Verizon Wireless
Washington/Baltimore/Virginia
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Verizon Wireless Collocation Guidelines
Washington/Baltimore/Virginia

The Verizon Wireless (VZW) Collocation Guidelines are intended to outline/govern the site design, development, approval, and documentation process for collocation on an existing VZW communications facility.

Application and General Lease Process

Application Submittal

Collocator must submit a complete electronic version of VZW Collocation Application to (Processing RE manager) along with the following by separate cover:

*Application fee (if applicable)
*Site sketch depicting the existing compound layout and Collocator's desired equipment/shelter location
*Digital photographs of site verifying information contained on sketch showing the structure and ALL existing antennas
*Manufacturer's antenna specification sheet detailing Collocator's proposed antennas

Preliminary Application Approval

1. After review and a preliminary approval by VZW of collocator's site application, VZW will:

A. Notify Collocator of any extraordinary issues at the requested site to include: tower loading/spacing limitations, ground space limitations, requirements for separate agreement with VZW's prime lessor, special requirements regarding zoning at the site, and any applicable extraordinary site fees or costs.

B. Schedule a preliminary site meeting w/ Collocator to confirm the feasibility of the proposed antenna location on the structure and of Collocator's equipment at the site.

Lease Exhibit Drawing Approval

2. Collocator will submit a lease exhibit along with preliminary drawings for VZW review and approval. All drawings (see drawing requirements) must be reviewed and approved by the appropriate VZW construction manager prior to permitting and pre-construction activities.

3. VZW will provide executable SLAs to the collocator along with due diligence documentation which VZW has available.

NOTE: All notifications to local/state or federal regulatory agencies or required modifications to VZW existing SHPO/FAA/FCC or any other regulatory approval related to the communications site must be submitted to the regulatory agency through VZW only. Collocators on VZW towers are not authorized to send requests directly to any regulatory agencies without specific VZW approval.

4. Following full execution of a lease for the site and VZW review and approval of Collocator's construction drawings and structural analysis, Collocator will coordinate with VZW for a preliminary pre-construction meeting at the site.

Construction Process and Standards

Construction Process:

Preliminary Approval:

1. A preliminary site meeting will be performed with VZW and Collocator to identify location of Collocator's equipment on the tower and in the compound.
2. Collocator will supply VZW with architectural & engineering plans for review and approval to include: Lease Exhibits and two sets of stamped 11"x17" plans to VZW. One signed set of drawings with comments and changes will be returned to Collocator.

Pre-Construction Meeting:

1. Upon execution of a lease document, a pre-construction site walk will be performed with VZW and collocator.
2. The Collocator shall supply VZW with the names of contractors and subcontractors hired to do Collocators work. All contractors/subcontractors are subject to VZW review and approval. VZW reserves the right to reject any contractors it deems unqualified for any reason.
3. Collocator will supply VZW a copy of the stamped approval drawings and approved Building Permit card.
4. The Collocator will supply VZW a detailed "Construction Schedule"outlining the activity and duration of each activity. Schedule must also include a reasonable start date and date of completion.
5. The VZW Manager of Project Implementation will issue a Notice to Proceed (NTP) upon receipt and satisfactory review of all the above information and a satisfactory certificate of insurance (see below for specific requirements).

Collocator/Contractor Insurance Requirements:

1. Before commencement of any work at a VZW site, the Collocator must supply VZW with an acceptable certificate of insurance naming VZW as an additional insured with the following coverage levels:

Commercial General Liability Insurance (including, but not limited to, premises-operations, explosion and collapse, underground hazard, broad form property damage, products/completed operations, contractual liability, independent contractors, personal injury) with limits of at least $2,000,000 combined single limit for each occurrence. (Limits may be satisfied with primary and/or excess coverage.)
Commercial Automobile Liability with limits of at least $2,000,000 combined single limit for each occurrence.
Workers' Compensation insurance as required by Statute, and Employer's Liability insurance with limits of not less than $1,000,000 per occurrence.

Professional Liability (Errors and Omissions) with limits of not less than $1,000,000 per occurrence

Construction:

1. VZW will issue the NTP for construction upon commencement of Lease, receipt of the certification of insurance in Collocator's/contractor's name listing VZW as an additional insured, receipt of all necessary government approvals and all appropriate VZW approvals.
2. Collocator must notify VZW a minimum of 24 hours prior to start of construction.
3. During construction, Collocator will immediately notify VZW of any proposed deviation from the approved construction drawings. If there is deviation, Collocator will not proceed with the change until it has been reviewed and approved by the appropriate VZW personnel.

Post-Construction:

1. A post construction inspection will be performed by a VZW manager at the time the Collocator informs VZW that construction is complete at the site. A "Punch List" will be developed and the Collocator will be required to correct discrepancies immediately.
2. Collocator will provide an "As Built" (no red-lines) drawing of the site to VZW upon completion of work.
3. Collocator will provide copies of all final inspections, reports, and other construction documents related to the site.

General Construction Standards:

General Statement:

Verizon Wireless (VZW) has certain "Construction Standards" that it maintains in the construction of wireless communications sites. VZW requires that these minimum standards be maintained at the site to include construction and equipment installed for all collocations at the site.

Materials:

1. All materials to be used at the site shall be "New and of Commercial Quality".
2. Procedures used at the site shall conform to "Industry Standards" for each type of work being performed.
3. All materials used for antenna mounts and antenna cable routing will be "Hot Dipped Galvanized" materials.

Concrete:

1. Concrete shall develop a minimum compressive strength of 3000 PSI at the 28-day break.

Chain Link Fence:

1. If fence work is required the collocator is required to match the existing fence material and construction.

Back Filling:

1. Backfill of foundation, trenches, and other excavated areas shall be engineered materials and compacted to 95% relative density in lifts not exceeding 8" at a moisture content of 2% above optimum.
2. Gravel shall match existing gravel. If no gravel is present on site the material shall conform to Class 2 Aggregate Base.

3. Filter Fabric is to be placed prior to placement of any finished stone for roads, walkways, or site compound area.

Contractor Testing:

The collocator shall supply VZW with the following test reports:

1. Soils tests for foundation bearing capacity.
2. Concrete Cylinder and Placement Reports
3. Rebar Certification
4. Welding and Pole/Tower Modifications Shop Drawings and Field Inspections/Reports.
5. Bolted & Mechanical Connections
6. Ground test results

Utility Extensions:

1. Trenching route and conduit details for power application.
2. Trenching route and conduit details for telco connection.

Safety:

1. Collocator and their contractors shall meet all applicable OSHA regulations

Antenna/Antenna Cable:

1. The antennas and antenna mounting hardware shall be installed per manufacturer recommended standards of practice.
2. The coax cable shall be installed per manufacturer recommended standards of practice.
3. Collocator must provide easy identification and uniform markings of antenna cable per the following instructions: Markings shall be made of Metal Tags affixed at three places on the coax cable run as follows:
   - On the coax nearest to the antenna.
   - At the base of the tower
   - Outside the collocators equipment location
4. Tags shall clearly state the wireless carriers name.

Grounding:

1. Whichever "Grounding Scheme" the Collocator employs the work will be done in a neat and professional manner. At no time will the "Collocators Grounding Scheme" jeopardize the integrity of the VZW Grounding system.
2. The Collocator shall install a ring ground around it's own equipment and tie into the existing ground ring at two locations. If such standard conflicts with the Collocator's grounding standards, alternatives should be proposed for VZW review and approval.

Architectural & Engineering Drawing Requirements:

Title Page:

1. Applicants name & address.
2. VZW Site Name and Code
3. Revision Block showing latest revisions
4. Vicinity Map, Site Address
5. Project information
6. Zoning Information
7. Approval Block

Site Plan:

1. Title block with Architect/engineering information
2. Applicants name & address.
3. VZW Site Name and Code
4. Revision Block showing latest revisions
8. Approval Block
5. Scaled site plan showing leased area, property boundary, site equipment (existing and new) and North Arrow.

Equipment Plan:

1. Enlarged site plan of equipment area (10 Scale)
2. Equipment details including existing equipment, dimensioned of new equipment to be installed, electrical & Telco routing, wave guide routes, and any other information concerning the compound area.
3. Equipment Pad Details

Equipment Elevation Plan:

1. Equipment elevations, Wave guide Bridge elevations (min. 7'-6"AFG)

Tower/Antenna Plans & Elevations:

1. Number and specifications of antenna to be installed.
2. Elevation view of antenna location on tower
3. Antenna mount details and specifications (identify antenna mount manufacture)
4. Number and size of coax cable to be installed.
5. Elevation view of coax route on tower (lattice tower= wave guide ladder, Monopole=inside/outside of tower body).
6. Tower elevation drawing showing existing and proposed antenna locations & coax cable routes

Electrical Plans:

1. Electrical Service routing from "Point of Connection to Point of Termination".
2. Electrical service "Riser Sketch".
3. Telco Routing from "Point of Connection to Point of Termination".
4. Grounding drawings.

Structural Standards:

1. A structural analysis will be required for all co-location on a VZW tower. A letter from the engineer of record will be required stating the adequacy of the tower steel and foundation to support the existing and proposed loads using the specific County and EIA/TIA loading requirements for that specific region. The Basic Wind Speeds and Ice Loading will be stated in the report.
2. Structural analysis is to be completed by the original tower/monopole manufacture.
3. The analysis will include all present and future antenna loading including microwave dishes, antenna platforms, antenna mounts, antenna coax cables and wave-guide ladders, and any ancillary equipment.
4. If modifications are required to the tower specific "Modification Sketches" showing the changes to the tower structure will be required along with a write of changes.