Memorandum

To: Anne Hersch, City of Albany
From: Jonathan L. Kramer
Date: January 14, 2013
RE: PA12-050 (AT&T Mobility)
1035 San Pablo Avenue, Albany, California

At the direction of the City, I have reviewed the AT&T Mobility ("AT&T") application to install a new wireless telecommunications facility on the roof of the commercial building located at 1035 San Pablo Ave (the "proposed site"). I also reviewed my prior project memorandum regarding this site (Planning Application 08-038; my firm's report dated January 4, 2012).

AT&T's reference for this proposed site is CN4554, also called "Marin Avenue."

Sprint Nextel has an existing wireless telecommunications site on the same roof as AT&T's proposed project.

Project Description

AT&T proposes to install 9 new panel antennas, each approximately 6' in height, on the roof of the building. The antennas will be capable of supporting AT&T service in the LTE (700 MHz), Cellular (850 MHz), AWS (1,700 MHz), and PCS (1,900 MHz) bands of service. The proposed antennas are shown in 3 sectors of antennas with 3 antennas per sector oriented towards 70˚ TN, 165˚ TN, and 345˚ TN.

AT&T proposes to center mount the antennas at 43'-3" above ground level inside a new RF transparent fiberglass-reinforced plastic ("FRP") pop-up enclosure and a new FRP screen attached to the north face of the existing penthouse.

The proposed FRP screened wall will partially camouflage the antennas in 70˚ TN and 165˚ TN sectors. The proposed FRP enclosure on the north face of the existing penthouse will camouflage the antennas in the 345˚ TN sector from public view. The new pop-up and new screen walls and pop-up screen box are proposed to be architecturally integrated into the building by texturing and painting to match the existing building.

AT&T also proposes to install new base station equipment inside the existing structure on its ground floor consisting of four racks of equipment, supplemented by twenty-one roof-mounted "remote radio units" which are also parts of the base station. Fiber optic and direct current power cables, as well as coaxial cables, will interconnect the equipment room on the first floor with the roof-mounted equipment.

AT&T proposes to mount a new GPS antenna to an existing parapet (see callout 11 on page A-1.1). The GPS antenna facilitates communication between

Kramer.Firm Inc.

Telecommunications Technology Counsel for Government Agencies and Private Institutions Since 1984

www.KramerFirm.com

Main Office:
Kramer@KramerFirm.com
Tel +1 (310) 473 9900
Fax +1 (310) 473 5900

Suite 306
2001 S. Barrington Avenue
Los Angeles, California
90025-5379

AT&T wireless facilities through synchronization and timing of wireless signals in order to seamlessly pass the telecommunications between wireless facilities.

Section 6409(a) Evaluation

I have reviewed the proposed project and plans in light of the recently passed Section 6409(a) contained within the Middle Class Tax Relief and Job Creation Act of 2012. This Act was enacted by Congress after my 2012 review of a proposed project at this site, therefore I have not previously discussed this element.

Section 6409(a), codified at 47 USC § 1455(a), addresses mandatory collocations at existing wireless towers, facially eliminating local discretion in connection with collocation projects.

Section 6409(a) says in its brief entirety:

> SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.
> (a) FACILITY MODIFICATIONS.—
> (1) IN GENERAL.—Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.
> (2) ELIGIBLE FACILITIES REQUEST.—For purposes of this subsection, the term ‘‘eligible facilities request’’ means any request for modification of an existing wireless tower or base station that involves—
> (A) collocation of new transmission equipment;
> (B) removal of transmission equipment; or
> (C) replacement of transmission equipment.
> (3) APPLICABILITY OF ENVIRONMENTAL LAWS.—Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

Having reviewed the current project plans for this site, it is my opinion as the City's technology expert that the instant project is not an "eligible facilities request for a modification of an existing wireless tower or base station" thus not a "collocation of new transmission equipment" within the meaning of 47 USC § 1455(a) because of the "substantial[ ] change" in "the physical dimensions of such wireless tower or base station." My determination is due, largely, to the addition of the new Base Station equipment room and racks, and the addition of twenty one (21) remote radio units to the roof of the structure.

Accordingly, it is my opinion that the instant project falls outside of the scope of the mandatory approval required pursuant to 47 USC § 1455(a).

Project Purpose

AT&T asserts that the dominant purpose of this project is to close a significant gap in AT&T's 3G (Cellular 850 MHz) service in southeast Albany. It describes the asserted significant gap as being "an area roughly bordered by Pomona Avenue to the east, Washington Avenue and Solano Avenue to the north, Polk Street, Taylor Street, Marin Avenue and 8th Street to the west, and Harrison Street and Dartmouth Street to the south." It appears to portray this area as a circle on the map shown in Figure 2 below, labeled, "We need in-building coverage here" with an arrow pointing to the circle. AT&T asserts in its computerized estimated coverage map in Figure 2 that all of that area has existing signal coverage, with about 70% of that area having what AT&T subjectively refers to as "Outdoor Coverage."

The project documentation submitted by Hammett & Edison indicates that AT&T, in addition to its proposed Cellular Band signal enhancement, is also planning to add service in the PCS, AWS and LTE bands from the proposed site. AT&T has not currently—nor has it in its prior application—submitted existing or proposed coverage maps for those non-Cellular bands, therefore I have no basis to opine regarding its existing coverage on those bands, if any. For the purposes of this analysis, I only consider the Cellular band coverage claims.

Figure 1 below depicts AT&T's computer projection assertions of the existing coverage levels in only the Cellular band for the area surrounding the proposed site as that coverage was appears to have existed in mid-2012. The coverage map indicates that AT&T had "outdoor" signal level coverage—as AT&T defines that term subjectively—to about seventy percent (70%) the area of AT&T interest surrounding the proposed site.

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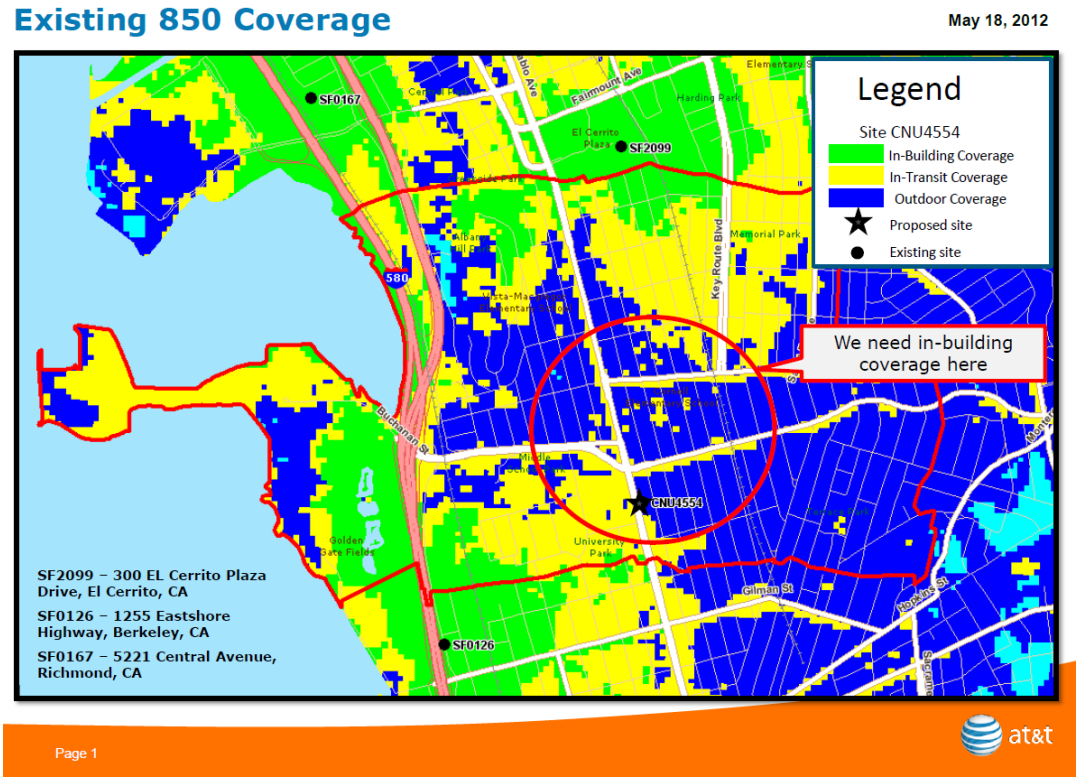

Figure 1: Existing AT&T signal coverage in the Cellular band without the proposed site operational, all as asserted by AT&T as of May 2012. (Source: AT&T Mobility).

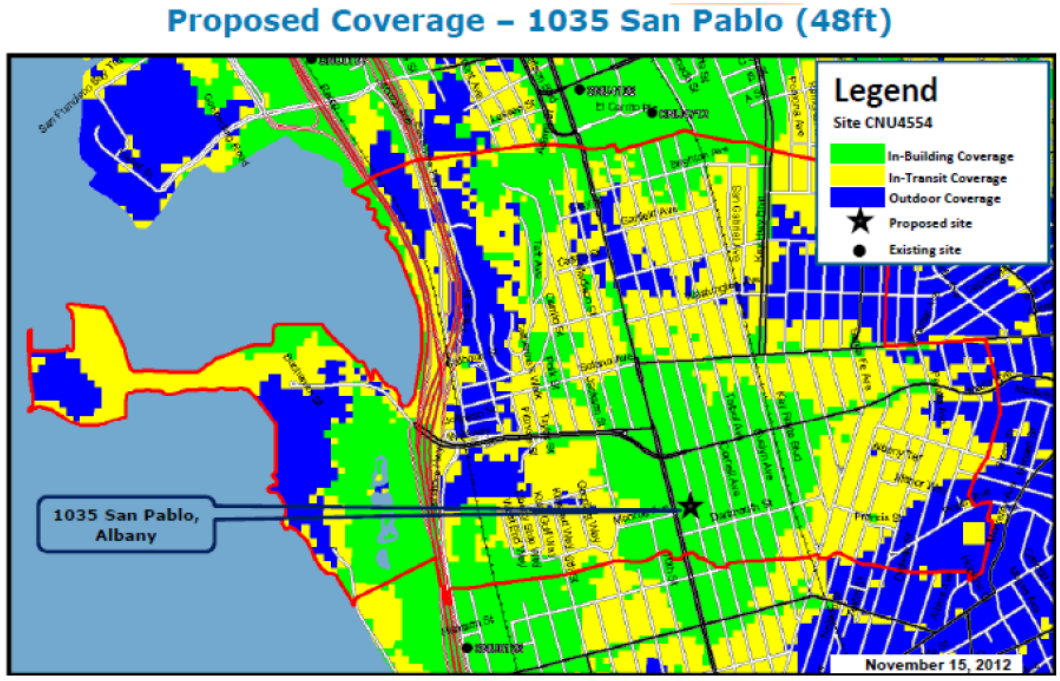

Figure 2: Proposed AT&T signal coverage in the Cellular band with the proposed site operational, all as asserted by AT&T. (Source: AT&T Mobility).

Comparing Figure 2 to Figure 1, the maps stand for the proposition that AT&T is attempting to improve its service in the Cellular band in the central and southern portions of Albany. The maps suggest subjectively that AT&T has a lower grade of existing coverage in its Cellular band of service in the areas mentioned. Ultimately, AT&T's proposed project will not satisfy its own criteria to achieve "in-building coverage" within the circled area of Figure 1, above, but it will come very close to meeting that goal.

Physical Design Considerations

GPS Antenna

The GPS antenna as proposed in the project plans may be visible above the parapet wall and potentially visible from the ground level. Although a GPS antenna is not a requirement of FCC regulations, a GPS antenna is a necessary technical element for proper operation of the wireless telecommunications facility. However, a visible GPS antenna is both technically unnecessary and visually unappealing. The GPS antenna at this site can be mounted in such a manner that it is not visible above the roof level.

Site Screening

AT&T has provided an existing site photograph (Figure 3, below) showing the south face of the building. From this angle, the viewer is generally facing north.

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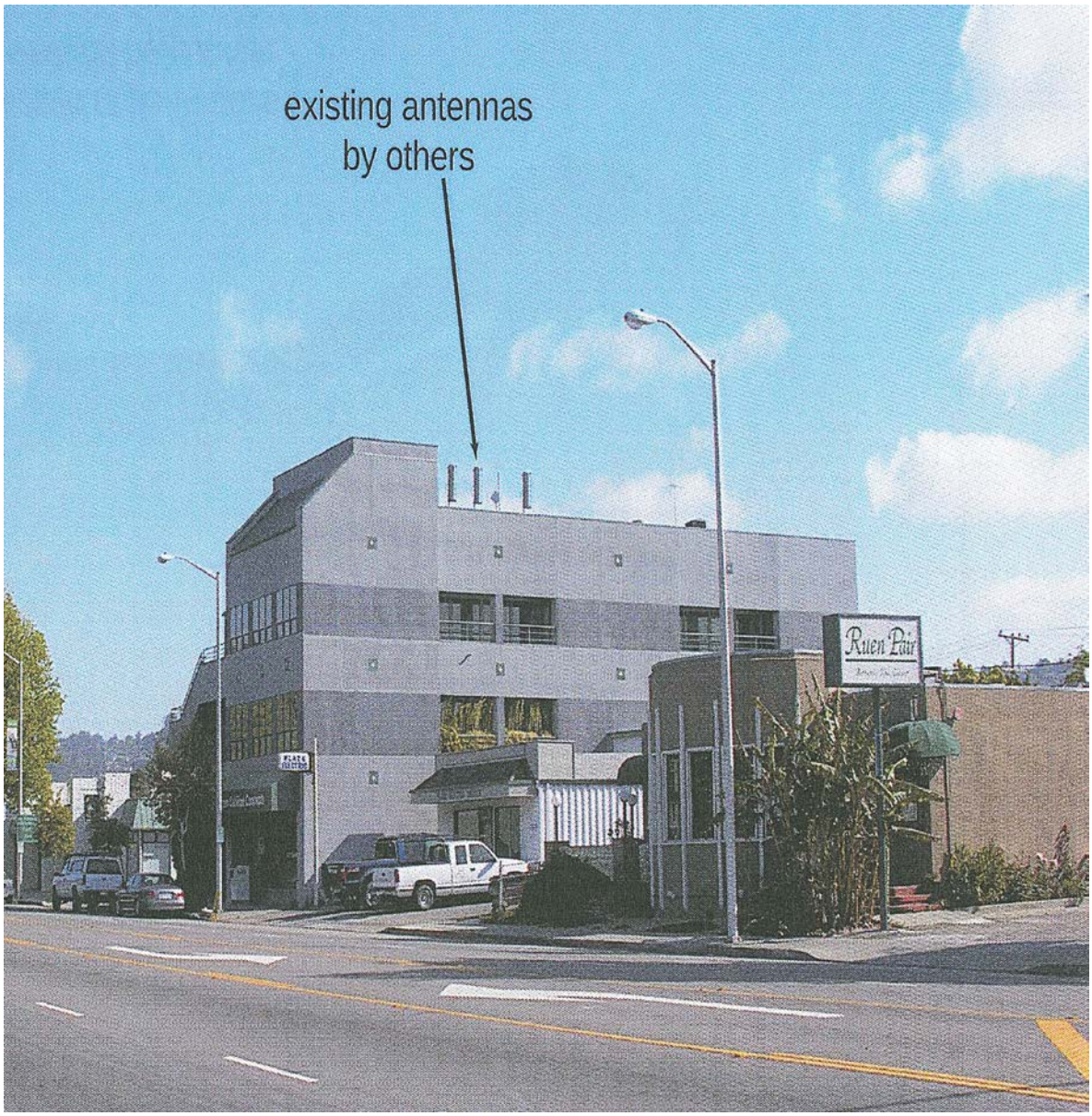

Figure 3: Existing site (Photo Source: AT&T)

In Figure 3, the "existing antennas by others" reference is to Sprint Nextel's existing rooftop antennas facing to the south.

In Figure 4, below, AT&T presents its photo simulation illustrating how the shown portion of the site will look with its proposed screening for AT&T's antennas.

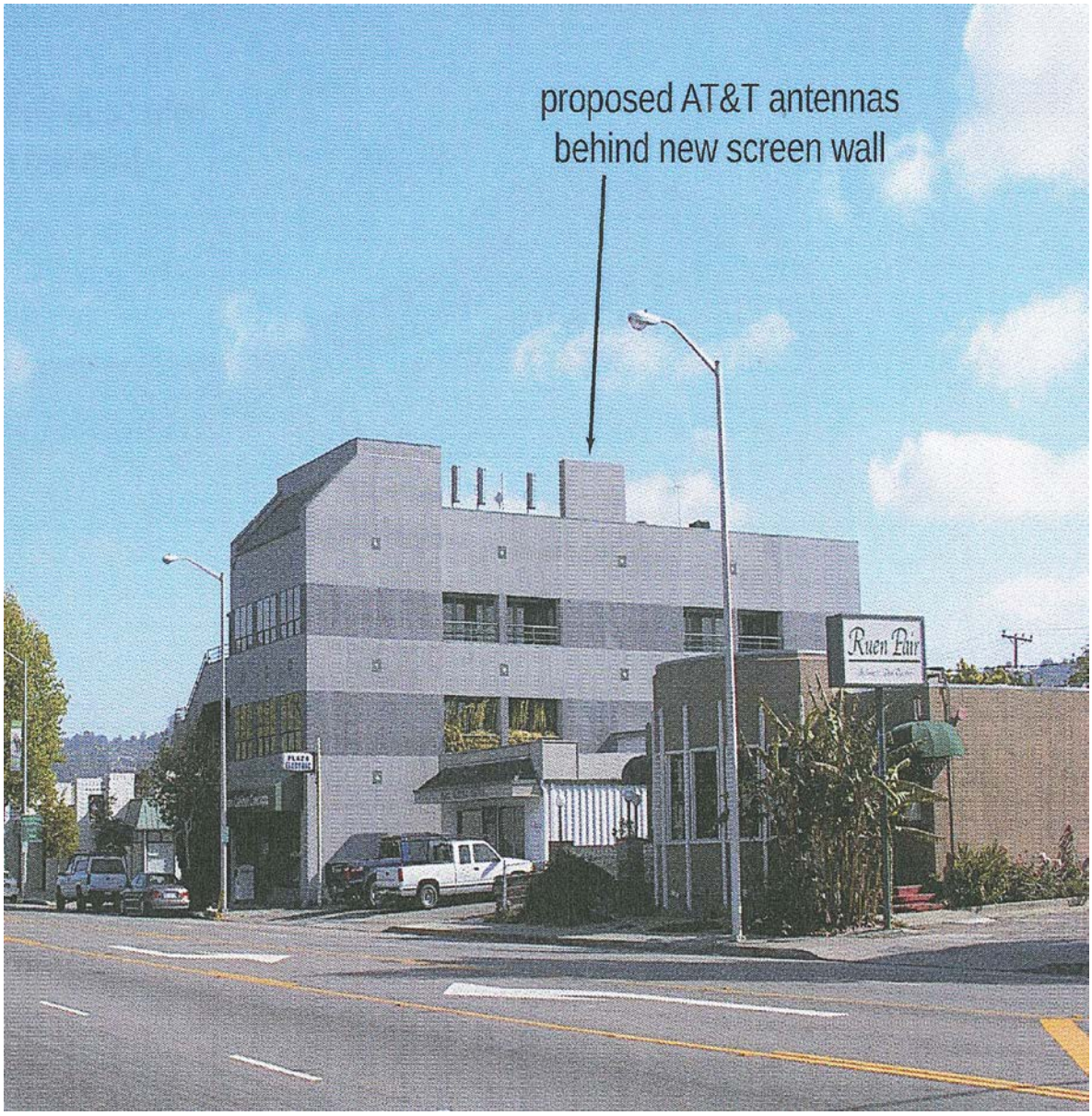

Figure 4: Site as proposed by AT&T (Photo Source: AT&T)

It is my understanding that the Albany Planning Code does not permit the roof-top massing that would occur were the existing Sprint Nextel antennas to also be screened, so at least the current design proposal results in the screening of AT&T's project.

RF Safety Considerations

The FCC completely occupies the field as to setting RF safety standards in the United States. The City is not permitted to set its own standards regardless of whether higher, lower, or even the same as the FCC's standards. The Commission does, however, permit the City to determine whether a proposed wire-

less project meets the required FCC 47 CFR § 1.1307 et seq. (the "FCC rules") and FCC Office of Engineering and Technology Bulletin 65 ("OET 65") RF safety directives.

Under the FCC rules, certain types of wireless projects are deemed to be "categorically excluded," thus not subject to further RF evaluation under the rules due to identified factors including: whether the antenna supporting structure is not a building or shared to perform some other function, and the lowest portion of the transmitting antenna is at least 10 meters above ground.

The proposed project does ***not*** qualify for categorical exclusion under the FCC rules because it is to be mounted on an occupied building. An analysis of the RF emissions is necessary to determine whether a project design will comply with the FCC rules.

AT&T has submitted a third party RF emission report from Hammett & Edison, Inc. dated June 27, 2011 (the "Hammett & Edison Report"). The report is signed by Mr. Jajat Mathur, P.E. This is the same RF report submitted by AT&T in its prior application.

The Hammett & Edison Report has sufficient emissions data to perform an independent analysis of the proposed emissions. Based on the frequency and power to be emitted from AT&T' antennas, a controlled access zone of 42 feet will extend outward from each transmitting antenna at the same level as the antennas. At ground level, the uncontrolled exposure levels for members of the general population are far smaller than the maximum allowed by the FCC.

The existence of a controlled zone only on the roof of the subject building does not mean that the project, as proposed, will violate the FCC rules. Rather, it merely requires that the wireless carrier take affirmative steps to restrict access to the controlled zones. In this case, the controlled zone for Sector C will be in inaccessible airspace at the same level as the antennas. However, small portions of the controlled zones in front of Sectors A and B will be accessible by the General Population (i.e. roofers, HVAC operators, building maintenance staff, etc.).

To comply with the existing FCC rules and FCC OET Bulletin 65 directives regarding RF safety, should the City approve this project I recommend the City condition the project as follows:

1. All roof access doors shall remain locked at all times except during active maintenance by AT&T or authorized building personnel; and

2. AT&T shall place and maintain permanent RF Notice signs in English and Spanish on the roof access doors. The signage must be a minimum of 8" wide by 12" high, compliant

with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this site as required by the FCC. The location of the sign must be visible to persons immediately prior to entering the roof area; and

3. AT&T shall place and maintain a permanent RF Notice sign in English and Spanish on the BTS platform. The signage must be a minimum of 8" wide by 12" high, compliant with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this site as required by the FCC. The location of the sign must be visible to persons no less than 3 feet from the BTS platform; and

4. All access to the proposed pop-up and FRP screen walls shall be secured by AT&T at all times, except during active maintenance by AT&T; and

5. AT&T shall place and maintain a permanent RF Caution sign in English and Spanish at the access point to the interior of each pop-up enclosure. The signage must be a minimum of 8" wide by 12" high, compliant with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this site as required by the FCC. The location of the sign must be visible immediately prior to entering the pop-up; and

6. AT&T shall install and at all times maintain in good condition alternating bright color UV stabilized floor stripes in front of Sector A extending from the pop-up in front of Sector A to the end of the controlled zone, at least 42' towards the eastern wall of the building; and

7. Consistent with AT&T's proposed RF safety zone for Sector B, AT&T shall install and at all times maintain in good condition alternating bright color UV stabilized floor stripes in

front of Sector B extending from the FRP screen walls to the parapet wall; and

8. If members of the General Population are required to be in the controlled zone in front of Sectors A or B, denoted by the roof stripping other than to transit the controlled zone area (i.e., to perform maintenance or repairs on the air conditioning units or roof area, etc. within the controlled zone), AT&T shall coordinate signal transmissions from the that Sector during the entire work period to ensure compliance with the FCC rules.

If AT&T agrees to the conditions just stated, there will be no RF emissions basis for the City to deny or further condition the project in this subject area.

Alternative Site Analysis

AT&T has submitted as part of its current late 2012 application an alternative site analysis dated November 16, 2012. That "Alternatives Analysis" explores nine (9) alternative sites to its proposed site at 1035 San Pablo, not including the referenced site. I have not independently verified the data provided in AT&T's alternative site analysis. Therefore, my analysis provided below is based solely on information provided by AT&T, supplemented by my visualization of each site using Google Earth, as well as Google Street-view maps.

The alternative sites presented by AT&T are:

1. 1000 San Pablo Avenue –Albany Fire Department
2. 850 Stannage Avenue
3. 979 San Pablo Avenue
4. 1231 Solano Avenue: Evergreen Building
5. 1115 Solano Avenue -- Albany Theater
6. 1051 Monroe Street – University of California, Albany USD
7. 940 San Pablo Avenue -- Town Centre Structure
8. 800 Buchanan Street/US Agricultural Building
9. "CMX" University Village Community Garden

Each of the sites just mentioned will be discussed in greater detail below.

<u>1000 San Pablo Avenue –Albany Fire Department</u>

Based on AT&T's estimated RF coverage plot, this site would provide very similar coverage compared to the proposed site, but it appears that the fire department is unwilling to lease to AT&T. Accordingly, this site was eliminated from further consideration by AT&T. Additionally, this site should be disfavored because it would not result in a partially or completely camouflaged site.

850 Stannage Avenue

Based on AT&T's estimated RF coverage plot, this site would provide a very similar level coverage compared to the proposed site. AT&T rejected this site because there is no existing wireless site here, thus the location is disfavored by the Albany Code.

979 San Pablo Avenue

Based on AT&T's estimated RF coverage plot, this site would provide a similar level coverage compared to the proposed site, slightly favoring the north. AT&T rejected this site because there is no existing wireless site here, thus the location is disfavored by the Albany Code. Additionally, while it appears that AT&T engaged in some discussions with the landlord, no agreement was forthcoming from those negotiations.

1231 Solano Avenue: Evergreen Building

Based on AT&T's estimated RF coverage plot, this site would provide a very similar level coverage compared to the proposed site. AT&T rejected this site because there is no existing wireless site here, thus the location is disfavored by the Albany Code.

1115 Solano Avenue -- Albany Theater

Based on AT&T's estimated RF coverage plot, this site would provide a similar level coverage compared to the proposed site, slightly favoring the northeast. AT&T rejected this site because there is no existing wireless site here, thus the location is disfavored by the Albany Code. Additionally, while it appears that AT&T engaged in some discussions with the landlord, no agreement was forthcoming from those discussions.

1051 Monroe Street – University of California, Albany USD

Based on AT&T's estimated RF coverage plot, this site would provide an *inferior* level coverage compared to the proposed site, disfavoring coverage to the north of the proposed site. Also, there is no existing wireless site here, thus the location is disfavored by the Albany Code. I do not believe that this site is suitable to provide the coverage sought by AT&T.

940 San Pablo Avenue — Town Centre Structure

Based on AT&T's estimated RF coverage plot, this site would provide a similar level coverage compared to the proposed site. AT&T rejected this site because the owner was not interested in leasing to the firm.

800 Buchanan Street/US Department of Agricultural Building

Based on AT&T's estimated RF coverage plot, this site would provide an *inferior* level coverage compared to the proposed site, disfavoring coverage to the east and north of the proposed site. Also, there is no existing wireless site here, thus the location is disfavored by the Albany Code. I do not believe that this site is suitable to provide the coverage sought by AT&T.

"CMX" University Village Community Garden Area

Of all of the alternatives evaluated by AT&T, and based on AT&T's estimated RF coverage plot, this site would provide most *inferior* level coverage compared to the proposed site, disfavoring coverage to the east, south and north of the proposed site. Also, there is no existing wireless site here, thus the location is disfavored by the Albany Code. I do not believe that this site is suitable to provide the coverage sought by AT&T.

Proposed Site: 1035 San Pablo Avenue

Compared to the nine (9) alternatives presented by AT&T, the proposed site is the best single site compromise considering (a) compliance with the Albany Code favoring collocations; (b) ability to camouflage the proposed project, and (c) proposed coverage to meet AT&T's coverage goal. Any other coverage solution at potentially-leasable sites would require the use of more than one site to achieve the coverage sought by AT&T.

/jlk