ATT RF EME Compliance Report

CASPR# 3701016778
USID# 140310
Site No. CCU0249
Harbor View Water Tank
2380 Harborview Drive
Martinez, California 94553
Contra Costa County
38.002797; -122.125316 NAD83
Monopole

EBI Project No. 62139834
August 30, 2013

Prepared for:

AT&T Mobility, LLC
7655-7665 Redwood Blvd.
Novato,CA 94945

Prepared by:

EBI Consulting
environmental | engineering | due diligence

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EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by AT&T Mobility, LLC to conduct radio frequency electromagnetic (RF-EME) modeling for AT&T Site CCU0249 located at 2380 Harborview Drive in Martinez, California to determine RF-EME exposure levels from proposed AT&T wireless communications equipment at this site. As described in greater detail in Section 2.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF-EME analysis for the site, including the following:

- Antenna Inventory
- Site Plan with antenna locations
- Antenna inventory with relevant parameters for theoretical modeling
- Graphical representation of theoretical MPE fields based on modeling
- Graphical representation of recommended signage and/or barriers

This document addresses the compliance of AT&T's transmitting facilities independently and in relation to all collocated facilities at the site.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits <u>and</u> there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

As presented in the sections below, based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site.

AT&T Recommended Signage/Compliance Plan

AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document, dated September 21, 2012, requires that:

1. All sites must be analyzed for RF exposure compliance;
2. All sites must have that analysis documented; and
3. All sites must have any necessary signage and barriers installed.

Site compliance recommendations have been developed based upon protocols presented in AT&T's RF Exposure guidance document, dated September 21, 2012, additional guidance provided by AT&T, EBI's understanding of FCC and OSHA requirements, and common industry practice. Barrier locations have been identified (when required) based on guidance presented in AT&T's RF Exposure Policy guidance document, dated September 21, 2012. The following signage is recommended at this site:

- Green INFO 1 sign posted on or next to the site access gate.
- Yellow CAUTION – TOWER sign posted at the base of the monopole.

The signage proposed for installation at this site complies with AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document and therefore complies with FCC and OSHA requirements. Barriers are not recommended on this site. More detailed information concerning site compliance recommendations is presented in Section 5.0 and Appendix E of this report.

1.0 SITE DESCRIPTION

This project involves the proposed installation of up to twelve (12) wireless telecommunication antennas on a monopole in Martinez, California. There are three Sectors (A, B, and C) proposed at the site, with four (4) proposed antennas per sector. For modeling purposes, it is assumed that there will be one (1) UMTS antenna in each sector transmitting in two bands of the 850 MHz frequency range, one (1) UMTS antenna in each sector transmitting in two bands of the 1900 MHz frequency range, one (1) UMTS antenna in each sector transmitting in a single band of the 1900 MHz frequency range, and one (1) LTE antenna in each sector transmitting in the 700 MHz and 1900 MHz frequency ranges. The Sector A antennas will be oriented 60° from true north. The Sector B antennas will be oriented 300° from true north. The Sector C antennas will be oriented 220° from true north. The bottoms of the antennas will be 69 feet above ground level. Appendix B presents an antenna inventory for the site.

Access to this site is accomplished via a gate in the fence surrounding the monopole. Workers must be elevated to antenna level to access them, so these antennas are not accessible to the general public.

2.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

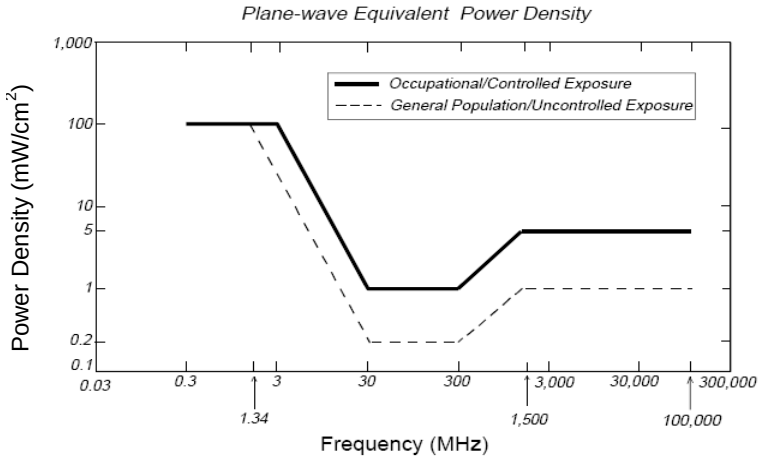
The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 mW/cm2 for equipment operating in the 1900 MHz frequency range. For the AT&T equipment operating at 850 MHz, the FCC's occupational MPE is 2.83 mW/cm^2 and an uncontrolled MPE of 0.57 mW/cm^2. For the AT&T equipment operating at 700 MHz, the FCC's occupational MPE is 2.33 mW/cm^2 and an uncontrolled MPE of 0.47 mW/cm^2. These limits are considered protective of these populations.

Table 1: Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2
Specialized Mobile Radio	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication (PCS) facilities used by AT&T in this area operate within a frequency range of 700-1900 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

3.0 AT&T RF EXPOSURE POLICY REQUIREMENTS

AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document, dated September 21, 2012, requires that:

1. All sites must be analyzed for RF exposure compliance;
2. All sites must have that analysis documented; and
3. All sites must have any necessary signage and barriers installed.

Pursuant to this guidance, worst-case predictive modeling was performed for the site. This modeling is described below in Section 4.0. Lastly, based on the modeling and survey data, EBI has produced a Compliance Plan for this site that outlines the recommended signage and barriers. The recommended Compliance Plan for this site is described in Section 5.0.

4.0 WORST-CASE PREDICTIVE MODELING

In accordance with AT&T's RF Exposure policy, EBI performed theoretical modeling using RoofView® software to estimate the worst-case power density at the site ground-level resulting from operation of the antennas. RoofView® is a widely-used predictive modeling program that has been developed by Richard Tell Associates to predict both near field and far field RF power density values for roof-top and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

For this report, EBI utilized antenna and power data provided by AT&T, and compared the resultant worst-case MPE levels to the FCC's occupational/controlled exposure limits outlined in OET Bulletin 65.

The assumptions used in the modeling are based upon information provided by AT&T, and information gathered from other sources. T-Mobile also has antennas on the monopole. Information about these antennas was included in the modeling analysis.

Based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed AT&T antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the AT&T antennas, the maximum power density generated by the AT&T antennas is approximately 2.60 percent of the FCC's general public limit (0.52 percent of the FCC's occupational limit). The composite exposure level from all carriers on this site is approximately 4.50 percent of the FCC's general public limit (0.90 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

There are no modeled areas on the ground that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas.

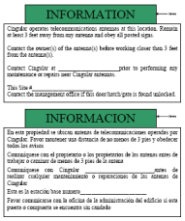
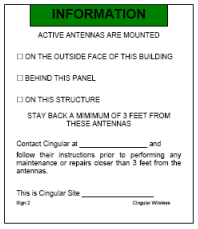
The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C. A graphical representation of the RoofView® modeling results is presented in Appendix D. It should be noted that RoofView® is not suitable for modeling microwave dish antennas; however, these units are designed for point-to-point operations at the elevations of the installed equipment rather than ground-level coverage. Based on AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document, dated September 21, 2012, microwave antennas are considered compliant if they are higher than 20 feet above any accessible walking/working surface. There are no microwaves installed at this site.

5.0 RECOMMENDED SIGNAGE/COMPLIANCE PLAN

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. As presented in the AT&T guidance document, the signs must:

- Be posted at a conspicuous point;
- Be posted at the appropriate locations;
- Be readily visible; and
- Make the reader aware of the potential risks prior to entering the affected area.

The table below presents the signs that may be used for AT&T installations.

Informational Signs		Alerting Signs	
	**INFO 1**		**NOTICE**
	**INFO 2**		**CAUTION - ROOFTOP**
	INFO 3		**CAUTION - TOWER**
	INFO 4		**WARNING**

Based upon protocols presented in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document, dated September 21, 2012, and additional guidance provided by AT&T, the following signage is recommended on the site:

Recommended Signage:

- Green INFO 1 sign posted on or next to the site access gate.
- Yellow CAUTION – TOWER sign posted at the base of the monopole.

No barriers are required for this site. The signage is graphically represented in the Signage Plan presented in Appendix E.

6.0 SUMMARY AND CONCLUSIONS

EBI has prepared this Radiofrequency Emissions Compliance Report for the proposed AT&T telecommunications equipment at the site located at 2380 Harborview Drive in Martinez, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from AT&T antennas and other carriers' antennas to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements, as well as AT&T's corporate RF safety policies. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and general public exposure limits at this site. As such, the proposed AT&T project is in compliance with FCC rules and regulations.

Signage is recommended at the site as presented in Section 5.0 and Appendix E. Posting of the signage brings the site into compliance with FCC rules and regulations and AT&T's corporate RF safety policies.

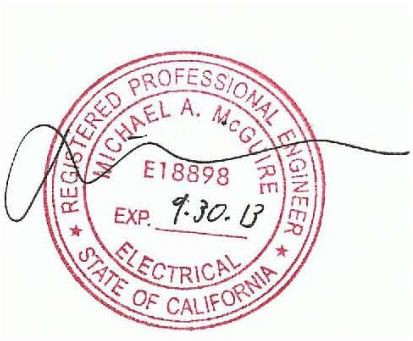
7.0 LIMITATIONS

This report was prepared for the use of AT&T Mobility, LLC. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

Appendix A

Certifications

Reviewed and Approved by:



sealed 29aug2013

Michael McGuire
Electrical Engineer

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.

Preparer Certification

I, Samuel Burkhart, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have been trained in on the procedures outlined in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document (dated 12/09/11) and on RF-EME modeling using RoofView® modeling software.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

Appendix B

Antenna Inventory

Antenna Number	Operator	Antenna Type	TX Freq (MHz)	ERP (Watts)	Gain (dBd)	Model	Azimuth (deg.)	Length (feet)	Horizontal Beamwidth (Deg.)	X	Y	Z
ATT A1	AT&T	Panel	LTE 700	1346	12.9	Andrew SBNH-1D6565B	60	6.1	70	12	19	68.95
ATT A1	AT&T	Panel	LTE 1900	2780	16.1	Andrew SBNH-1D6565B	60	6.1	57	12	19	68.95
ATT A2	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	60	6.1	57	15	17	68.95
ATT A3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	60	6.1	57	17	16	68.95
ATT A3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	60	6.1	57	17	16	68.95
ATT A4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	60	6.1	67	19	14	68.95
ATT A4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	60	6.1	67	19	14	68.95
ATT B1	AT&T	Panel	LTE 700	1346	12.9	Andrew SBNH-1D6565B	300	6.1	70	5	10	68.95
ATT B1	AT&T	Panel	LTE 1900	2780	16.1	Andrew SBNH-1D6565B	300	6.1	57	5	10	68.95
ATT B2	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	300	6.1	57	6	12	68.95
ATT B3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	300	6.1	57	6	15	68.95
ATT B3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	300	6.1	57	6	15	68.95
ATT B4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	300	6.1	67	7	18	68.95
ATT B4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	300	6.1	67	7	18	68.95
ATT C1	AT&T	Panel	LTE 700	1346	12.9	Andrew SBNH-1D6565B	220	6.1	70	16	5	68.95
ATT C1	AT&T	Panel	LTE 1900	2780	16.1	Andrew SBNH-1D6565B	220	6.1	57	16	5	68.95
ATT C2	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	220	6.1	57	13	6	68.95
ATT C3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	220	6.1	57	11	7	68.95
ATT C3	AT&T	Panel	UMTS 1900	865	16.1	Andrew SBNH-1D6565B	220	6.1	57	11	7	68.95

Antenna Number	Operator	Antenna Type	TX Freq (MHz)	ERP (Watts)	Gain (dBd)	Model	Azimuth (deg.)	Length (feet)	Horizontal Beamwidth (Deg.)	X	Y	Z
ATT C4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	220	6.1	67	8	8	68.95
ATT C4	AT&T	Panel	UMTS 850	433	13.1	Andrew SBNH-1D6565B	220	6.1	67	8	8	68.95
TMO A1	AT&T	Panel	GSM 1900	684	15.35	Ericsson AIR21 B2A/B4P	330	4.67	65	12	19	54.67
TMO A1	AT&T	Panel	UMTS 1900	684	15.35	Ericsson AIR21 B2A/B4P	330	4.67	65	12	19	54.67
TMO A1	AT&T	Panel	UMTS 2100	912	15.35	Ericsson AIR21 B2A/B4P	330	4.67	65	12	19	54.67
TMO A2	AT&T	Panel	LTE 2100	456	15.35	Ericsson AIR21 B2A/B4P	330	4.67	65	17	16	54.67
TMO B1	AT&T	Panel	GSM 1900	684	15.35	Ericsson AIR21 B2A/B4P	40	4.67	65	5	10	54.67
TMO B1	AT&T	Panel	UMTS 1900	684	15.35	Ericsson AIR21 B2A/B4P	40	4.67	65	5	10	54.67
TMO B1	AT&T	Panel	UMTS 2100	912	15.35	Ericsson AIR21 B2A/B4P	40	4.67	65	5	10	54.67
TMO B2	AT&T	Panel	LTE 2100	456	15.35	Ericsson AIR21 B2A/B4P	40	4.67	65	6	15	54.67
TMO C1	AT&T	Panel	GSM 1900	684	15.35	Ericsson AIR21 B2A/B4P	230	4.67	65	16	5	54.67
TMO C1	AT&T	Panel	UMTS 1900	684	15.35	Ericsson AIR21 B2A/B4P	230	4.67	65	16	5	54.67
TMO C1	AT&T	Panel	UMTS 2100	912	15.35	Ericsson AIR21 B2A/B4P	230	4.67	65	11	7	54.67
TMO C2	AT&T	Panel	LTE 2100	456	15.35	Ericsson AIR21 B2A/B4P	230	4.67	65	11	7	54.67

1. Note that EBI used information provided by the client for the antenna specifications and powers for the other carrier antennas for modeling purposes.
2. Note there are only four (4) AT&T antennas per sector at this site. For clarity, the different frequencies for each antenna are entered on different lines.

Appendix C

Roofview® Export File

StartMapDefinition

Roof Max Y	Roof Max X	Map Max Y	Map Max X	Y Offset	X Offset	Number of Areas	Envelope	List Of Areas
120	100	150	120	20	20	1	$AE$81:DZ $AE$81:$DZ$200	$AE$81:$DZ$200

StartSettingsData

Standard	Method	Uptime	Scale Factor	Low Thr	Low Color	Mid Thr	Mid Color	Hi Thr	Hi Color	Over Color	Ap Ht Mult	Ap Ht Method
4	2	1	1	100	1	500	4	5000	2	3	1.5	1

StartAntennaData

It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
ATT A1	LTE	700	39.8	2	7	1/2 LDF	0.5		69.02606	Andrew	SBNH-1D6565B	12	19	68.95		6.1	12.9	70;40		ON•
ATT A1	LTE	1900	39.8	2	7	1/2 LDF	0.5		68.25164	Andrew	SBNH-1D6565B	12	19	68.95		6.1	16.1	57;40		ON•
ATT A2	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	15	17	68.95		6.1	16.1	57;40		ON•
ATT A3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	17	16	68.95		6.1	16.1	57;40		ON•
ATT A3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	17	16	68.95		6.1	16.1	57;40		ON•
ATT A4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	19	14	68.95		6.1	13.1	67;40		ON•
ATT A4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	19	14	68.95		6.1	13.1	67;40		ON•
ATT B1	LTE	700	39.8	2	7	1/2 LDF	0.5		69.02606	Andrew	SBNH-1D6565B	5	10	68.95		6.1	12.9	70;280		ON•
ATT B1	LTE	1900	39.8	2	7	1/2 LDF	0.5		68.25164	Andrew	SBNH-1D6565B	5	10	68.95		6.1	16.1	57;280		ON•
ATT B2	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	6	12	68.95		6.1	16.1	57;280		ON•
ATT B3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	6	15	68.95		6.1	16.1	57;280		ON•
ATT B3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	6	15	68.95		6.1	16.1	57;280		ON•
ATT B4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	7	18	68.95		6.1	13.1	67;280		ON•
ATT B4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	7	18	68.95		6.1	13.1	67;280		ON•
ATT C1	LTE	700	39.8	2	7	1/2 LDF	0.5		69.02606	Andrew	SBNH-1D6565B	16	5	68.95		6.1	12.9	70;200		ON•
ATT C1	LTE	1900	39.8	2	7	1/2 LDF	0.5		68.25164	Andrew	SBNH-1D6565B	16	5	68.95		6.1	16.1	57;200		ON•
ATT C2	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	13	6	68.95		6.1	16.1	57;200		ON•
ATT C3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	11	7	68.95		6.1	16.1	57;200		ON•
ATT C3	UMTS	1900	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	11	7	68.95		6.1	16.1	57;200		ON•
ATT C4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	8	8	68.95		6.1	13.1	67;200		ON•
ATT C4	UMTS	850	39.8	1	92	7/8 LDF	1.46		21.22868	Andrew	SBNH-1D6565B	8	8	68.95		6.1	13.1	67;200		ON•
TMO A1	GSM	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	12	19	54.66667		4.666667	15.35	65;310		ON•
TMO A1	UMTS	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	12	19	54.66667		4.666667	15.35	65;310		ON•
TMO A1	UMTS	2100	20	2	53	1/2 LDF	0.5		26.59867	Ericsson	AIR21 B2A/B4P	12	19	54.66667		4.666667	15.35	65;310		ON•
TMO A2	LTE	2100	20	1	53	1/2 LDF	0.5		13.29934	Ericsson	AIR21 B2A/B4P	17	16	54.66667		4.666667	15.35	65;310		ON•
TMO B1	GSM	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	5	10	54.66667		4.666667	15.35	65;20		ON•
TMO B1	UMTS	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	5	10	54.66667		4.666667	15.35	65;20		ON•
TMO B1	UMTS	2100	20	2	53	1/2 LDF	0.5		26.59867	Ericsson	AIR21 B2A/B4P	5	10	54.66667		4.666667	15.35	65;20		ON•
TMO B2	LTE	2100	20	1	53	1/2 LDF	0.5		13.29934	Ericsson	AIR21 B2A/B4P	6	15	54.66667		4.666667	15.35	65;20		ON•
TMO C1	GSM	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	16	5	54.66667		4.666667	15.35	65;210		ON•
TMO C1	UMTS	1900	15	2	53	1/2 LDF	0.5		19.94901	Ericsson	AIR21 B2A/B4P	16	5	54.66667		4.666667	15.35	65;210		ON•
TMO C1	UMTS	2100	20	2	53	1/2 LDF	0.5		26.59867	Ericsson	AIR21 B2A/B4P	11	7	54.66667		4.666667	15.35	65;210		ON•
TMO C2	LTE	2100	20	1	53	1/2 LDF	0.5		13.29934	Ericsson	AIR21 B2A/B4P	11	7	54.66667		4.666667	15.35	65;210		ON•

StartSymbolData

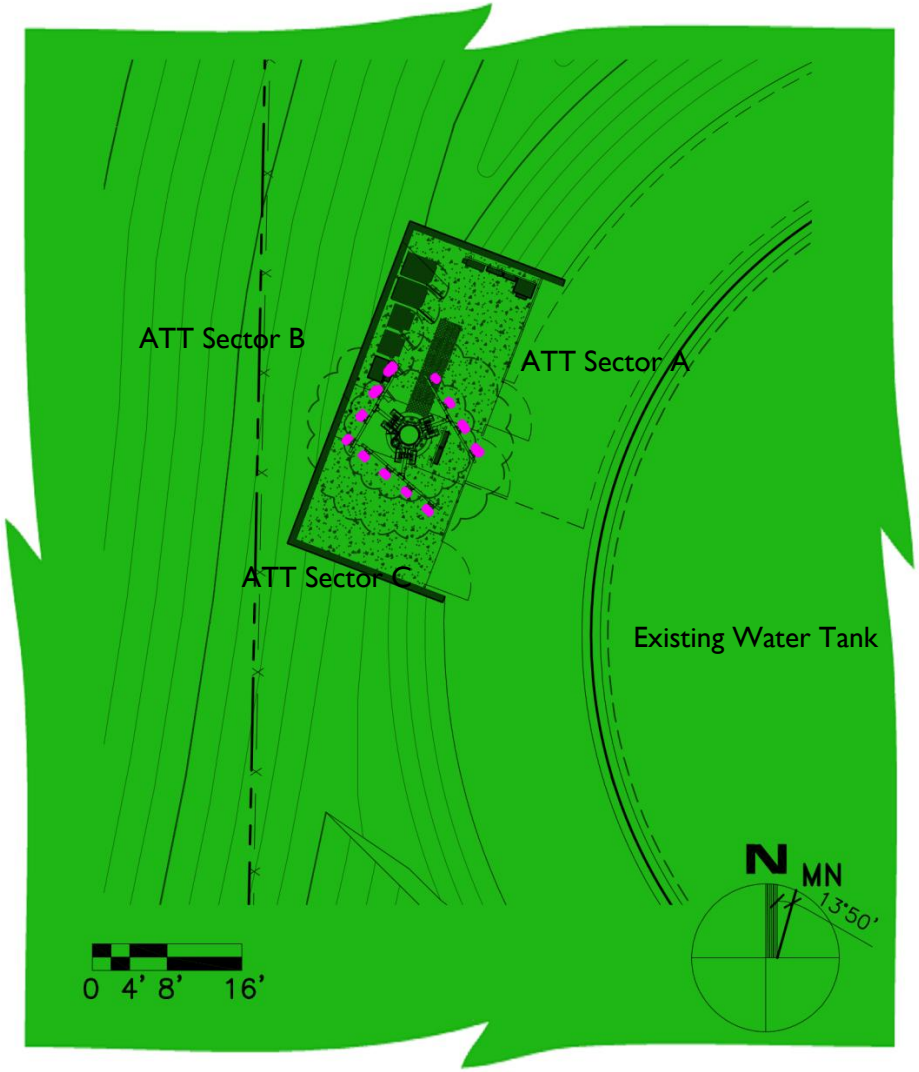
Sym	Map Marker	Roof X	Roof Y	Map Label	Description (notes for this table only)
Sym		5	35	AC Unit	Sample symbols
Sym		14	5	Roof Access	
Sym		45	5	AC Unit	
Sym		45	20	Ladder	

Appendix D

Roofview ® Graphics

% of FCC Public Exposure Limit

- **Exposure Level ≥ 5,000**
- **500 < Exposure Level ≤ 5000**
- **100 < Exposure Level ≤ 500**
- **Exposure Level ≤ 100**



*For Clarity, Other Carrier Antennas are Not Shown.

AT&T Antennas

Other Carrier Antennas

Figure 1.
Roofview: Composite Exposure Levels
Facility Operator: AT&T Mobility
Site Name: Harbor View Water Tank
AT&T Site Number: CCU0249
USID Number: 140310
Report Date: 08-30-13

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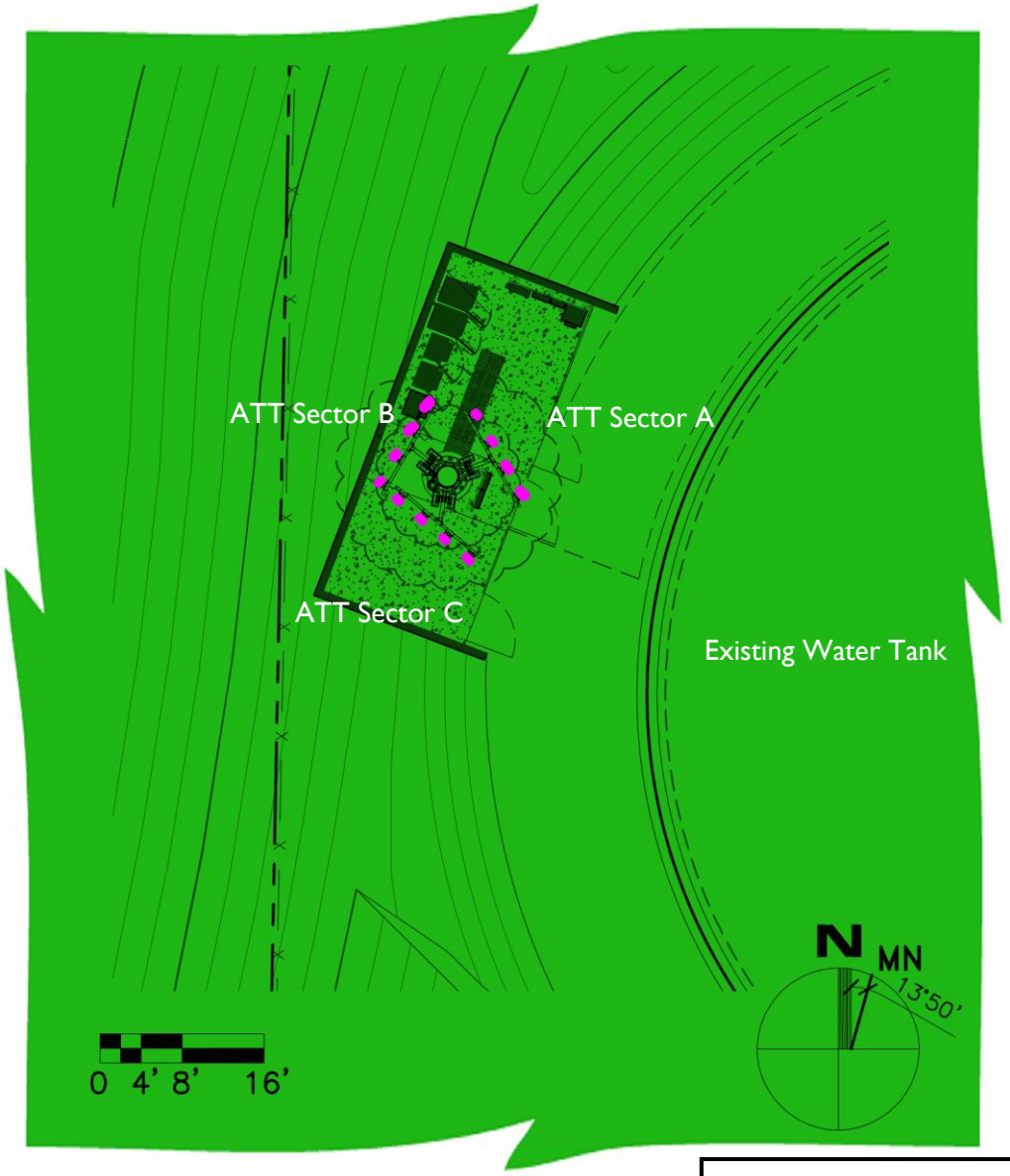
% of FCC Public Exposure Limit

- **Exposure Level >5**
- **Exposure Level ≤ 5**



*For Clarity, Other Carrier Antennas are Not Shown.

- **AT&T Antennas**
- **Other Carrier Antennas**

Note that the areas shown in brown are where AT&T antennas contribute more than 5% of the FCC's general exposure RF limit. These do not overlap any areas in front of other carrier antennas exceeding the FCC's general exposure RF limit because all other carriers' exposures are less than the FCC limits as shown in Figure 1. Under FCC regulations, AT&T is therefore not responsible for any predicted exceedances of another carrier's antennas.

Figure 2.
Roofview: AT&T Exposure Levels
Facility Operator: AT&T Mobility
Site Name: Harbor View Water Tank
AT&T Site Number: CCU0249
USID Number: 140310
Report Date: 08-30-13

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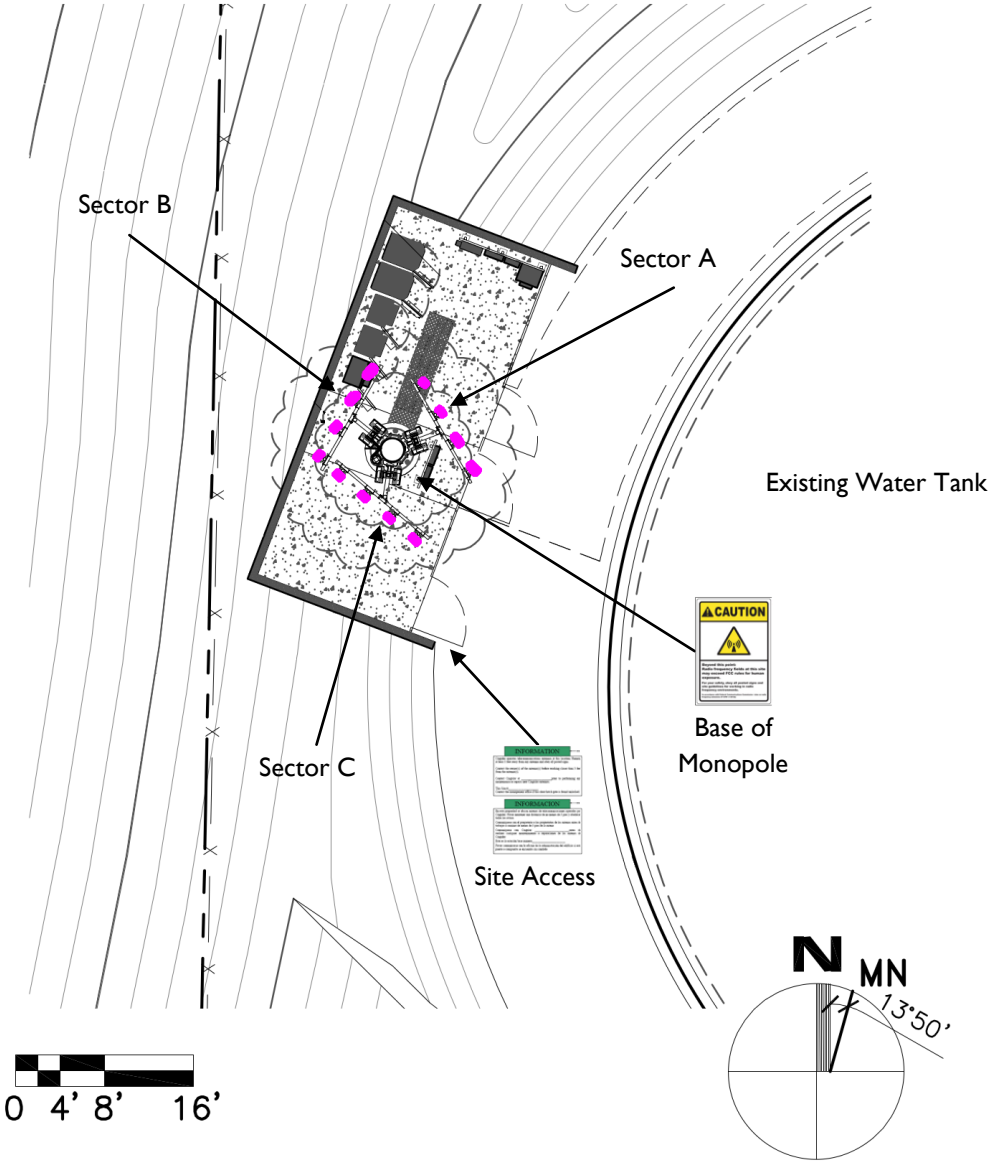
Appendix E

Compliance/Signage Plan

AT&T Antennas

Other Carrier Antennas

*For Clarity, Other Carrier Antennas are Not Shown.



Sign Identification Legend	
	Denotes AT&T Informational Sign 1
	Denotes AT&T Informational Sign 2
	Denotes AT&T Informational Sign 3
	Denotes AT&T Informational Sign 4
	Denotes AT& T NOTICE Sign
	Denotes AT&T CAUTION Sign
	Denotes AT&T WARNING Sign

Compliance/Signage Plan

Facility Operator: AT&T Mobility
Site Name: Harbor View Water Tank
AT&T Site Number: CCU0249
USID Number: 140310
Report Date: 08-30-13

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