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Strategic Wireless Solutions

WIRELESS COMMUNICATION FACILITIES ON ARCHDIOCESE PROPERTIES

BY

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Chief Executive Officer

Capital Tower Group, LLC

Siting Issues

Lease Market Terms, Conditions & Rates

Technology Trends & Issues Impacting Wireless Site Deployment

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-Track 4



Overview of Capital Tower Group, LLC

- Rich Grimes – President and CEO
 - Over 15 years of wireless infrastructure deployment and management experience
 - Various director level positions with AT&T
 - Commercial Brokerage Experience
 - Investment Committee Chairman for a \$400M Goldman Sacs minority owned wireless infrastructure company
 - Telecom Advisor to the Archdiocese of Los Angeles.
 - Loyola High School, B.A. Santa Clara University, J.D. Western State University College of Law, Stanford University Certified Project Manager



Capital Tower Group, LLC

- Formed in 2007 -Wireless Infrastructure Design, Development, Management and Advisory Services Company, based in Pasadena, CA with offices in Washington, D.C.
 - Focused on Strategic Venue Deployment, Wireless Transactional Management, and related Advisory Services.
 - Some Clients include, AT&T, Verizon, Sprint, T-Mobile, Destination Hotels & Resorts, Archdiocese of Los Angeles.
 - CTG Subsidiary companies:
 - **CT COMM** – focused on governmental telecommunications contracts.
 - **VeloTera Communications** – focused on high capacity microwave backhaul technology and implementation services.



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Discussion Topics

- **Wireless Carrier and Deployment Overview:**
Carriers identification of siting locations, the deployment process, trends and carrier siting criteria.
- **Overview of wireless technology and deployment:**
Factors that are driving new site builds and modification/upgrades to existing wireless facilities.
- **Cell Site Lease:**
Key Master Lease and Site Lease issues, terms and key Exhibits.
- **Pricing:**
Cell Site Application, Lease, amendments, easements, and internal review of requested carrier approvals.
- **On-going Site Management:**
Modification of As-Built Exhibits, Site and Lease Compliance, etc.

Overview of Technology and Deployment Trends

- Factors that are driving new site builds and modification/ upgrades to existing wireless facilities.
- All around the world, mobile data consumption is on the rise. It is estimated that by the end of 2010, wireless data subscribers will consume about 130,000 terabytes (TB) of mobile data per month.
- By 2014, we expect that to rise to more than 990,000 TB of mobile data per month.
- In the U.S., such a user would start consuming at least 40 megabytes of mobile data per month. An existing smartphone user migrating from a G1 to a Samsung Galaxy S will end up consuming an additional 250 MB of mobile data per month
- or perhaps even more.

Overview of Technology and Deployment Trends *(continued)*

Global Trends (Est. Year End 2009)

- Total subscribers: 4.9 billion
- Capital expenditures: Expected average \$50 billion per year for next four years
- SMS Messages: 2 trillion per day

U.S. Data (Year End 2008)

- Total subscribers: 270.3 million
- Mobile penetration: 87%5

- Wireless Only Households: 20.2%
- Annual Minutes of Use: 2.2 trillion
- Annual SMS Messages: 1 trillion
- Mobile Internet Penetration (2007): 15.6%
- Total cell sites: 242,130
- E911 calls per day: 291,000



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Wireless Subscriber Growth 2006-2007 (*millions*)

CarrierYE 2006YE 2007

1 AT&T/Cingular Wireless	60,962	70,052
2 Verizon Wireless	59,052	65,707
3 Sprint Nextel	52,175	45,329
4 T-Mobile	25,041	28,685
5 Alltel	11,824	13,400
6 US Cellular	5,815	6,122
7 MetroPCS	2,941	3,963
8 Leap	2,229	2,864



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Overview of Technology and Deployment Trends *(continued)*

- Cell site growth is directly connected to subscriber demand.
- By increasing network coverage and call handling capacity and improving network performance and capabilities, providers' investments in network deployment and upgrades have the potential to result in service quality improvements that are perceptible to consumers, such as:
 - better voice quality, higher call-completion rates, fewer dropped calls and dead zones,
 - additional calling features and faster data transfer speeds



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The Next Evolution from 3G to 4G

- The first generation of mobile phones (1G) offered voice services only.
- 2G phones added texting and email capabilities. 2.5G supported multimedia communications (e.g., photos from camera phones and some Internet access.)
- Third generation or 3G mobile services, which is deployed in large sections of the United States, offers higher speed Internet access and faster throughput for video applications such as YouTube. 4G technology will increase 3G data throughput speeds by a factor of five, up to 100 megabits per second and will permit web streaming and mobile television applications.



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The Next Evolution from 3G to 4G

- The most popular 4G application is LTE or long term evolution. As the fourth-generation cell-phone technology, it's next in line for replacing existing 3G equipment and systems. Most of the details are solid at this point, and lots of companies are preparing products. Test and measurement vendors are already out there with instruments and software to cover every LTE possibility. Many companies originally predicted LTE deployment in 2010, but with the economic downturn, 2011 or even later is a more realistic expectation. LTE requires major equipment expenditures in base stations, so delays seem inevitable.
- An interim step to LTE is HSPA or high speed packet access. HSPA can be implemented on existing 3G networks with a software upgrade that does not require replacement technology.



The Next Evolution from 3G to 4G *(continued)*

Femto Cells

- In telecommunications, a femtocell—originally known as an Access Point Base Station—is a small cellular base station, typically designed for use in a home or small business.
- It connects to the service provider's network via broadband (such as DSL or cable); current designs typically support 2 to 4 active mobile phones in a residential setting.¹⁹
- Companies still see femtocell home base stations as a partial solution to the need for more and faster backhaul as data applications and video access continue to grow.
- In fact, many companies believe that femtocells will be a key part of the forthcoming LTE roll out.



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Overview of Technology and Deployment

Referenced Sources:

US Telecom Services

CTIA Wireless 2010 Summary of Wireless

Deutsche Bank

California Wireless Association



Overview of Technology and Deployment Carrier and Tower Company Trends

- AT&T and T-Mobile reiterated their plans for rapidly upgrading their 3G networks to HSPA (7.2 and "+") in order to accommodate surging use of broadband services.
- Along these lines, the tower companies reiterated their expectation that these and other carrier projects will likely drive high levels of leasing activity in 2010.



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Overview of Technology and Deployment

(continued)

American Tower Corporation:

- Management reiterated that they expect leasing demand to be back-end loaded in 2010, but emphasized that this is the normal pattern and encouraged investors not to overemphasize the importance of 2H vs 1H.
- Management also reiterated that Clearwire is likely the number 1 driver of *new leases in 2010 due to its substantial volume of new 4G leases*, but noted that AT&T is actually the number 1 driver of *new revenue this year* due to its significant volume of cell site upgrades and additions.

Overview of Technology and Deployment

(continued)

AT&T

- The company reiterated its plans to substantially boost the quality and capacity of its 3G network by adding fiber backhaul, adding carriers to boost capacity and deploying 2,000 new cell sites in 2010.
- As part of T's 3G upgrade, the company has already deployed a 2nd carrier in all of its markets.
- It is now adding a 3rd carrier in many of its markets (i.e. those that are most capacity constrained such as New York and San Francisco) and is evaluating the deployment of a 4th carrier in certain markets on an as-needed basis.



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Overview of Technology and Deployment

(continued)

Sprint-Nextel

- Makes sense to assume that Sprint will eventually separate its most valuable spectrum asset (its 800 MHz licenses) from its least valuable network asset (iDEN).
- However, based on our analysis of the tower operators' revenue mix and lease terms, we do not believe that the potential reduction in iDEN leases represents a material risk.
- Nextel iDEN leases represent only a small portion of leasing revenues at the Big 3 tower operators.

Overview of Technology and Deployment

(continued)

Sprint-Nextel (continued):

- Network decommissioning is not a new development for tower operators.
- Over the last decade we have seen the loss of multiple nationwide networks including analog, TDMA and paging.
- The impact has not been substantial to towers as the old networks are usually replaced by new networks.

Wireless Carrier & Deployment Overview

Carriers Identification of Siting Locations Process:

- R.F Network Coverage and Capacity Requirements
- SCIP – Site Candidate Information Package
- Leasability
- Zonability
- Constructability



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Site Candidate Criteria

Factors Impacting RF Coverage

- RF Coverage Objective
- Topography
- Physical Obstructions
- Other, RF Signal
- Site Design

Factors Impacting Lease-ability

- Type of Ownership
- Lease Deal Points
- Approval Process & Time-Line
- Site/Legal Access

Factors Impacting Zone-ability

- Environmental Factors
- Proximity to any Airports or airstrips, AM Radio Towers, and Police/Emergency antennas
- Zoning/Land Use Code
- Integration of proposed Site Design with its surroundings

Factors Impacting Constructability

- Power & Telco Service at Site
- Space Availability
- Level of Difficulty to Construct



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Cell Site Lease

- **Cell Site Lease**: Key Master Lease and Site Lease issues, terms and key Exhibits.
 - Initial Term and Options
 - Base Rent and Escalations
 - Commencement of Rent and Lease
 - Permitted Use
 - Equipment Configuration/Allotment
 - Collocation Revenue Sharing
 - Site Relocation
 - Site Remediation
 - Indemnification and Casualty Issues



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Lease Document Summary & Sections

Lease of Premises

- Square footage of lease area
- Installation (Space & Easements)
- Rooftop Premises

Permitted Use

- Describes the Communication Facility (All Operations & Improvements)
- Right to test, survey, and check title
- Tenant agrees to comply with governmental laws
- Tenant has right to modify

Term

- Perpetuity or Assigned Combined Period of 30 Years
- Renewal term (5)-(5) year automatic
- Holdover term (Month to Month)
- Total term equals initial term, all renewal terms & any hold over terms



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Lease Document Summary & Sections

Rent

- Commencement Date
- Lease Purchase Buy-Out

Approvals

- Governmental approvals (Suitability & Authorization)
- Right to obtain Title and Survey
- Testing (Soil, Environmental, etc.)

Termination

- By either party with 30 day written notice upon default (Paragraph 14)
- By Tenant upon written notice if unable to obtain required approvals or if Tenant determines at its sole discretion that the site is unreasonable
- By Tenant with 90 days written notice **FOR ANY REASON** other than (a) or (b) or paragraph 7 in this Lease as long as Tenant pays Landlord a fee equal to (6) six months rent

Lease Document Summary & Sections

(continued)

Interference

- Landlord agrees to provide Tenant' a list of all existing RF users on site
- Landlord must have Tenants written approval prior to granting any third party the right to install and operate communications equipment on the property
- Landlord will not interfere with tenant's operations
- Landlord has 24 hours to cease interference with Tenant's operations, commencing upon Tenant notifying Landlord

Indemnification

- Mutual Indemnity

Warranties

- Both parties represent that they have the power and authority to enter into this agreement
- Landlord will use its best efforts to provide SNDA

Lease Document Summary & Sections

(continued)

Environmental

- Both Landlord and Tenant agree to comply with all environmental laws
- Landlord and Tenant Indemnify each other of any environmental conditions that arise out of or are in any way related to the condition of the property, unless other party causes the condition

Access

- Twenty-four hours a day, seven days a week
- Allows Tenant to run necessary utilities at no extra cost and at Tenant's sole discretion

Removal

- Tenant agrees to remove all equipment from property within 180 days of termination of this agreement
- Tenant will remove concrete to a depth of 1 ft.

Lease Document Summary & Sections

(continued)

Maintenance: Utilities

- Tenant will maintain Premises in good condition (reasonable wear and tear expected)
- Tenant will be responsible to pay all utilities consumed by its Communication Facility
- Tenant has right, at its own cost, to sub meter from Landlord

Default and Right to Cure

- If Tenant does not attempt to cure rent default within 45 days of written notice, Landlord will have the right to exercise any and all rights available to it under law and equity
- If Landlord does not attempt to cure default within 45 days of written notice, Tenant will have the right to exercise any and all rights available to it under law and equity

Lease Document Summary & Sections

(continued)

Assignment/Sublease

- Tenant can assign and sublease this agreement without Landlord's consent

Notices

- Landlord communicates with Tenant via certified mail or recognized courier
- Landlord addresses Tenant (System Development Manager)
- Either party may change mailing address with 30 day written notice

Severability

- If any term in the Agreement is found unenforceable, the remaining terms will still be binding
- Agreement may be terminated within 10 days written notice if the invalid, illegal or unenforceable provisions materially affect this Agreement

Lease Document Summary & Sections

(continued)

Condemnation

- Landlord will notify Tenant of Condemnation with 48 hours of initial proceedings
- Agreement will terminate as of the date the title vests in the condemning authority
- Tenant will be entitled to reimbursement for any prepaid rent

Casualty

- Landlord will notify Tenant within 48 hours of any casualty that may affect Property
- Tenant may terminate this agreement at its sole discretion for fire or other casualty damage

Waiver of Landlord's Liens

- Landlord agrees to waive all liens concerning site
- Landlord agrees that Communication Facility is deemed personal property

Lease Document Summary & Sections

(continued)

Miscellaneous

- No changes may be waived except in a writing signed by both parties
- Either party may record a MOA with 15 days written notice to other party
- This agreements runs with the property
- This agreement supersedes all other offers, negotiations and agreements
- This Agreement will be governed by the laws of the state in which it resides
- Upon request of Landlord, AWS will represent contact condition, default status, and prepaid rent considerations
- This Agreement will be effective only upon full execution by both parties

Lease Document Summary & Sections

(continued)

Lease Exhibits

- **Exhibit Sections**
 - Description of Location of Premises
 - 100% completed blue line construction drawings
 - Subordination, Non-Disturbance and Attornment Agreement
 - Legal Description of the Property
 - Attach Preliminary Title Report
 - Memorandum of Lease



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Cell Site Pricing

- Pricing: Cell Site Application, Lease, amendments, easements, and internal review of requested carrier approvals.
 - Important to have a Cell Site Application, Internal Review and Approval Process.
 - National Average of cell site rent ~\$1750/month with 15% per term escalations
 - Equipment Allocation “Bucket”
 - Periodic Site Compliance Audit



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On-Going Site Management

- On-going Site Management: Modification of As-Built Exhibits, Site and Lease Compliance, etc.
 - Lease Document Management: As leases are Amended, make sure the Exhibit 2B/Site Plan is updated and revised to reflect an site modifications, collocations and or additional equipment.
 - Periodic Site Compliance Audits



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Thank you

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