



Mr. Ralph Hilliard
Planning Manager
City of Gainesville
P.O. Box 490
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Via U.S. mail and fax at 352-334-2282

December 5, 1998

58 Paseo Mirasol
Tiburon, CA 94920

Dear Ralph:

You have asked me to estimate costs and timing for preparing a Wireless Master Plan for the City of Gainesville. I would like to offer the following assumptions:

- Kreines & Kreines, Inc. will begin work on the Alachua County Wireless Master Plan on January 12, 1999 with a trip to Alachua County.
- While Gainesville is a small part of the Alachua County area (961 square miles), it contains about 40% of the population.
- While I am thoroughly familiar with the Alachua County ordinance and comprehensive plan, I am unfamiliar with Gainesville's ordinance or plan.

I have enclosed a copy of Exhibit A: Scope of Services for the Provision of Consultant Services for a Wireless Telecommunications Master Plan for Alachua County along with the costs for same. My feeling is that we should simply replicate this Scope of Services in developing a contract with the City of Gainesville. This would mean the same tasks, work products and costs.

The schedule for the Alachua County project is open-ended. If we were to also prepare a Wireless Master Plan for the City of Gainesville, I would estimate that the entire process would take six to eight months. The Alachua County project contains five trips to Alachua County. I would also include five additional trips to the City of Gainesville. The reasons are these:

- All meetings, until the completion of the project, should remain within each jurisdiction and not be considered joint sessions requiring both City and County approval.
- This means that I'll be bringing the County along and the City along on parallel tracks, but that jointly scheduled meetings would not occur until the end of both projects.
- It would be extremely difficult to schedule joint meetings anyway, since both jurisdictions meet at different times and different locations.
- The City of Gainesville should consider its Wireless Master Plan within its corporate limits while Alachua County should do the same. The objective going into this project can be for two separate Wireless Master Plans that are parallel and consistent. However, the possibility will be open to identical Wireless Master Plans for each jurisdiction or for two totally different Wireless Master Plans at the direction of each jurisdiction.

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As a result of the above, the apparent economy of scale of one trip to serve both jurisdictions can actually be less productive than concentrating on City of Gainesville business on one trip and Alachua County business on another. In addition, this approach would also permit the following:

- While conducting "Alachua County business" I would always have time to visit the City of Gainesville and vice versa.
- All meetings held with either jurisdiction will be open to staff from both jurisdictions.
- I do not need to receive policy direction from Alachua County on City of Gainesville matters, or vice versa.

At the end of the project (Task 8) I anticipate that the Planning Commissioners and Commissioners of both jurisdictions will meet jointly and act in unison. I have worked this way in the past and am hopeful we can achieve consistency, concurrence and economies of scale to a greater extent than if we had joint meetings every time I came to Gainesville.

If the City of Gainesville wants to go ahead, I would revise the Scope of Services where necessary to replace references to the County with references to the City. Alternatively, I would be happy to thoroughly revise the Scope of Services to meet your needs, if they differ from the County's.

Please let me know how you want to proceed. I could send you a copy of a standard contract, a copy of the contract between Alachua County and Kreines & Kreines, Inc. or we could use a contract format from the City of Gainesville.

I am also sending you copies by U.S. mail of a Statement of Qualifications and copies of letters of reference from some former clients. I look forward to working with you.

Sincerely,



Ted Kreines, AICP
President

enclosures

Exhibit A: Scope of Services for the Provision of Consultant Services for a Wireless Telecommunications Master Plan

Kreines & Kreines, Inc. proposes to provide the following services. Services that would be performed by Alachua County Staff (County Staff) are also identified.

1. Prepare Problem/Opportunity Statement
 - 1.1. Define problems, e.g.:
 - 1.1.1. Define "towers."
 - 1.1.2. Describe ways other than "towers" to deploy wireless telecommunications facilities.
 - 1.1.3. Describe whether "spec" builders are protected by Section 704 of the Telecommunications Act of 1996.
 - 1.1.4. Describe the licensed providers of wireless telecommunications services that need regulation.
 - 1.1.5. Discuss whether all licensed providers of wireless telecommunications services should be regulated by the same set of rules.
 - 1.2. Suggest opportunities, e.g.:
 - 1.2.1. Describe whether Alachua County can build and own wireless telecommunications facilities.
 - 1.2.2. Describe the use of rights-of-way for the purpose of wireless telecommunications deployment.
 - 1.2.3. Describe whether incorporated cities were part of the process.
 - 1.2.4. Describe a process where carriers that comply with the policies of Alachua County could have their wireless telecommunications facilities approved administratively.
 - 1.3. Work products of this task: Problem/Opportunity Statement
2. Prepare Database Inventory and Analysis (most of this is done and available from GRU)
 - 2.1. Ascertain with County Staff that the GRU database contains the type of material Alachua County needs and wants.
 - 2.1.1. Kreines & Kreines, Inc. is familiar with the type and extent of GRU's database.
 - 2.1.1.1. GRU is elaborate in terms of data for every known "tower" in their jurisdiction.
 - 2.1.1.2. GRU does not have most roof mounts and side mounts.

- 2.1.2. However, the GRU database has been prepared from a technical and service provider's perspective.
- 2.1.3. Kreines & Kreines, Inc. would analyze the database and convert it to Alachua County's use.
- 2.1.4. This proposal assures that, if County staff feel that the GRU database is too limited, Kreines & Kreines, Inc. would augment the GRU database with information from available sources.
- 2.2. The GRU database covers:
 - 2.2.1. 950 square miles.
 - 2.2.2. 2,400 users (agencies and carriers).
- 2.3. Prepare an analysis of the GRU database by:
 - 2.3.1. Determining potential for co-location, tri-location, etc.
 - 2.3.2. Assuming potential service area from each potential co-location, tri-location, etc. for:
 - 2.3.2.1. Functionally equivalent wireless telecommunications services.
 - 2.3.2.2. Other wireless telecommunications services.
- 2.4. Work product of this task: Revised GRU database showing existing cell sites and other wireless telecommunications facilities in Alachua County.
- 3. Identify Potential Locations of Proposed Cell Sites and Broadcast Antenna Structure Sites
 - 3.1. Map existing buildings and structures with potential as cell sites on an Alachua County base map, e.g.:
 - 3.1.1. Buildings and structures over three stories tall.
 - 3.1.2. Fire towers.
 - 3.1.3. Water tanks.
 - 3.1.4. Powerlines with transmission towers.
 - 3.1.5. Smokestacks.
 - 3.1.6. Church steeples.
 - 3.2. Map other potential locations for cell sites on a separate Alachua County base map, e.g.:
 - 3.2.1. GRU has identified some sites as well.
 - 3.2.2. County-owned land.
 - 3.2.3. County rights-of-way and easements.

- 3.3. Map broadcast antennas and sites under consideration for HDTV antennas on a separate Alachua County base map.
- 3.4. Work product of this task: Three maps of potential structures for cell sites, potential locations for cell sites and existing and anticipated broadcast antenna sites.
4. Review Existing Regulations
 - 4.1. Review Alachua County Ordinance 97-23.
 - 4.1.1. Review for conformance with the Telecommunications Act of 1996.
 - 4.1.2. Review for ability to eliminate potential problems discussed in Problem/Opportunity Statement (prepared as part of Task 1).
 - 4.1.3. Review for ability to allow opportunities discussed in Problem/Opportunity Statement (prepared as part of Task 1).
 - 4.2. Review Alachua County Comprehensive Plan.
 - 4.2.1. Review for conformance with the Telecommunications Act of 1996 and Ordinance 97-23.
 - 4.2.2. In particular, review the following sections of the Future Land Use Element:
 - 4.2.2.1. Policy 5.2.1 and Policy 5.2.2 of the Alachua County Comprehensive Plan which provides criteria regarding the location of institutional uses.
 - 4.2.2.2. Section 9.0 Airport Impact Policies.
 - 4.2.2.3. Section 4.0 Industrial Policies.
 - 4.3. Identify other County ordinances and County policies as necessary for regulating and facilitating the deployment of wireless telecommunications facilities, e.g.:
 - 4.3.1. Ability to charge fees to carriers and recover consultant costs.
 - 4.3.2. Ability to tax, collect fees or regulate wireless telecommunications providers and activity in the public right-of-way.
 - 4.4. Work product of this task: Report on review of existing regulations.
5. Conduct Community Workshops and Meetings to Develop Standards and Criteria based on Local Concerns and Issues
 - 5.1. Conduct Community Workshop.
 - 5.1.1. Prepare graphic presentation containing possible standards and criteria for discussion at Workshop.

- 5.1.2. Obtain from the Workshop audience reactions, responses and comments on the presentation of possible standards and criteria.
 - 5.1.3. Obtain from the Workshop audience additional standards and criteria.
 - 5.2. Present findings from Community Workshop to an Alachua County Planning Commission Workshop.
 - 5.2.1. Prepare graphic presentation of standards and criteria developed at the Community Workshop.
 - 5.2.2. Obtain input from the Planning Commissioners.
 - 5.3. Meetings with County Staff.
 - 5.3.1. Meet with County Staff prior to and after the Community Workshop.
 - 5.3.2. Meet with County Staff prior to and after the Planning Commission Workshop.
 - 5.4. The time, place and notice for workshops and meetings to be provided by County Staff.
 - 5.5. Work products of this task:
 - 5.5.1. Community Workshop and presentation.
 - 5.5.2. Planning Commission Workshop and presentation.
 - 5.5.3. Meetings with County Staff.
- 6. Undertake Policy Development; Make Policy Recommendations to Board of County Commissioners
 - 6.1. Prepare Draft Report on Recommended Policies for Board of County Commissioners based on standards and criteria developed in Task 5.
 - 6.2. Some of the policies that may be recommended and that lend themselves to measurement or precision, e.g.:
 - 6.2.1. Safety concerns, e.g.:
 - 6.2.1.1. Fall zones.
 - 6.2.1.2. Wind loading.
 - 6.2.1.3. Hurricanes.
 - 6.2.1.4. Railings on building mounts.

- 6.2.2. Emissions, to be based on the FCC *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, which means explaining:
 - 6.2.2.1. RF radiation.
 - 6.2.2.2. EMF impacts as thermal (non-ionizing).
- 6.2.3. Noise.
 - 6.2.3.1. Standards for rating equipment.
 - 6.2.3.2. Mitigations.
- 6.2.4. Siting standards, e.g.:
 - 6.2.4.1. Placement on the property.
 - 6.2.4.2. Height measured by AGL, MSL, coverage elevation.
 - 6.2.4.3. Visibility (to the degree that a wireless telecommunications facility can be seen and, therefore, measured as “visible”).
- 6.2.5. Structural setback requirements, e.g.:
 - 6.2.5.1. Side yard.
 - 6.2.5.2. Rear yard.
 - 6.2.5.3. Equipment shelters (BTS).
- 6.2.6. Provisions for co-location of facilities, e.g.:
 - 6.2.6.1. Vertical separation distance.
 - 6.2.6.2. Horizontal separation distance.
 - 6.2.6.3. Intermodulation studies.
 - 6.2.6.4. Footprint for multiple equipment shelters, for co-locations, tri-locations, etc.
- 6.2.7. Discussion of field measurements within FCC *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*:
 - 6.2.7.1. Ambient measures (pre-project).
 - 6.2.7.2. Post project measures (after installation).
 - 6.2.7.3. Cumulative predictions (co-location estimates).
- 6.2.8. Construction standards, e.g.:
 - 6.2.8.1. BOCA.
 - 6.2.8.2. UBC.
 - 6.2.8.3. EIA/TIA-E-222 (latest version).

- 6.2.9. Difference between accessory structure setback requirements.
 - 6.2.9.1. Equipment shelters (large)
 - 6.2.9.2. Equipment cabinets (smaller).
 - 6.2.9.3. Base Transceiver Stations (small).
 - 6.2.9.4. Multiple arrangements, e.g.: in-line, stacked and vaulted (underground).
- 6.2.10. Color and lighting standards.
 - 6.2.10.1. Requirements of a color board or palette.
 - 6.2.10.2. Backgrounding effects, e.g.: sky blue shows up much more readily against a blue sky than gray.
 - 6.2.10.3. Safety lighting and painting (FAA standards and ability to vary from FAA upon appeal).
- 6.2.11. Definitions (the most common problems are listed below):
 - 6.2.11.1. Towers. (What is a tower? How high is a tower?)
 - 6.2.11.2. Co-location. (What constitutes co-location? All carriers on the same mount? Clustering of several ownerships? One monopole next to another?)
 - 6.2.11.3. Personal wireless facilities.
 - 6.2.11.4. Functionally equivalent services.
- 6.3. Other policies would be more conceptual in nature, e.g.:
 - 6.3.1. Network design, e.g.:
 - 6.3.1.1. Radiofrequency (RF) requirements.
 - 6.3.1.2. Spacing between cell sites.
 - 6.3.2. Heights, requiring:
 - 6.3.2.1. Lattice or guyed towers.
 - 6.3.2.2. Monopoles.
 - 6.3.2.3. Roof-mounts.
 - 6.3.2.4. Side-mounts.
 - 6.3.2.5. Other.
 - 6.3.3. Zoning.
 - 6.3.3.1. Limitations of land use controls to regulate wireless.
 - 6.3.3.2. Correlation between zoning districts and cell site suitability areas is limited.

- 6.3.4. Categories.
 - 6.3.4.1. Land use areas (e.g., industrial or commercial) are often next to sensitive areas, e.g., residential.
 - 6.3.4.2. Impact areas (e.g., visibility) are areas that are commonly subject to values such as history, viewsheds (backdrop), vistas (point of view) and environmental quality.
- 6.3.5. Site selection in order of preference, e.g.:
 - 6.3.5.1. Areas of acceptability (suitable for cell sites).
 - 6.3.5.2. Areas of conditional acceptability (potentially suitable for cell sites).
 - 6.3.5.3. Areas of unacceptability (unsuitable for cell sites).
- 6.4. Submit Draft Report on Recommended Policies for Board of County Commissioners to County Staff for review.
- 6.5. Prepare Final Report on Recommended Policies for Board of County Commissioners based on County Staff comments.
- 6.6. Work products of this task:
 - 6.6.1. Draft Report on Recommended Policies for Board of County Commissioners.
 - 6.6.2. Final Report on Recommended Policies for Board of County Commissioners
- 7. Develop Implementing Regulations; Propose Fee Structure and Schedules
 - 7.1. Propose language to be used for revising, amending and creating new Alachua County ordinances, e.g.:
 - 7.1.1. Appropriate zoning designations, e.g.:
 - 7.1.1.1. Are all industrial or manufacturing zones acceptable?
 - 7.1.1.2. Are some commercial zones acceptable?
 - 7.1.1.3. Are no residential zones acceptable?
 - 7.1.1.4. Zoning districts (e.g., public facilities, open space, etc.) do not always make convenient geographic breakdowns.
 - 7.1.2. Environmental performance standards, e.g.:
 - 7.1.2.1. Visibility (when does "visible" become intrusive?)
 - 7.1.2.2. Nearest existing cell site (when does "proliferation" become "saturation"?)

- 7.1.3. Abandonment and removal policy.
 - 7.1.3.1. How is notice provided for abandonment?
 - 7.1.3.2. Length of time after notice for removal?
 - 7.1.3.3. Recommend escrow account rather than bonding.
- 7.1.4. Security provisions.
 - 7.1.4.1. Security barriers.
 - 7.1.4.2. Impacts on interpretation of FCC guidelines, i.e., controlled or occupational standards are less strict than uncontrolled or general population standards.
- 7.1.5. Disclosures, e.g.:
 - 7.1.5.1. Are there toxics in the cabinets?
 - 7.1.5.2. Should notices be posted?
- 7.1.6. FAA requirements beyond lighting and painting, e.g.:
 - 7.1.6.1. General aviation facilities height and location requirements.
 - 7.1.6.2. Commercial aviation facilities height and location requirements.
 - 7.1.6.3. Helipads height and location requirements.
- 7.1.7. National Environmental Policy Act (NEPA) requirements. e.g.:
 - 7.1.7.1. Wetlands.
 - 7.1.7.2. Flood plain.
 - 7.1.7.3. Endangered species.
 - 7.1.7.4. Historical landmarks.
- 7.1.8. Alternatives to towers, e.g.:
 - 7.1.8.1. Roof-mounts on two to three story structures.
 - 7.1.8.2. Water tanks.
 - 7.1.8.3. Steeples.
 - 7.1.8.4. Flagpoles.
 - 7.1.8.5. Utility poles or transmission towers.

- 7.2. Propose language to be used for revising, amending and creating new Alachua County procedures, e.g.
 - 7.2.1. Describe the standards to be used, e.g.:
 - 7.2.1.1. Submittal standards - data that must be provided in application.
 - 7.2.1.2. Performance standards - substantive specifications that must be met.
 - 7.2.1.3. Operations standards - ongoing monitoring and maintenance that will be required.
 - 7.2.2. Identify steps in the review process in Alachua County, e.g.:
 - 7.2.2.1. Pre-application conferences.
 - 7.2.2.2. Completeness of application.
 - 7.2.2.3. Types of review, e.g.: Staff, administrative, public hearing, etc.
 - 7.2.2.4. Staff report, e.g.: facts, findings and recommendation.
 - 7.2.2.5. Decision, e.g., either approve with substantial evidence or deny with substantial evidence.
- 7.3. Propose requirements for the recovery of preparation costs for the Alachua County Wireless Telecommunications Master Plan, e.g.:
 - 7.3.1. Estimate the total number of wireless carriers that will approach Alachua County for approval of personal wireless service facilities.
 - 7.3.2. Estimate all of the costs incurred in wireless planning in order that a *nexus* (rational relationship) can be demonstrated:
 - 7.3.2.1. The process of reviewing and approving individual cell sites under the proposed Wireless Master Plan is part of the nexus cost.
 - 7.3.2.2. The Wireless Master Plan is part of the nexus cost.
 - 7.3.2.3. The development of future ordinances and other wireless documents is also part of the nexus cost.
 - 7.3.3. Divide the cost of the entire nexus, including Consultant costs and County Staff costs, by the number of carriers.
 - 7.3.4. Provide language for a County resolution requiring each carrier upon application to the County for its first (or next) cell site to pay an equivalent portion of the cost of the preparation of the Wireless Master Plan.

- 7.4. Propose minimum submittal requirements, e.g.:
 - 7.4.1. Ambient RF measurements.
 - 7.4.2. Proposed RF radiation per FCC guidelines.
 - 7.4.3. General location of future applications.
 - 7.4.4. Copies of any NEPA documents.
- 7.5. Propose monitoring and maintenance reports, e.g.:
 - 7.5.1. Monitoring should be required for meeting conditions, checking operations versus abandonment and confirming no modifications have taken place.
 - 7.5.2. Maintenance should be provided by the carriers or the site owner/manager, particularly on public land where lease revenues depend on it.
 - 7.5.3. Both monitoring and maintenance are important for landscaping, aesthetic upkeep and security barrier checks.
- 7.6. Establish a registry for cell sites, which would:
 - 7.6.1. Be accomplished at approval.
 - 7.6.2. Identify technology (e.g., GSM, TDMA, CDMA, etc.)
 - 7.6.3. Identify carrier(s).
 - 7.6.4. Identify any changes, physical or otherwise, may be considered a modification.
 - 7.6.5. Submit FCC forms 600 and Environmental Assessment (if necessary).
 - 7.6.6. Specify lease rates (public and private).
- 7.7. Propose maintenance standards for:
 - 7.7.1. Landscaping.
 - 7.7.2. Appearance (e.g., painting, clean-up, etc.).
 - 7.7.3. Posting bonds when standards aren't met.
- 7.8. Propose protocols for cell site review, e.g.:
 - 7.8.1. What kinds of locational data are required (e.g., latitude and longitude, parcel number, address, etc.)
 - 7.8.2. Can Alachua County require the filing of an Environmental Assessment under the National Environmental Policy Act?
- 7.9. Design the following based on cost recovery approach described in Section 7.3 above.
 - 7.9.1. Application form.

- 7.9.2. Fee schedule, based on type of review.
- 7.10. Work products of this task:
 - 7.10.1. Report proposing language to be used for revising, amending or creating legislation and guidelines for Alachua County
 - 7.10.2. Report proposing procedures and protocols for regulating cell sites in Alachua County.
- 8. Present Work Products to Planning Commission and Board of County Commissioners in Workshops and Public Hearings
 - 8.1. Present the following work products to the Planning Commission:
 - 8.1.1. Problem/Opportunity Statement.
 - 8.1.2. Report on review of existing regulations
 - 8.1.3. Report proposing language to be used for revising, amending or creating legislation and guidelines for Alachua County.
 - 8.1.4. Report proposing procedures and protocols for regulating cell sites in Alachua County.
 - 8.2. Revise the following documents based on comments received at the Planning Commission meeting:
 - 8.2.1. Report on review of existing regulations
 - 8.2.2. Report proposing language to be used for revising, amending or creating legislation and guidelines for Alachua County.
 - 8.2.3. Report proposing procedures and protocols for regulating cell sites in Alachua County.
 - 8.3. Present the following documents to the Board of County Commissioners.
 - 8.3.1. Final Report on Recommended Policies for Board of County Commissioners.
 - 8.3.2. Revised report on review of existing regulations
 - 8.3.3. Revised report proposing language to be used for revising, amending or creating legislation and guidelines for Alachua County.
 - 8.3.4. Revised report proposing procedures and protocols for regulating cell sites in Alachua County.
 - 8.4. Prepare visual presentations for both the Planning Commission and Board of County Commissioners meetings.
 - 8.5. Meetings with County Staff.
 - 8.5.1. Meet with County Staff prior to and after the presentation to the Planning Commission.

- 8.5.2. Meet with County Staff prior to and after the presentation to the Board of County Commissioners.
- 8.6. The time, place and notice for meetings to be provided by County Staff.
- 8.7. Work products of this task:
 - 8.7.1. Visual presentations for both the Planning Commission and Board of County Commissioners meetings.
 - 8.7.2. Presentation to the Planning Commission.
 - 8.7.3. Revision of three documents.
 - 8.7.4. Presentation to the Board of County Commissioners.
 - 8.7.5. Meetings with County Staff.

Cost

The cost for the provision of consultant services for a Wireless Telecommunications Master Plan as outlined in the Scope of Services submitted to Alachua County in February 1998 is \$45,000.00. These costs are allocated and will be invoiced in the following breakdown:

Task 1.	Prepare Problem/Opportunity Statement	\$2,000
Task 2.	Prepare Database Inventory and Analysis	\$6,000
Task 3.	Identify Potential Locations of Proposed Cell Sites and Broadcast Antenna Structure Sites	\$4,000
Task 4.	Review Existing Regulations	\$4,000
Task 5.	Conduct Community Workshops and Meetings to Develop Standards and Criteria based on Local Concerns and Issues (includes two trips to Alachua County).....	\$8,000
Task 6.	Undertake Policy Development; Make Policy Recommendations to Board of County Commissioners	\$6,000
Task 7.	Develop Implementing Regulations; Propose Fee Structure and Schedules	\$6,000
Task 8.	Present Work Products to Planning Commission and Board of County Commissioners in Workshops and Public Hearings (includes two trips to Alachua County).....	<u>\$9,000</u>
	Total Cost to be billed by Kreines & Kreines, Inc.	\$45,000

Qualifications of Kreines & Kreines, Inc.

The following is a list of telecommunications projects currently underway or recently completed by Kreines & Kreines, Inc.

Preparation of Wireless Master Plans

- Wireless Master Plan, City of Lakeland, Florida.
- Wireless Guidance Package, City of Detroit, Michigan
- Wireless Telecommunications Facility Business Plan, City of Fridley, Minnesota.
- Wireless Communications Policy Plan, City of Stamford, Connecticut.
- Comprehensive Study of Suitable Sites for Personal Wireless Service Facilities, Town of Durham, New Hampshire.
- Wireless Telecommunications Policy, Albemarle County, Virginia.
- Wireless Strategy, Village of Winnetka, Illinois.
- Wireless Master Plan, Alachua County, Florida.
- Siting Criteria, Cape Cod Commission, Massachusetts (a regional agency composed of 15 towns).
- Siting Criteria, City of Gloucester, Massachusetts.
- Wireless Guidance Package, Mid-America Regional Council (MARC), Kansas City, Missouri (a regional agency composed of 114 cities and 8 counties).
- Wireless Master Plan, City of Irving, Texas.
- Draft Wireless Master Plan, City of Medina, Washington.
- Guidelines for Review & Approval of Antenna Arrays on Monopoles, City of Scottsdale, Arizona.
- Wireless Planning, City of Bothell, Washington.

Preparation & Review of Telecommunications Ordinances

- Alachua County, Florida
- City of Altamonte Springs, Florida
- City of Bothell, Washington
- City of Gloucester, Massachusetts
- City of Houston, Texas
- City of Kissimmee, Florida
- City of Ocoee, Florida
- City of Pacifica, California
- City of Paradise Valley, Arizona



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web site: <http://www.infinitefaculty.com/planwireless>

- City of Port Townsend, Washington
- City of Shoreline, Washington
- City of West University Place, Texas
- Fauquier County, Virginia (for the Piedmont Environmental Council)
- James City/County, York County and the City of Williamsburg, Virginia (in association with an engineering firm)
- Johnson County, Kansas
- Model Bylaw (Ordinance) Cape Cod Commission, Massachusetts (a regional agency composed of 15 towns).
- San Juan County, Washington
- Town of Durham, New Hampshire
- Village of Waite Hill, Ohio

Expert Witness

- Expert witness for the Town of Durham, New Hampshire in *Sprint Spectrum v. Town of Durham*.
- Expert witness for the Town of Sturbridge, Massachusetts in *Sprint Spectrum v. Town of Sturbridge*.

Review & Preparation of Telecommunication Facilities Applications

- Preparation of application for a co-located personal wireless service facility on a water tank for the Town of Durham, New Hampshire.
- Review of CellNet AMR system to be deployed by Puget Sound Energy, a public utility, City of Puyallup, Washington.
- Review of Cellular One Application, Village of Oak Brook, Illinois.
- Review of ESMR Cell Site, Johnson County, Kansas.
- Review of Ram Mobile Data Cell Site, Wheaton Park District, Illinois.
- Review of US Cellular Application, Town of Dublin, New Hampshire.
- Review of US West New Vector application, City of Lacey, Washington.
- Review of Cellular & PCS Applications, City of Medina, Washington.
- Review of AirTouch Application, City of Scottsdale, Arizona.

Workshops & Training for Cities, Counties & Public Agencies on Planning for Telecommunications

- Alachua County, Florida.
- Albemarle County, Virginia.



- Appalachian Trail Conference (an organization responsible for management and protection of the Appalachian Trail, extending 2,100 miles from Maine to Georgia).
- Cape Cod Commission, Massachusetts (a regional agency composed of 15 towns).
- City of Bothell, Washington.
- City of Daly City, California.
- City of Dana Point, California.
- City of Detroit, Michigan.
- City of Gloucester, Massachusetts.
- City of Houston, Texas.
- City of Irving, Texas.
- City of Lake Forest, California.
- City of Lakeland, Florida.
- City of Pacifica, California.
- City of Paradise Valley, Arizona.
- City of Port Townsend, Washington.
- City of Stamford, Connecticut.
- City of Wichita/Sedgwick County, Kansas.
- Indian River County, Florida.
- James City/County, York County and the City of Williamsburg, Virginia.
- King County, Washington.
- Lake County Council of Governments, Painesville, Ohio (a regional agency composed of 11 jurisdictions).
- Miami Valley Cable Council (a regional agency composed of 9 cities and 16 affiliates).
- Mid-America Regional Council (MARC), Kansas City, Missouri (a regional agency composed of 114 cities and 8 counties).
- San Juan County, Washington.
- Town of Weston, Massachusetts.

Review of Personal Wireless Service Facility Leases

- Puyallup Water District, Washington.

Franchising & Revenue Potential from Telecommunications

- City of Ocoee, Florida.



Speaker/Moderator on Telecommunications Planning for Cities & Counties at Major Conferences

Ted Kreines, AICP, President of Kreines & Kreines, Inc. has presented at the following conferences:

- National CTIA (Cellular Telecommunications Industry Association) conference in Atlanta, 1998.
- NATOA (National Association of Telecommunications Officials and Administrators) conferences in St. Louis and Tacoma, 1997.
- TATOA (Texas Association of Telecommunications Officials and Administrators) conference in San Antonio, 1997.
- State of New Hampshire Planning and Zoning Conference, 1997.
- "Wireless Buildout" conferences in San Diego, Chicago, Colorado Springs, San Antonio and San Francisco, 1996-97.
- North Central Texas Council of Governments (NCTCOG) in Dallas, 1996.
- CTIA (Cellular Telecommunications Industry Association) conference in New Orleans, 1996.

Telecommuting Studies

- Telecommuting Study, San Diego Association of Governments (SANDAG), San Diego County, California.

Other Telecommunications Projects

- Publisher of *PlanWireless* (formerly *Wireless Update*), a monthly newsletter sent free to thousands of cities and counties throughout the United States on telecommunications planning.

Awards for Telecommunications Projects

- The City of Lakeland Wireless Master Plan has received an Award for Excellence from the Florida American Planning Association.
- The Siting Criteria and Model Bylaw (Ordinance) prepared for the Cape Cod Commission have been nominated for an American Planning Association award at the national level and an American Planning Association award from the State of Massachusetts.

Kreines & Kreines, Inc. Wireless Planning Clients

Current or recent telecommunications clients include:

Regional Agencies

Appalachian Trail Conference. The Appalachian Trail Conference is an organization responsible for management and protection of the Appalachian Trail, extending from Maine to Georgia.

Massachusetts. Cape Cod Commission (composed of 15 towns).

Kansas & Missouri. Mid-America Regional Council (composed of 114 cities and 8 counties).

Ohio. Miami Valley Cable Council (composed of nine cities and 16 affiliates) & Lake County Council of Governments (composed of 11 jurisdictions).

Counties, Cities & Towns

Arizona. City of Paradise Valley & City of Scottsdale.

California. City of Daly City, City of Dana Point, City of Lake Forest & City of Pacifica.

Connecticut. City of Stamford.

Florida. City of Altamonte Springs, City of Ocoee, City of Lakeland, City of Kissimmee, Alachua County & Indian River County.

Illinois. Village of Winnetka & Village of Oak Brook.

Kansas. City of Wichita, Sedgwick County & Johnson County.

Massachusetts. Town of Weston & City of Gloucester.

Michigan. City of Detroit.

Minnesota. City of Fridley.

New Hampshire. Town of Dublin & Town of Durham.

Ohio. Village of Waite Hill.

Texas. City of Houston, City of Irving & City of West University Place.

Virginia. Albemarle County, James City/County, York County & City of Williamsburg.

Washington. City of Port Townsend, City of Lacey, City of Shoreline, City of Medina, City of Bothell, City of Puyallup, King County & San Juan County.

Special Districts

Illinois. Wheaton Park District.

Washington. Puyallup Water District.



Facts About Personal Wireless Service Facilities

The following are some facts about personal wireless service facilities that the wireless carriers may not be telling you.

- Personal wireless service facilities can be provided in your community without the use of "towers." Kreines & Kreines, Inc. can tell you how personal wireless service facilities can be deployed in your community without tall "towers."
- The Federal Communications Commission (FCC) has licensed hundreds of carriers to provide personal wireless service facilities in the U.S. through an auction process that raised billions of dollars for the federal government. The FCC has plans for many more auctions. Kreines & Kreines, Inc. can estimate how many of these carriers may want to install personal wireless service facilities in your community.
- The Telecommunications Act of 1996 preserved local zoning authority for cities and counties throughout the U.S. Kreines & Kreines, Inc. will show you how your city or county can plan for (and profit from) the coming revolution in personal wireless service facilities.
- The Telecommunications Act of 1996 required the FCC to prepare guidelines for radio frequency radiation (RFR). Kreines & Kreines, Inc. will show you how your community can ensure that the personal wireless service facilities in your community will meet these guidelines.
- Cities and counties can deal with health and safety issues resulting from personal wireless service facilities. The FCC does not pre-empt you from obtaining data and Kreines & Kreines, Inc. can show you how.
- Your city or county can enact a moratorium on the approval of personal wireless service facilities to give your community time to plan. Call Kreines & Kreines, Inc. to find out about moratoria.
- Your city or county can deny an application for personal wireless service facilities. Kreines & Kreines, Inc. can show you what is required for a denial. Most successful carrier lawsuits are over improper denials.
- Your city or county can recover all of the money it spends on planning for and permitting personal wireless service facilities in your community (including the cost of consultants). Kreines & Kreines, Inc. prepares cost recovery plans that show your jurisdiction how it can be reimbursed.

Kreines & Kreines, Inc. can provide your jurisdiction or agency with the information necessary to start planning (and stop reacting).



Kreines & Kreines, Inc., 58 Paseo Mirasol, Tiburon, CA 94920, (415) 435-9214

e-mail: wireless.update@worldnet.att.net

web site: <http://www.infinitefaculty.com/planwireless>

Letters of Recommendation

Letters of recommendation from the following current and former clients are attached:

- City of Fridley, Minnesota.
- Cape Cod Commission, Massachusetts
- Village of Winnetka, Illinois
- Village of Oak Brook, Illinois
- Town of Durham, New Hampshire
- City of Medina, Washington (from the City Attorney, Kirk Wines)

Kreines & Kreines, Inc. conducted a series of telecommunication workshops and prepared a Siting Criteria Report as well as a Model-Bylaw (ordinance) for the Cape Cod Commission. The Cape Cod Commission is a regional agency financed by Barnstable County and composed of 15 towns on Cape Cod in Massachusetts.

The Cape Cod Commission, representatives of the 15 towns, representatives of the wireless carriers and citizens attended the workshops and were involved with Kreines & Kreines, Inc. in putting together these documents. The Cape Cod Commission is so delighted with the Siting Criteria Report and the Model-Bylaw, that they have nominated these two documents for the following awards:

- American Planning Association award at the national level.
- American Planning Association award at the statewide level.

Letters in support of the nominations for these awards were written by the following industry representatives and Town representatives:

- **Robinson & Cole.** This law firm representing many public clients in New England says that the "work in this area is simply without equal."
- **Sprint PCS.** Sprint PCS says that they "believe the cooperative drafting process which produced the Model-Bylaw demonstrates results which can only be achieved through open and regular communications between the wireless telecommunications industry and the applicable planning and zoning authorities."
- **Town of Wellfleet Planning Board.** The Town says that "the workshops were invaluable ..."
- **Town of Truro.** The Town says that the workshops conducted by Kreines & Kreines, Inc. were "invaluable" and that the Siting Criteria Report and Model Bylaw should "be recognized through an award ..."



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e-mail: wireless.update@worldnet.att.net

web site: <http://www.infinitefaculty.com/planwireless>

- **Omnipoint Communications, Inc.** Omnipoint "applauds this project, which was a commendable, timely and effective response to a matter of current planning and conservation concern."
- **Commonwealth Electric Company.** ComElectric states that they were "pleased to participate with the Commission in this important project ..."
- **Dunning, Forman, Kirrante & Terry, LLP.** This law firm, representing AT&T Wireless, says that what resulted from this project "was a reasoned and balanced proposed by-law amendment ..."

Copies of these letters are attached.



Kreines & Kreines, Inc., 58 Paseo Mirasol, Tiburon, CA 94920, (415) 435-9214

e-mail: wireless.update@worldnet.att.net

web site: <http://www.infinitefaculty.com/planwireless>



FRIDLEY MUNICIPAL CENTER • 6431 UNIVERSITY AVE. N.E. FRIDLEY, MN 55432 • (612) 571-3450 • FAX (612) 571-1287

October 22, 1998

To Whom it May Concern:

Kreines and Kreines, Inc., was retained by the City of Fridley in September 1997, to research potential sites for wireless facilities and to research the feasibility of a "telecommunication authority" for wireless services. The Kreines firm also retained two other consultants as sub-contractors.

I found the work completed by this consulting firm to be exemplary. The consultant team, led by Ted Kreines, made a concerted effort to learn everything about the community and the wireless infrastructure in the Minneapolis/St. Paul area. They completed a thorough review of all files and interviewed appropriate municipal staff. They also met with local providers and established a good working relationship with them.

Ted Kreines especially was extremely helpful and available during the course of the contract. All written material was prepared on a timely basis and Ted was available for questions at any time.

The task that was set out for Kreines was unusual. Kreines was proactive and identified options for the City to consider in order to get the job done as opposed to saying "no you can't do it"

If another issue arose regarding the telecommunication issue, I would not hesitate in retaining the Kreines and Kreines firm again to assist the City of Fridley. I highly recommend their services and am available to speak directly to those who are interested in retaining them.

Sincerely,

Barbara Dacy, AICP
Community Development Director
(612) 572-3590

525 UNIVERSITY AVENUE, SUITE 705
PALO ALTO, CALIFORNIA 94301

TELEPHONE: (650) 321-5700
FACSIMILE: (650) 321-5639

FACSIMILE TRANSMISSION COVER SHEET

DATE: June 25, 1998 # of Pages (Including this page): (1)
TO: Ted Kreines TELEFAX: (415) 435-1522
Kreines & Kreines, Inc. PHONE: _____
FROM: John Paul Hanna
RE: HILLSBOROUGH

COVER MESSAGE:

Dear Ted:

Excellent report. Keep up the good work. You're making me look good.

Very truly yours,



John Paul Hanna

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If any pages are not received or legible, please contact the facsimile operator at (650) 321-5700.

This transmission is intended for the sole use of the individual and entity to whom it is addressed, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. You are hereby notified that any dissemination, distribution or duplication of this transmission by someone other than the intended addressee or its designated agent is strictly prohibited. If your receipt of this transmission is in error, please notify this firm immediately by collect call and send the original transmission to us by return mail at the above address.



TOWN OF DURHAM
15 NEWMARKET ROAD
DURHAM, NH 03824-2898

DUANE HYDE
Director of Planning
and Community Development

TEL: 603/868-8064
FAX: 603/868-5572
plan-zone@ci.durham.nh.us

May 12, 1998

To Whom It May Concern:

The firm Kreines & Kreines, Inc., of Tiburon California, recently completed work under contract with The Town of Durham to assist us in a Telecommunications Services Study for personal wireless service facilities. The Town very much wanted to hire a firm from our region; however, after an exhaustive search, the best candidate for the scope of work was found to be Kreines & Kreines, Inc. Our concern about having a firm from California being able to produce timely deliverables, attend public meetings, and address questions during the process were soon alleviated. Kreines & Kreines, Inc. met all of our deadlines, was always available to answer questions in a timely manner, and attended all of the meetings outlined in the Scope of Work. The use of e-mail was especially helpful in our work with Kreines & Kreines, Inc.

Please feel free to contact me at (603) 868-8064 should you have any questions. I may also be reached via e-mail at plan-zone@ci.durham.nh.us.

Sincerely,

Duane Hyde, Director
Planning and Community Development





CAPE COD COMMISSION

3225 MAIN STREET
P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136

E-mail: frontdesk@capecodcommission.org

MEMORANDUM

TO: Whom It May Concern
FROM: Gay Wells, AICP *G. Wells*
DATE: May 12, 1998
RE: **Kreines & Kreines, Inc.**

This memorandum is on behalf of Kreines & Kreines, Inc. of Tiburon, California who worked with the Cape Cod Commission for a six-month consulting contract. The Cape Cod Commission received a Municipal Incentive Grant from the Massachusetts Department of Housing and Community Development and through the grant contracted with Kreines & Kreines to perform the following tasks: 1) meet with Commission staff and with wireless industry representatives, 2) review relevant siting criteria and bylaws, 3) produce Cape Cod-appropriate siting criteria and model bylaw, and 4) participate in a Cape-wide workshop to present the siting criteria and model bylaw. The Siting Criteria and Model Bylaw for Personal Wireless Service Facilities were produced through collaboration with Kreines & Kreines and the Commission staff.

Ted Kreines, AICP, made three trips to Cape Cod during those six months and was available by telephone, e-mail, and FAX as well. We found Kreines & Kreines to be responsive to the Commission's need to become informed about wireless technology. Mr. Kreines is very knowledgeable about the telecommunications industry and has an effective presentation which provided our staff, Commission members, town representatives, and the public with excellent information regarding the issues of locating and siting wireless facilities.

We found Kreines & Kreines to have provided valuable information and they were able to serve the Commission on time and with success. During our contract period distance never became a factor in getting the job done and Ted continues to be responsive to the Commission's questions and concerns well beyond the contract period.

Law Offices Of
KIRK R. WINES

TELEPHONE:
(206) 301-9558

410 BOSTON STREET
SEATTLE, WASHINGTON 98109

FAX:
(206) 301-9761

December 29, 1997.

Re: Ted Kreines

Dear Mr. Woodward:

I am pleased to write this letter of recommendation for Ted Kreines of Kreines & Kreines, Inc.

I am the City Attorney for Medina. Medina has become well known in the telecommunications field as one of the first cities to declare a moratorium against new wireless facilities and the first to be sued in Federal Court under the 1996 Telecommunications Act.

During our moratorium, we asked Ted Kreines to come to Medina to assist us in planning for wireless facilities. Ted spent several days conducting workshops for our Planning Commission and City Council, primarily educating us as to what the industry could do if forced to use the best technology available. While here, Ted also drafted the framework for our wireless facility zoning ordinance. It was largely due to Ted's knowledge that we were able to come up with a workable and defensible ordinance within the time allowed under our moratorium. I believe we were successful in the court action challenging our moratorium largely because we could assure the Federal judge hearing the case that we would not need to extend the length of our initial six month moratorium.

Ted was also very helpful when the same carrier who sued over our moratorium filed an application for a 100 foot lattice work antenna facility in the city. He suggested the questions we needed to ask and the information we needed to develop to disprove this carrier's claim that this facility was essential to its system.

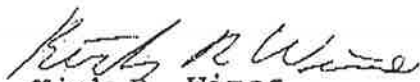
Ted also made me aware of cases throughout the nation where wireless carriers were convincing Federal judges to overturn decisions denying them sites, primarily because opponents to the sites did not know how to make an adequate record. As a result, we

were able to develop an appropriate written record.

Even after Ted completed his work for the City of Medina, we remained in contact with him. He has been an excellent source of information on developing technology and on the strategies that cities and counties throughout the country are using to site wireless facilities that reasonably accommodate the industry's needs but do not cause unnecessary adverse affects on the communities they serve.

Because Medina has been involved in litigation with the industry for most of past two years, I have spoken with persons throughout the United States on this issue including both city officials and industry representatives. I have not found anyone more knowledgeable than Ted on these issues.

Very truly yours,


Kirk R. Wines

cc:Kreines & Kreines, Inc.

dec29k



TOWN OF DURHAM
15 NEWMARKET ROAD
DURHAM, NH 03824-2898

DUANE HYDE
Director of Planning
and Community Development

TEL: 603/868-8064
FAX: 603/868-5572
plan-zone@ci.durham.nh.us

January 2, 1998

RE: Kreines & Kreines, Inc. Letter of Reference

Dear Mr. Clasby:

In August of 1997 the Town of Durham, New Hampshire entered into a contract for wireless telecommunications consultant services with Kreines & Kreines, Inc. The scope of our contract with Kreines & Kreines, Inc. included the delineation of areas within Durham that were appropriate for the siting of personal wireless service facilities (pwsf's), to show that the selected areas were technologically feasible and functional through radio frequency propagation plots, and to recommend standards for a zoning ordinance amendment that addresses pwsf's.

Based on Durham's experience with Ted Kreines of Kreines & Kreines, Inc., I would strongly recommend Mr. Kreines to any municipality looking for services in the personal wireless service area. Mr. Kreines is the only consultant Durham found to be extremely knowledgeable of the wireless field, land use planning, and who did not work for the wireless industry. With this knowledge, Mr. Kreines is able to explain very complicated issues and concepts, which the wireless industry attempts to use to its advantage, and make it understandable to the lay person. This ability to inform the general public of wireless technology and concepts alone was worth the cost of Durham's study. In addition, Mr. Kreines is very concerned about the needs of his client and the quality of his work. He met all of the deadlines in his contract and, in a timely manner, supplied all of the information that was requested from him.

In closing, if Durham was ever in the need for additional wireless consulting services, we would surely place Kreines & Kreines, Inc. at the top of our list. Should you have any questions or need additional information, please feel free to



Printed on Recycled Paper

use me as a reference. I may be reached at (603) 868-8064 or via e-mail at plan-
zone@ci.durham.nh.us.

Sincerely,



Duane Hyde, Director
Planning and Community Development



CAPE COD COMMISSION

3225 MAIN STREET
P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136
E-mail: 74260.3152@compuserve.com

John E. Woodward, Jr.
Planning Director, Town of Brookline
Brookline Town Hall
333 Washington Street
Brookline, MA 02146

RE: Telecommunications Consultant

Dear Mr. Woodward:

This letter is written on behalf of Kreines & Kreines of Tiburon, California. Ted Kreines, AICP has asked the Cape Cod Commission to submit comments to the Town of Brookline regarding their firm's having been a consultant to the Commission on our wireless communications project. The Cape Cod Commission received a Municipal Incentive Grant from the Massachusetts Department of Housing and Community Development and through the grant contracted with Kreines & Kreines in January, 1997 to perform the following tasks:

- 1) Meet with wireless industry representatives
- 2) Review relevant siting criteria and bylaws
- 3) Participate in a Cape-wide workshop to present model siting criteria and bylaw.

The following products were produced through collaboration with Kreines & Kreines and the Commission staff:

- 1) Siting Criteria for Personal Wireless Service Facilities
- 2) Model Bylaw for Personal Wireless Service Facilities

We found Kreines & Kreines to be responsive to the Commission's needs regarding becoming informed about the new wireless technology. While Mr. Kreines is not an RF engineer, he is very knowledgeable about the telecommunications industry. He has an effective presentation which provided our staff, Commission members, town representatives, and the public with excellent information regarding the issues of locating and siting wireless facilities. We found Kreines & Kreines to have provided valuable information and a definite benefit in the development of our Cape-wide program for regulating personal wireless service facilities.

Sincerely,

A handwritten signature in cursive script that reads "Gay Wells".

Gay Wells, AICP



VILLAGE OF WINNETKA

Incorporated in 1869

F A C S I M I L I E

Brookline, MA 02146-6853

Dear Mr. Woodward:

At the request of Mr. Ted Kreines, I am writing to support the proposal of Kreines & Kreines, Inc. to perform telecommunications consulting services for your town. Last year, as a part of developing our wireless telecommunications service facilities siting policy, the Village of Winnetka employed Mr. Kreines to assist in the identification and evaluation of potential wireless sites. For this study Mr. Kreines made two trips to Winnetka. He prepared a thorough written report of his findings and conclusions and presented it to our Trustees. Although I do not know the full scope of the work you are anticipating, I can attest to the fact that Mr. Kreines performed the work requested by the Village of Winnetka in a professional, efficient, and timely fashion.

If you need any further information, please feel free to contact me.

Sincerely,

Douglas G. Williams
Village Manager

510 Green Bay Road, Winnetka, Illinois 60093

Administration and Finance (847) 501-6000 Fire (847) 501-6029 Police (847) 501-6034
Public Works (847) 501-6080 Water and Electric (847) 501-6085



VILLAGE OF OAK BROOK
1200 OAK BROOK ROAD
OAK BROOK, ILLINOIS 60523-2255

PHONE: 630 990-3000
FAX: 630 990-0876

January 5, 1998

Mr. John E. Woodward, Jr.
Planning Director
Town of Brookline
333 Washington Street
Brookline, MA 02146

Dear Mr. Woodward:

Ted Kreines has asked me to write to you about the services rendered by Kreines & Kreines, Inc. for the Village of Oak Brook. Oak Brook learned about Kreines & Kreines, Inc. through their newsletter, *Plan Wireless*. Upon an inquiring phone call to Kreines & Kreines, Inc., Mr. Kreines offered to visit Oak Brook to review the following problem before submitting a proposal to us.

Kreines & Kreines, Inc. was asked to review an application by Cellular One to place a personal wireless service facility in a residential neighborhood. Kreines & Kreines, Inc. requested a complete package of technical material from Cellular One and Kreines & Kreines, Inc. had their RF engineers review the technical data.

Based on Kreines & Kreines' review of the Cellular One submittals it was determined that Cellular One has 39 personal wireless service facilities in and around Oak Brook and that present projected facility needs could require expansion of this number by 8 or more facilities over the next five or so years.

It was also determined that the Cellular One proposal was based more on a system capacity problem than a signal coverage problem. Due to Oak Brook's status as an upscale community, we expect continued significant increases in wireless communication usage of a residential and business nature.

As a result, the Village is delaying final decision on the Cellular One proposal pending the development of a comprehensive Wireless Telecommunications Ordinance.

Kreines & Kreines, Inc. and their RF engineer delivered their report on time and within the proposed budget as well as consulted to us in a professional manner. I have suggested that Kreines & Kreines, Inc. put their name in for consideration when (and if) the Village of Oak Brook decides to retain a consultant for the development of the comprehensive ordinance.

Please feel free to contact me if you have any questions - 630-990-2382.

Sincerely,

Thomas R. Hawk
Director of Community Development

TRH/gp

ROBINSON & COLE LLP

HARTFORD • STAMFORD • GREENWICH • NEW YORK • BOSTON

LAW OFFICES

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280 Trumbull Street
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860-275-8200
Fax 860-275-8299

Dwight H. Merriam, AICP
860-275-8228
Pager 860-279-4534
Internet: dmerriam@rc.com

July 17, 1997

APA Awards Committee
American Planning Association
122 S. Michigan Avenue
Chicago, IL 60603-6107

Dear APA Awards Committee:

This letter is in support of the Cape Cod Commission's application for an American Planning Association award for its Wireless Communications Project. The Commission received a Municipal Incentive Grant from the Massachusetts Department of Housing and Community Development to develop GIS mapping of potential sites for wireless antennas, a siting criteria document giving an overview of wireless communications, and a model bylaw for towns to use as a guide in developing their own bylaw. The Commission embarked on this project because of its concerns for the environmental and visual impacts of antennas and its interest in preserving community character which is so important on Cape Cod.

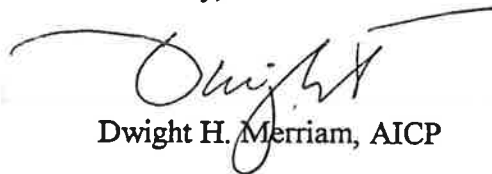
This innovative and timely project, while specific to Cape Cod, is also easily transferable to other towns and cities in Massachusetts, and to other states as well. The Commission has taken a proactive and comprehensive regional planning and regulatory approach in the development of this project. It is for these reasons I have selected to present these materials at the American Law Institute-American Bar Association (ALI-ABA) Annual Land Use Institute in San Diego in August. The Siting Criteria and Model Bylaw for Personal Wireless Service Facilities are also included in our course materials for the conference and we feel they will provide attendees with an exemplary reference on this important topic. The Cape Cod Commission's work in this area is simply without equal.

ROBINSON & COLE LLP

APA Award Committee
July 17, 1997
Page 2

The Cape Cod Commission has worked closely with the Cape towns, the wireless carriers, and the public. The Commission has taken the lead in addressing the siting and regulation of wireless communications facilities and I urge you to support its application as deserving of an APA planning award.

Sincerely,



Dwight H. Merriam, AICP

DHM/kaf



Dekkers L. Davidson
Area Vice President - New England

Sprint PCS

Prospect Place, 3rd Floor
330 Third Avenue
Waltham, Massachusetts 02154

Telephone: 617 370 2020
Fax: 617 370 2022

July 23, 1997

Via: Federal Express Overnight

Ms. Gay D. Wells, Planner
Cape Cod Commission
3225 Main Street
P.O. Box 226
Barnstable, MA 02630

RE: Wireless Communications Project

Dear Ms. Wells:

We understand that the Cape Cod Commission ("CCC") may be applying for an award from a national planning association with respect to the model zoning by-law for personal wireless service facilities (the "Model By-Law") prepared by the CCC in conjunction with its consultant, Kreines & Kreines, Inc. Please accept this letter in support of your application.

As you know, Sprint PCS was actively involved in reviewing and commenting upon the various drafts of the Model By-Law and met with various members of the CCC staff to discuss our concerns and recommendations. While we would have preferred that more of our suggested modifications were adopted, we believe that each of our comments was carefully considered by the CCC staff. More importantly, because of our open and productive dialogue over several weeks, a number of significant provisions were incorporated into the Model By-Law (as well as the CCC development review regulations) which truly resulted in a win-win situation for the wireless telecommunications industry as well as the citizens of Cape Cod.

More specifically, we believe that the CCC should be commended for adopting the following provisions:

- **Rebuilding of Existing Towers.** By allowing existing towers to be replaced or rebuilt up to 20 feet taller upon the issuance of a special permit (and removing such construction from the CCC development review process), tower proliferation should be substantially reduced and many older tower structures will now be brought up to current design codes.
- **Overlay Districts.** Allowing tower structures up to 150 feet in height within limited overlay districts constitutes a reasonable balance of land use concerns and the technological needs of the wireless telecommunications

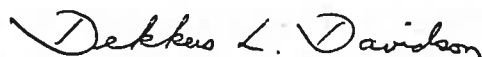
industry. More importantly, by acting as a clearinghouse of information with respect to existing tall structures and by coordinating the process of identifying the most appropriate locations for such overlay districts by serving as a liaison between the wireless telecommunications carriers and the various Cape Cod municipalities, the CCC is in a unique position to assist in the development of a comprehensive, regional land use plan for the construction of wireless telecommunications infrastructure.

- **Flexibility.** Allowing local special permit granting authorities reasonable discretion to reduce fall zone and set back requirements on a case-by-case basis will result in better designed facilities.
- **Use of Existing Utility Structures.** Allowing the attachment of antennas up to 20 feet above the height of existing electric transmission towers and similar utility structures is excellent planning as the marginal increase in neighborhood impact will be minimal.
- **Streamlined Antenna Attachment Process.** Allowing the attachment of antennas to existing water, fire, and telecommunications towers by right (subject to site plan review) will encourage co-location by expediting the zoning approval process for such facilities. Similarly, allowing tower applicants to "pre-permit" a site for additional co-locators is prudent land use planning.

To conclude, we believe the cooperative drafting process which produced the Model By-Law demonstrates results which can only be achieved through open and regular communication between the wireless telecommunications industry and the applicable planning and zoning authorities. In the end, we hope that all involved in the process have found (and will continue to find) Sprint PCS to be a "good neighbor" on Cape Cod.

Of course, if we may be of any further assistance, please do not hesitate contact me.

Sincerely yours,



Dekkers L. Davidson
Area Vice President - New England
Sprint PCS

July 24, 1997

To: Gay D. Wells
Cape Cod Commission
P.O. Box 226
Barnstable, MA 02630

From: Wellfleet Planning Board

Subject: Wireless Communication Project - APA Awards Application

Enclosure: Wellfleet Planning Board letter to APA Awards Committee

The Wellfleet Planning Board is happy to support the Cape Cod Commission's application to the APA for an award for the Commission's Wireless Communications Project.

The work shops were invaluable in providing insight into the planning issues raised by the introduction of wireless communication services in accordance with the Telecommunication Act. The Sighting Criteria and Model Bylaw provided many specifics which have been and will be incorporated in our Zoning Bylaw regulating the installation of wireless communication facilities in Wellfleet.


Ben Gitlow, Ch.
Wellfleet Planning Board



Truro Planning Board

TRURO, MASSACHUSETTS

July 24, 1997

To: APA Awards Committee

It is with great pleasure that the Truro Planning Board is writing to support the Cape Cod Commission's application for an award concerning their Wireless Communications Project.

During the past year, while developing a tower bylaw for our Town, our Board found the technical assistance we received from the Commission, and especially Gay Wells to have been extremely helpful. We also found their workshops to have been invaluable.

At the request of the Massachusetts Federation of Planning and Appeals Boards, Gay presented a program at their Spring Conference in Hyannis. The program was well received and all who attended appreciated Gay's presentation.

The members of the Truro Planning Board believe that the efforts of Gay and of the Cape Cod Commission to regionally cooperate with the towns and with the commercial carriers in developing a Site Criteria and Model Bylaw should, indeed, be recognized through an award from your committee.

Very truly yours,

Betsey Ann Brown
Chairman



Omnipoint Communications, Inc.®
50 Holden Street
Providence, Rhode Island 02908

(401) 588-5100
(401) 588-5101 (FAX)

Anne Patrick - Technical Director

July 22, 1997

APA Awards Committee
c/o Gay D. Wells, Planner
Cape Cod Commission
3225 Main Street
P.O. Box 226
Barnstable, MA 02630

Re: Wireless Telecommunications By-Law Proposed for Cape Cod Municipalities
APA Planning Project and Current Topic Awards

Dear Committee Members:

I am pleased to have this opportunity to recognize the efforts of Cape Cod Commission in the formulation of a comprehensive zoning by-law to regulate the development of wireless telecommunication sites on Cape Cod. The Commission capitalized on its uniquely regional perspective to attract and apply resources which would otherwise have been unavailable and, as a result, produced a regulatory scheme which is greater than the sum of its parts.

Not only did the Commission successfully promote a solution to issues which may be difficult to deal with on a town-by-town basis because of their regional impact, but it also struck an intelligent and practical series of balances on many issues, ultimately effecting a practical result which promotes flexibility of network and site design while preserving town review and control over the final result.

Omnipoint applauds this project, which was a commendable, timely and effective response to a matter of current planning and conservation concern. It was a pleasure to cooperate with the Commission, whose staff was exemplary in its professional approach and the execution of all its tasks.

Sincerely,

A handwritten signature in cursive script that reads "Anne Patrick".

Anne Patrick

AP/rw



Commonwealth Electric Company
2421 Cranberry Highway
Wareham, Massachusetts 02571
Telephone (508) 291-0950

August 1, 1997

American Planning Association
Awards Committee

Re: Cape Cod Commission
Wireless Communications Project

Dear Committee Members:

Commonwealth Electric would like to support recognition of the Cape Cod Commission's Wireless Communication Project for an award from the American Planning Association in the Planning and Conservation of Places Category.

Commonwealth Electric Company (Commonwealth) is an electric utility which provides electric service in Southeastern Massachusetts including all of Cape Cod and the Island of Martha's Vineyard. As such, Commonwealth is very much aware of Cape Cod's unique environment and is sensitive to environmental impacts from any of its facilities and operation, always seeking to minimize any impacts. Environmental issues are an important criteria in the siting of any new facilities by the Company.

Through the Commission's efforts, a number of interested parties, including Commonwealth Electric Company, were brought together to discuss issues associated with the siting and construction of new wireless communications facilities. Commonwealth has participated in a number of meetings with the Commission and other interested parties on the subject. These discussions, co-ordinated by the Commission, lead to the development of a Siting Criteria document and Model By-law.

During these discussions Commonwealth became more aware of the need for new communications facilities to support the increasing demand for wireless personal

communications. Co-location of these facilities on existing electric utility structures was one alternative discussed that the Company believes will help to minimize the overall number of new towers required. Additionally, this is consistent with the approach that Commonwealth uses when siting or constructing new facilities to minimize environmental and other associated impacts. Although, issues such as engineering considerations and modifications that may be required on electric utility structures to accept this new equipment need to be addressed, the Company believes workable solutions will be identified. As a result of this project and discussions with the Commission and other parties, Commonwealth will be assessing the ability to allow co-location on utility structures, thus reducing the overall number of new towers required and avoiding associated impacts.

Commonwealth has been pleased to participate with the Commission in this important project and looks forward to continuing to work with the Commission in this regard.

Very truly yours:



Stephen B. Wood, Director
Environmental Programs

DUNNING, FORMAN, KIRrane & TERRY, L.L.P.
COUNSELORS AT LAW

MICHAEL A. DUNNING*
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*Also admitted Illinois Bar
**Also admitted New Jersey Bar
***Also admitted District of Columbia Bar

July 30, 1997

Cape Cod Commission
3225 Main Street
P.O. Box 226
Barnstable, MA 02630

Attention: Gay D. Wells

TO WHOM IT MAY CONCERN

This letter is being written in support of certain Planning Association awards for which the Cape Cod Commission is being considered, in connection with the development of certain proposed by-laws and developmental regulations pertaining to the installation of Personal Wireless Service Facilities in Barnstable County.

This firm represents AT&T Wireless Services, which, together with other carriers, has been involved in discussions with the Cape Cod Commission, pertaining to the drafting and promulgation of these by-laws and regulations. The Cape Cod Commission first retained the services of Kreines & Kreines, Inc., Wireless Industry Specialists, much of whose prior work was done in California.

The Cape Cod Commission, working together with Kreines & Kreines, produced the first proposed model by-law and regulations draft. This draft was submitted to AT&T Wireless and other carriers for review and input. I had several meetings with the Cape Cod Commission's staff, and in particular, a meeting with Commission Counsel Patty Daley and Planner Margo Fenn, which meeting was attended by Attorney Kevin Nulton, representing another carrier.

At this meeting, Attorney Nulton and I reviewed the draft proposals, pointed out potential conflicts with the Telecommunications Act and further suggested changes intended to incentivize the bylaw to encourage carriers to comply with planning objectives.

I always found the Cape Cod Commission staff open minded with respect to proposed changes, and helpful and cooperative in all respects.

As a result of the interworking between the Cape Cod Commission and industry providers, what resulted was a reasoned and balanced proposed by-law amendment, which should form the basis of by-law amendment changes in some or all of the fifteen communities within the jurisdiction of the Cape Cod Commission.

I believe that the Cape Cod Commission was always mindful of important planning objectives, but at the same time demonstrated foresight and flexibility in proposing a by-law and regulations were realistic and not unduly burdensome.

Based on the foregoing, on behalf of AT&T Wireless Services, I endorse for strongest consideration the application of the Cape Cod Commission for an appropriate Planning Association commendation or award.

Please feel free to contact the undersigned if you have any questions.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Michael A. Dunning".

Michael A. Dunning

MAD:mk



Mr. Ralph Hilliard
Planning Manager
City of Gainesville
P.O. Box 490
Gainesville, FL 32602

Via U.S. mail and fax at 352-334-2282

January 4, 1999

58 Paseo Mirasol
Tiburon, CA 94920

Dear Ralph:

This letter is to follow up on my letter to you dated December 5, 1998 regarding the preparation of a Wireless Master Plan for the City of Gainesville.

Enclosed is a paper on "Fee System/Cost Recovery for Planning, Reviewing, Evaluating & Approving (or Denying) Personal Wireless Service Facilities." As this paper explains, cities and counties can recover all of the costs for planning for personal wireless service facilities. This is done by adding the costs for planning to the application fees charged to the carriers by the city or county at the time an application is submitted. The cost for preparation of a Wireless Master Plan can be included in these planning costs.

I would be happy to explain how this can work if you give me a call. Also, please call me if you have any questions about my letter of December 5.

Best wishes for a happy New Year. I hope to see you during my trip to Alachua County on January 12 and 13, 1999.

Sincerely,

A handwritten signature in black ink that reads "Ted Kreines". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ted Kreines, AICP
President

enclosure

WIRELESS MANAGEMENT©

Fee System/Cost Recovery for Planning, Reviewing, Evaluating & Approving (or Denying) Personal Wireless Service Facilities

by Ted Kreines, AICP

This advisory is written from a planning perspective and not from a legal perspective. This document is designed to provide information about planning for personal wireless service facilities. It is distributed with the understanding that Kreines & Kreines, Inc. is not providing legal, planning or any other professional advice or services with this document. Please contact Kreines & Kreines, Inc. if you would like to obtain professional planning services. If legal or other expert assistance is required, the services of a competent professional should be obtained.

INTRODUCTION

Local governments with planning and zoning authority (and mandates) are funded to varying levels to accommodate new demands on their services as such demands arise. In some local governments, processes for these new demands are funded by the jurisdiction's general fund, while in other cases the cost is imposed upon the applicant. Certainly, any party applying for a permit is expected to pay a *fee* for that permit.

Personal wireless service facilities have appeared suddenly in an accelerated race to the planning department counters of cities and counties. This has caught many cities and counties by surprise. True, the processing of Conditional Use Permits or Special Use Permits warrants a substantial processing fee, but few local governments have considered that permits for personal wireless service facilities are a repetitive and proliferating request. The personal wireless services industry is in a state of rapid growth, a growth that is mandated by the federal government. However, this rapid expansion must somehow be managed by the local governments. One aspect of that management will be for local government to recover its costs for managing wireless growth within its jurisdiction.

Rather than regard the advent of wireless facilities as a series of case-by-case occurrences, the local government should view the problem as one that is becoming more complicated and may have *limits* in the future.

THESIS

Kreines & Kreines, Inc. issues this advisory on the basis of three assumptions. First, this advisory assumes that the costs incurred by the public sector for the planning, reviewing, evaluating and approving (or denying) cell sites can be recovered by the local government incurring those costs.

Few cities and counties realize that their efforts with regard to wireless planning are reimbursable. In the course of preparing articles for its newsletter, *PlanWireless* (formerly called *Wireless Update*), Kreines & Kreines, Inc. has received varying information on fees, including:

- The highest application fee we have encountered is \$6,500 per cell site. This fee is charged by a city that receives very few applications for complex towers or co-locations.
- One county collects \$1,000 at the beginning of each application, regardless of its complexity. No guarantees are given that the fee will be sufficient and no special dispensation as an incentive is available.
- One city is reluctant to charge any fees, particularly when the city manager knows that the applications will receive critical review in that city and may be denied.

Any theory that states that an applicant who pays a high fee is entitled to an approval is contrary to the principles of cost recovery.

THE PRINCIPLES OF COST RECOVERY

The planning, reviewing, evaluating and approving (or denying) of cell sites has become an extraordinary cost to local government. There was a time when the occasional cellular tower was accommodated as a special or conditional use, because that's what it was: strange and, because of its uniqueness, subject to a set of conditions. Now, however, the demand for a cell site's approval is becoming a phenomenon ... the approval process is no longer "special" but it is consistently getting more difficult. Although outright prohibition is not an option, the local government can limit the numbers, locations and heights.

The case-by-case approvals process needs more than "conditions," but rather a system of managing the proliferation of cell sites in each jurisdiction. What are the things your community should consider in recovering the costs of "wireless management"?

First, there are several points at which a local government can request fees from applicants. A general rule should be that if there is a reasonable relationship (often called a *nexus*) between the amount of the fee and the purpose for which it is collected, then the fee is justified.

Second, if you can fairly attribute a cost (that the local government would not ordinarily have) to an identifiable applicant, that applicant is potentially responsible for paying that cost. Cities and counties should use the *nexus* principle in the following manner:

- Is the applicant impacting your jurisdiction causing it to undertake work and to assume costs that your jurisdiction ordinarily would not have?
- Can your jurisdiction tie those impacts to actual tasks or activities? Remember that impacts might be more than task-related. Renting space for a special meeting or hiring a third-party expert may be necessary in order to gain expertise in order to generally (rather than specifically) review applications.
- Are the costs readily attributable to the applicant rather than to normal growth or change? Jurisdictions need to be clear on the object of the fee. For example, which services are covered by your ordinance? Broadcasting? Amateur radio operations? If your ordinance preparation is going to be applied to all personal wireless service facilities, then you need to know who provides these services and who doesn't.
- Can your jurisdiction estimate the costs in advance and/or account for the expenditures after the fact? This last question is the most difficult, since you need to charge for the impact during the time it is incurred.

In the event that you collect fees in advance of undertaking work, or are collecting fees after the work or the impacts are finished, you may need to determine the basis for pre-project or post-project fees.

A. Pre-Project Fees

With a pre-project fee, your jurisdiction's estimate of costs that will be incurred for regulatory review, and/or those costs that will be incurred for planning and for ordinance preparation, can be estimated for a group of carriers. All of these costs are totaled and then "spread" or allocated to each carrier. It's possible to overcharge on estimated costs. Any overcharge should be repaid within a reasonable period of time.

B. Post-Project Fees

Post-project fees have the advantage of being precisely calculated, but it may not be easy to collect them. Conditions of approval should indicate that fees are due in the future, and permits should have a future date when the permit is reviewed and found to be renewable or to have expired. Any outstanding fees need to be recovered by the time a permit has expired. Usually, a date could be set when the accumulated costs are compared to pre-project fees and any balance due is collected.

SPREAD

The greatest challenge is the "spread" or pro-ration of fees. When spreads are done on a per-cell site basis, it becomes necessary to try to estimate how many carriers there will be and how many cell sites each carrier will need in the future.

A. Co-location

Local governments have expressed the need to consolidate two or more carriers on the same facility. While this deters proliferation, it complicates the process of determining facility costs and assigning responsibility for sharing the costs.

1. Cell Site

A "cell site" is the vernacular for "personal wireless service facility." Often, cell sites are called "towers," even when the facility is not a tower. Lattice towers, guyed towers and some monopoles are often built to accommodate more than one carrier through a process generically called "co-location."

However, a cell site could be approved as a single user site and could become a co-location due to subsequent approvals. The problem raised by co-location could be exemplified as: "how does a local government distinguish between a cell site with a single user and a cell site with a trilocation (three separate carriers)?"

2. Base Stations

Each carrier needs a set of equipment, usually housed in a cabinet, shelter or group of cabinets. These equipment centers are usually the mark of a "base station," from which all functions of a cell site must originate, terminate or pass through. If there are two or more carriers on a cell site, then there will be two or more base stations: one for each carrier.

A good way to distinguish between cell sites and the number of carriers at a single cell site is by base stations. The number of base stations precisely represents the number of carriers benefiting from a single co-location.

Therefore, the best unit for determining spread is a base station rather than a cell site.

In order to calculate the number of base stations, it is necessary to undertake some degree of analysis in order to project out the number of applicants expected to come forward. Since most carriers are unwilling (or unable) to divulge the number of base stations they will ultimately propose, it is best to begin with a calculation of how many applications are expected. For example:

- Assume the ultimate number of carriers in your jurisdiction (within the time period that costs and impacts will be incurred) to be10
- Assume each carrier will propose an average of 10 base stations within the same time period, resulting in a total number of base stations against which to spread costs to be100
- Estimate your total planning and review costs that are generically applied (e.g., ordinance preparation, Wireless Master Plan, etc.) for the time period to be\$100,000
- Divide the \$100,000 by the expected 100 base stations and charge each applicant, over and above the application fee, a planning fee at the time of application\$1,000

The above example is simple. Reality will be more complicated, requiring that the fee be adjusted as the process continues over time.

B. Record Keeping

Record keeping will be necessary to document costs. Overcharges will need to be refunded and undercharges will need to be recovered.

Kreines & Kreines, Inc. recommends that each jurisdiction keep a record of costs and time spent on any aspect of wireless, whether generic or specific to a particular base station. This should also include staff time spent at the counter and on the telephone. Do not mix specific base station costs with generic costs, since you can only charge specific costs off to one cell site.

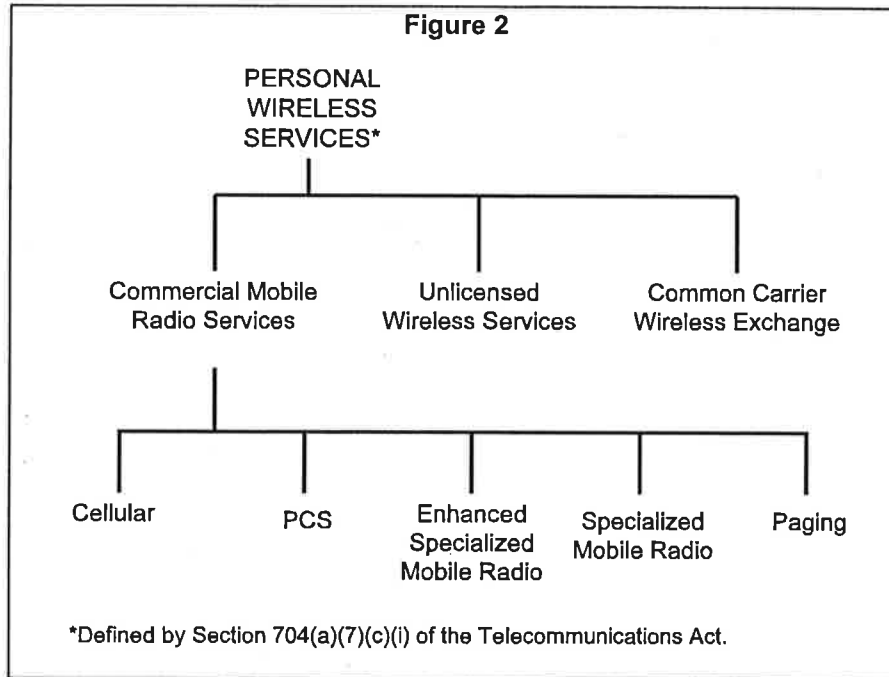
C. Estimating the Number of Carriers

Kreines & Kreines, Inc. has been telling its clients that there may be many more carriers than most cities and counties are planning for. Figure 1 shows the number of carriers projected by UniSite, Inc., a master tower building company.

Figure 1		
License Type	Number of Licenses per Locality*	Number of Existing & Future Operators per Locality*
Cellular	2	2
ESMR	Multiple	1-2
Broadband PCS	6	4-6
Narrowband PCS	17 (more TBD)	10-15
38 Ghz	Multiple	5
MDS	Multiple	1-2
IVDS	2	2
LMDS	2	2
Paging Companies	Multiple	10-25
GWCS	5	3-5
WCS	4	2
DEMS	Multiple (rules changing)	1
220-222 MHz	Multiple (Phase II TBD)	1-2
Totals		44-71
DEMS	Digital Electronic Messaging Service	
ESMR	Enhanced Specialized Mobile Radio	
GWCS	General Wireless Communications Services	
IVDS	Interactive Video Distribution Service	
LMDS	Local Microwave Distribution Service	
MDS	Multipoint Microwave Distribution Service	
PCS	Personal Communications Services	
TBD	To be determined	
WCS	Wireless Communications Services	
Source UniSite, Inc., June 1997		
* A "locality" may be a city or a county, with the higher number in the range in metropolitan areas and the lower number in the range in rural areas.		

According to UniSite, small cities and counties can look forward to as few as 44 different carriers while large local governments may have as many as 71 different carriers to deal with.

Not all the license types indicated in Figure 1 are functionally equivalent services according to the Federal Communications Commission (FCC).¹ In fact, the above services include some types of wireless that are not even personal wireless service facilities. Figure 2 shows a typology of personal wireless service facilities.



The FCC interprets the following Commercial Mobile Radio Services (CMRS) to be “functionally equivalent services”:

- Cellular.
- PCS.
- Enhanced Specialized Mobile Radio (ESMR).
- Specialized Mobile Radio (SMR).
- Paging.

You may want to use the ranges shown in Figure 1 for your estimates of total carriers providing each service. Here are some general guidelines you may want to consider:

- Large cities and counties within metropolitan areas should use the upper number of a range as the total number of expected carriers.

¹ Functionally equivalent services are not defined by the Telecommunications Act, but the FCC interprets these five services as functionally equivalent.

- Small cities within a metropolitan area could use the mid-range number for the ultimate number of carriers.
- Cities and counties outside of metropolitan areas can probably use the lowest number of a range as the ultimate number of carriers.

D. Course Corrections

The second part of this thesis is that it's acceptable to be imprecise the first time as long as you are willing to change your assumptions a second time, or a third time, or a fourth time, etc.

Planning is an exercise in changing judgments; it is not an exact science. Although we can *estimate* the total number of carriers, we may be wrong. Estimating the total number of carriers is easier than estimating the total number of base stations. Kreines & Kreines, Inc. recommends a Wireless Master Plan approach, which includes an estimate of the total number of base stations.

At a recent workshop conducted by Kreines & Kreines, Inc., a city councilperson expressed concern over what appears to be the prospect of two trends:

- Any carrier can, once they are licensed to do so, enter the city's jurisdiction and announce that they, as carrier Z, have the right to follow Carriers A, B, C, etc. into that city's "market." Where will this end?
- Carrier Z, or Carriers A through Y, can come to the city at any time, now or in the future, and request additional base stations. How many will there be?

The concern about this trend is that there will be no end to the number of carriers and base stations. Under the "non-discrimination" section of the Telecommunications Act of 1996², each carrier must be treated like the previous carriers.

² Section 704(a)(7)(B)(i) of the Telecommunications Act states that:

The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof -

(1) shall not unreasonably discriminate among providers of functionally equivalent services; (emphasis added)

E. Wireless Management

“Wireless management” is similar to growth management: there are limits to every trend and a well-documented plan can set those limits. The third and final part of this thesis is that a city or county need not guess how many base stations there will ultimately be, they can plan for that number.

Wireless management must be flexible in order to be effective. If the number of carriers suddenly increases, a Wireless Master Plan must be able to react to a changed environment. Further, the calculation of the number of base stations may have to be adjusted as well. When adjustments are made, the accounts would need to be balanced and the record keeping would begin anew to reflect changed reality.

CONCLUSION

Cost recovery should be standard operating procedure for the planning, reviewing, evaluating and approving (or denying) applications for personal wireless service facilities in every city or county in the U.S. The fact that these costs are largely being absorbed by municipalities in difficult financial straits is both regrettable and unnecessary. The first step is to consider setting up a cost recovery system.

The greatest challenge to estimating cost recovery is to meet the *nexus* (reasonable relationship) test. To do this, Kreines & Kreines, Inc. recommends:

- Identify the costs and activities that your jurisdiction is undertaking for wireless planning as *extraordinary costs*.
- Identify your target group concisely and precisely: collecting fees on “wireless communications facilities” or on “towers” isn’t precise enough.
- Commit to keeping records. If you don’t have the time or inclination to log your time and costs, then cost recovery for wireless will be difficult to defend.
- Practice “wireless management.” Set an estimate for the ultimate number of carriers and base stations before calculating fees.
- Be flexible. Your assumptions about wireless, and the degree to which your community can plan for this phenomenon, may (and probably will) change.

You're Invited! First-Ever Wireless Planning Course, & it's in Harrisburg (PA)

If you're one of those people who thought (hoped) they'd never see another "cellular tower" application again, you're only partially right. Many more are coming to a neighborhood near you. But, by attending a wireless-planning program, you can learn:

- Why your community doesn't have to have "cellular towers"
- Why your community should never use the word "tower"
- If you're absolutely stuck with an application for a "tower," how to review the application so a better site plan results.

March 19, 1999 - the whole day - will be devoted to learning more about wireless planning than you ever dreamed. The Pennsylvania Planning Association is sponsoring this course. Ted Kreines, AICP, will lead the session and - yes - the wireless industry will have its representatives there too. The location is a hotel in Harrisburg, Pennsylvania, yet to be identified.

Call Jodi Snyder at the Pennsylvania Planning Association at (717) 566-4587 to get a brochure and information about costs and signing up.

Here's a preliminary list of topics, but everything is subject to change:

- Overview/national perspectives on personal wireless service facilities
- Background
- Restrictions
- Visibility protection
- Innovative approaches
- Strategies to minimize impacts
- Alternative scenarios for personal wireless service facility locations and designs
- Site planning for personal wireless service facilities

If you have any questions and ideas for this course, you can submit them to *PlanWireless* or to Jodi Snyder at the number above.

And remember: it's Harrisburg two days after St. Patrick's Day and two days before the Vernal Equinox! Don't stay two or three days and make a weekend of it.

Experts? Who Needs Experts When You Have the "Johnson/Butler Test"?

This is a true story from the Federal District Court decision in *AT&T Wireless Services, Bell Atlantic Nynex Mobile (BANM) & Nextel Communications v. Zoning Board of Adjustment of the Borough of Ho-Ho-Kus, New Jersey*. Johnson and Butler wanted to prove that the three wireless carriers were not telling the truth to the Ho-Ho-Kus Planning Board when they said there was no wireless service in the town. So, they did what any good red-blooded American would do: they discounted the experts and went out to try their cell phones on their own.

The facts are these: Johnson and Butler, two guys from Jersey, tape recorded 12 calls from their cell phones to Johnson's wife. The experts for the wireless companies had maintained that service to the area was "unreliable" and of "poor, unacceptable quality." The experts also stated that service was "almost nonexistent." But the Planning Board determined, after listening to the Johnson/Butler tapes, that the calls were clearly audible with minimum static. The experts for Cellular One (now AT&T) testified, according to the Ho-Ho-Kus Planning Board minutes that (with gratuitous parenthetical remarks by *PlanWireless*):

- The sample size was too small. (What? You need more than 12 calls to prove a point?)
- Only a few calls were made from the worst coverage areas. (Hi honey, I'm calling you from the worst coverage area because the wireless company said I had to.)
- The calls were made on a Saturday, a non-commuter day. (Excuse me, boss, but I have to go to the worst coverage area in New Jersey to call my wife. I'll be back in a few hours.)
- There were no leaves on the trees because it was winter. (Should the Planning Board hearing have been continued until summer when leaves would be on the trees?)

To her credit, Judge Maryanne Trump Barry (yes, she is Donald Trump's sister, but we prefer to recognize her as one fine Judge) found that:

This court agrees that the Johnson/Butler test, essentially non-expert testimony presented by local

residents with possible biases, is not enough to discredit the testimony of qualified experts ... That having been said, however, the record as a whole supports the Board's conclusion that adequate wireless service is presently available in Ho-Ho-Kus.

At last, here is an experiment that you can try at home.

Seminar on "Local Telecommunications Infrastructure Options" in San Francisco in January

Ted Kreines, AICP has been asked to join a distinguished faculty concerned about building out the telecommunications networks in the U.S. On January 28 and 29, 1999, Law Seminars International (LSI) will convene a seminar in San Francisco, everyone's favorite city. Almost all of the faculty are high-powered attorneys, but the topics range from wireline to wireless to public ownership and "forced entry." (Apparently, building owners are claiming that states mandating that all carriers must be allowed to serve a building if one carrier gets a wireline contract is a "taking" of private property.)

Please call LSI at (800) 854-8009 for more information about the precise location and time. The fee is \$795 for the private sector and \$495 for the public sector. Kreines & Kreines, Inc. can provide a 50% discount to one (and only one) *PlanWireless* subscriber. If you are interested in attending and would like this discount, please call *PlanWireless*.

For Those interested in Radio Frequency Radiation (RFR): the Field is Hot & Getting Hotter

PlanWireless received notice of a new umbrella organization, the EMR Network, which seeks members and groups from all over the planet. If you are interested, call Libby Kelley at (415) 892-1863 for more details.

The promised day in court for the Ad Hoc Association of Parties Concerned About the FCC RF Health and Safety Rules did not materialize on November 30, 1998. Nor will it occur on January 11, 1999, as the Federal Appeals Court, Second Circuit, promised. (Please see the December 1997, May 1998 and November 1998 issues of *PlanWireless* for a description of this case.) Strange and mysterious reasons for postponement and delays on the FCC's (or the Court's) part keep cropping up. However, the RFR

issue will not go away and the FCC will have to deal with it in court sooner or later.

Meanwhile, if you are in Cape Cod, you may want to attend an "Educational Forum on the Effects of Radiofrequency Emissions from Wireless Communications Facilities." The Cape Cod Commission sponsors the Forum, on January 13, 1999. Please call the Cape Cod Commission for details at (508) 362-3828.

Northern Virginia Will Have a Workshop on January 19, 1999 ... and it's Free

Only 64 short miles from the Washington (DC) Beltway, within which strange things happened in 1996 (the Telecommunications Act), stranger things happened in 1997 and ... well, you know the rest, lies Culpeper, Virginia. Culpeper is:

- The premier example of a "micropolitan" area, a city and county just far enough from Washington D.C. to be part of its commute shed while giving its residents the feeling of "country" at the same time.
- Within the target area of the Piedmont Environmental Council (PEC), an organization trying to keep the "country" in North Central Virginia.
- The location of a workshop on planning for personal wireless facilities on January 19, 1999.

The Piedmont Environmental Council (PEC) is sponsoring the workshop. While *PlanWireless* doesn't have the details yet, we do know the location (St. Stephens Episcopal Church) and the probable time (7 p.m. to 9 p.m.). For more information, please call Delanie Kellon at (540) 347-2334.

The way this workshop came about tells you why it's important. PEC has a branch office in Charlottesville, Virginia, where members tipped off residents in Fauquier County (north of Culpeper County) of a workshop being held in Charlottesville last November 4, 1998. One PEC member, Ann McCarty, attended the Charlottesville workshop and she convinced PEC that another workshop, farther north, was needed.

From then on, it was a story of an environmental interest group in action. Any *PlanWireless* reader near enough to Culpeper needs to make this workshop if they want to hear the real story of wireless rather than what the wireless industry representatives are telling you.



Do You Want to Continue Receiving *PlanWireless*?



Cities and counties that have not received a free subscription in the past can receive a free subscription to *PlanWireless*. Cities and counties that have received free subscriptions in the past can subscribe for \$30 for 6 issues. Private companies & individuals can subscribe for \$60 for 6 issues. If you would like to receive a subscription to *PlanWireless*, please send the following information to Kreines & Kreines, Inc. by mail (58 Paseo Mirasol, Tiburon, CA 94920), phone (415-435-9214), fax 415-435-1522, or e-mail (wireless.update@worldnet.att.net):

Name/Title: _____
 Jurisdiction/Company: _____ **Staple Your** _____
 Mailing Address: _____ **Business Card Here** _____
 City, State, Zip Code: _____
 Back Issues (\$10 each): Please let us know the back issues you wish to order (March 1996 to December 1998).

This newsletter is designed to provide information about planning for personal wireless service facilities. It is sold and distributed free with the understanding that *PlanWireless* is not providing legal, planning or any other professional advice or services with this newsletter. Please contact Kreines & Kreines, Inc. if you would like to obtain professional planning services. If legal or other expert assistance is required, the services of a competent professional should be obtained.

The Time to Get Into the Right-of-Way is Right Away

PlanWireless has been telling its readers since January 1997 that the right-of-way is the place where the wireless action is going to be, particularly if your jurisdiction wants to generate revenues. Kreines & Kreines, Inc. has several clients who are now beginning to experiment with cell sites in the street right-of-way. In December 1998, Kreines & Kreines, Inc. was approached by the City of Puyallup, Washington, for whom we had already completed two projects, to review a proposed franchise agreement. Although the proposed franchise agreement is for a wireline carrier, we were able to tell the city about potential impacts (and opportunities) that they could expect in the right-of-way.

Not only is it an honor to be asked to work for a city three times in a row (threepeat!), we had the opportunity to tell the City of Puyallup details on how to use the right-of-way in the future:

- Wireline is already in (or above) the right-of-way.
- Powerlines and electric utilities are often in the public right-of-way, and these companies are getting into wireless as well as fiber optic cable.
- Wireless carriers are going to have to go into residential neighborhoods and there's only one place they can do that ubiquitously: the public right-of-way.
- All the services - wireless and wireline -- want to interconnect, particularly with the PSTN (Public Switched Telephone Network).
- Those interconnections - by wireline or wireless - are going to create big-time impacts on the right-of-way (street cuts, poles, boxes, etc.).

Cities and counties may not want to rely on franchise agreements alone to generate revenue from the right-of-way.

- Get pro-active on the right-of-way issue.
- Get microcells on light poles.
- Get polarization diversity on utility poles.
- Get a right-of-way management ordinance.
- Get back to Kreines & Kreines, Inc. if you have questions about what the right-of-way means to you.

The Sham Persists: Look for Another E-911 Bill from Congress

At the risk of sounding like a broken record: *PlanWireless* warns that the U.S. Congress will once again consider an industry-sponsored (some say industry-streamrolled) initiative to mandate E-911 facilities across the country. Here's a brief update:

- Wireless companies are experiencing delays in building out their networks. (It's your fault, cities and counties!)
- While their old arguments of "preemption" won't play in Peoria, New Haven or anywhere else, they seek Congressional mandates to make federal lands available for personal wireless service facilities.
- The industry's latest smoke and mirrors effort claims that E-911 will make people "safer."
- Further, without a seamless network, E-911 won't work.
- By claiming a site in a national park or a drug-confiscated estate, a wireless company would give the land manager 60 days to say why a personal wireless service facility can't be erected there.

Kreines & Kreines, Inc.
Consultants to Cities & Counties
on Planning for Personal Wireless
Service Facilities
58 Paseo Mirasol
Tiburon, CA 94920

Route to:

1. *Manager or CAO*
2. *Planning Director*
3. *Counsel/Attorney*
4. *Other interested parties*

If the same bill resurfaces, the National Environmental Policy Act (NEPA) would be suspended for those sites. That's hilarious, because it's NEPA that the FCC is hiding behind in order to "pre-empt" local governments from enacting local regulations on radio frequency radiation (RFR).

Does a "Cellular Tower" Impact Property Values? Here's an Expert that a Court Approves Who Says "You Bet"

Most people agree that "towers" will devalue residential properties under certain conditions. Carriers, on the other hand, hire Masters of the Appraisal Institute (MAIs) to refute conventional wisdom. Until now, the MAIs were winning.

However, in Ho-Ho-Kus, an upscale suburb in New Jersey, the Borough considered the testimony of a real estate assessor and found that there is indeed an impact on property values. So what does Edward Kerwin, Jr. of Kerwin & Sudano know that the MAIs don't? Well, for one thing, Mr. Kerwin works for municipalities rather than landowners and developers and that fact alone can give a professional a different perspective. For another, Mr. Kerwin was retained by the neighbors of a proposed 127-foot tall monopole, and who knows the value of their property better?

What Mr. Kerwin did was to undertake a "paired sales analysis" which requires an historical comparison of two similar and nearby properties, one influenced by a real "tower" and the other clearly not influenced by the same "tower." Before the real "tower" is constructed, the two properties' sales prices show a relationship (equivalence if not equal value). After the "tower" is built, the properties are compared for subsequent sales prices. Mr. Kerwin found impacts

ranging from 5% to 25%, depending on distance, orientation and visibility of the "tower" from the respective properties.

Mr. Kerwin then determined an "external obsolescence" factor due to the proposed 127-foot monopole. By conservatively applying the external obsolescence factors of 5% or 10% to each property that would - in his opinion - be influenced, Mr. Kerwin came up with an aggregate impact of \$660,000 on nearby residential property.

What do MAIs do that fails to show these impacts? In the first carrier victory in a Section 704 lawsuit before a federal court, the MAIs for BellSouth in Gwinnett County, Georgia took a total appraised value of all properties in a neighborhood before a "tower" was built and compared that to the same total after the "tower" was built. They found that the neighborhood had increased in value over time. They then went to other nearby neighborhoods (*PlanWireless* calls them "control groups") and found:

- The "control group" neighborhoods also increased in their aggregate values.
- The increases for the control group neighborhoods and the neighborhood with a "tower" were similar ... so therefore no impact.

What these two methods show is that by aggregating data (MAI approach), all differences are blurred to extinction. But when using targeted data (actual properties assessed by Mr. Kerwin), a marked difference is proved beyond dispute.

At least the Ho-Ho-Kus Planning Board and the Judge in the Federal District Court in *AT&T Wireless Services, Bell Atlantic Nynex Mobile (BANM) & Nextel Communications v. Zoning Board of Adjustment of the Borough of Ho-Ho-Kus, New Jersey* thought so.