

STAFF RECOMMENDATION

E. Keller

NCPC File No. 6697



GENERAL ACCOUNTABILITY OFFICE
INSTALLATION OF CINGULAR WIRELESS COMMUNICATION ANTENNAS
441 G Street, NW
Washington, D.C.

Submitted by the General Accountability Office

October 26, 2006

Abstract

The General Accountability Office (GAO) has submitted plans for the installation of six transmitting and receiving antennas at the GAO headquarters building at 441 G Street, NW. Three sets of two transmitting and receiving panel antennas will be installed at the penthouse level of the structure and an associated equipment cabinet would be constructed in the building's penthouse. A GPS antenna will also be located on the roof edge of the penthouse.

Commission Action Requested by Applicant

Approval of preliminary and final building plans pursuant to 40 U.S.C. § 8722(b)(1) and (d).

Executive Director's Recommendation

The Commission:

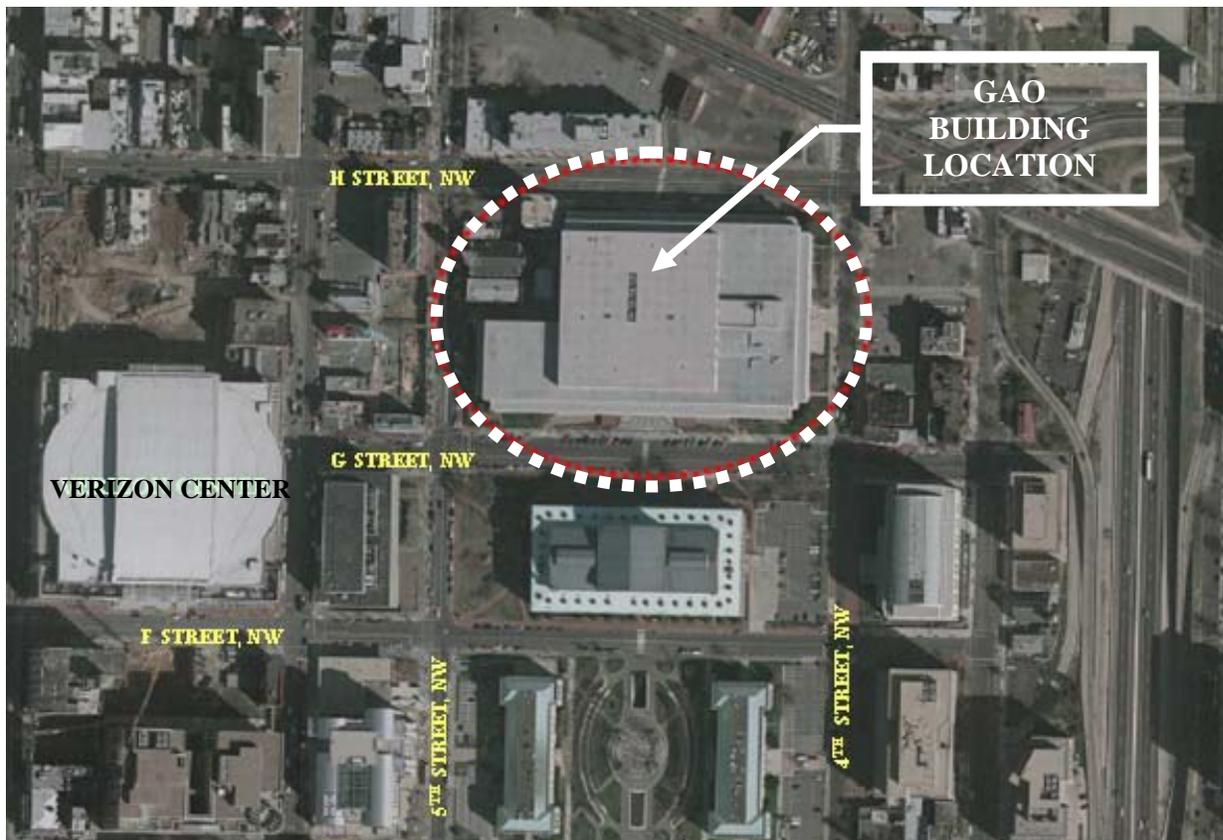
Approves the preliminary and final building plans for the installation of six transmitting and receiving antennas, one GPS antenna, and an associated equipment cabinet at the General Accountability Office Building, 441 G Street, NW, as shown on NCPC Map File No. 1.22 (38.30)-42122, for a period not to exceed five years.

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PROJECT DESCRIPTION

Site

The GAO building is bounded by H Street, NW, to the north, and G Street, NW on the south. On the west and east are 5th Street and 4th Street respectively. The proposed location of the antennas is limited to the western, northern and southern ends of the building at the upper sidewall of the penthouse.



AERIAL VIEW OF GAO BUILDING LOCATION AND VICINITY

Background

The GAO has submitted plans for the installation of Cingular Wireless System antennas at the penthouse of the building, and a GPS location antenna on the roof edge of the penthouse. All associated equipment for the antennas will be located inside the penthouse. The proposed system of six panel antennas is replacing an earlier antenna installation by another telecommunications carrier, which was taken over by Cingular Wireless. That installation was determined by NCPC in 2006 to be an unapproved antenna array located at the GAO building.

The six new send and receive antennas are being located at the central penthouse roof edge of the GAO building in the exact location of the unapproved units. Presently there are nine existing

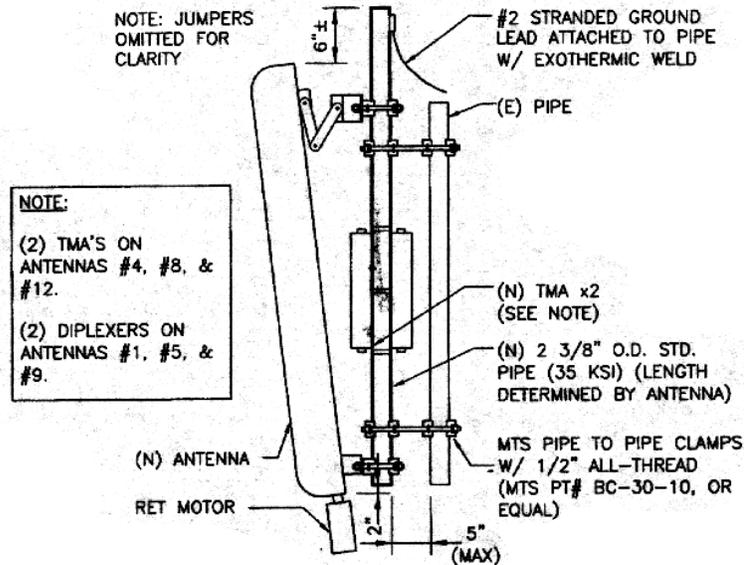
antennas on the building where the proposed new antennas (6) would be located. The nine existing antennas would be removed.

Proposal

Three sectors, of two antennas each, will be mounted flush just below the penthouse parapet at the roof of the structure. One antenna sector will face west, another sector will face north toward H Street, and the final sector will face southeast, towards 4th Street. Each panel antenna will be 52 inches long by 10.5 inches wide by approximately 5.5 inches deep.

The proposed antennas operate at frequencies of 824-940 megahertz and 1710-2170 megahertz dual band operation. Additionally, an FCC required GPS conical antenna (approximately 13 inches high with a 3.75 inch base) for location purposes will also be installed. The panel antennas will be fixed to the building utilizing the existing antenna building wall mount system at the penthouse, but no higher than current installation and matching the upper penthouse edge. All antennas will be painted to complement the building façade color of light grey concrete. The equipment cabinet and its electronic components will not be visible on the roof from the street due to its location within the penthouse. No general public access to the roof is allowed.

The two panel antenna assemblies are tilted at the penthouse wall. Tilting the antenna beam below the horizon is necessary so that less co-channel interference occurs at the site in signal regeneration at antenna frequency. Additionally, the signal below the horizon addresses the needed area of close-in coverage being sought. The proposed site has a specific height above average terrain to achieve the required coverage area and reduction of signal toward the horizon.



MFG	MODEL	H (IN.)	W (IN.)	D (IN.)	AREA (SQ. FT.)
KATHREIN	742-264	51.8	10.3	5.5	4.13

PROPOSED ANTENNA DETAILS

GAO has provided an adequate RF evaluation of all existing and proposed antennas for the building, and any general public exposure pathways from any of those elements, adhering to the Federal Communications Commission regulations in regard to maximum exposure limits. No general public exposures limits are exceeded given the antennas are within the heights necessary to reduce significant RF radiation exposure both at the street level and within the upper building floors. People can not be “in-place” forward of the antennas given they exist 28 feet above the main roof. All RF required hazard signage currently exists pursuant to the Commission direction and approval on April 2006 of a collocated antenna system on the same building operated by Verizon.

Radiofrequency Radiation

An analysis determining the potential effects of radiofrequency non-ionizing radiation on the general public and occupational personnel was prepared in September 2006 for submission purposes. This analysis used a computerized evaluation program to determine the electromagnetic power surrounding the existing and proposed antennas, and measures compliance with the Maximum Permissible Exposure (MPE) limits for the general public and occupational personnel established by the Federal Communications Commission (FCC).

No areas off the roof, either extending down toward the streets or outward beyond the building perimeter, exceed 100 percent of either the general public or occupational worker exposure levels.

Cumulative effects of any exposure levels have been factored by the evaluation program and have found to be within all standards specified by the FCC requirements. The analysis also determined that it is extremely unlikely that any personnel would come in contact with areas that exceed the occupational MPE.

CONFORMANCE

Comprehensive Plan for the National Capital: Federal Elements

Staff has determined that the antenna installation would not have an effect on other federal facilities or on L’Enfant Streets and is consistent with the Federal Elements of the Comprehensive Plan.

National Environmental Policy Act

Pursuant to the regulations implementing the National Environmental Policy Act, the GAO submitted a conclusion that the project is a categorical exclusion based on both the GSA environmental review standards, and in conformance with the NCPC Categorical Exclusion requirements under §8(C)(20) of the Commission’s Environmental and Historic Preservation Policies. Staff examination finds the proposed antennas, with their location, design, and completed RF review, adhere to the Commission’s categorical exclusion requirements.

National Historic Preservation Act

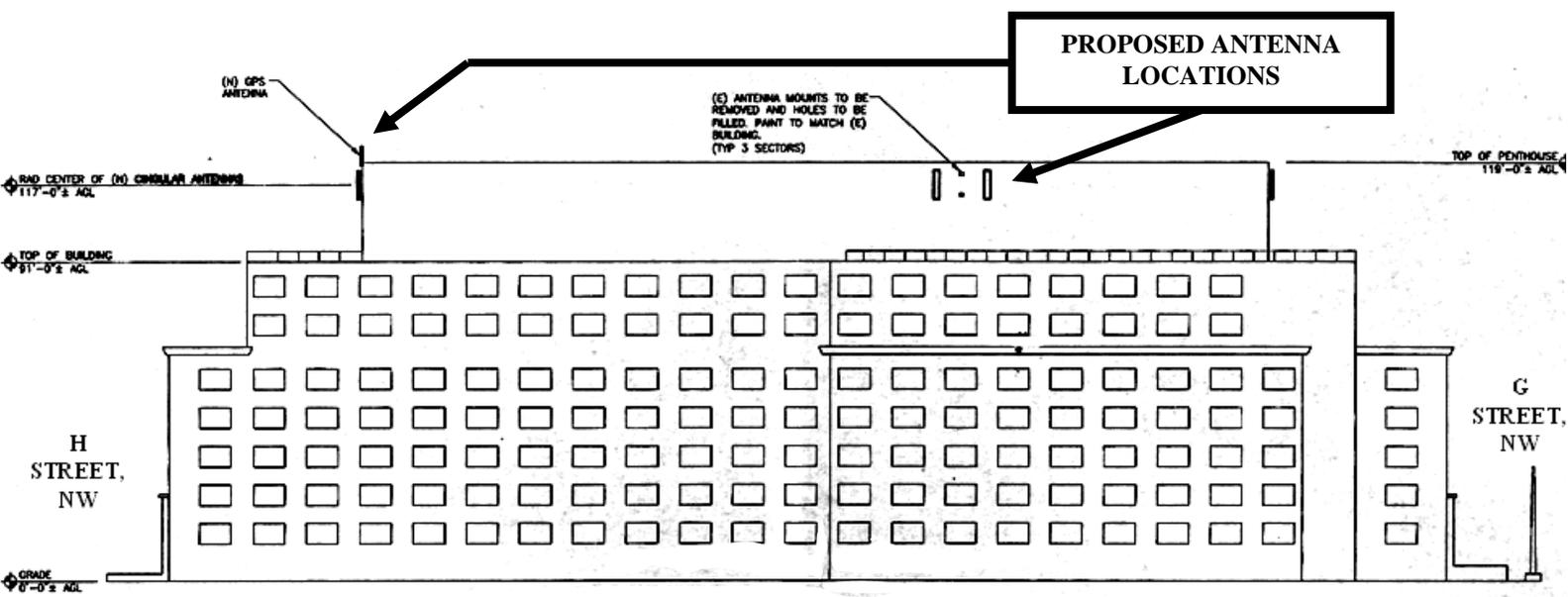
GAO has concluded that no National Historic Preservation, Section 106, review of the antennas is required. Their conclusion was expressed in comparison to other collocated antennas reviewed by both GAO and NCPC in April 2006. The location of the antennas was found not to affect any properties eligible for listing in the National Register of Historic Places. Because of limited effect to the streetscapes of the surrounding area, as demonstrated in the visual simulations submitted, the agency determined that no impacts to any L'Enfant street existed.

NCPC staff finds the visual impact is minimal and believes the potential affect from the antenna installations would not adversely impact the L'Enfant street plan viewsheds.

COORDINATION

Coordinating Committee

The Coordinating Committee reviewed this item at its meeting on October 11, 2006, and forwarded the proposal to the Commission with the statement that the project has been coordinated with all agencies participating. The participating agencies were NCPC; the District of Columbia Office of Planning; the Department of Housing and Community Development; the District of Columbia Fire Department, the General Services Administration, and the Washington Metropolitan Area Transit Authority.



WEST GAO BUILDING ELEVATION