



# VILLAGE OF ORLAND PARK

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## Department Requested Action

File Number: 2009-0288

**Introduced:** 6/9/2009

**Current Status:** IN BOARD OF TRUSTEES

**Version:** 6

**Matter Type:** MOTION

### **Title/Name/Summary**

General Policy for Co-Locating Wireless Communication Facilities (WCF) on Village-Owned Property

### **History**

Village-Owned Water Tower Co-Location Concept Plan

### **ATTACHMENTS:**

Village-Owned Water Tower Co-Location Concept Plan  
Photographic Examples

In February 2010, the Village Board approved the *General Policy for Wireless Communications Facilities on Village-Owned Property* (General WCF Policy). This is a follow up to that policy recommendation, which had provisions for co-locating multiple carriers on a Village water tower.

The attached concept plan indicates a potential multi-tenant co-location on a water tower.

### **Stage One**

The first co-location on a water tower is considered a Stage 1 co-location. One provider array is mounted on the top of the water tower with governmental equipment (e.g. Police, Fire District, Public Works antennae) located on top.

### **Stage Two**

When another carrier seeks to co-locate on a water tower with an existing Stage 1 co-location, the second array will be mounted over the existing array with a monopole. The governmental equipment is located at the top of the two arrays.

Two limitations will control the height of the Stage 2 co-location. The first limitation is Land Development Code Section 6-311.G, which includes a provision that limits monopole extensions up to 50 feet above the existing structure. The second limitation is the governmental equipment present on almost all towers. The Stage 2 co-location, with the governmental equipment included, cannot exceed the 50 foot height restriction. Thus the necessary and present governmental equipment limits the overall height and number of arrays private carriers can place on water towers. In more cases than not, the number of arrays will be limited to two (2) vertical co-locations.

### **Stage Three (Potential)**

When a third (or even a fourth) carrier seeks to co-locate on a water tower, it is

considered a Stage 3 co-location. The third co-location stage on the concept plan indicates the potential for two additional arrays mounted on a “crown” that surrounds the first two stages. A Stage 3 “crown” system is the lowest potential co-location on a Village-owned water tower (assuming a Stage 4 is not present, see below). The crown system would be similar to other railing systems used on water towers for painting or maintenance. However, in this case the crown would be engineered to accommodate antennae. Carriers would know that they would have to use compatible technologies to avoid destructive or other frequency interference.

With the crown system there may not be enough room for cables to run inside the shaft and stem of the water tower, since the previous two stages will already have cabling running the length of the shaft/ stem. The cabling cannot impede normal tower operations (e.g. maintenance crew access etc.).

As a result, a Stage 3 co-location may potentially install its associated cabling on the exterior surface of the water tower. Such a cable-run would be screened by an external chaise system. Depending on the number of co-locations on the crown, there may be up to two (2) cable-runs on either side of a tower or a single large run with chaise system screening. Such runs would be visible from the location of the arrays down to the ground. Attachments to this report include a photograph of a water tower with a chaise system. The water tower is not the same type of tower present in Orland Park; however it offers a good idea about how a chaise screening system interacts with the smooth surfaces and curvatures of the towers.

#### Stage Four (Consideration)

At the Development Services and Planning Committee of Trustees March 22, 2010 meeting, the concept plan demonstrated three stages for co-locating wireless communication equipment. This was considered the maximum amount of arrays that could be installed on a water tower. When the Committee reviewed the previous report, the concept plan depicted arrays on the water tower stem as prohibited.

The updated concept plan attached to this report is modified to reflect what a Stage 4 co-location could look like. A Stage 4 co-location is an array mounted on the stem of the water tower, near the collar under the bulb. A Stage 4 co-location could include a number of co-locations on the stem. Attachments to this report include a photograph of a water tower from another community that allows stem co-locations. Up to five or six arrays could be mounted up and down the stem.

The current concept plan, however, shows a single Stage 4 co-location and where it could potentially be installed on a water tower, assuming it meets the criteria established in the General WCF Policy. Currently the water tower at 14593 S. 88th Avenue, Number 4, has what can be considered a Stage 1 array on top. Clearwire is currently proposing a Stage 4 co-location for that tower despite the lack of Stage 2 and 3 systems. Thus Stage 4 can be proposed at any time.

Some concerns regarding Stage 4 projects include:

1. Concerns about the appearance of the tower;

2. An increase in the number of water tower penetrations on the stem and along the structure;
3. The number and type of antennas around the array;
4. The creation of a precedent for additional stem co-locations;
5. Additional cabling in the shaft or exterior of the water tower;

Based on these concerns, staff does not recommend changing the current policy of prohibiting Stage 4 stem installations.

#### Water Tower Principle Function/ Planning and Review

Including the above mentioned stages on the concept plan does not mean that they will occur. Water tower co-locations are subject to the General WCF Policy and the spatial constraints and physical characteristics of each individual water tower. Providers will be responsible for the cost of temporarily disabling and/or removing their wireless communication systems and arrays for the purpose of water tower maintenance, which may include, but is not limited to, painting, cleaning and structural repair.

Providers will be required to provide the ability for the Village to interrupt power service in lieu of detrimental impacts to the water tower's functional and structural integrity.

This report is for informational and discussion purposes only. A motion is not required.

This case is now before the Village Board of Trustees for consideration.

#### **Recommended Action/Motion**

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