions from Subdivision Approval Requirements), and except when any one of the following occurs, which shall require the filing and approval of a Parcel Map without a Tentative Map:

1. The original, unsubdivided parcel contains less than five acres, each proposed parcel abuts upon a maintained public street, and no dedications or improvements are required by adopted County Plans or Codes.

2. Each parcel created by the division has a gross area of 20 acres or more and has approved access to a maintained public street.

3. The parcel(s) have approved access to a public street which comprises part of a tract of land zoned for industrial or commercial development, and which has County approval for street alignments and widths.

4. Each parcel has a minimum gross area of 40 acres.

B. Parcel and Final Map requirements. A Parcel or Final Map shall be required as follows:

1. Parcel Map. The filing and approval of a Parcel Map (Chapter 22.86 (Parcel Maps and Final Maps)) shall be required for a subdivision creating four or fewer parcels, with or without a designated remainder in compliance with Chapter 1, Article 2 of the Map Act, except for the following subdivisions:

a. **Public agency or utility conveyances.** Any conveyance of land, including a fee interest, an easement, or a license, to a governmental agency, public entity, public utility or a subsidiary of a public utility for rights-of-way, unless the Director determines based on substantial evidence that public policy necessitates a Parcel Map in an individual case; or

b. **Rail right-of-way leases.** Subdivisions of a portion of the operating right-of-way of a railroad corporation as defined by Section 230 of the California Public Utilities Code, which are created by short-term leases (terminable by either party on not more than 30 days' notice in writing); or

c. **Waived Parcel Map.** A subdivision that has been granted a waiver of Parcel Map requirements in compliance with Section 22.86.030 (Waiver of Parcel Map).

2. Final Map. The filing and approval of a Final Map (Chapter 22.86) shall be required for a subdivision of five or more parcels; except where a Parcel Map without a Tentative Map is instead required by Subsection A. above (Tentative Map Requirements).

C. Conflicts with Map Act. In the event of any perceived conflicts between the provisions of this Article and the Map Act, the Map Act shall control.

22.80.040 – Exemptions from Subdivision Approval Requirements

As provided by Article 1, Chapter 1 of the Map Act, the following subdivisions do not require the filing or approval of Tentative, Parcel or Final Maps.

A. Agricultural leases. Leases of agricultural land for the cultivation of food or fiber, or the grazing or pasturing of livestock.

B. Boundary line agreements. Boundary line or exchange agreements to which the State Lands Review Authority or a local agency holding a trust grant of tide and submerged lands is a party.

C. Wireless telecommunication antenna facilities. The leasing or licensing of a portion of a parcel, or the granting of an easement, Use Permit, or similar right on a portion of a parcel, to a telephone corporation as defined in Public Utilities Code Section 234, exclusively for the placement and operation of wireless telecommunications transmission facilities, including antenna support structures, microwave dishes, structures to house wireless telecommunications transmission equipment, power sources, and other incidental equipment.

D. Cemeteries. Land dedicated for cemetery purposes under the Health and Safety Code.

E. Commercial/industrial financing or leases. The financing or leasing of:

1. Offices, stores or similar spaces within commercial or industrial buildings; existing separate commercial or industrial buildings on a single parcel; or

2. Any parcel or portion of a parcel, in conjunction with the construction of commercial or industrial buildings on the same site, if Article II or Article V of this Development Code (Zoning Districts and Allowable Land Uses) requires a Use Permit for the project, or Chapter 22.42 requires Design Review.

F. Condominium conversions. The conversion of:

1. A community apartment project or a stock cooperative to condominiums, if the conversion satisfies the requirements of Map Act Sections 66412.g or 66412.h, respectively; or

2. The conversion of certain mobile home parks to condominiums as provided by Map Act Section 66428.b.

G. Lot Line Adjustments. A Lot Line Adjustment processed in compliance with Chapter 22.90 (Lot Line Adjustments).

H. Mineral leases. Mineral, oil or gas leases.

I. Public agency or utility conveyances. Any conveyance of land, including a fee interest, an easement, or a license, to a governmental agency, public entity, public utility or a subsidiary of a public utility for rights-of-way.

J. Rail right-of-way leases. Short-term leases (terminable by either party on not more than 30 days' notice in writing) of a portion of the operating right-of-way of a railroad corporation as defined by Section 230 of the California Public Utilities Code, unless the Director determines in

an individual case, based on substantial evidence, that public policy necessitates the application of the subdivision regulations of this Development Code to the short-term lease.

K. Small, removable commercial buildings. Subdivisions of four parcels or less for the construction of removable commercial buildings having a floor area of less than 100 square feet.

L. Residential financing or leases. The financing or leasing of: apartments, or similar spaces within apartment buildings, mobile home parks or trailer parks; or "granny" units or residential second units in compliance with Government Code Sections 65852.1 or 65852.2, respectively.

M. Separate assessments. Any separate assessment under Section 2188.7 of the Revenue and Taxation Code.

N. Wind energy conversion systems (WECS). The leasing of, or granting of an easement to a parcel or portion of a parcel in conjunction with the financing, installation, and sale or lease of a WECS.

22.80.050 – Review Authority for Subdivision Applications

The Review Authority is the individual or body identified by this Development Code as having the responsibility and authority to approve or deny land use permit and subdivision applications. The Review Authority for Tentative Maps, Parcel and Final Maps, Lot Line Adjustments, Certificates and Conditional Certificates of Compliance, parcel Mergers and Unmergers, and Reversions to Acreage in compliance with this Article, is determined by Section 22.40.020 (Review Authority for County Land Use and Zoning Decisions), and the provisions of this Article.

22.80.060 – Exceptions to Subdivision Standards

An exception to any provision of this Article may be requested by a subdivider in compliance with this Section. An exception shall not be used to waive or modify provisions of the Map Act.

A. Application. An application for an exception shall be submitted on forms provided by the Agency together with the required filing fee. The application shall include a description of each standard and requirement for which an exception is requested, together with the reasons why the subdivider believes the exception is justified.

B. Filing and processing. A request for an exception may be filed with the Tentative Map application to which it applies, or after approval of the Tentative Map. An exception shall be processed and acted upon in the same manner as the Tentative Map, concurrently with the Tentative Map if the exception request was filed at the same time. An exception shall not be considered as Tentative Map approval and shall not extend the time limits for expiration of the map established by Section 22.84.130 (Expiration of Approved Tentative Map).

C. Approval of exception. The Review Authority shall not grant an exception unless all the following findings are first made:

1. There are exceptional or extraordinary circumstances or conditions applicable to the proposed subdivision, including size, shape, topography, location, or surroundings.

2. The exception does not constitute a grant of special privilege inconsistent with the limitations on other properties in the vicinity.

3. The exception is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the vicinity and in the same zoning district and denied to the proposed subdivision.

4. Granting the exception will not be materially detrimental to the public welfare nor injurious to the property or improvements in the vicinity and zoning district in which the property is located.

5. The exception is consistent with the Marin Countywide Plan, or any applicable Community Plan or Specific Plan.

In granting an exception, the Review Authority shall secure substantially the same objectives of the regulations for which the exception is requested and shall impose whatever conditions it deems necessary to protect the public health, safety, general welfare and convenience, and to mitigate any environmental impacts.

22.80.070 – Notice of Judicial Challenge

At least 30 days before filing any judicial action or proceeding to attack, review, set aside, void or annul the decision of the Review Authority concerning a Tentative, Parcel or Final Map, or any of the proceedings, acts or determinations taken, done or made before this decision, or to determine the reasonableness, legality or validity of any condition of approval, written notice shall be served upon the Review Authority detailing the nature of the conduct or action intended to be challenged. This Section is not intended to extend the statute of limitations provided in Map Act Section 66499.37.

CHAPTER 22.82 – SUBDIVISION DESIGN STANDARDS

Sections:

22.82.010 – Purpose of Chapter
22.82.020 – Clustering Required in Planned Districts
22.82.025 – Density Range
22.82.030 – Drainage Facilities
22.82.040 – Energy Conservation
22.82.050 – Hillside Subdivision Design
22.82.060 – Roadway Landscaping
22.82.070 – Lot Configuration and Minimum Area
22.82.080 – Roads, Sidewalks, Pathways, Driveways
22.82.090 – Utilities

22.82.010 – Purpose of Chapter

This Chapter provides standards for subdivision design, consistent with the policies of the Marin Countywide Plan and the requirements of the Map Act.

22.82.020 – Clustering Required in Planned Districts

Proposed subdivisions within the planned zoning districts should be designed to cluster proposed structures in compliance with Article V and Section 22.08.040 (Agricultural District Development Standards).

22.82.025 – Density Range

Residential densities shall be construed as maximums, but not entitlements. For purposes of subdivision, the maximum allowable density shall be determined on a case-by-case basis.

The maximum residential density allowed for proposed subdivisions for any properties or portions of properties with sensitive habitat or within the Ridge and Upland Greenbelt or the Baylands Corridor, and properties that lack public water or sewer systems, shall be calculated at the lowest end of the density range established by the governing Countywide Plan Land Use Designation, except for projects that provide significant public benefits, as determined by the Review Authority, and lots proposed for affordable housing.

22.82.030 – Drainage Facilities

Subdivision drainage facilities shall be designed and constructed in compliance with Title 24, Sections 24.04.520 (Drainage Facilities) et seq. of the County Code.

22.82.040 – Energy Conservation

The design of a subdivision for which a Tentative and Final Map are required by this Article shall provide, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivisions, in compliance with Map Act Section 66473.1.

22.82.050 – Hillside Subdivision Design

A. Purpose. The provisions of this Section are intended to ensure the creation of suitably designed and developed parcels in all hillside areas of the County.

B. Applicability. All parcels created within zoning districts which establish minimum lot area requirement, shall be related to the natural ground slope as provided by this Section. This section shall also apply in determining minimum lot size requirements for the purposes of compliance with Chapter 22.92 (Merger of Parcels).

C. General requirements. Proposed subdivisions shall be designed so that each parcel complies with the minimum lot area requirements of this Chapter, in addition to the minimum lot area requirements of Article II (Zoning Districts and Allowable Land Uses) and Article V established for each zoning district. All parcels created after the effective date of this Development Code shall be related to the natural ground slope as provided by this Section. In the event of conflict between these provisions and applicable minimum lot area standards of Articles II or V, the larger minimum lot area standards shall be required where a minimum lot area applies.

1. Measurement of slope. The average slope of a lot expressed as a percent is calculated as follows:

$$S = (L \times I \times 100) / A$$

Where:

S = The average slope of natural ground expressed as a percent
I = The topographic contour interval in feet (i.e., 2-foot contour intervals, 5-foot intervals, etc.)
L = The sum of the length of the contour lines in feet
A = The area of the lot in square feet

This definition assumes that slope calculations are based on accurate topographic survey maps drawn to a scale of not less than one inch equals 100 feet, with contour lines at maximum 10-foot intervals for ground slope over 15 percent, and at five-foot intervals for ground slope of 15 percent or less.

2. Minimum lot area based on slope. The minimum lot area requirements established by Table 6-1 (Minimum Lot Area Based on Slope) shall apply to all parcels in the unincorporated area of the County, unless any of the lot-slope requirements of Subsection D below (Special Area Lot Size/Slope Requirements) apply. The natural ground slope calculation of a site shall be rounded up to the nearest whole number shown on Table 6-1 (Minimum Area Based on Slope).

3. Lot design. Unconventional lot design to meet lot-slope requirements shall not be permitted. All lots shall be developable, buildable, and reasonably accessible. Lots shall not be created which are impractical for improvement due to steepness of terrain, location of water courses, inability to handle waste disposal, or other natural or manmade physical conditions.

TABLE 6-1
MINIMUM LOT AREA BASED ON SLOPE

Natural Ground Slope (%)	Minimum Lot Area (sq.ft.)
0 - 6	See Zoning Map
7	7,667
8	7,849
9	8,086
10	8,376
11	8,719
12	9,117
13	9,572
14	10,088
15	10,670
16	11,324
17	12,053
18	12,865
19	13,763
20	14,752
21	15,836
22	17,016
23	18,293
24	19,667
25	21,136
26	22,693
27	24,331
28	26,041
29	27,808
30	29,616
31	31,446
32	33,272
33	35,067
34	36,798
35	38,428
36	39,915
37	41,212
38	42,265
39	43,016
40 or greater	43,560

D. Special area lot size / slope requirements. The following slope-based minimum lot area requirements for new subdivisions apply only in the Community Plan areas and other specific areas noted, instead of the requirements of Subsection C.2 above (Minimum Lot Area Based on Slope).

TABLE 6-2
SPECIAL AREA LOT SIZE/SLOPE REQUIREMENTS

Location	Average Natural Lot Slope	Minimum Lot Area
Sleepy Hollow	15% or less	15,000 sq.ft.
	More than 15%	15,000 sq.ft., plus 1,000 sq.ft. for each additional one percent of slope over 15%, to a maximum of 45,000 sq.ft.
Indian Valley	Less than 10%	1.0 acres
	10% to 20%	1.5 acres
	More than 20%	2.0 acres

22.82.060 – Roadway Landscaping

Subdivision landscaping to enhance the natural environment and appearance of the subdivision shall, at a minimum, be designed and constructed in compliance with Title 24, Sections 24.04.750 et seq. (Trees and Landscaping) of the County Code.

22.82.070 – Lot Configuration and Minimum Area

Proposed subdivisions shall be designed so that all lots are in compliance with all applicable minimum lot area requirements of this Development Code. Lots should be designed with configurations that ensure each property owner can easily understand parcel boundaries, and to respect environmental and topographic conditions of the site. Irregular lot configurations that are designed solely to meet minimum lot area standards based on the lot-slope requirements contained in Section 22.82.050 (Hillside Subdivision Design) shall not be permitted. Lots shall not be approved unless they are developable, buildable, and reasonably accessible. Lots shall not be created which are impractical for improvement, due to steepness of terrain, location of water courses, inability to handle waste disposal, or other natural or manmade physical conditions. Lots which do not comply with minimum lot size requirements can only be approved in conjunction with a rezoning. In addition to the provisions of this Chapter, lot design shall comply with those standards established by:

A. Article II (Zoning Districts and Allowable Land Uses);

B. Article V (Coastal Zones –Development and Resource Management Standards);

C. The Zoning Maps (Section 22.06.030 (Zoning Map Adopted)); and

D. Title 24, Chapter 24.07 (Lots) of the County Code.

22.82.080 – Roads, Sidewalks, Pathways, Driveways

Subdivision roadways, sidewalks, pedestrian and multipurpose pathways, and individual driveways shall be designed and constructed in compliance with all applicable provisions of the County Code, including:

A. Title 24, Sections 24.04.020 et seq. (Roads);

B. Title 24, Sections 24.04.240 et seq. (Driveways);

C. Title 24, Sections 24.04.430 et seq. (Sidewalks and Pedestrian Paths); and;

D. Title 24, Sections 24.04.510 (Multipurpose Pathways).

22.82.090 – Utilities

Subdivision utilities shall comply with Title 24, Sections 24.04.840 et seq. (Utilities) of the County Code. Utilities to serve proposed development shall be placed underground except where the Director determines that the cost of undergrounding would be so prohibitive as to deny utility service to the development, or the environmental benefit of allowing utilities to be placed above ground outweighs potential visual impacts.

CHAPTER 22.84 – TENTATIVE MAPS

Sections:

22.84.010 – Purpose of Chapter
22.84.020 – Tentative Map Preparation, Application Contents
22.84.030 – Tentative Map Application Filing and Initial Processing
22.84.035 – Tentative Map Waiver
22.84.040 – Tentative Map Public Hearings
22.84.050 – Tentative Map Review
22.84.060 – Findings for Approval or Denial of Tentative Map
22.84.070 – Conditions of Approval
22.84.090 – Changes to Approved Tentative Map or Conditions
22.84.100 – Completion of Subdivision Process
22.84.110 – Vesting Tentative Maps
22.84.120 – Tentative Map Time Limits
22.84.130 – Expiration of Approved Tentative Map
22.84.140 – Extensions of Time for Tentative Maps
22.84.150 – Applications Deemed Approved

22.84.010 – Purpose of Chapter

This Chapter provides requirements for the preparation, filing, review, and approval or denial of Tentative Maps and Vesting Tentative Maps, in compliance with the Map Act.

22.84.020 – Tentative Map Preparation, Application Contents

Tentative Map submittals shall include all information required by the Map Act, the information and other materials required by the Tentative Map Preparation and Contents instruction list provided by the Agency, a preliminary soils report if required by Section 22.100.040 (Soils Reports), and all information required by Title 23, Section 23.09.036 (Floodplain Management – Standards for Subdivisions) of the County Code.

22.84.030 – Tentative Map Application Filing and Initial Processing

Tentative Map applications shall be prepared, filed with the Agency, and processed in compliance with this Chapter, and Map Act Sections 66452 et seq.

A. General filing and processing requirements. Tentative Map applications shall be submitted to the Agency for processing, be reviewed for completeness and accuracy, referred to affected agencies, reviewed in compliance with the California Environmental Quality Act (CEQA), and evaluated in a staff report as provided by Chapter 22.40 (Application Filing and Processing, Fees).

B. Transmittal to affected agencies. In addition to the procedures outlined in Chapter 22.40 (Application Filing and Processing, Fees), a Tentative Map application shall be transmitted to the agencies outlined in this Subsection, as well as any other County department, State or Federal agency, or other individual or group that the Director believes may be affected by the subdivision, or may have useful information about issues raised by the proposed subdivision. The transmittal shall include a copy of the proposed Tentative Map.

1. Time limits. As required by Map Act Sections 66453 through 66455.7, transmittal shall occur within five days of the Tentative Map application being determined to be complete in compliance with Section 22.40.050.B.1 (Initial Application Review – Completeness Review). An agency wishing to respond to a transmittal shall provide the Agency with its recommendations within 15 days after receiving the Tentative Map application.

2. Required transmittals. The Director shall transmit Tentative Map applications for review and comment to each of the following agencies which will be expected to provide service to the proposed subdivision.

a. **Caltrans.** The California Department of Transportation shall be transmitted:

(1) Any Tentative Map located within an area shown on a territorial map filed with the County in compliance with Map Act Section 66455.

(2) Any Tentative Map that includes a proposed public school site located within two miles of an airport runway, as described in Section 39005 of the California Education Code. In these cases, the time for receipt of comments by the County shall be 35 days instead of the 15 days specified by this Subsection B.1 above (Time Limits).

b. **Environmental Health Services.** Environmental Health Services shall be transmitted any Tentative Map application that proposes sewage disposal or water supply by other than public sewer or water systems.

c. **Fire departments.** County fire protection agencies including the County Fire Department, the various county fire protection districts and the California Department of Forestry shall be transmitted any Tentative Map within their respective areas of responsibility.

d. **Incorporated cities and other local agencies.** Incorporated cities and other local agencies, including community services districts, shall be transmitted any Tentative Map application that is located within the area shown on a territorial map filed with the County in compliance with Map Act Section 66453, and within three miles of their official boundaries.

e. **Public utilities, water and sewer agencies.** Public utility companies and other service agencies which will be expected to provide service to the proposed subdivision, including providers of water, sewer, gas, electrical, telephone, and cable television services, shall be transmitted any Tentative Map within their respective jurisdictions.

f. **Public Works Department.** The Public Works Department shall be transmitted all Tentative Maps for review and comment regarding proposed easements, public improvements, streets, and other relevant issues.

g. **School districts.** Tentative Maps shall be transmitted to the governing board of any elementary, high school, or unified school district within which the property to be subdivided is located.

h. **State Department of Education.** The State Department of Education shall be transmitted any Tentative Map that includes a proposed public school site.

Along with the subdivision application transmittal, the Agency shall include notification that if no written response to the transmittal is received within 15 calendar days of receipt by the agency, the Agency shall presume that no recommendations or comments are forthcoming.

22.84.035 – Tentative Map Waiver

A. For any subdivision where a parcel map is required, a written application may be made to the Director requesting a waiver of the Tentative Map for all or part of the proposed subdivision. The written application shall state in detail the basis for the waiver requested. Such a waiver may be granted by the Director upon finding that:

1. The proposed subdivision meets all requirements of the State Subdivision Map Act and any applicable provisions of this title;

2. The proposed subdivision does not increase the number of lots on the property except in conformance with section 22.84.035.B and meets all requirements of Title 22 of the Marin County Code;

3. Adequate public notice of the proposed subdivision has been given; and

4. A Parcel Map or Final Map will be required, except when a Certificate of Correction is filed to modify a map that was previously recorded.

B. Tentative Map waivers may also be granted for Environmental Subdivisions that meet all the criteria and requirements of Map Act Section 66418.2. Such a waiver for an Environmental Subdivision may be granted by the Director upon finding that:

1. The proposed subdivision meets all requirements of the State Subdivision Map Act and any applicable provisions of this title;

2. Adequate public notice of the proposed subdivision has been given; and

3. A Parcel Map or Final Map will be required.

22.84.040 – Tentative Map Public Hearings

Public hearings are required by this Development Code for a Tentative Map or an appeal of a Tentative Map decision. The hearing shall be scheduled and conducted in compliance with this Section, in addition to public notice being provided in compliance with Chapter 22.118 (Notices, Public Hearings, and Administrative Actions).

A. Scheduling of hearing, decision. A public hearing on a Tentative Map or appeal shall be scheduled, and a decision shall be reached, within the following time limits.

1. Tentative Map. A hearing on a Tentative Map shall be scheduled and action shall be taken on the map within 50 days after an environmental impact report is certified or a negative declaration is approved for the Tentative Map. In the case of a Tentative Map which does not require an environmental impact report or negative declaration, a hearing shall be scheduled and action taken on the map within 50 days after the subdivision application is determined to be complete, in compliance with Section 22.40.050 (Initial Application Review).

2. Appeals. A hearing on an appeal (Chapter 22.114 (Appeals)) shall be held within 30 days after the filing of the appeal, or if there is no regular meeting within the next 30 days, the hearing shall be held at the next regular meeting or within 60 days, whichever period is shorter.

B. Distribution of staff report. The staff report on the Tentative Map shall be mailed to the subdivider (and each tenant of the subject property, in the case of a condominium conversion (Section 22.88.030 (Condominium Conversions)) at least 10 days before any hearing or action on the Tentative Map by the Review Authority.

22.84.050 – Tentative Map Review

After completion of a staff report and recommendations on the Tentative Map application, the Director shall refer a Tentative Map to the Review Authority for action.

A. Hearing and review. The Review Authority shall:

1. Conduct a public hearing on a proposed Tentative Map that has been scheduled and provided public notice in compliance with Section 22.84.040 (Tentative Map Public Hearings); and

2. Review and evaluate each Tentative Map with respect to the following information and issues:

   a. Its compliance and consistency with applicable provisions of this Development Code and other applicable County ordinances, the Marin Countywide Plan, any applicable Community Plan or Specific Plan, and the Map Act;

   b. The staff report (Section 22.40.070), and recommendations from any agency providing comments on the Tentative Map in compliance with Section 22.40.030.B (Transmittal to Affected Agencies);

   c. The information provided by an initial study or environmental impact report (Section 22.40.060 (Environmental Review)); and

   d. Any public testimony received.

B. Approval or denial of Tentative Maps. In the case of a Tentative Map proposing four or fewer parcels, the Review Authority may approve or deny the Tentative Map as follows.

1. Within 50 days after an environmental impact report is certified or a negative declaration is approved for the Tentative Map, the Review Authority shall approve, conditionally approve or deny the Tentative Map.

2. Approval or conditional approval of a Tentative Map shall be granted only after the Review Authority has made all findings required by Section 22.84.060 (Findings for Approval or Denial of Tentative Map). The Review Authority may impose conditions of approval in compliance with Section 22.84.070 (Conditions of Approval).

3. The decision of the Review Authority on a Tentative Map may be appealed in compliance with Chapter 22.114 (Appeals).

22.84.060 – Findings for Approval of Tentative Map

In order to approve a Tentative Map and conditions of approval, the Review Authority shall first make the following findings. In determining whether to approve a Tentative Map, the Review Authority shall apply only those ordinances, policies, and standards in effect at the date the Agency determined that the application was complete in compliance with Section 22.40.050 (Initial Application Review), except where the County has initiated Marin Countywide Plan, Community Plan, or Development Code changes, and provided public notice as required by Map Act Section 66474.2.

A. Required findings for approval. The Review Authority may approve a Tentative Map only when it shall first find that the proposed subdivision, together with the provisions for its design and improvement, is consistent with all of the findings below, as required by Map Act Section 66474. The findings shall apply to each proposed parcel as well as the entire subdivision, including any parcel identified as a designated remainder in compliance with Map Act Section 66424.6.

1. The proposed subdivision including design and improvements is consistent with the Marin Countywide Plan and any applicable Community Plan or Specific Plan.

2. The site is physically suitable for the type and proposed density of development.

3. The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or injure fish or wildlife or their habitat.

4. The design of the subdivision and type of improvements is not likely to cause serious public health or safety problems.

5. The design of the subdivision and the type of improvements will not conflict with easements, acquired by the public at large for access through or use of property within the proposed subdivision. This finding may be made if the Review Authority finds that alternate easements for access or use will be provided, and that they will be substantially equivalent to ones previously acquired by the public. This finding shall apply only to easements of record, or to easements established by judgment of a court of competent jurisdiction, and no authority is hereby granted to the Review Authority to determine that the public at large has acquired easements of access through or use of property within the proposed subdivision.

6. The proposed subdivision is consistent with the Subdivision Design Standards contained in Chapter 22.82 of this Development Code, all other applicable provisions of this

Development Code, and any other applicable provisions of the County Code, and the Map Act.

B. Supplemental findings. In addition to the findings required for approval of a Tentative Map by Subsection **A.** above (Required Findings for Approval), the following findings are also required when they are applicable to the specific subdivision proposal.

1. It is in the interest of the public health and safety, and it is necessary as a prerequisite to the orderly development of the surrounding area, to require the construction of road improvements within a specified time after recordation of the Parcel Map, where road improvements are required (see Section 22.82.080 (Roads, Sidewalks, Pathways, Driveways)).

2. Any findings required by Sections 22.88.030 (Condominium Conversions) for condominium conversions.

C. Findings for waiver of Parcel Map. If waiver of a Parcel Map has been requested with the Tentative Map application, the Review Authority shall determine whether the findings required by Section 22.86.030 (Waiver of Parcel Map) can also be made.

22.84.070 – Conditions of Approval

Along with the approval of a Tentative Map, the adoption of conditions of approval shall occur in compliance with this Section, provided that all conditions shall be consistent with the requirements of the Map Act.

A. Mandatory conditions. The Review Authority shall adopt conditions of approval that will:

1. Require that parcels, easements or rights-of-way be provided for streets, water supply and distribution systems, sewage disposal systems, storm drainage facilities, solid waste disposal, and public utilities providing electric, gas and communications services, as may be required to properly serve the subdivision. Easements for public utilities shall be limited to those needed to provide service to present and future development;

2. Mitigate or eliminate environmental problems identified through the environmental review process, or require redesign of the subdivision as a prerequisite to the approval of the Tentative Map;

3. Carry out the specific requirements of Chapters 22.82 (Subdivision Design Standards), 22.98 (Dedications, Reservations, Easements), and 22.100 (Subdivision Improvements and Agreements);

4. Secure compliance with the requirements of this Development Code, the Marin Countywide Plan, any applicable Community Plan and Specific Plan, and public service or utility District; and

5. Require that any designated remainder parcels not be subsequently sold unless (a) a Certificate or Conditional Certificate of Compliance (Chapter 22.96 (Certificates of Compliance)) is obtained before recordation of a Parcel or Final Map, or (b) a development approval as specified by Map Act section 66499.34 is granted for the parcel, or (c) the

parcel is further subdivided in compliance with this Development Code.

B. Additional conditions. Additional conditions may be required as follows:

1. The dedication of land or payment of fees in lieu thereof, or a combination of both for park or recreation purposes as provided by Section 22.98.040 (Parkland Dedication and Fees) and the Map Act;

2. The waiver of direct access rights to any existing or proposed streets;

3. The dedication of additional land for bicycle paths, local transit facilities, (e.g., bus turnouts, benches, shelters, etc.), sunlight easements, and school sites, as provided by Map Act Chapter 4, Article 3;

4. The reservation of sites for public facilities (e.g., fire stations, libraries, and other public uses) as provided by Chapter 4, Article 4 of the Map Act;

5. Time limits or phasing schedules for the completion of conditions of approval, when deemed appropriate; or

6. Any other conditions deemed necessary by the Review Authority to achieve compatibility between the proposed subdivision, its immediate surroundings, and the community, or to achieve consistency with the Countywide Plan, an applicable Community Plan or Specific Plan, County ordinances or State law.

22.84.090 – Changes to Approved Tentative Map or Conditions

A subdivider may request changes to an approved Tentative Map or its conditions of approval before recordation of a Parcel or Final Map as provided by this Section. Minor amendments to approved Tentative Maps, including modifications to additional information required to be filed or recorded with the Parcel or Final Map (e.g. changes to building setback lines), may be processed as Tentative Map Waivers, pursuant to Section 22.84.035 of this Development Code. Changes to a Parcel or Final Map after recordation are subject to Section 22.86.080 (Corrections and Amendments to Recorded Maps).

A. Limitation on allowed changes. Changes to a Tentative Map that may be requested by a subdivider in compliance with this Section include major adjustments to the location of proposed lot lines and improvements, and reductions in the number of approved lots (but no increase in the number of approved lots), and any changes to the conditions of approval, consistent with the findings required by Subsection D below (Findings for Approval). Other changes shall require the filing and processing of a new Tentative Map.

B. Application for changes. The subdivider shall file an application for a Tentative Map Amendment or Waiver and filing fee with the Agency, using the forms furnished by the Agency, together with the following additional information:

1. A statement identifying the Tentative Map number, the features of the map or particular conditions to be changed and the changes requested, the reasons why the changes are requested, and any facts that justify the changes; and

2. Any additional information deemed appropriate by the Agency.

C. Processing. Proposed changes to a Tentative Map or conditions of approval shall be processed in the same manner as the original Tentative Map, except as otherwise provided by this Section.

D. Findings for approval. The Review Authority shall not modify the approved Tentative Map or conditions of approval unless it shall first find that the change is necessary because of one or more of the following circumstances, and that all of the applicable findings for approval required by Subsections 22.84.060.A (Required Findings for Approval) and 22.84.060.B (Supplemental Findings) can still be made:

1. There was a material mistake of fact in the deliberations leading to the original approval.

2. There has been a change of circumstances related to the original approval.

3. A serious and unforeseen hardship has occurred, not due to any action of the Applicant.

E. Effect of changes on time limits. Approved changes to a Tentative Map or conditions of approval shall not be considered as approval of a new Tentative Map, and shall not extend the time limits provided by Section 22.84.130 (Expiration of Approved Tentative Map).

22.84.100 – Completion of Subdivision Process

A. Compliance with conditions, improvement plans. After approval of a Tentative Map in compliance with this Chapter, the subdivider shall proceed to fulfill the conditions of approval within any time limits specified by the conditions and the expiration of the map and, where applicable, shall prepare, file and receive approval of improvement plans in compliance with Chapter 22.100, before constructing any required improvements.

B. Conforming Tentative Map and condition compliance review. After approval of a Tentative Map but before filing check prints of a Parcel Map or Final Map with the County Surveyor, the subdivider shall submit a conforming Tentative Map showing any modifications made by the conditions of Tentative Map approval, together with any required supplemental information sheets, draft easements, maintenance agreements, agricultural or other contracts, or other information that is required by the conditions of the Tentative Map approval to the Director for a ministerial conformance review and determination.

C. Parcel or Final Map preparation, filing and recordation. Where a Parcel or Final Map is required by this Article or the Map Act, the map shall be filed and recorded as follows.

1. A Parcel Map for a subdivision of four or fewer parcels shall be prepared, filed, processed and recorded in compliance with Chapter 22.86 (Parcel Maps and Final Maps), to complete the subdivision, unless a Parcel Map has been waived in compliance with Section 22.86.030 (Waiver of Parcel Map).

2. A Final Map for a subdivision of five or more parcels shall be prepared, filed, processed and recorded in compliance with Chapter 22.86 (Parcel Maps and Final Maps), to complete the subdivision.

22.84.110 – Vesting Tentative Maps

This Section establishes procedures to implement the Vesting Tentative Map requirements of State law, Sections 66498.1 et seq. of the Map Act.

A. Applicability. Whenever this Development Code requires that a Tentative Map be filed, a Vesting Tentative Map may instead be filed, provided that the Vesting Tentative Map is prepared, filed and processed in compliance with this Section.

1. A Vesting Tentative Map may be filed for residential and non-residential developments.

2. If a subdivider does not seek the rights conferred by this Section, the filing of a Vesting Tentative Map is not a prerequisite to any approval for any proposed subdivision, permit for construction, or work preparatory to construction; however, nothing in this Section shall be construed to eliminate the need for a subdivider to obtain land use permit or subdivision approval in compliance with the other applicable provisions of this Development Code, or building, grading or other construction permit approval in compliance with Title 19 (Building Regulations) of the County Code.

B. Procedures for processing a Vesting Tentative Map. A Vesting Tentative Map shall be filed in the same form, have the same contents and accompanying data and reports and, shall be processed in the same manner as described by this Chapter for a Tentative Map, except as follows.

1. **Application content.** The Vesting Tentative Map shall be prepared with the words "Vesting Tentative Map" printed conspicuously on its face, and as required by Sections 22.84.020 et seq.

2. **Findings for approval.** The approval of a Vesting Tentative Map shall not be granted unless the Review Authority first determines that the intended development of the subdivision is consistent with the zoning regulations applicable to the property at the time of filing, in addition to all other findings required for Tentative Map approval by Section 22.84.060 (Findings for Approval of Tentative Map).

3. At the time a Vesting Tentative Map is filed for any project requiring Design Review pursuant to the provisions of Section 22.42.020 (Applicability), Design Review approval shall be obtained by the subdivider prior to or concurrent with the approval of the Vesting Tentative Map, and no Vesting Tentative Map shall be approved unless and until the Review Authority first finds that the proposed project meets the standards for Design Review approval contained in Section 22.42.060. This requirement may be waived upon application to the Director.

C. Expiration of Vesting Tentative Map. An approved Vesting Tentative Map shall be subject to the same time limits for expiration as are established for Tentative Maps by Sections 22.84.120 et seq. (Tentative Map Time Limits).

D. Changes to approved map or conditions. The subdivider may apply for an amendment to the Vesting Tentative Map or conditions of approval at any time before the expiration of the Vesting Tentative Map. The amendment request shall be considered and processed as a new application, in compliance with this Section.

E. Development rights vested.

1. The approval of a Vesting Tentative Map shall confer a vested right to proceed with development of the subdivided lots in substantial compliance with the ordinances, policies and standards (excluding fees) in effect at the time a complete Vesting Tentative Map application is filed, as described in Section 66474.2 of the Map Act.

2. If Map Act Section 66474.2 is repealed, approval of a Vesting Tentative Map shall confer a vested right to proceed with development in substantial compliance with the ordinances, policies and standards in effect at the time the Vesting Tentative Map is approved.

3. Subsequent land use permits, building permits, extensions of time or other entitlements filed on parcels created by the subdivision may be conditioned or denied if:

   a. A failure to do so would place the residents of the subdivision or the immediate area in a condition dangerous to health or safety; or

   b. The condition or denial is required in order to comply with State or Federal law.

4. The fees charged for building or land use permits, filed after the approval of a Vesting Tentative Map shall be those applicable at the time the permit applications are filed, including any related utility or development impact fees (e.g., sewer/water hookup fees, traffic mitigation fees, etc.). Application contents shall be as required by this Development Code at the time the application is filed.

F. Duration of vested rights. The development rights vested by this Section shall expire if a Parcel Map or Final Map is not approved before the expiration of the Vesting Tentative Map as provided by Sections 22.84.120 et seq. (Tentative Map Time Limits). If the Parcel or Final Map is approved and recorded, the development rights shall be vested for the following time periods, in compliance with Map Act Section 66498.

1. An initial time period of no more than two years from the date of recordation of the Parcel or Final Map. Where several Final Maps are recorded on various phases of a project covered by a single Vesting Tentative Map, this initial time period shall begin for each phase when the Final Map for that phase is recorded.

2. The initial two years shall be automatically extended by any time used by the County for processing a complete application for a Grading Permit or for design or architectural review, if said processing exceeds 30 days from the date the complete application is filed.

3. The subdivider may apply for a one-year extension at any time before the initial two years expire. Application for an extension shall be submitted to the Agency and shall be accompanied by the required fee. The Review Authority may approve or deny a request for extension. If the extension is denied, the subdivider may appeal to the Board in compliance with Chapter 22.114 (Appeals).

4. If the subdivider submits a complete application for a Building Permit during the periods of time specified in Subsections F.1 and F.2 above (Duration of Vested Rights), the vested rights shall continue until the expiration of the Building Permit, or any extension of that permit.

22.84.120 – Tentative Map Time Limits

The processing of a Tentative Map shall be completed, and an approved Tentative Map shall be subject to the time limits for expiration and procedures for extension as provided by Sections 22.84.130 through 22.84.150.

22.84.130 – Expiration of Approved Tentative Map

The expiration date of a Tentative Map is determined by Map Act Sections 66452.6, 66452.11, and 66463.5. An approved Tentative Map or Vesting Tentative Map is valid for three years after its effective date. At the end of that time, the approval shall expire and become void unless:

A. A Parcel or Final Map, and related bonds and improvement agreements, have been filed with the County Surveyor in compliance with Chapter 22.86 (Parcel Maps and Final Maps); or

B. An extension of time has been granted in compliance with Section 22.84.140 (Extensions of Time for Tentative Maps).

A Tentative Map approval shall be deemed to have expired if a Parcel or Final Map has not been filed within the time limits established by this Section or within an extension of time approved in compliance with Section 22.84.140 (Extensions of Time for Tentative Maps). Expiration of an approved Tentative Map or Vesting Tentative Map shall terminate all proceedings. The application shall not be reactivated unless a new subdivision application is filed.

22.84.140 – Extensions of Time for Tentative Maps

When a Parcel or Final Map has not been filed within the time limits set by Section 22.84.130 (Expiration of Approved Tentative Map), time extensions may be granted in compliance with this Section. Extension requests shall be in writing and shall be filed with the Agency, at least 10 days prior to the expiration of the approval or previous extension, together with the required filing fee.

A. Tentative Maps. The Director may grant a maximum of two, three-year extensions to the initial time limit only after making all of the following findings:

1. There have been no changes to the provisions of the Marin Countywide Plan, any applicable Community Plan or Specific Plan, the Local Coastal Program, or this Development Code applicable to the project since the approval of the Tentative Map.

2. There have been no changes in the character of the site or its surroundings that affect how the policies of the Marin Countywide Plan, Community Plan or Specific Plan, or other standards of this Development Code apply to the project.

3. There have been no changes to the capacities of community resources, including water supply, sewage treatment or disposal facilities, roads or schools so that there is no longer sufficient remaining capacity to serve the project.

Denial of a requested extension by the Review Authority may be appealed in compliance with Chapter 22.114 (Appeals).

B. Tentative Maps with multiple Final Maps. Where a subdivider is required to expend more than $125,000 on improvements as specified in Map Act Section 66452.6 and multiple Final

Maps are filed covering portions of a single approved Tentative Map, each filing of a Final Map shall extend the expiration of the Tentative Map by an additional three years from the date of its expiration, or the date of the previously filed Final Map, whichever is later. Provided that the total of all extensions shall not extend the approval of the Tentative Map more than 10 years from its original approval.

C. Vesting Tentative Maps. The Review Authority may grant a maximum of six years to the initial time limit in compliance with Subsection A above (Tentative Maps). Any rights conferred by Section 22.84.110 (Vesting Tentative Maps) shall expire if a Final Map is not approved and filed.

22.84.150 – Applications Deemed Approved

Any subdivision application deemed approved in compliance with Section 65956 of the Government Code or Map Act Sections 66452 et seq., shall be subject to all applicable provisions of this Development Code, which shall be satisfied by the subdivider before any Building Permits or other land use entitlements are issued. A Parcel or Final Map filed for record after the automatic approval of its Tentative Map shall remain subject to all the mandatory requirements of this Development Code and the Map Act, including Map Act Sections 66473, 66473.5 and 66474.

CHAPTER 22.86 – PARCEL MAPS AND FINAL MAPS

Sections:

22.86.010 – Purpose of Chapter
22.86.020 – Parcel and Final Map Application Filing and Processing
22.86.030 – Waiver of Parcel Map
22.86.040 – Parcel Map Review and Approval
22.86.050 – Final Map Review and Approval
22.86.060 – Supplemental Information Sheets
22.86.070 – Recordation of Maps
22.86.080 – Corrections and Amendments to Recorded Maps

22.86.010 – Purpose of Chapter

This Chapter establishes requirements for the preparation, filing, approval and recordation of Parcel and Final Maps, consistent with Map Act Chapter 3, Articles 4 and 5 (commencing with Sections 66456 and 66463, respectively). Parcel and Final Maps are precise engineering documents that detail the location and dimensions of all parcel boundaries in an approved subdivision and, after approval, are recorded in the office of the County Recorder.

22.86.020 – Parcel and Final Map Application Filing and Processing

A. When required. When required by Sections 22.80.030 (Applicability) and 22.84.100 (Completion of Subdivision Process), a Parcel or Final Map shall be prepared, filed, and processed in compliance with this Section.

B. Form and content, fees. Parcel Maps and Final Maps shall be prepared by or under the direction of a qualified, registered civil engineer or licensed land surveyor, registered or licensed by the State. Parcel and Final Map submittals shall include all information required by the Map Act (Sections 66444 et seq. for Parcel Maps, and 66433 et seq. for Final Maps), the application forms, all information and other materials prepared as required by the Parcel and Final Map Preparation and Contents instruction list, provided by the Agency, and the required filing fee.

C. Prefiling of check prints. Before filing a Parcel or Final Map as provided by this Section, the subdivider shall submit to the County Surveyor four check prints of the proposed map, with a preliminary title report no more than six months old, traverse sheets in a form and containing the information required by the County Surveyor, and the Parcel or Final Map filing fee. The check prints and accompanying information shall be processed as follows:

1. **Referral.** The County Surveyor shall forward a copy of a Parcel or Final Map check print to the Director, who shall determine whether the Parcel or Final Map check print conforms substantially to the Tentative Map previously approved for the same project.

2. **County Surveyor review.** The County Surveyor shall determine whether the Parcel or Final Map check print complies with all applicable provisions of this Development Code and the Map Act, and all applicable Tentative Map conditions of approval imposed by the Department of Public Works.

3. **Director review.** The Director shall examine the check print to determine that it is in substantial conformance with the approved Tentative Map and in compliance with all applicable Tentative Map conditions of approval, and within 10 days from receipt of the check print shall certify to the County Surveyor its conformance, or advise the subdivider and County Surveyor of any errors or omissions.

4. **Notification of subdivider.** When the County Surveyor has received a confirmation from the Director stating that the Parcel Map is in substantial conformance with the approved Tentative Map and has determined that the map is in compliance with Subsection A.2 above (County Surveyor Review), the County Surveyor shall notify the subdivider.

D. Filing with County Surveyor. After notification from the County Surveyor in compliance with Subsection C.4 above (Notification of Subdivider), a Parcel or Final Map, together with all data, information and materials required by Subsection B above (Form and Content, Fees) shall be submitted to the County Surveyor before the expiration of the applicable Tentative Map. The Parcel or Final Map shall be considered submitted when it is complete and complies with all applicable provisions of this Development Code and the Map Act.

E. Multiple Parcel or Final Maps. The subdivider may file multiple Parcel or Final Maps on the approved Tentative Map if the subdivider either included a statement of intention with the Tentative Map or, if after the filing of the Tentative Map, the Director approved the request.

22.86.030 – Waiver of Parcel Map

A subdivider may request waiver of a Parcel Map, and the Review Authority may grant the waiver in compliance with this Section and Map Act Section 66428.b.

A. When waiver is allowed. Waiver of a Parcel Map may be requested by a subdivider and granted by the Review Authority for a subdivision that results in the creation of only two parcels, and the boundaries of the original parcel have been previously surveyed and a map recorded, and are certain as to location.

B. Application processing and approval. A request for waiver of a Parcel Map shall be submitted with the Tentative Map application, together with the required filing fee. The waiver request shall be processed and acted upon concurrently with the Tentative Map application. The Review Authority may grant a requested waiver if:

1. The proposed Tentative Map satisfies all findings required for approval by Section 22.84.060 (Findings for Approval of Tentative Map); and

2. The proposed subdivision complies with all applicable requirements of this Development Code and the Map Act as to lot area, improvement and design, drainage, flood control, appropriate improved public roads, sanitary disposal facilities, water supply availability, and environmental protection.

C. Expiration of waiver. An approved waiver of a Parcel Map shall be subject to the same time limits and opportunities for extension of time as the accompanying Tentative Map, in compliance with Sections 22.84.130 (Expiration of Approved Tentative Map) and 22.84.140 (Extensions of Time for Tentative Maps), and Subsection D following (Completion of Subdivision).

D. Completion of subdivision. A subdivision for which a Parcel Map has been waived shall be completed by the subdivider satisfying all conditions of approval, and by then filing and obtaining approval of a certificate of completion in compliance with this Section.

1. Preparation and filing of certificate. The subdivider shall submit an application for a certificate of completion to the County Surveyor for review and approval, including the following information:

a. A diagram or exhibit illustrating the configuration and dimensions of the parcels described in the legal descriptions submitted with the certificate of completion;

b. A statement signed by the subdivider under penalty of perjury that no change in the ownership of the subject property has occurred since the submittal of the title report with the Tentative Map application. If a change in ownership has occurred, the subdivider shall submit a new title report issued within 60 days before the filing of the certificate of completion application;

c. A statement by a registered civil engineer, licensed land surveyor, or title company verifying that any required access easements extend to a publicly maintained road;

d. A certificate of completion in the form required by the County Surveyor, prepared for recording, including:

(1) A list of all requirements imposed as conditions of approval of the Tentative Map, including any requirements for the construction of off-site and on-site improvements;

(2) A statement signed by the owner under penalty of perjury attesting that all of the conditions of approval of the Tentative Map have been met or provided for under the terms of an acceptable subdivision agreement secured by appropriate surety as prescribed by the Map Act;

(3) A legal description of each parcel created in substantial conformance with the approved Tentative Map, prepared by a registered civil engineer or licensed land surveyor; and

e. Any required recordation fees.

2. Review and approval of certificate. The County Surveyor shall review, approve or deny, and complete the processing of a certificate of completion by examining the materials submitted and performing other investigations as necessary to ensure that the following requirements are satisfied:

a. All record title owners have consented to the subdivision.

b. The certificate of completion accurately describes the conditions of approval, and that the conditions of approval have been satisfactorily completed.

c. The legal descriptions on the certificate are accurate, and are in substantial conformance with the approved Tentative Map.

If the County Surveyor is satisfied that the certificate of completion and materials submitted with it comply with the above requirements, the County Surveyor shall place an endorsed approval upon the face of the certificate and shall forward it to the County Recorder. Upon recording, the subdivision shall be deemed completed, and the parcels created by the subdivision may be conveyed or otherwise transferred.

22.86.040 – Parcel Map Review and Approval

A Parcel Map shall be reviewed and approved as follows, in compliance with Map Act Sections 66463 et seq. A Parcel Map for which no Tentative Map was required by Section 22.80.030 (Applicability) shall also comply with Section 22.84.060 (Findings for Approval or Denial of Tentative Maps).

A. Transmittal to, and certification by Director. Within three days of the filing of a Parcel Map in compliance with Section 22.86.020.D (Parcel and Final Map Application Filing and Processing - Filing with County Surveyor) the County Surveyor shall transmit the Parcel Map and accompanying materials to the Director. The Director shall sign the Parcel Map and return it to the County Surveyor, or notify the Surveyor that the map is incorrect.

B. County Surveyor approval and certification. Where the Director and County Surveyor have determined that the Parcel Map is correct, the County Surveyor shall sign and seal the Parcel Map and shall forward the map to the County Recorder; provided that the Board has executed any required improvement agreement in compliance with Section 22.100.060 (Improvement Agreements and Security). The recording fee shall be paid to the County Recorder by the subdivider.

C. Denial of map:

1. Criteria for denial. A Parcel Map shall be denied only for failure to meet or perform requirements or conditions that were applicable to the subdivision at the time of approval of the Tentative Map. This Section shall not be construed to require denial of a map when the failure of the map is the result of a technical or inadvertent error which in the opinion of the County Surveyor does not materially affect the validity of the map.

2. Notification of subdivider. If the map has not been certified as correct by the Director or County Surveyor, the Surveyor shall return the Parcel Map and accompanying materials to the subdivider within three days after a response from the Director. If the Parcel Map does not conform as required above, the subdivider shall be notified, and given the opportunity to make necessary changes and resubmit the Parcel Map, together with all required data.

22.86.050 – Final Map Review and Approval

Final Maps shall be reviewed, and approved or denied in compliance with this Section, and Map Act Sections 66456 et seq.

A. Certifications. After determining that the Final Map is technically correct in compliance with Section 22.86.020 (Parcel and Final Map Application Filing and Processing), the Director shall sign the map, and the County Surveyor shall execute the County Surveyor's certificate on the map in compliance with Map Act Section 66442, and shall forward the Final Map to the Board for action.

B. Review and approval by Board. The Board shall approve or deny the Final Map at its next regular meeting after the County Clerk receives the map, but in no event longer than 50 days after the County Surveyor receives the Final Map from the subdivider, unless that time limit is extended with the mutual consent of the County Surveyor and the subdivider.

1. **Criteria for approval.** The Board shall approve the Final Map by resolution if it conforms to all provisions of this Development Code, and all the requirements of the Map Act that were applicable at the time that the Tentative Map was approved, and is in substantial compliance with the approved Tentative Map.

2. **Waiver of errors.** The Board may approve a Final Map that fails to meet any of the requirements of this Development Code or the Map Act applicable at the time of approval of the Tentative Map, when the Board finds that the failure of the map is a technical or inadvertent error which, in the determination of the Board does not materially affect the validity of the map.

3. **Approval by inaction.** If the Board does not approve or deny the map within the prescribed time or any authorized extension, and the map conforms to all applicable requirements and rulings, it shall be deemed approved, and the County Clerk shall certify its approval on the map.

C. Map with dedications. If a dedication or offer of dedication is required on the Final Map, the Board shall accept, accept subject to improvement, or reject with or without prejudice any or all offers of dedication, at the same time as it takes action to approve the Final Map.

D. Map with incomplete improvements. If improvements required by this Development Code, conditions of approval or by law have not been completed at the time of approval of the Final Map, the Board shall require the subdivider to enter into an agreement with the County as specified in Map Act Section 66462, and Section 22.100.060 (Improvement Agreements and Security), as a condition precedent to the approval of the Final Map.

E. Transmittal to Recorder. After action by the Board, and after the required signatures and seals have been affixed, the County Clerk shall forward the Final Map to County Recorder for filing.

22.86.060 – Supplemental Information Sheets

In addition to the information required to be included in Section 22.86.020 (Parcel and Final Map Application Filing and Processing) additional information may be required to be submitted and recorded simultaneously with a Parcel or Final Map as required by this Section.

A. Preparation and form. The additional information required by this Section shall be presented in the form of additional map sheets, unless the Director determines that the type of information required would be more clearly and understandably presented in the form of a report or other document. The additional map sheet or sheets shall be prepared in the same manner and in substantially the same form as required for Parcel Maps by Section 22.86.020 (Parcel Map Filing and Initial Processing).

B. Content of information sheets. Supplemental information sheets shall contain the following statements and information:

1. **Title.** A title, including the number assigned to the accompanying Parcel or Final Map by the County Surveyor, and the words "Supplemental Information Sheet;"

2. **Explanatory statement.** A statement following the title that the supplemental information sheet is recorded along with the subject Parcel or Final Map, and that the additional information being recorded with the Parcel or Final Map is for informational purposes, describing conditions as of the date of filing, and is not intended to affect record title interest;

3. **Location map.** A location map, at a scale not to exceed one inch equals 2,000 feet. The map shall indicate the location of the subdivision within the County;

4. **Areas subject to flooding.** Identification of all lands within the subdivision subject to periodic inundation by water;

5. **Soils or geologic hazards reports.** When a soils report or geological hazard report has been prepared, the existence of the report shall be noted on the information sheet, together with the date of the report and the name of the engineer making the report; and

6. **Information required by conditions of approval.** Any information required by the Review Authority to be included on the supplemental information sheet(s) because of its importance to potential successors in interest to the property.

22.86.070 – Recordation of Maps

A. Consent of interested parties. At the time of filing of a Parcel or Final Map with the County Recorder, the subdivider shall present to the County Recorder evidence that, at the time of filing the map, the parties consenting to the filing are all parties having vested fee interest in the property being subdivided and are parties required to sign the certificate described in Map Act Section 66445.e.

B. County Recorder action. The County Recorder shall review and act upon Parcel and Final Maps filed with that office in compliance with Article 6, Chapter 3 of the Map Act and other applicable provisions of State law.

C. Effect of recorded map. When a properly endorsed Parcel or Final Map has been filed for record, the subdivision or reversion to acreage shall be deemed complete, and the new parcels may be conveyed or otherwise transferred. The recordation of the map shall have the effect of eliminating any lot lines that existed within the boundaries of the subdivision before approval of the Tentative Map.

22.86.080 – Corrections and Amendments to Recorded Maps

A recorded Parcel or Final Map shall be modified to correct errors in the recorded map or to change characteristics of the approved subdivision only in compliance with this Section.

A. Corrections. In the event that errors in a Parcel or Final Map are discovered after recordation, or that other corrections are necessary, the corrections may be accomplished by either the filing of a certificate of correction or an amending map, as provided by Article 7, Chapter 3 of the Map Act. For the purposes of this Section, "errors" include errors in course or distance (but not changes in courses or distances from which an error is not evident from the Parcel or Final

Map), omission of any course or distance, errors in legal descriptions, or any other map error or omission as approved by the County Surveyor that does not affect any property right, including lot numbers, acreage, street names, and identification of adjacent record maps. Other corrections may include indicating monuments set by engineers or surveyors other than the one that was responsible for setting monuments, or showing the proper character or location of any monument that was incorrectly shown, or that has been changed.

B. Changes to approved subdivision. In the event that a subdivider wishes to change the characteristics of an approved subdivision, including the number or configuration of parcels, location of streets or easements, or the nature of required improvements, the construction of which has been deferred through the approval of an agreement in compliance with Section 22.100.060 (Improvement Agreements and Security), a new Tentative and Parcel or Final Map shall be filed and approved as required by Section 22.80.030 (Applicability). Changes to additional information required to be filed or recorded with the Parcel or Final Map, such as building setback lines, may be processed through the Tentative Map Waiver procedure in Section 22.84.035 (Tentative Map Waiver) and finalized through the filing of a Certificate of Correction.

CHAPTER 22.88 – CONDOMINIUMS AND CONDOMINIUM CONVERSION

Sections:

22.88.010 – Purpose of Chapter
22.88.020 – Condominiums
22.88.030 – Condominium Conversions

22.88.010 – Purpose of Chapter

This Chapter provides procedures for the creation of condominium subdivisions and the conversion of existing development to condominium, consistent with the policies of the Marin Countywide Plan and the requirements of the Map Act.

22.88.020 – Condominiums

When a residential structure is proposed at the time of construction as a condominium or other common interest development (including a community apartment project, planned development or stock cooperative, as provided by California Civil Code Section 1351), a Tentative Map for the project shall be filed in the same form, have the same contents and accompanying data and reports and shall be processed, approved or denied in the same manner in compliance with Chapter 22.84 (Tentative Maps). Chapter 22.86 (Parcel Maps and Final Maps) determines whether a Parcel or Final Map shall also be filed.

22.88.030 – Condominium Conversions

A condominium conversion is the conversion of real property to a common interest development as defined by Section 1351 of the California Civil Code. A conversion shall require the approval of a Tentative Map, and Parcel or Final Map, except where a Parcel Map, or Tentative and Final Map are waived in compliance with Map Act Sections 66428.b or 66428.1. If a Parcel Map is waived, a Tentative Map shall still be required.

A Tentative Map for a condominium conversion shall be filed in the same form, have the same contents and accompanying data and reports and shall be processed, approved or denied in the same manner in compliance with Chapter 22.84 (Tentative Maps), with the following exceptions.

A. Application contents. Condominium conversion applications shall include the same information and materials as Tentative Map applications, and the additional information and other materials prepared as required by the Condominium Conversion Application Contents instruction list, provided by the Agency.

B. Staff report. The staff report on the Tentative Map for the condominium conversion (Section 22.40.070 (Staff Report and Recommendations)) shall be provided to the subdivider and each tenant of the subject property at least three days before any hearing or action on the Tentative Map by the review authority.

C. Public notice. The following notice shall be provided in addition to that required by Chapter 22.118 (Notices, Public Hearings, and Administrative Actions):

1. **Tenant notice.** The subdivider shall give notice to all existing or prospective tenants in compliance with Map Act Sections 66452.8 and 66452.9, and shall provide the Agency satisfactory proof that notice was given; and

2. **Public hearing notice.** Notice of the public hearing(s) on the Tentative Map shall be provided to all tenants of the subject property, as required by Map Act Section 66451.3.

D. Approval of conversion, required findings:

1. **Time limit, stock cooperatives.** The approval or denial of the conversion of an existing building to a stock cooperative shall occur within 120 days of the application being found complete in compliance with Section 22.40.050 (Initial Application Review). The 120-day time limit may be extended by mutual consent of the subdivider and the County.

2. **Conversion findings, residential projects.** Approval of a Tentative or Final Map for a subdivision to be created from the conversion of residential real property into a condominium project, community apartment project or stock cooperative shall not be granted unless the findings set forth in Map Act Section 66427.1 are first made, and unless the review authority also finds that the proposed conversion will not:

   a. Reduce the countywide rental vacancy rate below five percent based on the most recent U.S. Census or estimate by the Department of Housing and Urban Development (HUD); and

   b. Reduce the ratio of multi-family rental units to less than 25% of the total number of dwelling units in the County, with no replacement rental housing being provided.

   In addition to the findings required for approval of a Tentative Map as set forth in this Title, the following findings shall be required for the approval of a Tentative Map for the conversion of residential property:

   c. The review authority shall determine whether the proposed conversion is consistent with the following adopted housing goals:

      (1) To encourage continuation of social and economic diversity in Marin County communities through a variety of housing types;

      (2) To expand the supply of decent housing for low and moderate income families;

      (3) To achieve greater economic balance for Marin by increasing the number of jobs and the supply of housing for people who will hold them.

   d. The review authority may establish reasonable requirements to insure that a percentage of the converted units will be reserved for persons of moderate income. The percentage shall conform to that normally required in new developments.

   e. The review authority shall determine whether the staff report, if any, for a proposed Tentative Map for a condominium conversion has been served on each tenant of the subject property at least three days prior to any hearing or action on such map by the Commission or Director.

f. The review authority shall deny the Tentative Map upon finding that:

(1) The proposed conversion would reduce the countywide rental vacancy rate below five percent based on the most recent U.S. government postal vacancy survey or county local survey; or

(2) The proposed conversion would reduce the ratio of multiple-family units to less than 25 percent of the total number of dwelling units in the county, with no replacement rental housing being provided.

E. Completion of conversion. The filing, approval and recordation of a Parcel Map or Final Map in compliance with Chapter 22.86 (Parcel Maps and Final Maps) shall be required to complete the subdivision process, except where a Parcel Map, or Tentative and Final Map are waived for the conversion of a mobile home park in compliance with Map Act Section 66428.b.

CHAPTER 22.90 – LOT LINE ADJUSTMENTS

Sections:

22.90.010 – Purpose of Chapter
22.90.020 – Applicability
22.90.030 – Adjustment Application and Processing
22.90.040 – Decision and Findings
22.90.050 – Completion of Adjustment

22.90.010 – Purpose of Chapter

This Chapter provides procedures for the preparation, filing, processing, and approval or denial of Lot Line Adjustment applications, consistent with the policies of the Marin Countywide Plan and the requirements of Map Act Section 66412.d.

22.90.020 – Applicability

As provided by Map Act Section 66412(d), the Lot Line Adjustment procedure is for the purpose of adjusting lot lines between two to four existing adjacent parcels, where land taken from one parcel is added to an adjacent parcel and where no more parcels are created than originally existed. For the purposes of this Chapter, an "adjacent parcel" is one that directly touches at least one of the other parcels involved in the adjustment. Lot line adjustments involving five or more adjacent parcels shall be subject to the requirements of Chapter 22.84 (Tentative Maps).

22.90.030 – Adjustment Application and Processing

A Lot Line Adjustment application shall be prepared, filed and processed as provided by this Section.

A. **Application content.** A Lot Line Adjustment application shall include all information and other materials prepared as required by the Application Submittal Guide provided by the Agency. If a lot was created prior to current subdivision map requirements, a Certificate of Compliance (Chapter 22.96 (Certificates of Compliance)) may be required to document that the parcel is a legal lot of record.

B. **Processing.** Lot Line Adjustment applications shall be submitted to the Agency and shall be processed in compliance with the procedures specified by Chapter 22.40 (Application Filing and Processing). No environmental review (Section 22.40.060, Environmental Review) shall be required, in compliance with Section 15305 of the CEQA Guidelines.

22.90.040 – Decisions and Findings

The Review Authority shall determine whether the parcels resulting from the adjustment will conform with the applicable provisions of this Development Code. The Review Authority may approve, conditionally approve, or deny the Lot Line Adjustment in compliance with this Section. Decisions may be appealed in compliance with Chapter 22.114 (Appeals).

A. Required findings. The Review Authority shall approve the Lot Line Adjustment only if all of

the following findings are made:

1. The proposed lot line adjustment is limited to four or fewer existing adjoining lots.

2. Each of the affected lots is a separate legal lot of record because it was created in compliance with the applicable subdivision regulations in effect at the time of its creation.

3. The proposed lot line adjustment would not result in the creation of additional parcels or additional potential building sites.

4. The proposed lot line adjustment would comply with policies of the Countywide Plan, and any applicable community plan, and the Local Coastal Program (if applicable).

5. The proposed lot line adjustment would comply with zoning, development, and relevant subdivision provisions of Titles 18, 20, 22 and 24 of the Marin County Code, including those which address minimum lot size, lot design and configuration, street frontage and building setbacks from all property lines.

An adjustment for which any of the above findings cannot be made may instead by resubmitted as a subdivision in compliance with Section 22.80.030 (applicability).

B. Conditions of approval. In approving a Lot Line Adjustment, the Review Authority shall adopt conditions only as necessary to conform the adjustment and proposed parcels to the requirements of this Development Code and Title 19 (Building Regulations) of the County Code, or to facilitate the relocation of existing utilities, infrastructure, or easements.

22.90.050 – Completion of Adjustment

Within three years after approval of a Lot Line Adjustment, the adjustment process shall be completed in compliance with this Section through the recordation of a deed or record of survey, after all conditions of approval have been satisfied.

A. Completion by deed. A Lot Line Adjustment shall not be considered legally completed until either a grant deed or a quit claim deed signed by the record owners has been recorded. The Applicant shall submit deeds to the County Surveyor for review and approval in compliance with Subsection C below (Review and Approval by County Surveyor), before recordation of the grant deed or quit claim deed. The legal descriptions provided in the deeds shall be prepared by a qualified registered civil engineer, or a licensed land surveyor licensed or registered in the State. The Director may record a Certificate of Compliance to confirm the legality of the lot concurrent with, or following the recordation of, the grant deed or quit claim deed.

B. Completion by record of survey. If required by Section 8762 et seq. of the Business and Professions Code, a Lot Line Adjustment shall not be considered legally completed until a record of survey has been checked by the County Surveyor and sent to the County Recorder for recordation. Where not required, a Lot Line Adjustment may also be completed by record of survey in compliance with this Subsection at the option of the Applicant.

C. Review and approval by County Surveyor. The County Surveyor shall:

1. Examine the deeds to ensure that all record title owners have consented to the adjustment;

2. Verify that all conditions of approval have been satisfactorily completed and that the deeds are in substantial compliance with the Lot Line Adjustment as approved by the Review Authority;

3. If satisfied that the deeds comply with the above requirements, place an endorsed approval upon the deeds; and

4. After approval of the legal descriptions, assemble the deeds and return them to the Applicant for recordation.

D. Expiration. The approval of a Lot Line Adjustment shall expire and become void if the adjustment has not been completed as required by this Section within three years of approval. An extension of up to three additional years may be granted by the Review Authority in compliance with the requirements of Sections 22.84.140.A..

CHAPTER 22.92 – MERGER OF PARCELS

Sections:

22.92.010 – Purpose of Chapter
22.92.020 – Requirements for Merger
22.92.030 – Effective Date of Merger
22.92.040 – Notice of Intent to Determine Status
22.92.050 – Criteria for Unmerger
22.92.060 – Determination of Unmerger

22.92.010 – Purpose of Chapter

This Chapter provides procedures for the merger of parcels in compliance with Map Act Sections 66451.11 et seq. The County had a merger ordinance in existence before January 1, 1984.

Where applicable, merger is required to consolidate contiguous parcels in common ownership which were created prior to modern subdivision requirements, and are substandard with respect to current County subdivision standards, including lot area, size, configuration, slope, and/or infrastructure.

22.92.020 – Requirements for Merger

On or after January 1, 1984, when any one of two or more contiguous parcels or units of land, which are held by the same owner or owners, does not conform to the minimum lot area requirements of the applicable zoning district or the minimum lot area requirements based on lot slope (Section 22.82.050 – Hillside Subdivision Design), the contiguous parcels shall merge if required by Subsection A of this Section (Merger Required), except where otherwise provided by Subsection B of this Section (Exemptions from Merger Requirements).

A. Merger required. Contiguous, nonconforming parcels held by the same owner or owners shall merge if both of the following requirements are satisfied:

1. At least one of the affected parcels is undeveloped by any structure for which a Building Permit was issued or for which a Building Permit was not required at the time of construction, or is developed only with an accessory structure or accessory structures, or is developed with a single structure, other than an accessory structure, that is also partially sited on a contiguous parcel or unit of land; and

2. With respect to any affected parcel, one or more of the following conditions exist:

    a. Comprises less than 5,000 square feet in area at the time of the determination of merger;

    b. Was not created in compliance with applicable laws and ordinances in effect at the time of its creation;

    c. Does not meet current standards for sewage disposal in Title 18 (Sewers) of the County Code;

d. Does not meet current standards for domestic water supply in Title 7 (Health and Sanitation) of the County Code;

e. Does not meet slope stability standards. A parcel will be deemed to not meet slope stability standards if more than 50 percent of its gross area is located within slope stability zone 3 or 4 as shown on the latest slope stability maps on file with the Agency;

f. Has no legal access which is adequate for vehicular and safety equipment access and maneuverability. The standards of access shall be those contained in Title 24 (Improvement and Construction Standards) of the County Code;

g. Its development would create health or safety hazards; or

h. Is inconsistent with the Marin Countywide Plan, the Local Coastal Plan or any applicable Community Plan or Specific Plan, other than minimum lot size or density standards.

For purposes of determining whether contiguous parcels are held by the same owner, ownership shall be determined as of the date that the Notice of Intent to Determine Status is recorded in compliance with Section 22.92.040 (Notice of Intent to Determine Status).

B. Exemptions from merger requirements. Except as provided in Subsection A above, contiguous nonconforming parcels shall not be required to merge if on or before July 1, 1981, one or more of the contiguous parcels or units of land was:

1. Enforceably restricted open-space land pursuant to a contract, agreement, scenic restriction, or open-space easement, as defined and set forth in Section 421 of the Revenue and Taxation Code;

2. Timberland as defined in Government Code Section 51100.f, or is land devoted to an agricultural use as defined in Government Code Section 51201.b;

3. Located within 2,000 feet of the site of an existing commercial mineral resource extraction use, whether or not the extraction was in compliance with a Use Permit issued by the County;

4. Located within 2,000 feet of a future commercial mineral extraction site as shown on a plan for which a Use Permit or other permit authorizing commercial mineral resource extraction had been issued by the County.

5. Within the Coastal Zone, and had been identified or designated as being of insufficient size to support residential development and where the identification or designation had either:

   (a) Been included in the Land Use Plan portion of the County's Local Coastal Program; or

   (b) Before adoption of the Land Use Plan by formal action of the California Coastal Commission has been made in compliance with the provisions of the California Coastal Act of 1976 in a coastal development permit decision or in an approved land use plan work program or an approved issue identification on which the preparation of a land use plan in compliance with the provisions of the California Coastal Act is based.

C. Owner-Requested Merger. Upon written request from the property owner, the Director may merge two or more contiguous parcels or units of land that do not meet the requirements contained in Section 22.92.020 (Requirements for Merger) based upon findings that such merger is consistent with the Countywide Plan, Community Plan or specific plan, Local Coastal Plan, if applicable, and this Development Code, and would not create the potential for development which is inconsistent with the mandatory findings for Design Review approval contained in Section 22.42.060 (Decision and Findings). The Director may require Design Review for future development of parcels merged pursuant to this section to ensure compliance with these findings. Notwithstanding the criteria for non-merger or unmerger, units of real property that are merged through application of this subsection shall not be unmerged.

22.92.030 – Effective Date of Merger

A merger of units of real property becomes effective on the date the Director files a Notice of Merger for record with the County Recorder. A Notice of Merger shall specify the names of the record owners and describe the real property that has merged.

22.92.040 – Notice of Intent to Determine Status

The filing of a Notice of Intent to Determine Status, and a hearing and decision on the status of contiguous parcels with respect to merger shall occur as follows.

A. Timing and content of notice. Before recording a Notice of Merger, the Director shall cause to be mailed by certified mail to then current record owners of the property a Notice of Intention to Determine Status, notifying the owners that the affected parcels may be merged in compliance with the requirements of this Chapter, and advising the owners of the opportunity to request a hearing on determination of status and to present evidence at the hearing that the property does not meet the criteria for merger. The notice shall also inform the owners that the Commission, Zoning Administrator, or Director is authorized to make a determination of merger or non-merger in compliance with Section 22.92.020 (Requirements for Merger) based on the information available from County records, in the event that a request for hearing is not filed within 30 days of the date of the notice. The Notice of Intention to Determine Status shall be filed for record with the County Recorder on the date that the notice is mailed to the property owner.

B. Request for hearing. At any time within 30 days after recording of the Notice of Intention to Determine Status, the owner of the affected property may file a request for a hearing on determination of status with the Director.

C. Determination of review authority. When filing a request for a hearing on determination of status, the property owner may request that the hearing be conducted before the Commission, Zoning Administrator, or the Director. When a request for hearing does not specify a hearing body, the Director shall conduct the hearing, except that where the Director determines that significant policy questions are at issue, the Director may refer the determination of merger to the Commission for action.

D. Procedure for hearing:

1. Upon receiving a request for a hearing on determination of status, the Director shall set a time, date, and place for a hearing to be conducted by the applicable review authority and shall notify the property owner by certified mail.

2. The hearing shall be conducted no less than 60 days after the Director's receipt of the request for hearing, but may be postponed or continued with the mutual consent of the Director and the property owner. At the hearing, the property owner shall be given the opportunity to present any evidence that the affected property does not meet the standards for merger specified in this Chapter. At the conclusion of the hearing, the review authority shall make a determination that the affected parcels are to be merged or are not to be merged and shall so notify the owner of its determination. A determination of merger shall be recorded within 30 days after conclusion of the hearing, in compliance with Section 22.92.030 (Effective Date of Merger).

E. Determination when no hearing is requested. If the owner does not file a request for hearing on determination of status within 30 days of the recording of the Notice of Intent to Determine Status, the Director may make a determination that the affected parcels are to be merged or are not to be merged. A determination of merger shall be recorded in compliance with Section 22.92.030 no later than 90 days after the recording of the Notice of Intent to Determine Status.

F. Non-merger. A determination of non-merger shall occur as follows:

1. Action and findings. The review authority may make a determination of non-merger whether or not the affected property meets the standards of Sections 22.92.020 (Requirements for Merger) or 22.92.050 (Criteria for Unmerger), provided the following findings are made:

a. The parcels were created by a record of survey or Parcel or Final Map in accordance with the provisions of the County Code in effect at the time of their creation.

b. The unmerger and subsequent development of the individual parcels would not be contrary to the public health, safety or welfare. In making this finding, the review authority shall consider the factors in Section 22.122.050 (Legal Remedies - Development Permits and Approvals Withheld).

2. Notice of non-merger. If the review authority determines that the subject property shall not be merged in compliance with Subsections D, E, or F above (Procedure for Hearing, Determination When No Hearing is Requested, and Non-merger, respectively), it shall cause a Release of the Notice of Intention to Determine Status to be recorded in the manner specified in Section 22.92.040 (Notice of Intent to Determine Status), and shall mail a clearance letter to the current record owner.

G. Appeal. A merger determination or decision may be appealed in compliance with Chapter 22.114 (Appeals).

22.92.050 – Criteria for Unmerger

Any parcels or units of land for which a Notice of Merger had not been recorded on or before January 1, 1984, shall be deemed not to have merged if on January 1, 1984:

A. The parcel met each of the following criteria:

1. Comprised at least 5,000 square feet in area;

2. Was created in compliance with applicable laws and ordinances in effect at the time of its creation;

3. Met current standards for sewage disposal under Title 18 (Sewers) of the County Code;

4. Met current standards for domestic water supply under Title 7 (Health and Sanitation) of the County Code;

5. Met the lot slope density standards of Section 22.82.050 (Hillside Subdivision Design);

6. Had legal access adequate for vehicular and safety equipment access and maneuverability, in compliance with Title 24 of the County Code;

7. Development of parcel would create no health or safety hazards;

8. The parcel would be consistent with the Marin Countywide Plan, the Local Coastal Plan or any applicable Community Plan or Specific Plan, other than a minimum lot size or density standards; and

B. None of the contiguous parcels or units of land on or before July 1, 1981 were:

1. Enforceably restricted open-space land pursuant to a contract, agreement, scenic restriction, or open-space easement, as defined and set forth in Section 421 of the Revenue and Taxation Code;

2. Timberland as defined in Section 51100.f of the Government Code, or was land devoted to an agricultural use as defined in Section 51201.b of the Government Code;

3. Located within 2,000 feet of the site of an existing commercial mineral resource extraction use, whether or not the extraction was occurring in compliance with a Use Permit issued by the County;

4. Located within 2,000 feet of a future commercial mineral extraction site as shown on a plan for which a Use Permit or other permit authorizing commercial mineral resource extraction had been issued by the County; and

5. Within the Coastal Zone, and had been identified or designated as being of insufficient size to support residential development and where the identification or designation had either:

   a. Been included in the Land Use Plan portion of the County's Local Coastal Program; or

   b. Before the adoption of the Land Use Plan, been made by formal action of the California Coastal Commission in compliance with the provisions of the California Coastal Act of 1976 in a coastal development permit decision or in an approved land use plan work program or an approved issue identification on which the preparation of a land use plan in compliance with the provisions of the California Coastal Act is based.

22.92.060 – Determination of Unmerger

A property owner may request, and the review authority shall make a determination whether affected parcels have merged, as follows:

A. Application. An application for Determination of Unmerger shall include the forms, other application materials, and fees required by the Agency.

B. Review authority. When filing an application for determination of an unmerger, the property owner may request a public hearing before the Commission or the Zoning Administrator. When a request for hearing does not specify a review authority, the Zoning Administrator shall conduct the public hearing, except that the Zoning Administrator may determine that significant policy questions are at issue, and refer the determination of merger to the Commission for action. The Zoning Administrator shall provide 30 days written notice to the owner of the affected parcels of the date and place of the hearing or decision on the determination of merger.

C. Decision. The review authority shall make a determination that the affected parcels have merged or, if meeting the criteria of Section 22.92.050 (Criteria for Unmerger), are deemed not to have merged.

D. Notification to owner. The owner of the affected parcels shall be notified as follows:

1. Upon a determination that the parcels meet the standards specified in Section 22.92.050 (Criteria for Unmerger), the Director shall issue to the owner and record with the County Recorder a Notice of the Status of the Parcels, which shall identify each parcel and declare that the parcels are unmerged in compliance with this Chapter.

2. Upon a determination that the parcels have merged and do not meet the criteria specified in Section 22.92.050 (Criteria for Unmerger), the Director shall issue to the owner and record with the County Recorder, a Notice of Merger, in compliance with Section 22.92.030 (Effective Date of Merger).

E. Appeal. The merger determination or decision may be appealed in compliance with Chapter 22.114 (Appeals).

CHAPTER 22.94 – REVERSIONS TO ACREAGE

Sections:

22.94.010 – Purpose of Chapter
22.94.020 – Applicability
22.94.030 – Application Filing and Processing
22.94.040 – Findings for Approval of Reversions
22.94.050 – Conditions of Approval for Reversions
22.94.060 – Parcel or Final Map Contents

22.94.010 – Purpose of Chapter

This Chapter provides procedures for the process of reversion to acreage, where subdivided real property may be reverted from multiple parcels to a single parcel, consistent with the policies of the Marin Countywide Plan and the requirements of the Map Act. Reversion to acreage may be used to combine subdivision lots which do not meet the requirements for merger.

22.94.020 – Applicability

Subdivided real property may be reverted to acreage as provided by this Chapter and by Map Act Chapter 6, Article 1.

22.94.030 – Application Filing and Processing

Applications for reversion to acreage shall be filed and processed as follows:

A. **Application information – Streets and easements.** The application for reversion shall include evidence of non-use of or lack of necessity for any streets or easements that are to be vacated or abandoned, in addition to the information required by Section 22.40.030 (Application Submittal and Filing).

B. **Filing and processing.** The application shall be prepared, filed, and initially processed as provided by Chapter 22.40 (Application Filing and Processing, Fees), except that no environmental review of a reversion to acreage shall be required, as provided by Section 15305 of the CEQA Guidelines.

C. **Transmittal.** In addition to the procedures outlined in Chapter 22.40 (Application Filing and Processing, Fees), a reversion to acreage shall be referred to the agencies outlined in Section 22.84.030.B (Transmittal to affected agencies).

D. **Completion of process.** A reversion to acreage shall require approval of a Parcel or Final Map, with the procedure the same as that required by Chapter 22.86 (Parcel Maps and Final Maps), except that a public hearing shall be held by the Board on the reversion to acreage before approval or denial of the Final Map.

22.94.040 – Findings for Approval of Reversions

Subdivided property may be reverted to acreage only if the following findings, in addition to determining compliance with Section 22.86.050.B.1 (Criteria for Approval) can be satisfied:

A. Dedications or offers of dedication to be vacated or abandoned by the reversion to acreage are unnecessary for present or prospective public purposes; and either,

B. All owners of an interest in the real property within the subdivision have consented to reversion; or

C. None of the improvements required to be made have been made within two years from the date the Parcel or Final Map was filed for record, or within the time allowed by an agreement for completion of the improvements, whichever is the later; or

D. No lots shown on the Parcel or Final Map have been sold within five years from the date the map was filed for record.

22.94.050 – Conditions of Approval for Reversions

As conditions of reversion, the following shall be required:

A. Dedications or offers of dedication necessary for the purposes specified by Chapters 22.82 (Subdivision Design Standards) and 22.100 (Subdivision Improvements and Agreements).

B. Retention of all previously paid fees and/or any portion of required improvement security or deposits if necessary to accomplish the purposes of the Map Act or this Development Code.

22.94.060 – Parcel or Final Map Contents

In addition to the information specified by Section 22.86.020 (Parcel and Final Map Application Filing and Processing), the Final or Parcel Map for a reversion to acreage shall also delineate dedications that will not be vacated and dedications that are a condition of reversion.

CHAPTER 22.96 – CERTIFICATES OF COMPLIANCE

Sections:

22.96.010 – Purpose of Chapter
22.96.020 – Applicability
22.96.030 – Application Filing and Processing
22.96.040 – Review and Approval

22.96.010 – Purpose of Chapter

This Chapter provides procedures for the filing, processing, and approval or denial of Certificates of Compliance and Conditional Certificates of Compliance, consistent with the policies of the Marin Countywide Plan and the requirements of the Map Act.

22.96.020 – Applicability

A Certificate of Compliance is a document recorded by the County Recorder, which acknowledges that the subject parcel, which was typically created prior to current subdivision map requirements, is considered by the County to be a legal lot of record. A Conditional Certificate of Compliance is used instead of a Certificate of Compliance to validate a parcel that was not legally subdivided.

Section 66499.35 of the Map Act requires the approval of these certificates. Any person owning real property, or a purchaser of the property in a contract of sale of the property, may request a Certificate of Compliance or Conditional Certificate of Compliance. Contiguous parcels that have been granted Certificates of Compliance or Conditional Certificates of Compliance may still be subject to merger (see Chapter 22.92 (Merger of Parcels)).

22.96.030 – Application Filing and Processing

A. Application information. A Certificate of Compliance or Conditional Certificate of Compliance application shall include the form provided by the Agency, the required filing fee, and a chain of title, consisting of copies of all deeds beginning before the division and thereafter, unless the parcels were created through a recorded subdivision map.

B. Processing. Certificate of Compliance and Conditional Certificate of Compliance applications shall be submitted to the Agency and shall be processed in compliance with the procedures for ministerial planning permits specified by Chapter 22.40 (Application Filing and Processing, Fees). No environmental review (Section 22.40.060 (Environmental Review)) shall be required, in compliance with Section 15268.a of the CEQA Guidelines.

22.96.040 – Review and Approval

The processing, review and approval of the application shall occur as follows.

A. Decision. The Agency shall prepare a written analysis that will serve as the basis for action by the Review Authority. A single Certificate of Compliance determination shall be issued for each unit of real property determined to be a single legal lot of record. The analysis will:

1. Describe the history of the land division;

2. Determine whether the property was legally created by the division of real property;

3. Reference provisions of State law and County (or earlier County) ordinances applicable to the subdivision at the time the division in question occurred; and

4. Identify conditions of approval where appropriate.

B. Action by Review Authority. The Review Authority shall review all available information and make a determination whether the real property was divided in compliance with the Map Act, this Development Code, and other applicable provisions of the County Code.

1. Upon making the determination that the real property was divided in compliance with the Map Act, this Development Code or applicable previous Ordinances enacted pursuant to the Map Act, and other applicable provisions of the County Code, and was not subsequently merged with contiguous parcels, then the Review Authority shall issue a Certificate of Compliance Determination and cause a Certificate of Compliance to be filed with the County Recorder.

2. Parcels created by antiquated subdivisions may not be determined to be legal lots of record. Further, a parcel may not be determined to be a legal lot of record if it was merged with a contiguous unit of real property and remained merged pursuant to Map Act Section 66451.301.

3. Upon making a determination that the real property does not comply with the provisions of this Development Code or the Map Act, the Review Authority shall grant a Conditional Certificate of Compliance, imposing conditions as provided by Subsection C below (Conditions of Approval).

C. Conditions of approval. If the owners of the property for which a Conditional Certificate of Compliance is being issued are the original subdividers, the Review Authority may impose any conditions that would be applicable to a current subdivision, as provided by the Map Act and this Development Code, regardless of when the property was divided. If the owners had no responsibility for the subdivision that created the parcel, the Review Authority may only impose conditions that would have been applicable at the time the property was acquired by the current owners.

D. Appeal. The conditions imposed by the Review Authority may be appealed in compliance with Chapter 22.114 (Appeals).

E. Completion of process. Following expiration of the 10-day appeal period, the Agency shall file either a Certificate of Compliance or a Conditional Certificate of Compliance with the County Recorder. The certificate shall identify the property, and serve as notice to the property owner or purchaser who applied for the certificate, a grantee of the owner, or any subsequent transferee or assignee of the property that either the division complies with the provisions of the Map Act and this Development Code or the fulfillment and implementation of the conditions shall be required before subsequent issuance of a permit or other approval for the development of the property.

F. Effective date of certificate. A Conditional Certificate of Compliance or Conditional Certificate of Compliance shall not become effective until the document has been recorded by the County Recorder.

CHAPTER 22.98 – DEDICATIONS, RESERVATIONS, EASEMENTS

Sections:

22.98.010 – Purpose of Chapter
22.98.020 – Applicability – Required Dedications
22.98.030 – Easement Dedications
22.98.040 – Parkland Dedications and Fees
22.98.050 – Public Access Dedication and Improvement
22.98.060 – Reservations of Land
22.98.070 – Right-of-Way Dedications
22.98.080 – School Site Dedications

22.98.010 – Purpose of Chapter

This Chapter establishes standards for subdivider dedications of land or payment of fees in lieu thereof, in conjunction with subdivision approval, in compliance with the Map Act. These requirements are intended to preserve and enhance habitat, the natural environment, and scenic values of the County and the excellence of residential, commercial, or industrial development. The requirements of this Chapter are consistent with the policies of the Marin Countywide Plan.

22.98.020 – Applicability – Required Dedications

A proposed subdivision shall comply with the requirements of this Chapter for dedications, reservations, or the payment of in-lieu fees. The requirements of this Chapter shall not be construed to create an obligation for the County to maintain park or playground areas.

22.98.030 – Easement Dedications

Wherever the provisions of this Article result in requirements for the dedication of easements to the County for the purposes of common driveways, drainage, pedestrian walkways, bicycle or equestrian paths, slopes, public utilities, emergency access, limiting access to specific streets, or other purposes, the dedications shall comply with all applicable provisions of Title 24, Chapters 24.05 (Easements) and 24.06 (Reserved Strips) of the County Code.

22.98.040 – Parkland Dedications and Fees

A. Purpose. This Section provides for the dedication of land and/or the payment of in-lieu fees for park and recreational facilities, in compliance with Map Act Sections 66477, et seq., also known as the Quimby Act.

The primary intent of this Section is to provide land for functional recreation units of local or neighborhood service, including: tot lots, play lots, playgrounds, neighborhood parks, playfields, community or district parks, and other specialized recreational facilities that may serve families and senior citizen activities.

B. Applicability.

1. Dedication and/or fee required. The subdivider shall be required to dedicate land and/or pay fees in compliance with this Section, as a condition of Tentative Map approval.

2. Exemptions. The provisions of this Section do not apply to industrial or commercial subdivisions, condominium or stock cooperative projects that propose the subdivision of air space in an existing apartment building that is more than five years old when no new housing units are added, or to any other subdivisions exempted from these requirements by Map Act Section 66477.

3. Determination of dedication and/or fee for non-County facilities. Where park and recreational services are provided by a public agency other than the County, the amount and location of land to be dedicated or fees to be paid shall be jointly determined by the County and the public agency.

C. Amount of parkland required. In compliance with Map Act Section 66477.b, three acres of land for each 1,000 persons residing within the County shall be devoted to neighborhood and community park and recreational purposes.

D. Dedication requirement. Dedication shall be required where parks and recreation facilities are designated in the Marin Countywide Plan, Local Coastal Plan, or any Community Plan or Specific Plan, and are to be entirely or partly located within the proposed subdivision. In these cases, the subdivider shall dedicate land for a local park sufficient in size and topography that bears a reasonable relationship to serve the present and future needs of the future residents of the subdivision.

1. Formula for dedication. The amount of land to be provided shall be determined by the following formula:

Required Acres of Parkland per Dwelling Unit = 0.003 Acres per Person x Average Number of Persons per Household

Example: A development project proposing 100 dwelling units in an area of the County where the type of dwelling units proposed typically contain an average of 2.4 persons per household, would be required to dedicate 0.0072 acres of land per dwelling (a total of 0.72 acres), or pay an in-lieu fee. (0.003 acres per person x 2.4 persons per dwelling = 0.0072 acres per dwelling) x (100 dwellings in project = 0.72 acres)

2. Determining average number of persons per household. The average number of persons per household shall be determined by the Director, using the most recent U.S. Census information regarding household size for Marin County.

3. Determining number of dwellings. For the purposes of this Section, the number of dwellings in the subdivision shall be determined as follows, and shall not include dwellings lawfully in place before the date the Tentative Map was approved:

a. In areas zoned for one dwelling per parcel, the number of dwellings shall equal the number of parcels shown on the Tentative Map.

b. When a portion of the subdivision is zoned for multi-family housing, the number of proposed dwellings in the area so zoned shall equal the maximum number of dwellings allowed in that zoning district.

c. For residential condominiums, the number of dwellings shall be the number of condominium units shown on the Tentative Map.

E. Quality requirements for land dedications. Lands to be dedicated or reserved for park and/or recreational purposes shall, in the opinion of the Director and the Director of Parks and Recreation, be suitable in location, topography, environmental characteristics and development potential for the intended use. Principal consideration shall be given to lands that offer:

1. A variety of recreational opportunities for all age groups;

2. Recreational opportunities located within walking distance from residents' homes;

3. Possibility for expansion or connection with school grounds;

4. Integration with hiking, riding, bicycle trails, waterways, and other open space;

5. Coordination with other park systems; and

6. Access to at least one existing or proposed public street.

F. Improvements required for dedicated lands. The subdivider shall provide the following improvements on lands to be dedicated in compliance with this Section, which shall not be counted toward the requirement for dedication, unless the Director waives such improvements:

1. Full street improvements and utility connections including curbs, gutters, street paving, traffic-control devices, street trees and sidewalks to the land that is dedicated. These improvements shall be provided in compliance with applicable Community Plans or Specific Plan unless the requirement for such improvements is waived by the Director.

2. Fencing along the property lines of portions of the subdivision contiguous to the dedicated land;

3. Improved drainage through the site; and

4. Other improvements that the County determines to be essential to the acceptance of the land for recreational purposes.

G. Fees in lieu of dedication. The subdivider shall pay fees in lieu of dedication where there is no park or recreation facility designated in the Marin Countywide Plan, Local Coastal Plan, or applicable Community or Specific Plan to be located within or partly within the proposed subdivision, or the subdivision proposes 50 or fewer parcels. The required fee shall be as determined by the formula in Subsection G.1 following (Formula for Fees).

1. Formula for fees. The amount of a required in-lieu fee shall be based upon the fair market value of land that would otherwise be required for dedication by Subsection D above (Dedication Requirement), plus 20 percent of the fair market value to be used to partially cover the costs of the off-site improvements that would otherwise have been required with dedication in compliance with Subsection F above (Improvements Required

for Dedicated Lands). The in-lieu fee shall be determined by the following formula as determined by the Director:

Fee = (No. of Dwellings x Acres of Parkland per Dwelling x FMV per Buildable Acre) x 1.20

Where:

Acres of Parkland per Dwelling is determined by Subsection D above (Dedication Requirement).
FMV = Fair market value, as determined by Subsection G.2 below (Determination of Fair Market Value).
Buildable Acre = A typical acre of the subdivision, not subject to flooding, easements, excessive slope, or other restrictions.

Example: The development project proposing 100 dwelling units described in the example in Subsection D.1 (Dedication requirement) above, in area where appraisal determined that the fair market value of a buildable acre would be $150,000, would be required to pay a fee of $129,600. (100 dwellings x 0.0072 acres of parkland per dwelling x FMV of $150,000 per acre x 1.20 = $129,600)

2. Determination of fair market value. The County shall determine the fair market value of a buildable acre in the proposed project through a written appraisal prepared and signed by an appraiser acceptable to the County. The cost of the appraisal shall be paid by the subdivider. The appraisal shall be completed immediately before the filing of the Final Map.

The subdivider shall notify the County of the expected filing date at least six weeks before filing of the Final Map. If more than one year elapses before filing the Final Map, the County will prepare a new appraisal and will bill the subdivider for the cost of the reappraisal.

For the purposes of this Chapter, the determination of the fair market value of a buildable acre shall consider, but not necessarily be limited to, the following:

a. Any conditions of the Tentative Map;

b. The designations of the site by the Marin Countywide Plan, Local Coastal Plan or applicable Community or Specific Plan;

c. The zoning district applicable to the site;

d. Site location and characteristics; and

e. Off-site improvements facilitating use of the property.

If the subdivider objects to the fair market value determined by the County, the subdivider may appeal the determination to the Board, who shall hear the appeal under the same current rules for local hearings by the California State Board of Equalization hearings, except that the burden of proof shall lie with the subdivider.

3. **Dedication in subdivisions of 50 or fewer parcels.** Nothing in this Section shall prohibit the dedication and acceptance of parkland in subdivisions of 50 or fewer parcels, where the subdivider proposes the dedication voluntarily and the land is acceptable to the County.

4. **Use of fees.** The in-lieu fees collected in compliance with this Section shall be used only for the purpose of acquiring necessary land and developing new parks, or rehabilitating existing park or recreational facilities.

H. Requirement for dedication and fees. In subdivisions of over 50 parcels, the subdivider shall both dedicate land and pay a fee, as follows.

1. When a portion of the land to be subdivided is proposed in the Marin Countywide Plan, Local Coastal Plan or Community Plan or Specific Plan as the site for a park or recreation facility, that portion shall be dedicated for local park purposes. The land to be dedicated shall be subject to the improvement requirements of Subsection F above (Improvements Required for Dedicated Lands). If additional land would have been required for dedication by Subsection D above (Dedication Requirement), a fee, computed in compliance with Subsection G above (Fees In-lieu of Dedication), shall also be paid for the value of any additional land, plus 20 percent toward the costs of off-site improvements.

2. When a major part of the local park or recreation site has already been acquired by the County or other local agency, and only a portion of the land is needed from the subdivision to complete the park site, the remaining portion shall be dedicated for local park purposes.

   The subdivider shall also pay a fee in compliance with Subsection G above (Fees In-lieu of Dedication), in an amount equal to the value of the land, plus an additional 20 percent of the value of the land toward the costs of the off-site improvements that would otherwise have been required by Subsection F above (Improvements Required for Dedicated Lands) if the land had been dedicated. The County shall use the fees to improve the existing park and recreation facility, or to improve other local parks and recreation facilities in the area serving the subdivision.

I. Determination of land or fee. In determining whether to accept a land dedication or to require payment of an in-lieu fee, or a combination of both, the Board shall consult with the Commission and the Parks and Recreation Commission, and shall consider the following factors:

1. The natural features, access, and location of land in the subdivision available for dedication;

2. Size and shape of the subdivision and land available for dedication;

3. Feasibility of dedication;

4. Compatibility of dedication with the Marin Countywide Plan, Local Coastal Plan or any applicable Community Plan or Specific Plan.

5. The location of existing and proposed park sites and trailways.

The determination of the Board as to whether land shall be dedicated, or whether a fee shall be paid in lieu thereof, or a combination of both, shall be final.

J. Credit for private open space. Where a proposed subdivision will include private open space, the Board may reduce the area of land or the amount of fees required by this Section, provided that the Board finds that it is in the public interest to do so and that all of the following standards are met. The Board shall consult with the Commission and the Parks and Recreation Commission before determining the extent of any reduction in land to be dedicated or fees to be paid.

1. Any yards, court areas, setbacks, and other open areas required by this Development Code and Title 19 (Building Standards) of the County Code shall not be included in the computation of the private open space.

2. The private park and recreation facilities shall be owned by a homeowners' association that is composed of all property owners in the subdivision. The homeowners' association shall be an incorporated nonprofit organization capable of dissolution only by a 100 percent affirmative vote of the membership, operated under recorded land agreements through which each lot owner is automatically a member, and each lot is subject to a charge or a proportionate share of expenses for maintaining the facilities.

3. The use of the private open space is restricted for park and recreation purposes by recorded covenants which run with the land in favor of the future owners of the property and which cannot be defeated or eliminated without the consent of the County or its successor.

4. The proposed private open space is reasonably adaptable for use for park and recreation purposes, taking into consideration factors including size, shape, topography, geology, access, and location.

5. Facilities proposed for the open space are in substantial compliance with the provisions of the Marin Countywide Plan, the Local Coastal Plan, or any applicable Community or Specific Plan.

6. Generally, the open space for which credit is given is a minimum of three acres and provides all of the following basic local park elements, or a combination of these and other recreation improvements, that will meet the specific recreation park needs of the future residents of the area:

    a. Recreational open spaces, generally defined as park areas for active recreational activities (e.g., soccer, golf, baseball, softball, and football) and which have at least one acre of maintained turf with less than five percent slope);

    b. Court areas, generally defined as tennis courts, badminton courts, shuffleboard courts, or similar hard-surfaced areas especially designed and exclusively used for court games;

    c. Recreational swimming areas, generally defined as fenced areas devoted primarily to swimming, diving, or both, and which include decks, lawn area, bathhouses, or other facilities, developed and used exclusively for swimming and/or diving. Swimming facilities shall consist of no less than 15 square feet of water surface area for each three percent of the population of the subdivision; and

    d. Recreation buildings and facilities designed and primarily used for the recreational needs of the residents of the subdivision.

7. The credit for private open space shall not exceed 50 percent of the required land dedication or payment of fees.

The determination of the Board as to whether credit shall be granted and the amount of that credit shall be final.

K. Procedure. At the time of approval of the Tentative Map, the Director and/or Commission shall determine the land required for dedication in compliance with Subsection D above (Dedication Requirement). At the time of the filing of the Parcel or Final Map in compliance with this Article, the subdivider shall:

1. Dedicate the land as required by the Director and/or Commission; and/or

2. Pay the required fees before recordation of the Parcel Map or Final Map.

L. Disposition of land or fees. Land or fees required in compliance with this Section shall be conveyed or paid directly to the local public agency which provides park and recreational services on a community wide level and to the area within which the proposed development will be located, if the agency elects to accept the land or fee. The County or other applicable public agency shall:

1. Deposit the fees into a subdivision park trust fund, or other similar fund. Monies in the fund, including accrued interest, shall be expended solely for the acquisition or development of park land or related improvements. The County Treasurer shall report the income, expenditures and status of the County subdivision park trust fund to the Board on an annual basis;

2. Develop a schedule in compliance with Map Act Section 66477 specifying how, when, and where it will use the land or fees, or both, to develop park or recreation facilities to serve the residents of the subdivision; and

3. Appropriate the collected fees within an annual budget, for a specific project to serve the residents of the subdivision, within five years after receipt of payment, or within five years after Building Permits are issued for one-half of the lots created by the subdivision, whichever occurs later.

   If the fees are not so committed, these fees, less an administrative charge, shall be distributed to the then-record owners of the subdivision lots in the same proportion that the size of their lot bears to the total area of all lots within the subdivision.

M. Sale of dedicated land. Land dedicated for a local park and/or recreational use may be sold by the Board and the proceeds used to purchase a more suitable site. The land may be sold if circumstances arise in the time between dedication of land for park purposes and the issuance of Building Permits, which indicate that another site would be more suitable for local park or recreational purposes serving the subdivision and the neighborhood (i.e., receipt of a gift of additional parkland or change in school location, etc.), the land may be sold upon the approval of the Board.

22.98.050 – Public Access Dedication and Improvement

The subdivider may be required to dedicate easements to provide public access to or along the shorelines of public resources, including a public waterway, river or stream, coastline or shoreline lake or reservoir, or other public lands, in compliance with Map Act Sections 66478.1 et seq., or the County's Local Coastal Plan.

22.98.060 – Reservations of Land

As a condition of approval of a Tentative Map, the County may require the subdivider to reserve sites appropriate in area and location for parks, recreational facilities, fire stations, libraries or other public uses, in compliance with the standards and formulas in this Chapter.

A. Standards for reservation of land.

1. Location of land. Where a park, recreational facilities, fire station, library, or other public use is shown in the Marin Countywide Plan, Local Coastal Plan, or applicable Community Plan or Specific Plan, the subdivider may be required by the County to reserve sites as determined by the County in compliance with the standards in the applicable plan.

2. Configuration. The reserved area shall be of a size and shape that will permit the balance of the property to develop in an orderly and efficient manner. The amount of land to be reserved shall not make development of the remaining land held by the subdivider economically unfeasible. The land to be reserved shall be in multiples of streets and parcels that will permit an efficient division of the reserved area if it is not acquired within the period determined by Subsection B following (Procedure for Reservation of Land).

B. Procedure for reservation of land. The public agency for whose benefit an area has been reserved shall at the time of approval of the Parcel or Final Map enter into a binding agreement with the subdivider to acquire the reserved area within two years after the completion and acceptance of all improvements, unless a longer time is authorized by mutual agreement.

C. Purchase price of reserved land. The purchase price shall be the market value of the land at the time the Tentative Map is filed, plus the property taxes against the reserved area from the date of the reservation, and any other costs incurred by the subdivider in maintaining the reserved area, including interest costs incurred on any loan covering the reserved area.

D. Termination of reservation. If the public agency for whose benefit an area has been reserved does not enter into a binding agreement as described in Subsection B above (Procedure for Reservation of Land), the reservation shall automatically terminate.

22.98.070 – Right-of-Way Dedications

As a condition of approval of a Parcel or Final Map, the subdivider shall dedicate or make an irrevocable offer of dedication of all parcels of land or easements within the subdivision that are needed for streets or alleys, including access rights and abutters' rights, drainage, public utility easements, and other public easements. These dedications shall comply with all applicable requirements of Title 24, Chapter 24.05 of the County Code (Easements).

22.98.080 – School Site Dedications

A. Dedication requirement. In compliance with Map Act Section 66478, a subdivider may be required to dedicate land as the Review Authority determines to be necessary for adequate elementary school facilities for the residents of the subdivision. Dedication may be required only if the subdivider and/or successors in interest to the property:

1. Have owned the land being subdivided for less than 10 years before filing the Tentative Map; and

2. Develop, or complete the development, of a subdivision of more than 400 dwelling units within a single school district, within a period of three years or less.

B. Tentative Map approval. If the affected school district responds to the referral of the Tentative Map application (Section 22.84.020 (Tentative Map Preparation, Application Contents)) with a report to the County describing the land the district deems necessary and suitable to provide adequate elementary school service to residents of the proposed subdivision, the Review Authority shall require the dedication of land as a condition of approval of the Tentative Map. As required by Map Act Section 66478, the dedication requirement shall not make development of the remaining land held by the subdivider economically unfeasible, or exceed the amount of land ordinarily allowed under the procedures of the State Allocation Board.

C. Timing of dedication. The required dedication may occur before, concurrently with, or up to 60 days after the filing of a Final Map on any portion of the subdivision. If the school district accepts the dedication, the district shall pay the subdivider the amounts required by Map Act Section 66478, and shall record the certificate required by Map Act Section 66478.

D. Termination of dedication requirement. The requirement of dedication shall automatically terminate unless, within 30 days after the requirement is imposed by the Review Authority, the school district makes a binding commitment to the subdivider agreeing to accept the dedication at any time before the construction of the first 400 dwelling units. Upon acceptance of the dedication, the school district shall repay to the subdivider and/or successors the costs specified in Business and Professions Code Section 11525.2.

E. Judicial review. Any person who is aggrieved by or fails to agree to the reasonableness of any requirement imposed in compliance with this Section may bring a special proceeding in the Superior Court in compliance with Map Act Section 66499.37.

F. Reversion of land – Repurchase. Should the school district find itself unable to accept the dedication for reasons other than specified in the commitment with the subdivider, the dedicated land shall revert to the subdivider. If the dedication is accepted and the school district within 10 years from the date of acceptance offers the property or any substantial part thereof for public sale, the subdivider shall have the first option to repurchase the property for the price paid by the district, plus a sum equal to the amount of property taxes which would have been paid during the period of public ownership.

CHAPTER 22.100 - SUBDIVISION IMPROVEMENTS AND AGREEMENTS

Sections:

22.100.010 – Purpose of Chapter
22.100.020 – Improvements Required
22.100.030 – Subdivision Grading, Erosion and Sediment Control
22.100.040 – Soils Reports
22.100.050 – Improvement Plans and Inspections
22.100.060 – Improvement Agreements and Security
22.100.070 – Monuments and Staking

22.100.010 – Purpose of Chapter

This Chapter establishes standards for subdivision improvements, and agreements with the County to guarantee the installation of the improvements.

22.100.020 – Improvements Required

A. Basic improvement requirements. The subdivider shall construct all improvements required by this Chapter and Title 24 (Improvement and Construction Standards) of the County Code, any improvements shown on the approved Tentative Map, and any improvements required as a condition of Tentative Map approval.

1. Design and construction standards. The design and construction of subdivision improvements shall comply with all applicable provisions of Chapter 22.82 (Subdivision Design Standards), and Title 24 (Improvements) of the County Code.

2. Conditions of approval. The improvement requirements of this Chapter and any other improvements determined by the Review Authority to be necessary in compliance with Sections 22.84.050 (Tentative Map Review) and 22.84.060 (Findings for Approval of Tentative Map), shall each be described in conditions of approval adopted for each approved Tentative Map (Section 22.84.070 (Conditions of Approval)).

3. Oversizing of improvements. The County may require the subdivider to install and dedicate to the public subdivision improvements with additional size, capacity, or number for the benefit of property not within the subdivision, as a Tentative Map condition of approval prerequisite to the approval of a Parcel or Final Map. Where oversizing is required, reimbursement shall be provided as follows:

a. Reimbursement agreement. The County shall enter into an agreement with the subdivider providing for reimbursement of the portion of the cost of the improvements that is equal to the difference between the amount it would have cost the subdivider to install the improvements to serve the subdivision only, and the actual costs of the improvements, in compliance with Map Act Section 66485 et seq.

b. Public hearings required. The establishment of a charge, area of benefit, or local benefit district shall require public hearings before both the Commission and Board.

Prior to approval of the charge, area of benefit, or local benefit district, the Board shall first find that the fee or charge and the area of benefit or local benefit district is reasonably related to the cost of the oversized improvements and the actual ultimate beneficiaries of the improvements. The public hearing shall be in compliance with the provisions of Chapter 22.118 (Notices, Public Hearings, and Administrative Actions).

c. Hearing notice. In addition to the notice requirements of Chapter 22.118 (Notices, Public Hearings, and Administrative Actions), written notice of the hearing shall be given to the subdivider, property owners within the proposed area of benefit as shown on the latest equalized assessment role, and the potential users of the oversized improvements insofar as they can be determined at the time.

B. Sewage disposal. Provisions shall be made for adequate sewage disposal in compliance with Title 18 (Sewers) of the County Code, and as follows.

1. Sanitary sewer. Where sewage disposal is to be by sanitary sewer, the subdivider shall install improvements and facilities as required by the governing board of the sewer system.

2. On-site disposal. Where sewage disposal is to be by individual on-site sewage disposal systems, the subdivider shall submit sufficient evidence with the subdivision application for review by the Health Officer, as to the ability of the lots to accommodate the systems, in compliance with Title 18 (Sewers) of the County Code.

3. Community system. Where sewage disposal is to be by a community waste disposal system, the subdivider shall submit detailed plans to the Health Officer. In addition, an intention to use a community disposal system shall be filed with the Regional Water Quality Control Board. The subdivider shall install the community waste disposal system, including provisions for future maintenance, following review and comment by the Regional Water Quality Control Board and approval by the Health Officer.

C. Water supply. Provisions shall be made for domestic water supply as may be necessary to protect public health, including water service to each lot and fire protection facilities. Water may be supplied by connection to a public utility, establishment of a mutual water system (except as provided in Title 7, Section 7.28.025 (Prohibition) of the County Code), or by wells, springs or other approved sources of water, in compliance with Title 7 (Health and Sanitation) of the County Code, and as follows.

1. Public utility. Where water is to be supplied by connection to a public utility, the subdivider shall install improvements and facilities as required by both the utility and the Fire Chief having jurisdiction.

2. Mutual water company. Where water is to be supplied by a mutual water company, the subdivider shall submit sufficient evidence, substantiated by adequate tests and/or engineering data, as to the quantity, quality and safety of the proposed water supply. After approval by the Environmental Health Director, the subdivider shall install an adequate and safe system that will provide water connections for each lot and for fire protection as approved by the Health Officer, and the Fire Chief having jurisdiction.

3. Wells or other sources. Where water is to be supplied by wells, springs or other sources, the purchasers of the properties shall be informed of the water supply in writing. The subdivider shall submit sufficient evidence substantiated by adequate tests and/or engineering data to ensure that adequate water can be obtained for each lot and for fire

protection as approved by the Health Officer, and the Fire Chief having jurisdiction. The information provided shall be certified by a professional engineer or geologist.

22.100.030 – Subdivision Grading, Erosion and Sediment Control

All subdivision grading and construction operations shall be conducted to provide proper erosion and sediment control, and shall otherwise comply with all applicable provisions of Title 23, Chapter 23.08 (Excavation, Grading, and Filling), and Title 24, Sections 24.04.620 et seq. (Grading) of the County Code.

22.100.040 – Soils Reports

Geotechnical reports shall be provided by the subdivider as required by this Section.

A. Preliminary soils report. A preliminary geotechnical report based upon adequate test borings and prepared by a registered civil engineer shall be required for every subdivision. The preliminary geotechnical report shall be submitted with the Tentative Map application.

1. Form of report. A preliminary geotechnical report may be divided into two parts:

a. Soils reconnaissance. The soil reconnaissance shall include a complete description of the site based on a field investigation of soils matters. The soils matters reviewed shall include stability, erosion, settlement, feasibility of construction of the proposed improvements, description of soils related hazards and problems and proposed methods of eliminating or reducing these hazards and problems.

b. Final soils investigation and report. This investigation and report shall include field investigation and laboratory tests with detailed information and recommendations relative to all aspects of grading, filling and other earthwork, foundation design, pavement design and subsurface drainage.

The report shall also recommend any required corrective action for the purpose of preventing structural damages to the subdivision improvements and the structures to be constructed on the lots. The report shall also recommend any special precautions required for erosion control, and the prevention of sedimentation or damage to off-site property.

If the preliminary geotechnical report indicates the presence of critically expansive soils or other soils problems which, if not corrected, would lead to structural defects, or environmental impacts, a subsequent soils investigation of each lot in the subdivision may be required and submitted to the Department of Public Works before approval of a Parcel or Final Map.

2. Preliminary soils report waiver. The preliminary geotechnical report may be waived if the Director of Public Works determines that, due to information the Agency has as to the qualities of the soils of the subdivision, no preliminary analysis is necessary.

B. Final soils report. A final geotechnical report prepared by a registered civil engineer shall be required where a preliminary geotechnical report was required, unless the final report is waived by the Director of Public Works.

1. Two copies of the final geotechnical investigation and report shall be filed with the improvement plans.

2. The report shall contain sufficient information to ensure compliance with all recommendations of the preliminary geotechnical report and the specifications for the project.

3. The report shall also contain information relative to soils conditions encountered which differed from that described in the preliminary geotechnical reports, along with any corrections, additions or modifications not shown on the approved plans.

22.100.050 – Improvement Plans and Inspections

The subdivider shall file with the Department of Public works three complete copies of the subdivision improvement plans, after approval of a Tentative Map, before commencement of any construction work, and before filing a Parcel or Final Map, in compliance with Title 24, Chapter 24.10 (Improvement Plans) of the County Code.

A. Action on improvement plans:

1. Director of Public Works. The Director of Public Works shall inspect the improvement plans for compliance with the provisions of this chapter of the Development Code, Title 24 (Improvement and Construction Standards) of the County Code, standard engineering practices, and any other requirements of the County, and shall forward one copy of the improvement plans to the Director.

a. Before approval of the improvement plans, the Director of Public Works shall secure from the proper authority written approval of plans and specifications for sewer lines and sewage disposal systems. The Director of Public Works shall further determine that no deviation from the conditions of approval of the Tentative Map has been made, and that the final landscaping plan has been approved.

b. The Director of Public Works shall approve or deny the improvement plans in conformance with Section 66456.2 of the Subdivision Map Act

2. Community Development Director. The Director shall approve, with or without conditions, or deny the final landscape plans. The action shall be taken within 10 days after receipt of the improvement plans by the Director of Public Works, and shall be confirmed in writing.

B. Inspections required. The Director of Public Works shall make any inspections deemed necessary to ensure that all construction complies with the approved improvement plans.

C. Notification. The subdivider shall notify the Director of Public Works upon the completion of each stage of construction as outlined in this Chapter, and shall not proceed with further construction until receipt of authorization from the Director of Public Works.

D. Inspection fees. Before recordation of the Final Map, the subdivider shall deposit with the Director of Public Works the inspection fee determined by the Director of Public Works to cover the cost of inspection of required improvements other than utility facilities.

E. Review and inspection of Sewage facilities. Where adequate review and inspection is not provided by other agencies, sewage facilities and structures shall be reviewed and inspected by the Health Officer. Costs of review and inspection of sewage facilities incurred by the Health Officer or engineering consultant shall be paid by the subdivider.

22.100.060 – Improvement Agreements and Security

If the County determines that the improvement work required in compliance with this Chapter is not completed satisfactorily prior to the filing of the Parcel or Final Map, the subdivider shall enter into an agreement with the Board, and provide security to guarantee the performance of the terms of the agreement, as follows. The Agreement shall be entered into concurrently with the approval of the map.

A. Content of Agreement. The Agreement shall provide for each of the following, where applicable:

1. For the work to be completed within a time specified in the agreement, and shall provide that work not satisfactorily completed within the time limit may be completed by the County or its agent, with all costs paid by the subdivider.

2. That prior to occupancy of any structure within the subdivision, the required improvements shall be sufficiently completed to render all of the applicable phase of the subdivision safe to occupy, and to complete all applicable mitigations required by a Negative Declaration or Environmental Impact Report, as determined by the Director of Public Works.

3. At the discretion of the County, for the improvements to be installed in units, for extensions of time under specific conditions, or for the termination of the agreement upon a reversion to acreage of all or part of the subdivision.

4. That the Agreement shall be secured by a good and sufficient improvement security in an amount determined by the Director of Public Works to be adequate to cover the estimated cost of improvement.

B. Improvement securities. Improvement securities shall be provided by the subdivider, as required by this Subsection.

1. Form of security. Improvement security shall be provided in one of the following forms:

a. Bond or bonds by one or more corporate sureties approved by the Board;

b. A deposit, placed with either the County or a responsible escrow agent or trust company, at the option of the County, of money or negotiable bonds of the kind approved for securing deposits of public moneys;

c. An instrument of credit from one or more financial institutions, subject to regulation by the State or Federal government, pledging that the funds necessary to carry out the act or Agreement are on deposit and guaranteed for payment, or a letter of credit issued by the financial institution; or

d. A lien upon the property to be divided, created by contract between the owner and the County, if the County finds that it would not be in the public interest to require the installation of the required improvement sooner than two years after the recordation of the map.

Any written contract or security interest in real property entered into as security for performance in compliance with this Section shall be recorded with the County Recorder. From the time of recordation of the written contract or other document creating a security interest, a lien shall attach to the applicable real property and shall have the priority of a judgment lien in an amount necessary to complete the required improvements. The recorded contract or security document shall be indexed in the Grantor Index to the names of all record owners of the real property as specified on the map and in the Grantee Index to the County.

2. Types of improvement security required. The following improvement securities may be required as specified in this Chapter.

a. Faithful Performance. A security in the amount of 100 percent of the total estimated cost of the improvement, or of the act to be performed, conditioned upon the faithful performance of the act or Agreement;

b. Labor and Materials. A security in the amount of 100 percent of the total estimated cost of the improvements or of the act securing payment, to the contractor, subcontractors, and persons furnishing labor, materials or equipment;

c. Maintenance. A security in the amount of 10 percent of the total estimated cost of the improvements, or of the act to be performed, or $1,000, whichever is greater, to serve as a guarantee and warranty of the work for a period of one year following completion thereof against any defective work, labor done, or defective materials furnished;

d. Monuments. A security in the amount of 100 percent of the total estimated cost of setting monuments guaranteeing the cost of setting the monuments.

3. Improvement security waiver. For subdivisions of four lots or less, the requirement of a labor and materials bond and a maintenance bond, specified in Subsections B.2.a and B.2.b above, respectively (Faithful Performance, and Labor and Materials), shall not be required where the required improvements will not be accepted for maintenance by the County.

4. Security release.

a. The securities described in Subsections B.2.a and B.2.b (Faithful Performance, and Labor and Materials, respectively) shall be released by the Director of Public Works after acknowledging completion of the improvements and commencement of the one-year maintenance period, provided that security specified in Subsection B.2.c (Maintenance) has been furnished.

b. The security described in Subsection B.2.c shall be released by the Director of Public Works following satisfactory completion of the maintenance period and correction of all deficiencies.

c. The security specified in Subsection B.2.d (Monuments) shall be released by the Director of Public Works following receipt of a letter from the subdivision engineer or surveyor that all monuments have been set and paid for. If the security is a cash deposit, payment to the engineer or surveyor may be made from the deposit, if so requested by the depositor.

No partial release of any security shall be permitted.

22.100.070 – Monuments and Staking

At the time the survey for the Parcel or Final Map is completed, the engineer or surveyor shall set sufficient durable monuments to conform with the standards described in Section 8771 of the Business and Professions Code, so that another engineer or surveyor may readily retrace the survey. This requirement may be waived by the County Surveyor as provided in this Chapter.

A. Permanent monuments. Permanent monuments shall be constructed in compliance with the Standard Specifications, Cities, and County of Marin.

1. At least two permanent monuments shall be set in each block. They shall be within sight of each other and readily accessible in the street area. These monuments may be either on the street centerline or on a line parallel to and offset from the center property shown and dimensioned on the Parcel or Final Map.

2. The requirement for permanent monuments may be waived for subdivisions of four lots or less when, due to the size or configuration of the lots, this requirement would be impractical.

B. Subdivision staking. In making the survey, the engineer or surveyor shall stake all of the following points where a survey stake does not presently exist: all corners and angle points in the exterior boundary of the subdivision, all angle points and curve points in the right-of-way lines of all streets, easements, and/or lands to be dedicated for public use, and all lot corners.

1. Waivers of staking requirements. The County may waive the above staking requirements in the following circumstances.

a. The County Surveyor may waive the requirement of staking all corner and angle points in the exterior boundary of a Parcel or Final Map if conditions warrant waiver; provided that at least one exterior boundary line of the land being subdivided is adequately monumented or referenced and sufficient monumentation exists to determine the location of the lots.

b. The requirement to stake the remainder of the parcel, defined as the largest parcel having a gross area of five acres or more for which a Parcel or Final Map is required, may be waived.

2. Stake materials. Stakes at all corners and angle points in the exterior boundary of the subdivision shall be not less substantial than three-fourths-inch iron pipe or one-half-inch rebar 18 inches long, driven flush with the ground. Stakes at all other points shall be not less substantial than two-inch by two-inch redwood hubs eight inches long, driven flush with the ground.

3. Stake marking. All stakes shall be marked with a tag showing the actual point and the registration number of the engineer or surveyor.

C. Inspection and installation. All monuments shall be subject to the inspection and approval of the County Surveyor. For a subdivision requiring a Final Map, monuments shall either be installed before Final Map recordation, or shall be included as part of the work to be completed under the Agreement and improvement security required by this Chapter, when so noted on the Final Map. All monuments necessary to establish the exterior boundary of a subdivision shall be set or referenced prior to recordation of the Final Map.

Chapter 24.04 - IMPROVEMENTS

Sections:

24.04.010 - Improvements required.
24.04.015 - Improvements to existing facilities.
24.04.016 - Repairs to existing facilities.
24.04.019 - Definitions.

24.04.010 - Improvements required.

The following improvements as specified in this chapter are required.

(Ord. 3181 § 5 (part), 1994)

24.04.015 - Improvements to existing facilities.

(a) Where existing facilities under the purview of this title are to serve a new or intensified use or development, and where it is either known or determined that those facilities do not or will not meet the standards set forth in this title, and where it is shown that the proposed use or development will exacerbate or cause such nonconformance, then the applicant may be required to modify the facilities to meet those standards as they apply to the proposed new condition.

(b) Where existing facilities are to serve more than one new or intensified use or development, and where it is determined that the total build-out of the area served will increase the load on any of those facilities such that they will no longer meet the standards set forth in this title, then the applicant may be required to make financial arrangements, satisfactory to the agency, for the pro rata share of the cost of the improvements required above.

(c) See Chapter 19.05, Street Improvements Required Abutting Building Sites.

(Ord. 3181 § 5 (part), 1994)

24.04.016 - Repairs to existing facilities.

If construction activity, equipment, vehicles and/or material delivery and storage cause damage to any existing facility (e.g., pavement, curb, gutter, sidewalk, landscaping) beyond normal wear and tear, as determined by the agency, then the permittee shall be responsible for the repair of same. In order to ensure repair, the agency may require cash deposits prior to issuance of permits or may place holds on interim or final inspections.

(Ord. 3181 § 5 (part), 1994)

24.04.019 - Definitions.

The following words and terms are defined for the purposes of this chapter. These are "working" definitions and are not presented as or intended to be "legal" definitions.

"Agency" means the public services agency, formerly the public works department, of the county of Marin unless otherwise stated.

"A.C." means asphalt concrete.

"A.D.T." means average daily traffic. The average number of vehicle trips on a defined segment of road over a twenty-four-hour period.

"Common driveway" means a section of a driveway serving more than one residence.

"County-maintained road" means a road the maintenance of which is the responsibility of the Marin County public services agency. All such roads are public roads and make up the county-maintained road system.

"Cul-de-sac" means a road open at only one end; a dead-end road.

"Director" means the director of the public services agency of the county of Marin unless otherwise stated.

"Driveway" means the vehicular way providing access to a property from a road, normally terminating at a designated on-site parking area.

"Driveway approach" means that portion of a driveway within the street right-of-way between the edge of pavement of the street and the property line.

"Driveway culvert" means a conduit placed under the driveway approach for the purpose of passing roadside drainage under the approach.

"Easement" means a right held by one or more specific persons or entities to a limited use of all or part of a property owned by another. An easement gives the right of use for a specific purpose but does not constitute ownership.

Facility. As used in this title, the term, "facility" (as in existing or appurtenant facilities) shall mean the systems covered by this title (e.g., roads, drainage systems) and any and all structural, physical or topographical elements or features that make up the systems (e.g., pavement, curb, gutter, sidewalk, drop inlets, conduits and channels, bridges, signs, signals, etc.).

"Interceptor ditch" (also called a V ditch) means a ditch constructed across a slope to intercept surface sheet flow drainage.

"Maintenance agreement" means a contract between owners of properties served by a common driveway and/or other common area or facilities which defines the responsibilities and procedure for maintaining the common portion of the driveway and/or other area or facilities. Such agreements run with the land and are not voided by a change of ownership.

"Non-maintained road" means a road, public or private, the maintenance of which is not the responsibility of the agency. Such roads may receive some maintenance by the users, but not by the agency.

"P.C.C." means Portland cement concrete.

"Private road" means a road over which the general public has no right to pass and the easement for which is not subject to a current offer of dedication to a public agency.

"Public road" means a road over which the general public has the right to pass. The right-of-way for a public road has been offered for dedication to the county or the public by deed, subdivision map, other document or operation of law and has been accepted by formal action, implied acceptance or public user. A public road may be subject to public use but not be part of the county-maintained road system.

"Registered" means a professional licensed to practice in the state of California (e.g., architect, engineer, land surveyor).

"Right-of-way" means the strip of land within which a public road is or will be contained and which is defined by the offer of dedication document. It is almost always wider than the actual physical road and is in no case less wide.

Road. Used interchangeably with street and means the actual physical surface or way over which vehicles pass. This does not include curbs, gutters, sidewalks or unpaved shoulders.

"Turnaround" means an enlarged or otherwise enhanced area of a road, driveway or parking area designed to allow vehicles to reverse direction safely and with relative ease.

"Turnout" means a section of a driveway or road constructed wider than the remainder to allow two vehicles to pass each other.

"Uniform Construction Standards (UCS)" means the drawings contained in the current volume of "The Uniform Construction Standards, Approved and Adopted by Cities of Marin and County of Marin." This volume is available from the agency.

(Ord. 3181 § 5 (part), 1994)

I. - ROADS

24.04.020 - General.
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24.04.220 - Street name signs.
24.04.230 - Private roads.

24.04.020 - General.

All new roads shall be constructed to the standards set forth in this chapter except as otherwise provided herein. These individual standards notwithstanding, the design of a road shall take into account the combined effect of the individual elements (e.g., centerline radii, grade, cross-slope) in making up the total road. Care shall be taken to avoid combining individual design elements at the extreme limits of acceptability along the same section of road. Where this is necessary due to severe physical, right-of-way or other constraints, then design modifications and/or other mitigating measures may be required as determined appropriate by the agency. These measures may include but are not limited to additional width, longer radii, slope grading, vegetation removal, striping or other lane and/or road edge delineation, signs, signals and barriers. Under certain circumstances, reductions in these standards may be allowed in accordance with Section 24.15.010 of this title.

(Ord. 3181 § 5 (part), 1994)

24.04.030 - Road classifications.

The design criteria for a road shall be based on the classifications defined below. Use figures (i.e., units served and ADT) shall be based on the ultimate development of the area served by the road as defined by the Marin countywide plan and/or any general, specific or community plan applicable to the area.

"Arterial road" means all arterial roads as specified in the countywide plan or the Marin county annual road list, and other major roads with an actual or projected ADT over two thousand.

"Industrial commercial road" means a road providing access to, or through, an industrial or commercial zone or an area of high truck and/or other large vehicle traffic.

"Collector road" means a road with an actual or projected ADT from one thousand to two thousand.

"Residential road" means a road providing access to a generally residential area and which serves or may serve twenty or more dwelling units, and a maximum potential ADT of one thousand.

"Minor residential road" means a road providing access to a generally residential area and which serves or may serve seven to nineteen dwelling units, and a maximum potential ADT of five hundred.

"Limited residential road" means a road which serves two to six dwelling units, and a maximum potential ADT of one hundred fifty.

(Ord. 3181 § 5 (part), 1994)

24.04.035 - Design speed.

All roads except limited residential roads shall have a minimum design speed of twenty-five mph.

(Ord. 3181 § 5 (part), 1994)

24.04.040 - Centerlines.

The centerlines of all roads shall be continuations of the centerlines of existing roads in adjacent and contiguous territory. For cases in which straight continuations are not physically possible, such centerlines may be continued by curves, and shall be in general conformity with the plans made for the most advantageous development of the area in which the development lies.

(Ord. 3181 § 5 (part), 1994)

24.04.045 - Centerline radii.

The centerline radii of all roads shall be designed in general accordance with the procedures contained in the current edition of the CalTrans Highway Design Manual.

(Ord. 3181 § 5 (part), 1994)

24.04.050 - Vertical curves.

Vertical curves shall be used at any change in grade of one percent or more. The length of the vertical curve shall be determined according to the procedure contained in the current edition of the CalTrans Highway Design Manual or as required by the agency.

(Ord. 3181 § 5 (part), 1994)

24.04.055 - Cross-slope and superelevation.

(a) Superelevation shall be provided where appropriate and as required by the agency. Where required it shall be in general accordance with the procedures contained in the current edition of the CalTrans Highway Design Manual. The maximum superelevation allowed shall be eight percent.

(b) Where superelevation is not required, the cross-slope shall be a minimum of two percent and a maximum of eight percent. The road shall be either cross-sloped to the cut bank side or crown-sloped as required for proper drainage.

(Ord. 3181 § 5 (part), 1994)

24.04.060 - Intersections.

(a) Roads shall intersect each other as near to a right angle as is practical. Where several streets converge at one point, special approach treatment shall be provided to optimize driver sight distance and pedestrian safety. Provisions may include, but are not limited to, setback lines, special rounding, slope grading and/or vegetation removal. Block corners shall be rounded at the property line by a radius of not less than twenty feet and curb or pavement returns shall have a minimum radius of twenty-five feet.

(b) Care shall be taken to avoid sight restrictions caused by the combined vertical alignments of two or more intersecting streets.

(c) Design of intersections shall comply with Chapter 13.18, Visibility Obstructions, of the Marin County Code which prohibits sight obstructions including landscaping over thirty inches in height within defined areas adjacent to intersections.

(Ord. 3181 § 5 (part), 1994)

24.04.070 - Extensions.

Where a development adjoins undeveloped property, provisions shall be made for adequate street access thereto.

(Ord. 3181 § 5 (part), 1994)

24.04.080 - Access to major streets.

Where a development abuts upon an arterial road or other major road, a parallel service road or limited right of access to the arterial or major road may be required.

(Ord. 3181 § 5 (part), 1994)

24.04.090 - Blocks.

Long blocks are generally encouraged, and are required adjacent to main thoroughfares for the purpose of reducing the number of intersections; however, blocks should not exceed twelve hundred feet in length.

(Ord. 3181 § 5 (part), 1994)

24.04.100 - Alleys.

Alleys may be required in commercial or industrial areas where trucks stopping on the access streets would impede traffic flow and/or cause a traffic hazard.

(Ord. 3181 § 5 (part), 1994)

24.04.110 - Width.

(a) The following table sets forth the minimum widths for the improved section measured from face of curb to face of curb. Where no curb or berm is proposed the paved width shall be one foot greater than that listed to allow for edge striping and pavement edge raveling.

Road Classification	Minimum Paved Width
Limited residential road	20' with shoulders
	24' with curbs
Minor residential road	28'
Residential road	36'
Collector road	40'
Arterial and industrial/commercial	As required

(b) Additional width may be required for left turn storage, intersection widening, bus lanes and multipurpose pathways.

(c) Shoulders shall be provided on each side of all roads. Shoulders shall normally be four feet wide although wider shoulders may be required as deemed appropriate by the agency.

(Ord. 3181 § 5 (part), 1994)

24.04.120 - Grades.

Grades shall not exceed six percent on arterial, industrial/commercial and collector roads, twelve percent on residential roads, or eighteen percent on minor and limited residential roads. Continuous steep grades shall be avoided.

(Ord. 3181 § 5 (part), 1994)

24.04.130 - Retaining walls.

For all roads, both public and private, the following standards and restriction shall apply:

(a) On the downhill side of the road, timber walls shall not be allowed.

(b) On the uphill side of the road, timber walls may be allowed depending on site conditions, as determined by the agency, but shall not exceed three feet in height (measured from the road surface).

(c) If the use of timber walls is allowed, pressure treated timbers shall be used and shall conform to the requirements of the standard specifications of the cities and county of Marin.

(d) Notwithstanding the above criteria, the use of timber walls may not be allowed where the agency determines that the proposed location would present inordinately difficult problems for future repair and/or replacement.

(e) Mitigation of the visual impact of walls may be required. Measures may include, but are not limited to, surface texturing, coloring and landscaping.

(Ord. 3181 § 5 (part), 1994)

24.04.140 - Entry treatment.

Where any form of entry treatment (e.g., pillars, walls, signs) to a specific area is allowed, they shall be located at least five feet beyond the edge of pavement. In addition, where they would be located within the county maintained right-of-way, a recorded encroachment permit must be obtained to authorize their installation and provide for their maintenance.

(Ord. 3181 § 5 (part), 1994)

24.04.150 - Turnarounds.

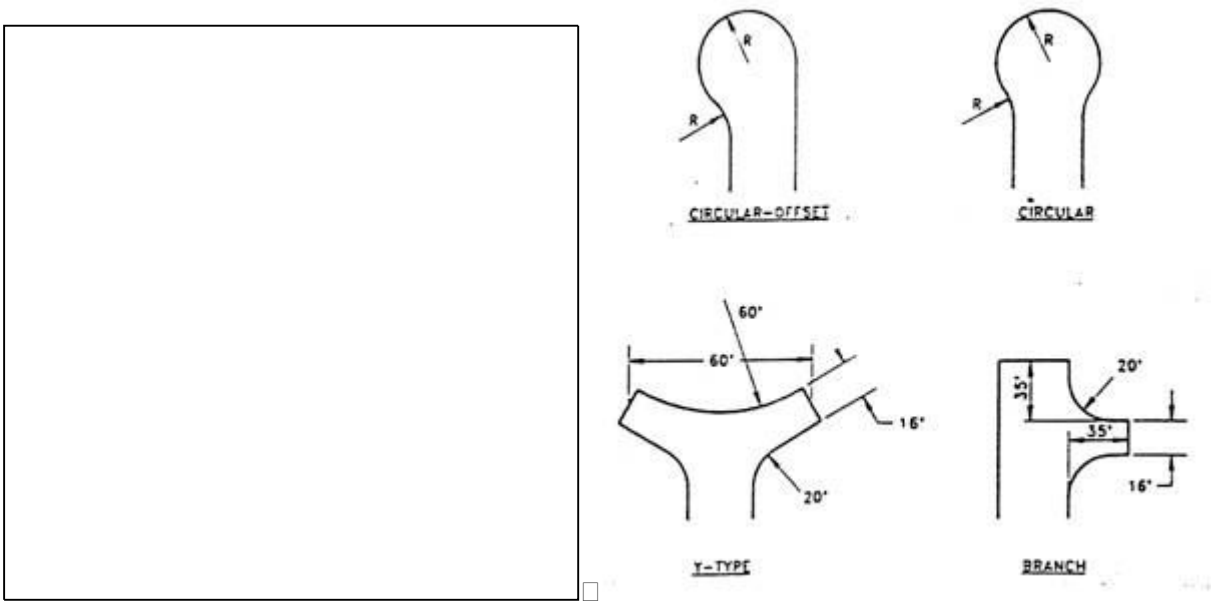
(a) The end of a cul-de-sac road shall be provided with a turnaround using one of the designs shown in Figure 24-1. Type (a) or (b) may be used at the end of any road provided that the appropriate radius is used as shown below. Measurement shall be to face of curb or, where no curb is proposed, to six inches inboard of the proposed edge of pavement.

R = 30 feet for all residential roads

R = 60 feet for industrial/commercial roads

R = 40 feet for other roads

FIGURE 24-1: CUL-DE-SACS



(b) For all residential cul-de-sac roads where severe topographic and/or right-of-way constraints warrant, Types (c) or (d) turnarounds may be used where allowed by the director.

(c) The slope in any direction for any turnaround should not be more than five percent and shall not be more than eight percent.

(d) Where the street may be extended at some time in the future, a temporary turnaround shall be required and the stub end of the street shall be closed with an approved barricade or gate if a fire road or other such access extends from the end of the paved road.

(e) Alternatives and/or exceptions to the above standards may be considered, but shall be submitted to the appropriate fire department or fire protection district for review, comment, advice and mitigation suggestions.

(Ord. 3181 § 5 (part), 1994)

24.04.160 - Turnaround islands.

Islands within turnarounds will not be allowed on roads that are currently or are proposed to be county-maintained roads. On other roads they may be considered provided they are approved by the appropriate fire department or protection district and the agency. Where allowed, provisions must be made for long-term maintenance of the island landscaping or other architectural treatment.

(Ord. 3181 § 5 (part), 1994)

24.04.170 - Curbs—General.

Curbs and gutters or berms shall be required adjacent to all parking lanes and where physical separation, delineation or stormwater control is necessary. P.C.C. curbs and gutters shall normally be required in order to minimize long-term maintenance. A.C. berms may be allowed where appropriate at the discretion of the agency.

(Ord. 3181 § 5 (part), 1994)

24.04.190 - Surfacing.

Surfacing shall consist of a minimum of two inches of A.C. over six inches of Class II aggregate base or an alternate of either P.C.C. or deep-lift A.C. Alternates are subject to the review and approval of the agency. Surfacing requirements within the rural corridor and coastal recreation corridor for roads serving only residential and agricultural property which is zoned into parcels of ten acres or larger may be reduced or waived except where the grade exceeds twelve percent.

(Ord. 3181 § 5 (part), 1994)

24.04.200 - Structural section.

The roadbed design shall be based on a traffic index established by the agency and in accordance with the standard procedure used by CalTrans or such other method as is in general use and considered sound practice by the agency.

(Ord. 3181 § 5 (part), 1994)

24.04.210 - Street names.

All street names shall be subject to the approval of the planning commission, sheriff's office and the appropriate fire department or protection district. Duplication of existing names within the surrounding community will not be allowed unless the streets are obviously in alignment with existing streets of the same names and not so far removed as to be confusing.

(Ord. 3181 § 5 (part), 1994)

24.04.220 - Street name signs.

At least one street name sign shall be placed at all street intersections. The word "Private" shall be placed on all name signs for private roads.

(Ord. 3181 § 5 (part), 1994)

24.04.230 - Private roads.

Private roads shall be constructed to the standards specified in this chapter with the following additional requirements:

(a) Private roads shall connect to public roads by means of a driveway approach or alternative feature, approved by the agency, which shall clearly define the limits of each.

(b) When a private road is proposed to extend off of the end of a public road, the public road shall have a turnaround.

(Ord. 3181 § 5 (part), 1994)

II. - DRIVEWAYS

24.04.235 - General.
24.04.240 - Intersections.
24.04.250 - Minimum length.
24.04.255 - Centerline radii.
24.04.260 - Widths.
24.04.265 - Retaining walls.
24.04.270 - Common driveways.
24.04.275 - Turnouts.
24.04.277 - Turnarounds.
24.04.280 - Grades.
24.04.285 - Transitions.
24.04.290 - Approaches.
24.04.295 - Driveway culverts.
24.04.300 - Surfacing—General.
24.04.310 - Surfacing within city-centered corridor and village areas.
24.04.320 - Surfacing outside city-centered corridor and village areas.

24.04.235 - General.

All new driveways shall be constructed to the standards set forth in this chapter except as otherwise provided herein. The following individual standards notwithstanding, the design of a driveway shall take into account the combined effect of the individual elements (e.g., centerline radii, grade, cross slope) in making up the total driveway. Care shall be taken to avoid combining individual design elements at the extreme limits of acceptability along the same section of driveway. Where this is necessary due to severe physical, easement or other constraints, then design modifications and/or other mitigating measures may be required as determined appropriate by the agency. These measures may include but are not limited to: additional width, longer radii, slope grading, vegetation removal, striping or other lane and/or road edge delineation, signs, signals and barriers. Under certain circumstances, reductions in these standards may be allowed in accordance with Section 24.15.010 of this title.

(Ord. 3181 § 5 (part), 1994)

24.04.240 - Intersections.

Where a driveway intersects a road, every attempt shall be made to intersect at ninety degrees or as close to that angle as possible.

(Ord. 3181 § 5 (part), 1994)

24.04.250 - Minimum length.

A minimum driveway length of twenty feet should be provided from the front of the garage or parking structure to the back of sidewalk or to the edge of pavement where no sidewalk exists. A lesser length may be approved for constrained sites.

(Ord. 3181 § 5 (part), 1994)

24.04.255 - Centerline radii.

The centerline radius of driveways extending in excess of one hundred fifty feet from a public or private road should not be less than forty feet and shall not be less than thirty feet.

(Ord. 3181 § 5 (part), 1994)

24.04.260 - Widths.

(a) The minimum improved width of a driveway serving a single dwelling unit is twelve feet.

(b) The minimum improved width of a driveway serving two to six dwelling units is sixteen feet. Subject to the review and approval of the agency, this may be reduced to a minimum of twelve feet along all or part of its length if extenuating circumstances exist. In evaluating a proposal for such a reduction, the amount of grading and tree removal and the height of any retaining walls necessary to obtain the full width shall be of paramount consideration.

When such a reduction is proposed the design shall be submitted to the appropriate fire department or protection district for review, comment, advice and mitigation suggestions. In addition, one or more turnouts may be required as determined appropriate by the agency.

(c) A driveway which serves or may be extended in the future to serve more than six dwelling units shall be considered equivalent to a private road and designed accordingly. If the initial use of such a road will be by less than six units, then construction of the road may be done in phases as determined by the agency.

(d) The minimum improved width of a driveway serving nonresidential uses shall be eighteen feet.

(Ord. 3181 § 5 (part), 1994)

24.04.265 - Retaining walls.

The following standards and restrictions shall apply to all driveways:

(a) For driveways serving one single-family residence, pressure treated timber walls are acceptable on both uphill and downhill sides of the driveway but shall not exceed three feet in height (measured from the driveway surface).

(b) For common driveways, timber walls shall not be allowed on the downhill side of the road. On the uphill side of the road, pressure treated timber walls may be acceptable depending on conditions, as determined by the agency, but shall not exceed three feet in height (measured from the driveway surface).

(c) If the use of timber walls is allowed, pressure treated timbers shall be used and shall conform to the requirements of the standard specifications of the cities and county of Marin.

(d) Notwithstanding the criteria contained herein regarding the use of timber walls, the agency may disallow such use where it determines that the designated location for a proposed timber wall would present inordinately difficult problems for future repair and/or replacement.

(e) Walls visible from the roadway and/or adjacent property may be required to incorporate aesthetic treatment measures to mitigate the visual impact including, but not limited to, surface texturing, coloring and landscaping.

(Ord. 3181 § 5 (part), 1994)

24.04.270 - Common driveways.

Common driveways for residential use are encouraged and should be used where appropriate. They shall be required where, as determined by the agency, such use will improve or maintain traffic safety on the street. Common driveways may also be allowed for nonresidential use where deemed appropriate by the agency. A maintenance agreement is required for the common portion of such driveways.

(Ord. 3181 § 5 (part), 1994)

24.04.275 - Turnouts.

Turnouts shall be required on driveways over one hundred fifty feet in length or if sight distance problems exist unless the driveway is at least sixteen feet in width. The number, location and dimensions of required turnouts shall be subject to the review and approval of the agency and shall be no less than eighteen feet wide (full driveway width) and sixty feet long including transitions.

(Ord. 3181 § 5 (part), 1994)

24.04.277 - Turnarounds.

(a) A turnaround may be required at the end of any driveway and/or adjacent to any parking area where, in the opinion of the Agency, the alignment, grade or street connection of the driveway is such that backing along the driveway or out onto the street would be inordinately difficult or dangerous. The alignment and dimensions of turnarounds shall be such as to allow the attainment of the desired direction by a standard sized car in no more than one movement.

(b) See Section 24.04.390, Backout noses.

(Ord. 3181 § 5 (part), 1994)

24.04.280 - Grades.

Maximum gradient measured along the centerline should not be steeper than eighteen percent and shall not be steeper than twenty-five percent. Where a segment of a driveway has a grade exceeding eighteen percent, the length of that segment shall not exceed three hundred feet. Any two driveway segments with a grade greater than eighteen percent shall be joined by a flatter segment not exceeding fifteen percent grade and at least one hundred fifty feet in length. When the grade of any segment of a proposed driveway is to exceed sixteen percent, the appropriate fire department or protection district shall be consulted for comment, advice and mitigation suggestions. When a portion of a driveway is to be used to accommodate parking as required by this title, that portion must conform to the slope requirements of Section 24.04.400 of this title.

(Ord. 3181 § 5 (part), 1994)

24.04.285 - Transitions.

The driveway vertical positions shall start at least four feet back from the edge of the adjoining road. Driveways sloping downhill from the road shall be constructed so as to prevent diversion of roadside drainage down the driveway.

(Ord. 3181 § 5 (part), 1994)

24.04.290 - Approaches.

(a) Driveway approaches shall be constructed in accordance with the appropriate U.C.S. drawing unless prior approval to do otherwise is obtained from the agency. Approaches connecting to any road along a section with typical speeds over thirty-five mph or with severe sight distance limitations, as determined by the agency, may require modifications to the standard design.

(b) All approaches shall be paved to the property line or for a distance of thirty feet, whichever is greater.

(Ord. 3181 § 5 (part), 1994)

24.04.295 - Driveway culverts.

(a) Driveway culverts shall be a minimum fifteen inches in diameter and shall be aligned as approved by the agency. To prevent erosion and/or end crushing, headwalls or other protection may be required. Corrugated metal pipe may be used although the use of reinforced concrete pipe is recommended. High density polyethylene corrugated plastic pipe may be allowed if a minimum of twelve inches of cover is provided.

(b) The repair, replacement, maintenance and periodic cleaning of driveway culverts and their appurtenant facilities are the responsibility of the property owner.

(Ord. 3181 § 5 (part), 1994)

24.04.300 - Surfacing—General.

When it is required that a driveway be paved, the pavement section shall consist of a base course approved by the agency covered with a minimum thickness of two inches of A.C. or three and one half inches of P.C.C. Driveways over eighteen percent grade shall be surfaced with P.C.C. and given a broomed or otherwise roughened finish.

(Ord. 3181 § 5 (part), 1994)

24.04.310 - Surfacing within city-centered corridor and village areas.

All driveways within the city-centered corridor and village areas shall be paved regardless of grade. The pavement section shall be in accordance with Section 24.04.300 of this title.

(Ord. 3181 § 5 (part), 1994)

24.04.320 - Surfacing outside city-centered corridor and village areas.

Driveways outside the city-centered corridor and village areas need not be paved except those sections over twelve percent in grade or along any section where paving is deemed necessary by the agency to provide a safe and adequate access. Where paving is not required, the driveway shall be surfaced with at least four inches of compacted crushed rock.

(Ord. 3181 § 5 (part), 1994)

Chapter 24.15 - EXCEPTIONS

Sections:

24.15.010 - General.
24.15.015 - Procedure.
24.15.020 - Findings.
24.15.030 - Waiver.

24.15.010 - General.

(a) It is recognized that individual sites require individual designs and that a generic design cannot be created. Site specific characteristics and the emergence of new materials, equipment, data and concepts present the designer with multiple design alternatives. In order to encourage creativity and innovation in design, it is the intention of the county that the standards contained herein, the "minimum standards," are to be used as design guidelines, recognizing that it will not always be possible or reasonable to adhere to them rigidly. They should, however, be considered as providing a minimum level of performance.

(b) Thus, while the county will consider innovative designs containing elements which do not meet the minimum standards, the agency will only approve such designs if it can be demonstrated to the satisfaction of the agency that the design containing nonconforming elements will perform at least as well as the standard design and will not jeopardize the public health, safety or welfare.

(Ord. 3181 § 5 (part), 1994)

24.15.015 - Procedure.

(a) The agency may grant an exception to any of the standards, requirements or regulations set forth in this title. At the discretion of the agency, the filing of a petition for exception may be required. At the further discretion of the agency, a public hearing before the planning commission or the board of supervisors may be required.

(b) A petition for exception, when required, shall be made by a written petition of the applicant. The written petition shall state fully the grounds of the application and the facts relied upon by the petitioner and shall include, but not necessarily be limited to, the following:

(1) A list of each element which does not meet the standard and a reference to the plan sheets on which the elements appear;

(2) The reasons why each nonconforming element cannot or should not have to meet the minimum standard;

(3) The reasons why each nonconforming element will adequately perform its intended function and will not jeopardize the public health, safety or welfare.

(c) If plans are inadvertently approved containing elements which do not meet the minimum standards contained herein and said nonconforming elements were not called to the attention of the agency, then those elements shall be redesigned and, if already built, reconstructed to meet the standards that would have been imposed had the nonconforming elements been brought to the attention of the agency.

(Ord. 3181 § 5 (part), 1994)

24.15.020 - Findings.

(a) In order for an exception to be granted regarding any provisions of this chapter, it shall be necessary that all of the following findings be made:

(1) Special Circumstances. Because of special circumstances applicable to the property including size, shape, topography, location or surroundings, the strict application of the development standards deprives such property of privileges enjoyed by other properties in the vicinity.

(2) Public Welfare. The granting of an exception for the property will not be detrimental to the public welfare or injurious to other property in the vicinity.

(3) No Special Privilege. The granting of an exception for the property does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the vicinity.

(4) Zoning. The granting of an exception for the property does not authorize a use or activity which is not otherwise authorized by the particular zoning district regulations governing such property.

(b) In granting such exceptions, the objectives of the regulations to which the exceptions are granted, as to light, air and the public health, safety, convenience, environment and general welfare, shall be substantially achieved.

(c) In responding to a petition for exception under the provisions of this chapter, the agency shall document its findings with respect thereto and all facts in connection therewith. The response to a petition for exception shall be specifically and fully set forth and any conditions so designated.

(Ord. 3181 § 5 (part), 1994)

24.15.030 - Waiver.

When the conditions of approval of a master plan, development plan, design review or other relevant community development agency approval allow or require exceptions to the standards, requirements or regulations set forth in this title, then the findings required by Section 24.15.020 need not be made. However, the agency may still require that subsections (b)(1) and (3) of Section 24.15.015 above be provided at the time of plan submittal to the agency.

(Ord. 3181 § 5 (part), 1994)