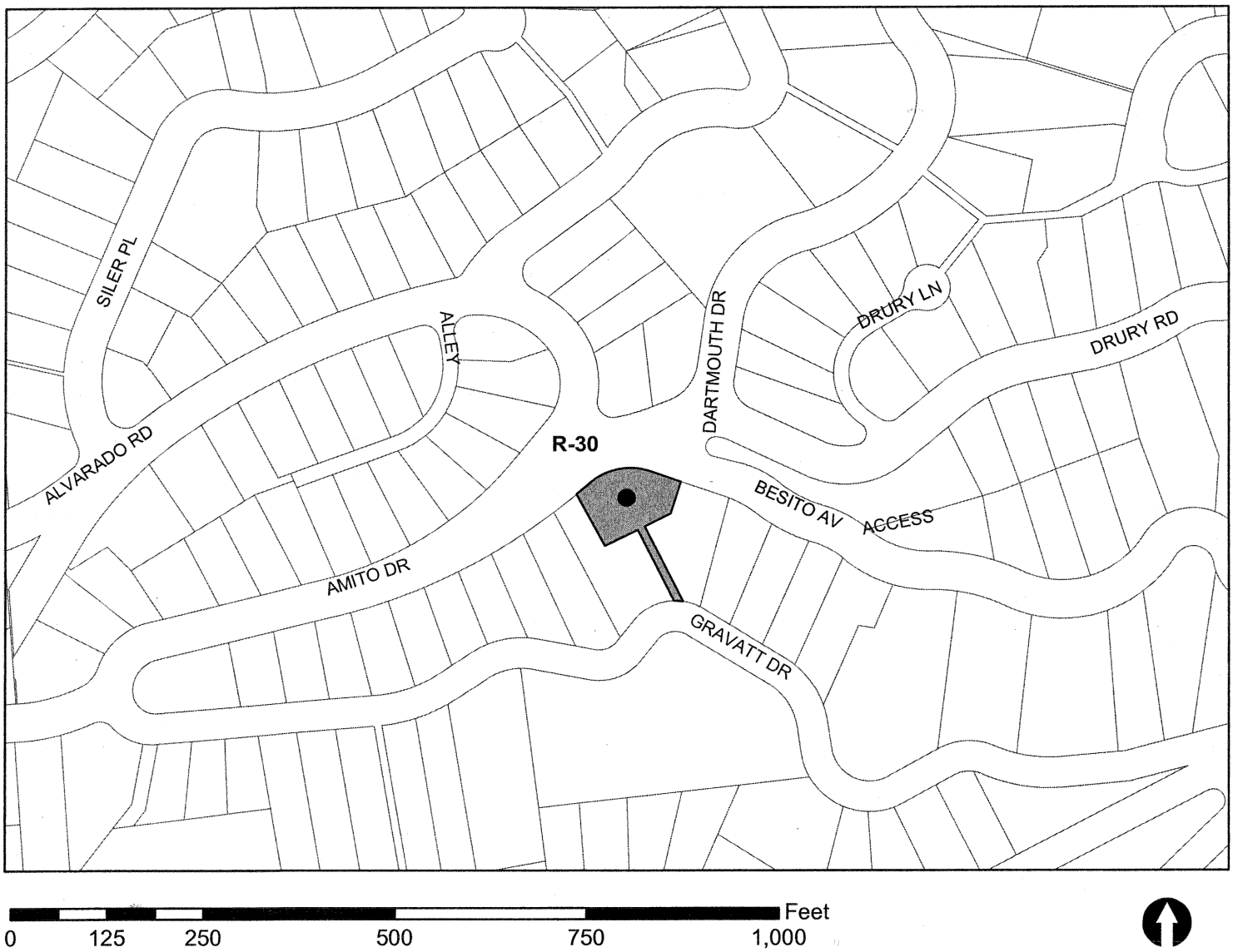
1.	**Location:**	**1076 Amito Avenue (APN: 048H-7612-016-00)**
	Proposal:	To install two 15-ft. high steel poles located approximate 25-ft. to the east and 60-ft to the northeast of an EBMUD water tank; one pole containing 1 concealed panel antenna and the other pole containing 2 panel antennas, and the installation of ground-mounted equipment cabinets located approximate 20-ft to the southeast of an existing utility building.
	Contact Person: **Phone Number:**	T-Mobile West Corporation, Steve Christenson (530) 368-0730
	Owner:	East Bay Municipal Utility District (EBMUD)
	Case File Number:	**CMD10-206**
	Planning Permits Required:	Major Conditional Use Permit to operate a Monopole Telecommunications facility in a residential zone; Regular Design Review to install a Telecommunications Facility
	General Plan:	Hillside Residential
	Zoning:	R-30 One-Family Residential Zone
	Environmental Determination:	Exempt, Section 15301(e) of the State CEQA Guidelines: Existing Facilities (additions to existing structures); Section 15183 of the State CEQA Guidelines: Projects consistent with a Community plan, General Plan or Zoning
	Historic Status:	None; Survey Rating: None
	Service Delivery District:	2
	City Council District:	1
	Date Filed:	July 26, 2010(revised plans submitted on 01/27/11)
	Action to be Taken:	Decision based on staff report
	Finality of Decision:	*Appealable to City Council within 10 calendar days*
	For Further Information:	Contact case Planner **Mike Rivera** at **(510) 238-6417,** or by email at mrivera@oaklandnet.com

PROJECT SUMMARY

The applicant proposes to install two 15-foot high monopole telecommunication facilities. One monopole will contain 1 concealed antenna panel and the other one will contain 2 antenna panels. The proposal also includes the installation of ground-mounted equipment cabinets within the EBMUD (East Bay Municipal Utility District) property located at the intersection of Amito Avenue and Drury Road in the Oakland Hills. This proposal is considered a Monopole Telecommunication Facility because it supports wireless communications antennas with a monopolar structure erected on the ground, terminating in one or more connecting appurtenances. The property is located on a downslope 0.48-acre parcel and is bounded to the north by Amito and Besito Avenues, and to the south by Gravatt Drive. The development proposal is located in the R-30 One-Family Residential Zone and in the Hillside Residential Use Classification of the General Plan. Per Section 17.134.020(A)(3)(i) of the Oakland Planning Code a Major Conditional Use Permit is required for a Telecommunications Facility located in a residential zone. The Planning Commission is the decision-making body for this proposed application. Staff recommends approval subject to the required findings **(See Attachment A)** and conditions of approval **(See Attachment B)**.

CITY OF OAKLAND PLANNING COMMISSION



Case File: CMD10-206
Applicant: T-Mobile West Corporation, Steve Christenson
Address: 1076 Amito Avenue
Zone: R-30

PROPERTY DESCRIPTION

The subject property is a 0.48-acre parcel owned by EBMUD, and it contains an operable 40 foot high water tank located to the northwest corner of the parcel and a small one-story maintenance building located to the northeast of the water tank. The water tank and the maintenance building were constructed in 1961. The downslope property has double street frontage along Amito Avenue (north) and Gravatt Drive (south). The property is surrounded by a 6-foot high chain-linked fence. The property is accessible from Amito Avenue through a locked gate door. The site contains a paved driveway that provides access for EBMUD personnel and maintenance vehicles. The site is also surrounded by a mix of shrubs and a cluster of large trees that are spread throughout the property and will be preserved. In front of the property and within the City right-of-way there is an existing steel power pole and a steel fire emergency pole with a horn installed by the City after the 1991 Oakland Hills Fire.

PROJECT DESCRIPTION

The proposed development is located at 1076 Amito Avenue in the north Oakland Hills. The applicant, T-Mobile proposes to install two 15 foot high steel monopoles with directional antenna panels to the northeast and east of the water tank including ground-mounted equipment cabinets located to the southeast of the existing maintenance building. Based on *revised* plans submitted on January 27, 2011 the location of the Monopoles is divided into two "Sectors". Sectors A and B will contain 2 directional antenna panels. Sector C will contain 1 concealed directional antenna panel. **(See Attachment A)**

On sheet A-2 of the proposed plans, Sectors: A and B located about 25 feet east of the water tank contains 2 directional antenna panels that will provide signals to the surrounding southwest, south and southeast residential properties. Sector: C located about 60 feet to the northeast of the water tank contains 1 directional antenna panel designed to provide signals to the upslope residential properties and to automobile travelers along Drury Road, Amito Avenue and Alvarado Road. The proposed antennas for Sectors A and B will be flush with the steel pole. The proposed antenna panel for Sector C will be screened by a radome (fiberglass enclosure) to conceal its visibility from public view. Both monopoles will be painted with earth-toned colors brown and green to camouflage with the surrounding terrain and vegetation.

The proposed development includes the installation of 3 equipment cabinets located to the southeast of the existing EBMUD maintenance building. The equipment cabinets mostly surrounded by vegetation will be located on an existing concrete pad and will include a new five foot high landscaped stack-block retaining wall. Two proposed ground-mounted cable trays that will house the conduits will also be installed between the monopoles and the equipment cabinets. The proposed development also includes photo simulation of the monopoles viewed from Amito Avenue and from the rear on Gravatt Road. **(See Attachment E)**

GENERAL PLAN ANALYSIS

The property is designated by the Oakland General Plan as a Hillside Residential area. The intent of the Hillside Residential designation is to create, maintain and enhance neighborhood residential areas that are characterized by detached, single unit structures on hillside parcels. The General Plan sets goals and objectives to minimize conflicts between residential and non-residential activities while providing opportunities for residents to live and work at the same location. The proposed telecommunication facility would enhance essential/basic services to the surrounding neighborhoods.

Objective N5 states:
"The mix of residential and non-residential activities in Oakland neighborhoods is one factor making these areas so dynamic and distinctive. This intermixing of activities is likely to continue as telecommunications and improved technology make living and working at the same location increasingly feasible and desirable..."

The proposal to operate a telecommunication facility provides services that are in character with the surrounding residential activities. Though the operation of wireless communication facility is a non-residential activity, the use of enhanced communication network such as voice, text, digital data networking and wireless computer connectivity provides personal and professional services. The proposal will serve the needs of surrounding residents as the need for quality wireless and internet use is in demand.

ZONING ANALYSIS

The property is located in the R-30 One-Family Residential Zone. The intent of the R-30 Zone is to create, preserve, and enhance areas for single-family dwellings in desirable settings for urban living found in lower density dwelling areas. The proposed development is located within a public utility facility owned and operated by EBMUD. The property contains an operable water tank and a maintenance building located near the top of the downslope property. The water tank storage facility was constructed around 1961 and provides water services to Oakland residents.

Sections 17.16.070 & 17.134.020(A)(3)(i) of the Planning Code, state that the proposal for a Telecommunication Facility (Monopole) in the R-30 Zone requires a Major Conditional Use Permit. Section 17.10.900 of the Planning Code for Telecommunication facility states that a Monopole Facility is a wireless communication facility that supports wireless communications antennas with a monopolar structure erected on the ground. The proposed development is to install two 15 foot high steel monopoles with a total of 3 directional antenna panels. The purpose of the Major Conditional Use Permit is to analyze the operating characteristics and the potential adverse effects of the proposal on the surrounding areas.

Section 17.136.040 of the Planning Code, states that a development proposal for a Telecommunication Monopole Facility requires Regular Design Review. The purpose for Design Review is to analyze projects that require special design treatment and consideration of relationships to the physical surroundings. The criteria for Conditional Use Permit and Regular Design Review require the making of specific findings for supporting the project. Staff has analyzed the required findings and can justify approval of the proposed Telecommunication Facility proposal.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as categorical exemptions from environmental review. The development proposal is categorically exempt from the environmental review requirements pursuant to Section 15301(e) for additions to existing structures and Section 15183 for projects consistent with a Community Plan, General Plan or Zoning.

KEY ISSUES AND IMPACTS

1. Conditional Use Permit and Regular Design Review Findings

Section 17.134.020(A)(3)(i) of the Oakland Planning Code states that the operation of a Telecommunication Facility (Monopoles) within a residential zone area requires a Major Conditional

Use Permit. To make the required findings, the development proposal is subject to the General Use Permit Criteria found in Sections 17.134.050 and 17.128.080(C). In addition, the proposal is subject to the Regular Design Review Criteria found in Sections 17.136.040 (A)(10) and 17.136.050 (B) including the specific Design Review Criteria for Monopole Facilities found in Section 17.128.080(B). Staff will evaluate these required findings within the body of this report.
(See Attachment A)

2. Site Location Preferences

Section 17.128.110 of the Telecommunication Regulations states that new wireless facilities shall generally be located on the following properties or facilities in order of preference:

A. Collocated on an existing structure or facility with existing wireless antennas.
B. City owned properties or other public or quasi-public facilities.
C. Existing commercial or industrial structures in non-residential zones.
D. Existing commercial or industrial structures in residential zones
E. Other non-residential uses in residential zones.
F. Residential uses in non-residential zones.
G. Residential uses in residential zones.

This regulation states that wireless facility proposals locating on an A, B or C ranked preference, do not require a site alternative analysis. Staff finds that the proposed development fits with the second site location preference (B) for locating the 2 proposed Monopoles with antenna panels within the grounds of the public facility (EBMUD). See site plan, sheets A-1 and A-2. Staff finds that the two 15 foot high steel Monopoles carrying a total of 3 directional antenna panels and ground-mounted equipment cabinets are adequately distanced from each other to minimize their visibility from public view. The location of the proposed telecommunication facilities relatively relate to the site as the property is also used as a public utility facility. Therefore, a site alternative analysis will not be required.

3. Site Design Preferences

Section 17.128.120 of the Telecommunication Regulations states that new wireless facilities shall generally be designed in the following order of preference:

A. Building or structure mounted antennas concealed from view.
B. Building or structure mounted antennas set back from roof edge, not visible from public right-of-way.
C. Building or structure mounted antennas below roof line (façade mount, pole mount) visible from public right-of-way, painted to match existing structure.
D. Building or structure mounted antennas above roof line visible from public right-of-way.
E. Monopoles.
F. Towers.

This regulation states that facilities designed to meet A or B ranked preference, do not require a site design alternative analysis. Facilities designed to meet C through F ranked preference, inclusive, must submit a site design alternative analysis. A site design alternative analysis should consist minimum written evidence indicating why each higher preference design alternative can not be used. The

written evidence should indicate if the reason an alternative site was rejected due to technical or other structural impediments.

Staff concurs with the applicant and finds that the installation of the proposed telecommunication facilities fit with the Site Design Preference (E). The applicant states that the 2 proposed Monopole facilities with antenna panels provide a better site design preference than preferences A to D. Furthermore, the applicant indicates that the proposed directional antenna panels and related equipment cabinets can not be mounted on the existing water tank facility because EBMUD engineers believe that these telecom structures could physically impact the stability of the water tank. The other alternative is to mount the antennas on the existing 8 foot high maintenance building, but it is not feasible because the building is located on a lower finished grade and it is surrounded by the water tank and large trees that will block the needed wireless coverage in the immediate residential area.

One issue that staff needs to point out is that the original proposed plans submitted to the City on July 26, 2010, had previously requested 3 steel Monopoles measuring 15 feet, 17 feet and 25 feet high. Each of the Monopoles contained 2 directional antenna panels, totaling 6 antenna panels. Two of the Monopoles were located within EBMUD's property and their locations and design were more intrusive and unappealing from public view. The other 25 foot high Monopole was located in front of the property and within the City's right-of-way. At that time, staff recommended the applicant to consider revising the application by relocating the Monopoles on the downslope and near the center of the property and closer to the large trees to minimize their visibility from public view.

Overall, staff finds that the revised development proposal to install two Monopoles with directional antennas panels will not be significantly intrusive from public view because the front Monopole is located about 25 feet from Amito Avenue, and the rear Monopole is located about 140 feet from Gravatt Road. The antennas will be concealed by a radome (fiberglass enclosure), and will be painted to blend in with the natural terrain and surrounding vegetation.

4. Radio Frequency Emissions Standards

Planning Code Section 17.128.130 of the Telecommunications Regulations, requires the applicant to submit the following verifications:

A. With the initial application submittal, a Radio Frequency (RF) emissions report shall be prepared by a licensed professional engineer or other expert, indicating that the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to established such standards.
B. Prior to commencement of construction, a RF emissions report indicating the baseline RF emissions condition at the proposed site.
C. Prior to final building permit sign off, an RF emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.

The proposal includes a *revised* Radio Frequency (RF) Emissions report prepared by Hammett & Edison, Inc., dated December 15, 2010. **(See Attachment D)** The project engineer, William F. Hammett, evaluated the project and determined that the proposal to operate 3 directional antenna panels will comply with the set standards for limiting public exposure to radio frequency energy and will not cause significant impacts on the environment. In order to confirm that the applicant meets the standards of Section 17.128.130 of the Planning Code, staff recommends a condition of approval that requires the applicant to submit a final Radio Frequency emissions report prior to the issuance of a final building

permit stating that the facility is operating within the acceptable thresholds as established by the Federal Communication Commission. **(See Conditions of Approval # 16)**

CONCLUSION

The proposal to operate 3 wireless antenna panels mounted on two 15 foot high steel Monopoles within the EBMUD property is a compatible use to the area because it creates access to telecommunication services and internet use to the general public, without creating impacts to the environment. Staff finds the installation of the new antennas will not create a significant impact to the site because the height of the antennas is moderate, and the site of the antennas are distanced from the property lines and public roads. Also, the proposed design helps to blend in with the backdrop of the hillside thus making them less conspicuous from public view. The proposal also complies with the regulations set by the Federal Communication Commission. Therefore, staff determines the application meets the required findings for Conditional Use Permit and Design Review **(See Attachment A)**, and recommends approval of the application to the Planning Commission subject to the Conditions of Approval **(See Attachment B)**.

RECOMMENDATIONS

1. Affirm staff's environmental determination.

2. Approve Major Conditional Use Permit and Regular Design Review application CMD10-206 subject to the attached Findings and Conditions of Approval.

Prepared by:

Mike Rivera
Planner II

Approved by:

Scott Miller
Zoning Manager

Approved for forwarding to the
City Planning Commission:

Eric Angstadt, Deputy Director
Community & Economic Development Agency

ATTACHMENTS

A. Project Findings
B. Project Conditions of Approval
C. Revised Design Plans, submitted on January 27, 2011
D. Revised Radio Frequency Emissions Report, submitted on December 16, 2010
E. Revised Photo Simulations, submitted on January 27, 2011
F. Letter of support from Mr. Howard Matis, dated received January 31, 2011

ATTACHMENT A

Findings for Approval

The findings required granting your application for Major Conditional Use Permit and Design Review found in Sections 17.134.050, 17.128.070(C), 17.136.050(B), 17.128.070(B) and 17.136.050(D) of the Oakland Zoning Regulations, and the reasons your proposal satisfy these findings, are as follows:

SECTION 17.134.050 –CONDITIONAL USE PERMIT FINDINGS

A. That the location, size, design, and operating characteristics of the proposed development will be compatible with, and will not adversely affect, the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development.

The proposed development to operate a Monopole Telecommunication Facility within the East Bay Municipal District (EBMUD) property will be compatible to the site, and will not adversely affect the development pattern within the residential neighborhood. The Monopoles are distant from nearby residences and from street view. The size and design of the two 15-foot high steel monopoles with flush-mounted antenna panels are in scale and aesthetically relate to the nearby water tank and mature landscaping. The applicant proposes to paint in green color the monopole and radome in Sector C, and paint in beige color the monopole and antenna panels in Sectors A and B. To make the design of the monopoles more consistent, staff recommends a condition of approval that the monopole and antenna panels for Sectors A and B be painted in a muted green color to match the other monopole so that it blends in with the natural colors of the hillside setting. (See Condition of Approval # 17)

B. That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant.

The location, design and site planning of the proposed project provide a convenient and functional living and working environment to the surrounding hillside neighborhood. The wireless antennas will improve voice, wireless computer connectivity, text, and digital data networking to the general public. The size and design of the antennas will blend in with the hillside setting because of the large trees, water tank and the maintenance building that will help to screen the antennas from public view.

C. That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region.

The proposed development will provide and improve wireless communications services to the surrounding hillside areas. The proposal will improve coverage and create quality internet access to surrounding residents and will also provide coverage to automobile traffic along Alvarado Drive, Amito Avenue, and Drury Lane including emergency rescue officials.

D. That the proposal conforms with all applicable Regular Design Review criteria set forth in Section 17.136.050 of the Oakland Planning Code.

The proposal conforms to the design review findings in section 17.136.050 (B) for non-residential facilities. See design review findings listed below.

E. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable plan or development control map which has been adopted by the City Council.

The property is designated by the Oakland General Plan as a Hillside Residential area. The intent of the Hillside Residential designation is to create, maintain and enhance neighborhood residential areas that are characterized by detached, single unit structures on hillside parcels. Staff finds that the proposed development conforms with the policies of the General Plan because the operation of the telecommunications facility would serve the needs of the general public. The development is compatible with the hillside setting and with the water tank. The antennas are designed to be less conspicuous from public view.

SECTION 17.128.080(C)-CONDITIONAL USE PERMIT CRITERIA FOR MONOPOLES

1. The project must meet the special design review criteria listed in subsection B of this section.

The development proposal conforms to the design review criteria for Monopoles as described in section 17.128.080 (B). See design review findings listed below.

2. Monopoles should not be located any closer than one thousand five hundred (1,500) feet from existing monopoles unless technologically required or visually preferable.

Based on available city records, the proposed development for the installation of two 15 foot high steel monopoles containing a total of 3 directional antenna panels is the only proposed telecommunication facility located within the 1,500 feet from the subject site.

3. The proposed project must not disrupt the overall community character.

The proposed development will not disrupt the characteristics of the neighborhood. The single antenna panel (Sector C) which is screened by a circular radome will not be visible from public view. The other double antenna panels (Sectors A & B) mounted on the single monopole is located near the center of the downslope property. These two antenna panels located near the cluster of large trees are flush-mounted to the monopole and will be painted in a muted green to reduce its visibility from the distant Gravatt Drive. (See Condition of Approval #17)

4. If a major conditional use permit is required, the Planning Director or the Planning Commission may request independent expert review regarding site location, collocation and facility configuration. Any party may request that the Planning Commission consider making such request for independent expert review.

By the time this report was completed, neither the Planning Director nor the Planning Commission has requested an independent review regarding site location, collocation and facility configuration.

FINDINGS

SECTION 17.128.080 (B)–DESIGN REVIEW CRITERIA FOR MONOPOLE FACILITIES

1. Collocation is to be encouraged when it will decrease visual impact and collocation is to be discouraged when it will increase negative visual impact.

   The proposed development cannot be collocated with the existing water tank or maintenance building because of strict technical restrictions due to the sensitivity of the water tank structure. Also, the proposed development can not be collocated with the 8 foot high maintenance building because of lack of clear sight that is needed to transmit wireless signals. The site does not have any active Telecommunication Facilities that the proposed antenna panels can be collocated.

2. Monopoles should not be sited to create visual clutter or negatively affect specific views.

   The proposed development will not create a visual clutter or negatively affect specific views because the two monopoles are located on a downslope terrain and are surrounded by large trees. The monopoles will also be painted in green to blend in with the backdrop of the hillside. The proposed development will not affect specific views because the 15 foot high monopoles are located on a downslope and are adequately distant from the uphill neighboring properties.

3. Monopoles shall be screened from the public view wherever possible.

   Although the proposed monopoles can not be completely screened from public view, the two 15-foot high monopoles will be surrounded by large trees and will be painted in green to minimize its visibility from public view.

4. The equipment shelter or cabinet must be concealed from public view or made compatible with the architecture of the surrounding structures or placed underground. The shelter or cabinet must be regularly maintained.

   The three proposed equipment cabinets will be located on an existing concrete pad located near the center of the downslope property. The equipment cabinets will be screened by the existing cluster of large vegetation. Therefore, the equipment cabinets will be concealed from public view.

5. Site location and development shall preserve the preexisting character of the surrounding buildings and land uses and the zone district as much as possible. Wireless communication towers shall be integrated through location and design to blend in with the existing characteristics of the site to the extent practical. Existing on-site vegetation shall be preserved or improved, and disturbance of the existing topography shall be minimized, unless such disturbance would result in less visual impact of the site to the surrounding area.

   The location of the two proposed monopoles will preserve the character of the surrounding residential buildings. The proposal does not include any changes to the land uses and zoning district. The proposed development does not require the removal of any protected trees or require any significant grading.

6. That all reasonable means of reducing public access to the antennas and equipment has been made, including, but not limited to, placement in or on buildings or structures, fencing, anti-climbing measures and anti-tampering devices.

The development proposal will not be accessible to the general public because the property is secure by a locked gate and the site is surrounded by a 6 foot high chain-link fence.

SECTION 17.136.050 (B)–DESIGN REVIEW FINDINGS FOR NON-RESIDENTIAL FACILITIES

1. That the proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered, except as otherwise provided in Section 17.136.060.

   The proposed development includes two 15 foot high steel monopoles that are quite distant from each other. One of the monopoles (Sectors: A & B) is located to the rear of the downslope parcel and near the water tank. The other monopole (Sector C) is located near the top of the hillside and is surrounded by a cluster of large trees and shrubs. One of the monopoles (Sector C) will contain a radome (fiberglass enclosure) to screen the single antenna panel. The other monopole will have two flush-mounted antenna panels. Both monopoles will be painted in green to blend in with the natural hillside setting, and minimize their visibility from public view

2. That the proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area.

   The two proposed monopoles with mounted antenna panels will be of a quality and character because they are relatively small and are painted in green to blend in with the hillside setting. The proposed design protects the neighborhood context because one of the antennas is concealed and the other two are flush-mounted that would not significantly create a visual impact.

3. That the proposed design conforms in all significant respects with the Oakland General Plan and with any applicable design review guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.

   The proposal conforms with the Oakland General Plan Objectives and Policies including the Conditional Use Permit Findings 17.134.050 & 17.128.080(C), and Design Review Findings 17.128.080(B) and 17.136.050(B) found within this report.

ATTACHMENT B

Conditions of approval

1. **Approved Use**

Ongoing

a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials, and the *revised* design review plans dated **January 19, 2011** and submitted to the City on **January 27, 2011**, and as amended by the following conditions. Any additional uses or facilities other than those approved with this permit, as described in the project description and the approved plans, will require a separate application and approval. Any deviation from the approved drawings, Conditions of Approval or use shall required prior written approval from the Director of City Planning or designee.

b) This action by the **Planning Commission** ("this Approval") includes the approvals set forth below. This Approval includes the installation of two 15 foot high steel monopoles containing a total of 3 antenna panels including three ground-mounted equipment cabinets located within the EBMUD property at 1076 Amito Avenue in the Oakland Hills.

2. **Effective Date, Expiration, Extensions and Extinguishment**

Ongoing

Unless a different termination date is prescribed, this Approval shall expire **two (2) years** from the approval date, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this permit, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit for this project may invalidate this Approval if the said extension period has also expired.

3. **Scope of This Approval; Major and Minor Changes**

Ongoing

The project is approved pursuant to the **Planning Code** only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

4. **Conformance with other Requirements**

Prior to issuance of a demolition, grading, P-job, or other construction related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval #3.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department

access, elevated walking pathways, safety railings, emergency lighting and vegetation management for preventing fires.

5. **Conformance to Approved Plans; Modification of Conditions or Revocation**
   Ongoing
   a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

   b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.

   c) Violation of any term, **conditions of approval** or **project description** relating to the Approvals is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approvals or alter these **conditions of approval** if it is found that there is violation of any of the **conditions of approval** or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Conditions of Approval.

6. **Signed Copy of the Conditions of Approval**
   With submittal of a demolition, grading, and building permit
   A copy of the approval letter and **Conditions of Approval** shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

7. **Indemnification**
   Ongoing
   a. To the maximum extent permitted by law, the applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the City of Oakland Redevelopment Agency, the Oakland City Planning Commission and its respective agents, officers, and employees (hereafter collectively called City) from any liability, damages, claim, judgment, loss (direct or indirect)action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul, (1) an approval by the City relating to a development-related application or subdivision or (2) implementation of an approved development-related project. The City may elect, in its sole discretion, to participate in the defense of said Action and the applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.
   b. Within ten (10) calendar days of the filing of any Action as specified in subsection A above, the applicant shall execute a Letter Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Letter of Agreement shall survive termination, extinguishment or invalidation of the approval. Failure to timely execute the Letter Agreement does not relieve the applicant of any of the obligations

contained in this condition or other requirements or conditions of approval that may be imposed by the City.

8. **Compliance with Conditions of Approval**
Ongoing
The project applicant shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the Conditions of Approval set forth below at its sole cost and expense, and subject to review and approval of the City of Oakland.

9. **Severability**
Ongoing
Approval of the project would not have been granted but for the applicability and validity of each and every one of the specified **conditions of approval**, and if one or more of such **conditions of approval** is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid **conditions of approval** consistent with achieving the same purpose and intent of such Approval.

10. **Job Site Plans**
Ongoing throughout demolition, grading, and/or construction
At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review by City officials and project developer at the job site at all times.

11. **Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management**
Prior to issuance of a demolition, grading, and/or construction permit
The project applicant may be required to pay for on-call third-party special inspector(s)/inspections as needed during the times of extensive or specialized plancheck review or construction. The project applicant may also be required to cover the full costs of independent technical review and other types of peer review, monitoring and inspection, including without limitation, third party plan check fees, including inspections of violations of Conditions of Approval. The project applicant shall establish a deposit with the Building Services Division, as directed by the Building Official, Director of City Planning or designee.

12. **Landscape Maintenance.**
Ongoing
All existing landscaping shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements.

13. **Operational Noise-General**
Ongoing.
Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

14. **Lighting Plan**
Prior to the issuance of an electrical or building permit
The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

15. **Tree Removal Permit**
Prior to issuance of a demolition, grading, or building permit
Prior to removal of any protected trees, per the Protected Tree Ordinance, located on the project site or in the public right-of-way adjacent to the project, the project applicant must secure a tree removal permit from the Tree Division of the Public Works Agency, and abide by the conditions of that permit.

SPECIFIC PROJECT CONDITIONS

16. **Emissions Report**
Prior to final inspection
The applicant shall provide an RF emissions report to the City of Oakland Zoning Division indicating that the site is actually operating within the acceptable thresholds as established by the regulatory Federal government or any such agency that may be subsequently authorized to establish such standards.

17. **Monopole Colors**
Prior to issuance of a building permit
The applicant shall revise the plans and paint the Monopole and antenna panels located in Sectors A, B and C with a muted green color.

18. **Sinking Fund for Facility Removal or Abandonment.**
Prior to issuance of a building permit.
The applicant shall provide proof of the establishment of a sinking fund to cover the cost of removing the facility if it is abandoned within a prescribed period. The word "abandoned" shall mean a facility that has not been operational for a six (6) month period, except where nonoperation is the result of maintenance of renovation activity pursuant to valid City permits. The sinking fund shall be established to cover a two-year period, at a financial institution approved by the City's Office of Budget and Finance. The sinking fund payment shall be determined by the Office of Budget and Finance and shall be adequate to defray expenses associated with the removal of the telecommunication facility.

19. **Encroachment Permits**
Prior to issuance of a demolition, grading or building permit
The applicant shall obtain any encroachment permits, waiver of damages or other approvals required by the Building Services Division, for any privately constructed public improvements, or any permanent or temporary elements located in the public right of way. This shall include telecommunication equipment, overhead wires, underground trenching, etc.

APPROVED BY:

City Planning Commission:_____(date)_____(vote)

T-MOBILE WEST CORPORATION

T-Mobile®

1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

EBMUD AMITO RESERVOIR

BA52641

REVISED PLANS

RECEIVED
JAN 27 2011
City of Oakland
Planning & Zoning Division

CMD10-286

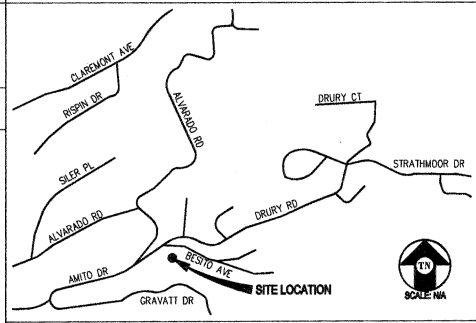
PROJECT DESCRIPTION

A (P) UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF A (P) LEASE AREA W/ (3) (P) COMMUNICATION EQUIPMENT CABINETS & ADDING (2) (P) POLE STRUCTURES TO MOUNT (3) (P) ANTENNAS.

PROJECT INFORMATION

SITE NAME:	EBMUD AMITO RESERVOIR	SITE #:	BA52641
COUNTY:	ALAMEDA	JURISDICTION:	CITY OF BERKELEY
APN:	048H-7612-016	POWER:	PG&E
SITE ADDRESS:	1076 AMITO DR BERKELEY, CA 94705	TELEPHONE:	AT&T
CURRENT ZONING:	R-30		
CONSTRUCTION TYPE:	II		
OCCUPANCY TYPE:	U		
PROPERTY OWNER:	ATTN: STEVE BOERI (510) 287-1248 EBMUD 375 11TH ST OAKLAND, CA 94623		
APPLICANT:	T-MOBILE 1855 GATEWAY BLVD 9TH FLOOR CONCORD, CA 94520-3200		
LEASING CONTACT:	ATTN: STEVE CHRISTENSON ERICSSON 6160 STONERIDGE MALL RD STE 400 PLEASANTON, CA 94588 (530) 368-0737		
ZONING CONTACT:	ATTN: STEVE CHRISTENSON ERICSSON 6160 STONERIDGE MALL RD STE 400 PLEASANTON, CA 94588 (530) 368-0730		
CONSTRUCTION CONTACT:	ATTN: RICH CONTE ERICSSON 6160 STONERIDGE MALL RD STE 400 PLEASANTON, CA 94588 (808) 781-8571		
LATITUDE: LONGITUDE:	N 37° 51' 34.199" NAD 83 W 122° 13' 51.59" NAD 83		
AMSL:	±344.62'		

VICINITY MAP



DRIVING DIRECTIONS

FROM: 1855 GATEWAY BLVD, CONCORD, CA 94520-3200
TO: 1076 AMITO DR BERKELEY, CA 94705

1. HEAD SOUTHEAST ON GATEWAY BLVD	230 FT
2. TURN RIGHT TOWARD CLAYTON RD	112 FT
3. TURN RIGHT AT CLAYTON RD	0.2 MI
4. TAKE THE RAMP ONTO CA-242 S	1.3 MI
5. MERGE ONTO I-680 S	3.2 MI
6. TAKE THE EXIT ONTO CA-24 W TOWARD OAKLAND/LAFAYETTE	9.1 MI
7. TAKE THE FISH RANCH RD EXIT	0.4 MI
8. TURN RIGHT AT FISH RANCH RD	0.7 MI
9. CONTINUE ON CLAREMONT AVE	1.1 MI
10. SHARP LEFT AT ALVARADO RD	0.4 MI
11. TURN LEFT AT AMITO DR	262 FT

END AT: 1076 AMITO DR BERKELEY, CA 94705

ESTIMATED TIME: 22 MINUTES ESTIMATED DISTANCE: 16.6 MILES

CODE COMPLIANCE

ALL WORK & MATERIALS SHALL BE PERFORMED & INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

1. 2007 CALIFORNIA ADMINISTRATIVE CODE (INCL. TITLES 24 & 25)
2. 2007 CALIFORNIA BUILDING CODE
3. 2007 CALIFORNIA ELECTRICAL CODE
4. 2007 CALIFORNIA MECHANICAL CODE
5. 2007 CALIFORNIA PLUMBING CODE
6. 2007 CALIFORNIA FIRE CODE
7. LOCAL BUILDING CODES
8. CITY/COUNTY ORDINANCES
9. ANSI/EIA-TIA-222-G

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS

HANDICAP REQUIREMENTS

THIS FACILITY IS UNMANNED & NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS & REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA STATE ADMINISTRATIVE CODE, TITLE 24 PART 2, SECTION 1105B.3.4.2, EXCEPTION 1

SHEET INDEX

SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	–
LS-1	SURVEY	–
A-1	SITE PLAN	–
A-2	ENLARGED SITE PLAN	–
A-3	EQUIPMENT, ANTENNA PLANS, & DETAILS	–
A-4	ELEVATIONS	–

APPROVAL

RF

LEASING

ZONING

CONSTRUCTION

T-MOBILE

EBMUD
AMITO
RESERVOIR

BA52641
1076 AMITO DR
BERKELEY, CA 94705

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	07-03-09	ZD 90%	–
	07-27-09	ZD 100%	–
	07-22-10	CLIENT REV	–
	08-16-10	CLIENT REV	C.S.
	10-05-10	CLIENT REV	K.S.
	01-19-11	CLIENT REV	G.T.

DRAWN BY: C. SYLVESTER
CHECKED BY: L. HOUGHTBY
APPROVED BY: –
DATE: 01/19/11

Streamline Engineering and Design Inc.
3268 Pearson Rd, Suite 200 Loomis, CA 95650
Contact: Larry Houghtby, Phone: 916-276-4160
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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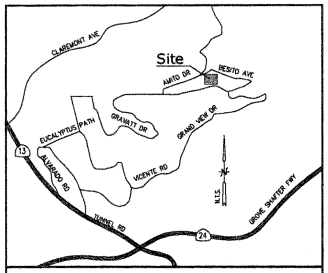
T-MOBILE WEST CORPORATION
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:
TITLE

SHEET NUMBER:
T-1

ATTACHMENT C



Vicinity Map

Title Report

THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE REPORT.
PREPARED BY:
ORDER NO.:
DATED:

Legal Description

LOTS 12 AND 13 OF CLAREMONT KNOLLS, IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA, STATE OF CALIFORNIA, FILED IN BOOK 4, PAGE 87, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

Assessor's Parcel Nos.

48H-7612-16, 48H-7612-17

Easements

NOT AVAILABLE

Access Easement/Lease Area

TO BE DETERMINED

Geographic Coordinates

TO BE DETERMINED

CERTIFICATION:
THE LATITUDE AND LONGITUDE SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 15 FEET HORIZONTALLY AND THAT THE ELEVATIONS SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 3 FEET VERTICALLY. THE HORIZONTAL DATUM (GEOGRAPHIC COORDINATES) IS IN TERMS OF THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND IS EXPRESSED IN DEGREES (°), MINUTES (') AND SECONDS ("), TO THE NEAREST HUNDREDTH OF A SECOND. THE VERTICAL DATUM (ELEVATIONS) IS IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND IS DETERMINED TO THE NEAREST TENTH OF A FOOT.

Basis of Bearings

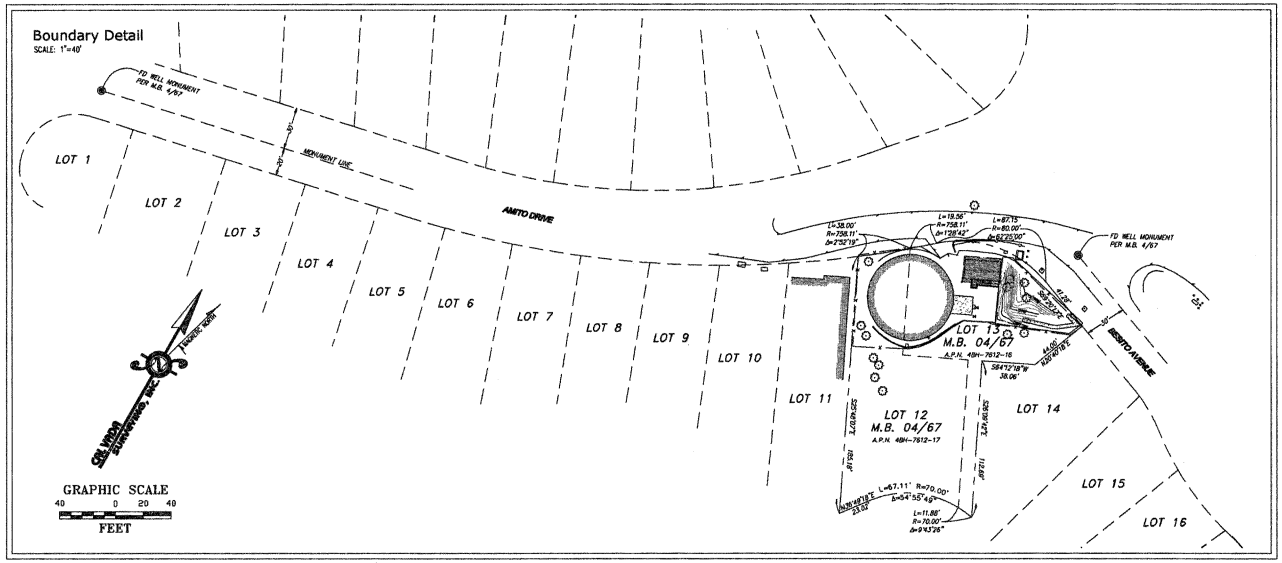
THE STATE PLANE COORDINATE SYSTEM OF 1983 (NAD 83), CALIFORNIA ZONE 3.

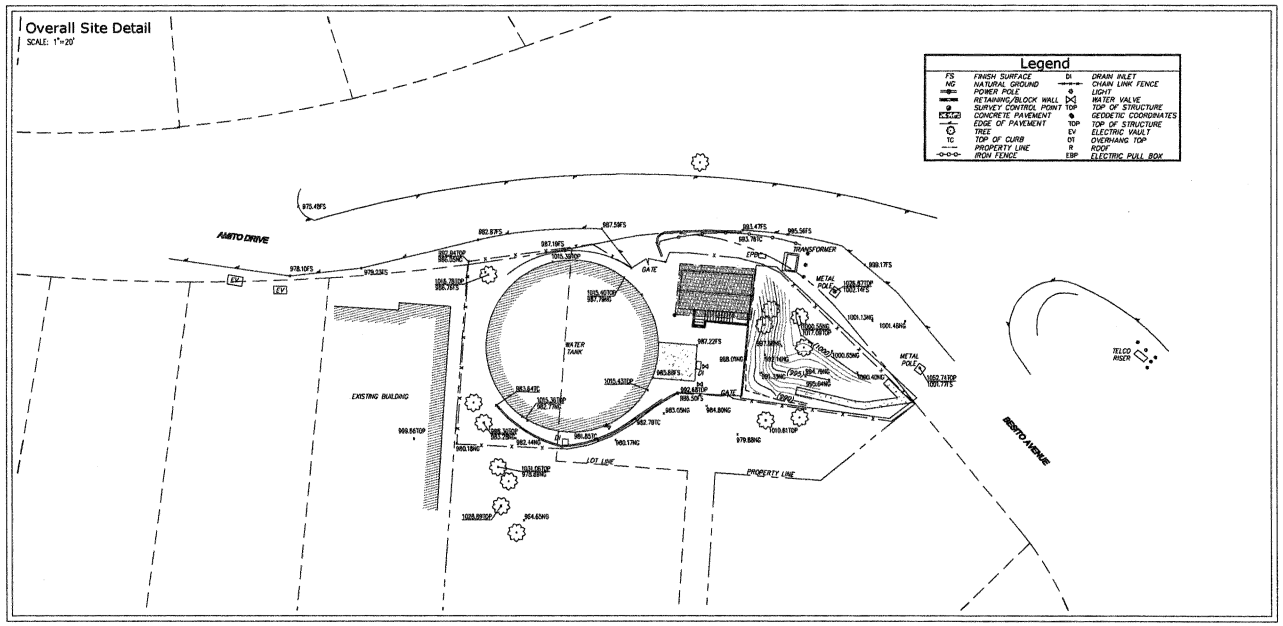
Bench Mark

THE CALIFORNIA SPATIAL REFERENCE C.O.R.S "P181", ELEVATION = 344.62 FEET (NAVD 88).

Date of Survey

JUNE 08, 2009





T · ·Mobile·
Stick Together®
1755 CREEKSIDE OAKS, SUITE 190
SACRAMENTO, CA 95833

PLANS PREPARED BY:

Streamline Engineering and Design, Inc.
11766 Atwood Rd, Suite 20 Auburn, CA 95603
Contact: Larry Houghiby Phone: 916-375-4180
E-Mail: larry@streamlineeng.com Fax: 530-823-8783

CONSULTANT:

CALVADA SURVEYING, INC.
411 Jenks Cir., Suite 205, Corona, CA 92880
Phone: 951-280-9960 Fax: 951-280-9746
Toll Free: 800-CALVADA www.calvada.com
JOB NO. 00542

NO.	DATE:	DESCRIPTION:	BY:
	06/10/09	PRELIMINARY	GBM

SITE INFORMATION:

BA52641

EBMUD-Amito Reservoir

1076 Amito Dr.
Oakland, Ca, 94705
Alameda County

SEAL:

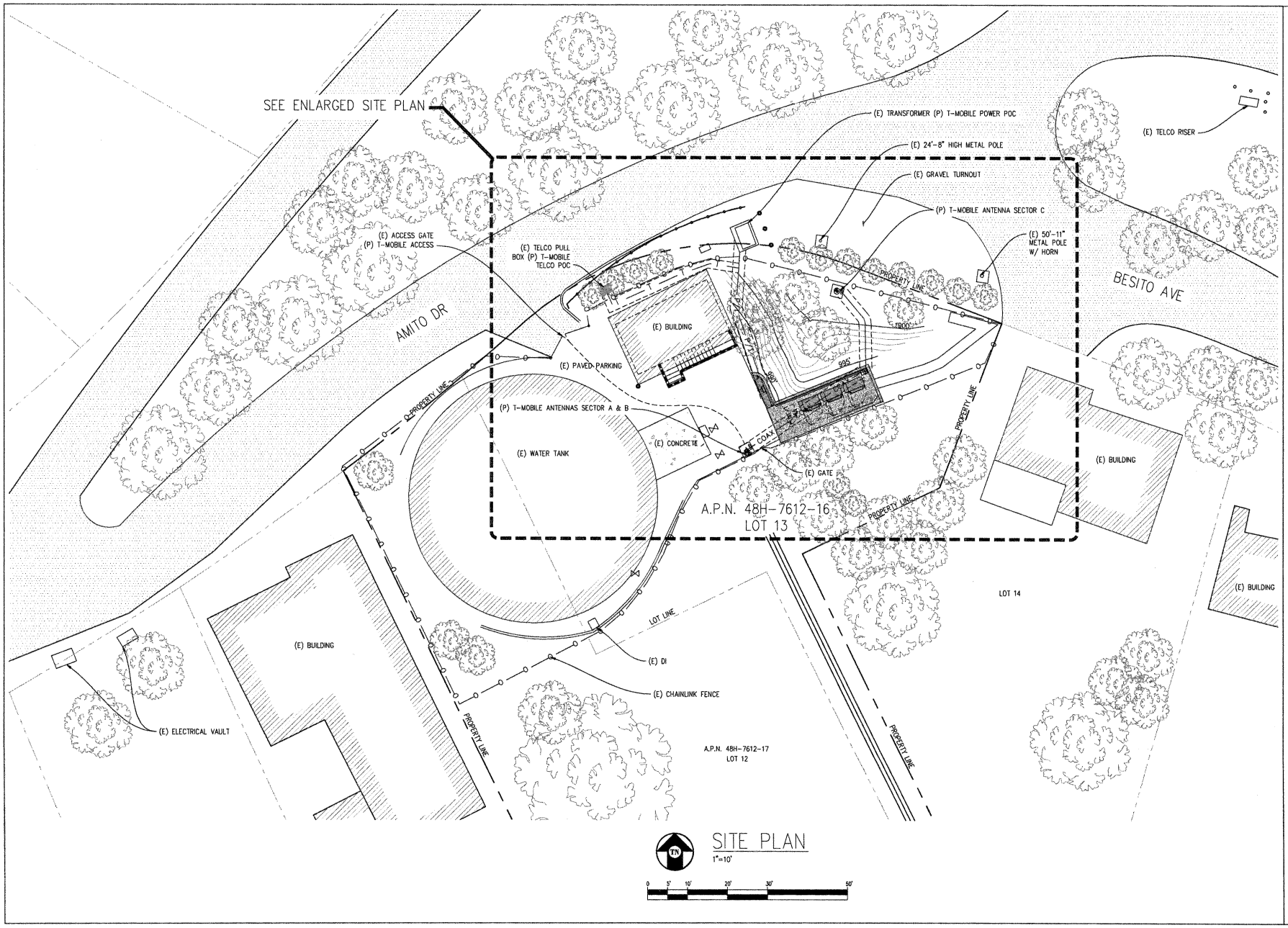
SHEET TITLE:

TOPOGRAPHIC SURVEY

SHEET NUMBER:

LS-1

SHEET 1 OF 1



EBMUD AMITO RESERVOIR

BA52641
1076 AMITO DR
BERKELEY, CA 94705

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	07-03-09	ZD 90%	–
	07-27-09	ZD 100%	–
	07-22-10	CLIENT REV	–
	08-16-10	CLIENT REV	C.S.
	10-05-10	CLIENT REV	K.S.
	01-19-11	CLIENT REV	G.T.

DRAWN BY: C. SYLVESTER
CHECKED BY: L. HOUGHTBY
APPROVED BY: –
DATE: 01/19/11

Streamline Engineering and Design, Inc.
3268 Penryn Rd. Suite 200 Loomis, CA 95650
Contact: Larry Houghtby Phone: 916-275-4180
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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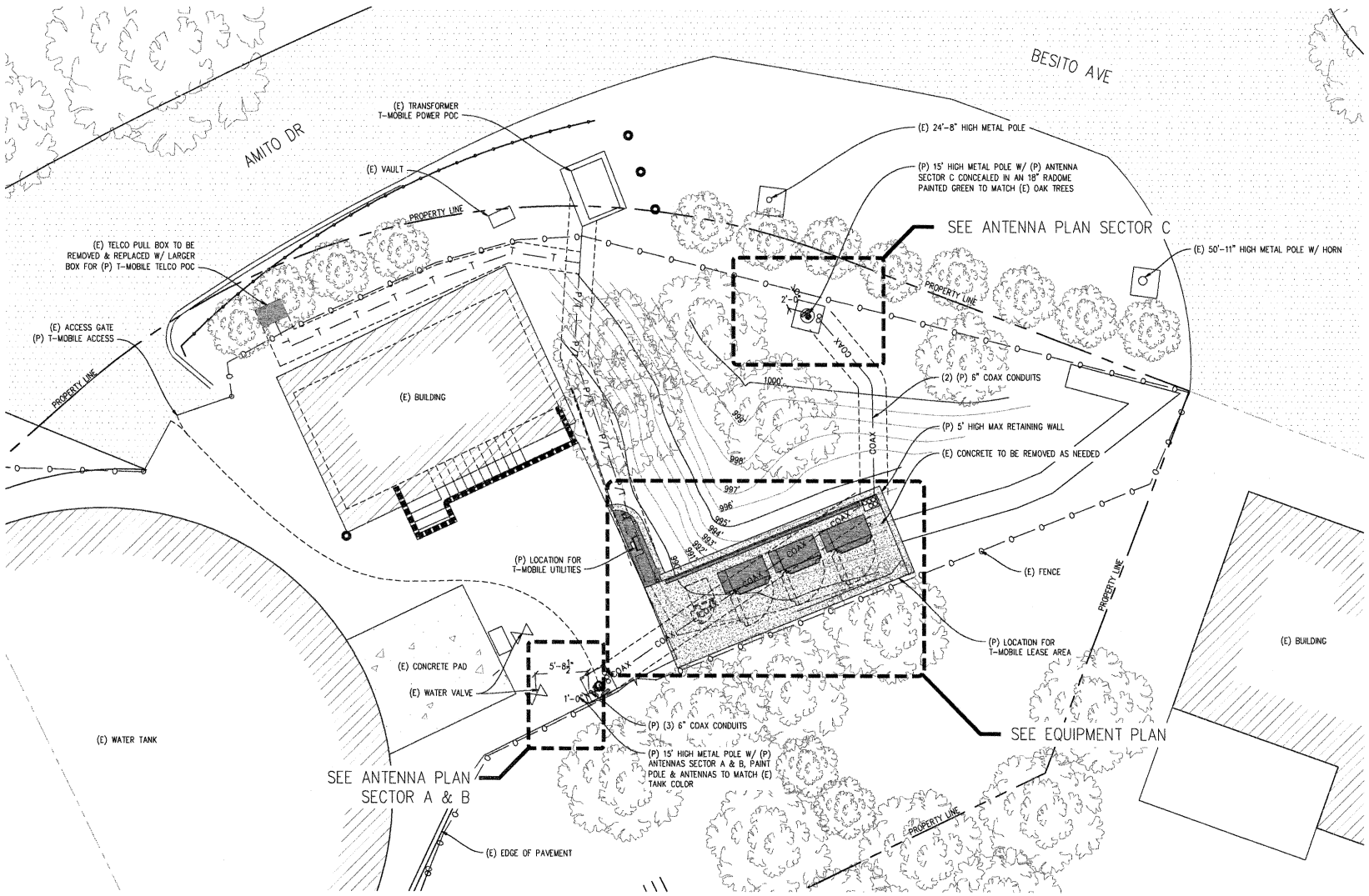
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1



ENLARGED SITE PLAN

1"=5'

0 1' 2' 3' 4' 5' 10' 15' 25'

EBMUD AMITO RESERVOIR

BA52641
1076 AMITO DR
BERKELEY, CA 94705

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	07-03-09	ZD 90%	–
	07-27-09	ZD 100%	–
	07-22-10	CLIENT REV	–
	08-16-10	CLIENT REV	C.S.
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DRAWN BY: C. SYLVESTER
CHECKED BY: L. HOUGHTBY
APPROVED BY: –
DATE: 01/19/11

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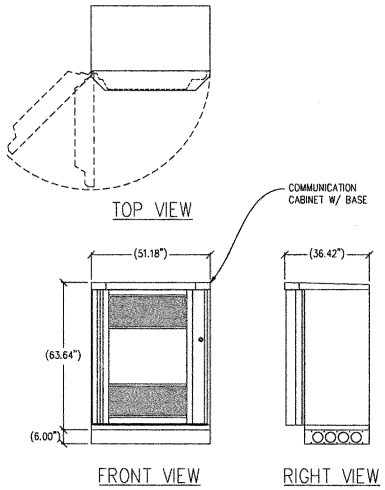
T-MOBILE WEST CORPORATION
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:
ENLARGED SITE PLAN

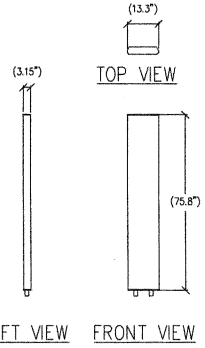
SHEET NUMBER:
A-2

	RF CONFIGURATION				VERSION: A 06/02/09						
	COAX			ANTENNA							
SECTOR	#	LENGTH	SIZE	MODEL	#	TMA	MDT	EDT	RET	RAD	AZIMUTH
ALPHA	4	75'	7/8"	REFER TO RFDS	1	2	0°	0°	NO	11'-2"	130°
BETA	4	75'	7/8"	REFER TO RFDS	1	2	2°	0°	NO	11'-2"	210°
GAMMA	4	66'	7/8"	REFER TO RFDS	1	2	0°	0°	NO	22'-3"	320°

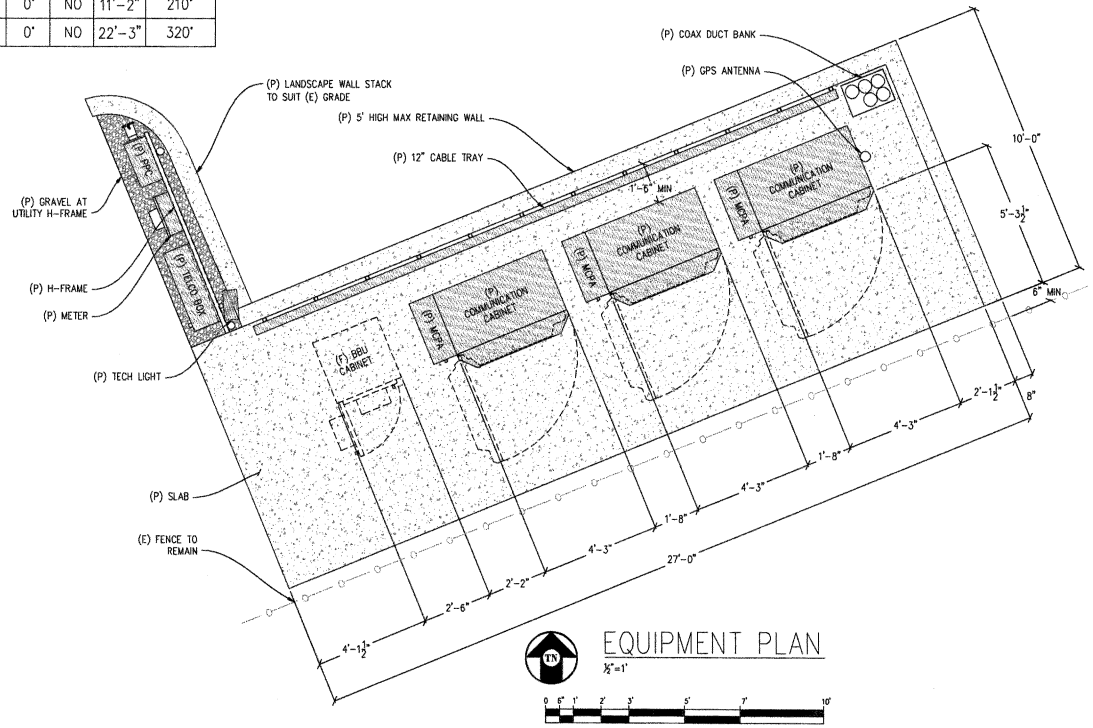
NOTE: CONTRACTOR TO VERIFY LATEST RF DESIGN



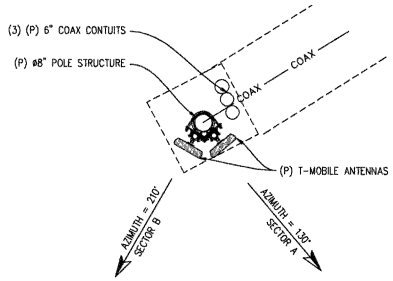
1 CABINET DETAIL
½"=1'



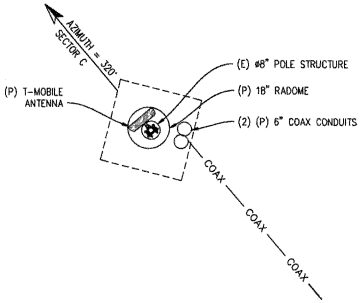
2 ANTENNA DETAIL
½"=1'



EQUIPMENT PLAN
½"=1'



SECTOR A & B ANTENNA PLAN
½"=1'



SECTOR C ANTENNA PLAN
½"=1'

EBMUD AMITO RESERVOIR

BA52641
1076 AMITO DR
BERKELEY, CA 94705

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	07-03-09	ZD 90%	–
	07-27-09	ZD 100%	–
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	08-16-10	CLIENT REV	C.S.
	10-05-10	CLIENT REV	K.S.
	01-19-11	CLIENT REV	G.T.

DRAWN BY: C. SYLVESTER
CHECKED BY: L. HOUGHTBY
APPROVED BY: –
DATE: 01/19/11

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Contact: Larry Houghtby Phone: 916-275-4180
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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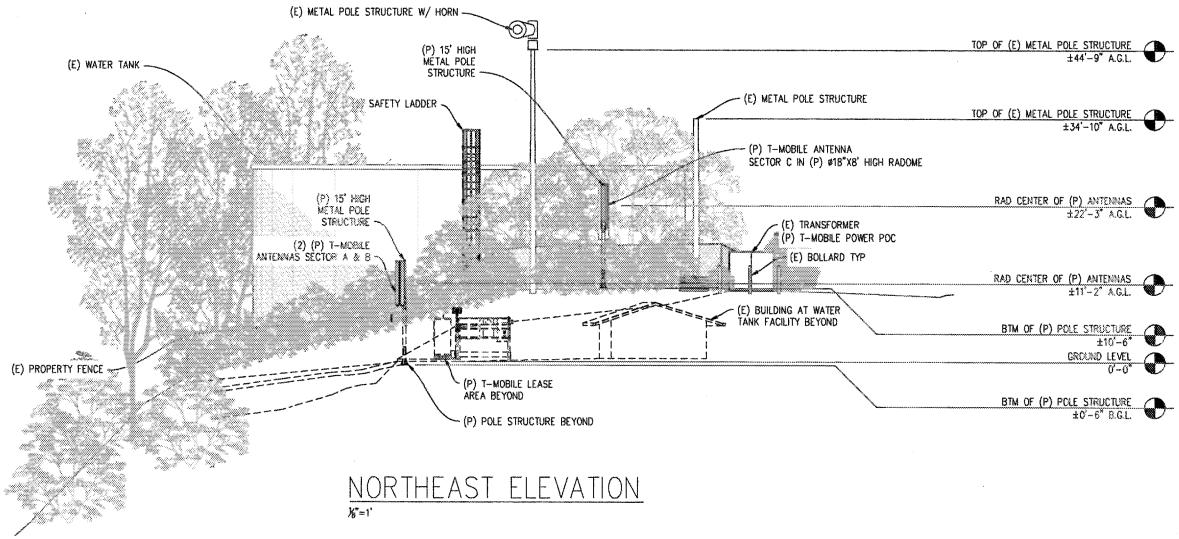
T-MOBILE WEST CORPORATION
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

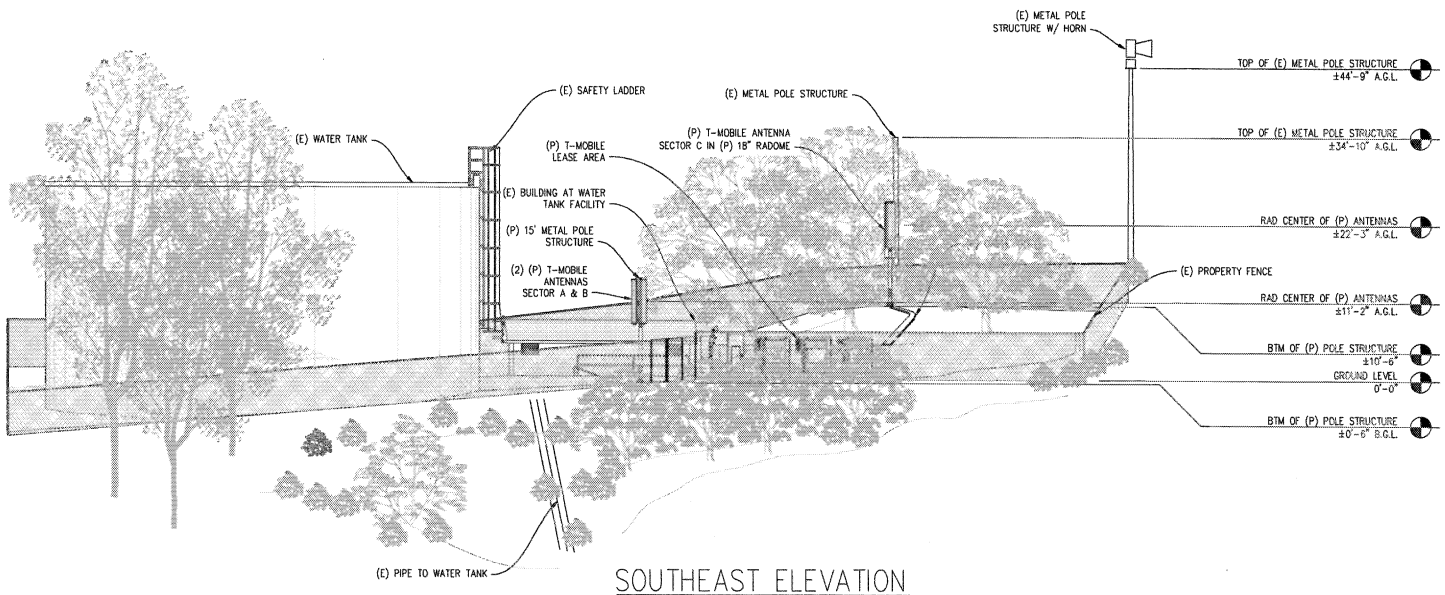
SHEET TITLE:
EQUIPMENT, ANTENNA PLANS, & DETAILS

SHEET NUMBER:
A-3



NORTHEAST ELEVATION

1/8"=1'



SOUTHEAST ELEVATION

1/8"=1'

EBMUD AMITO RESERVOIR

BA52641

1076 AMITO DR
BERKELEY, CA 94705

ISSUE STATUS

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DRAWN BY: C. SYLVESTER

CHECKED BY: L. HOUGHTBY

APPROVED BY: –

DATE: 01/19/11

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T-MOBILE WEST CORPORATION

T-Mobile

1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

A-4

T-Mobile West Corp. • Proposed Base Station (Site No. BA52641)
1076 Amito Drive • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile West Corp., a personal wireless telecommunications carrier, to evaluate the base station (Site No. BA52641) proposed to be located at 1076 Amito Drive in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

T-Mobile proposes to install directional panel antennas on short poles to be installed near the EBMUD water tank located at 1076 Amito Drive in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. 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. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm^2	1.00 mW/cm^2
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.35	0.47
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some

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height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. Along with the low power of such facilities, this means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 attached describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by T-Mobile, including zoning drawings by Streamline Engineering and Design, Inc., dated October 11, 2010, it is proposed to install three RFS Model APX16DWV-16DWV-S-E-A20 directional panel antennas on two 15-foot steel poles to be installed about 25 feet to the east and 50 feet to the northeast of the EBMUD water tank located within a fenced compound at 1076 Amito Drive in Oakland. The antennas would be mounted with up to 2° downtilt at an effective height of about 11½ feet above ground and would be oriented toward 130°T, 210°T, and 320°T. The maximum effective radiated power in any direction would be 2,280 watts, representing simultaneous operation at 1,330 watts for AWS and 950 watts for PCS. There are reported no other wireless telecommunications base stations nearby.

Study Results

For a person anywhere at ground, the maximum ambient RF exposure level due to the proposed T-Mobile operation is calculated to be 0.12 mW/cm^2, which is 12% of the applicable public exposure limit. The maximum calculated level at any nearby residence* is 5.8% of the public exposure limit. The maximum calculated level at the nearby water tank is 75% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

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* Located at least 50 feet away, based on the drawings.

No Recommended Mitigation Measures

Due to their mounting locations, the T-Mobile antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that T-Mobile will, as an FCC licensee, take adequate steps to ensure that its employees or contractors comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by T-Mobile West Corp. at 1076 Amito Drive in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2011. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. HAMMETT
E-13026
M-20676
Exp. 6-30-2011
ELECTRICAL
MECHANICAL
STATE OF CALIFORNIA

William F. Hammett, P.E.
707/996-5200

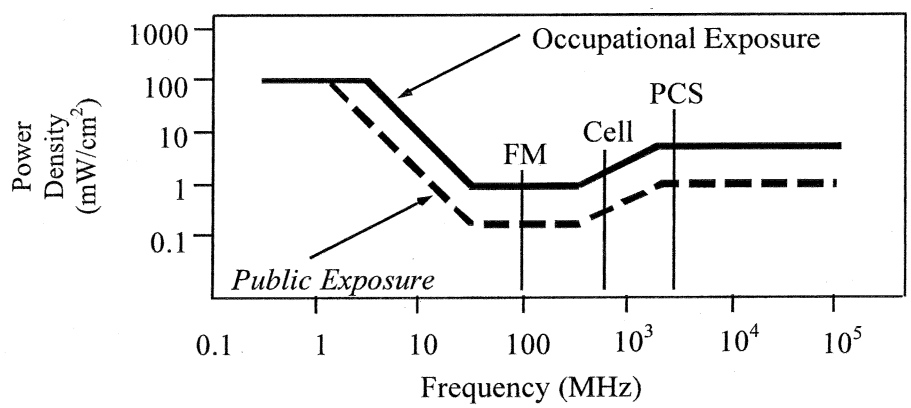
December 15, 2010

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/f*	1.63	*2.19/f*	100	*180/f^2*
3.0 – 30	1842/ f	*823.8/f*	4.89/ f	*2.19/f*	900/ f^2	*180/f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and
P_{net} = net power input to the antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of the antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in mW/cm}^2,$$

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

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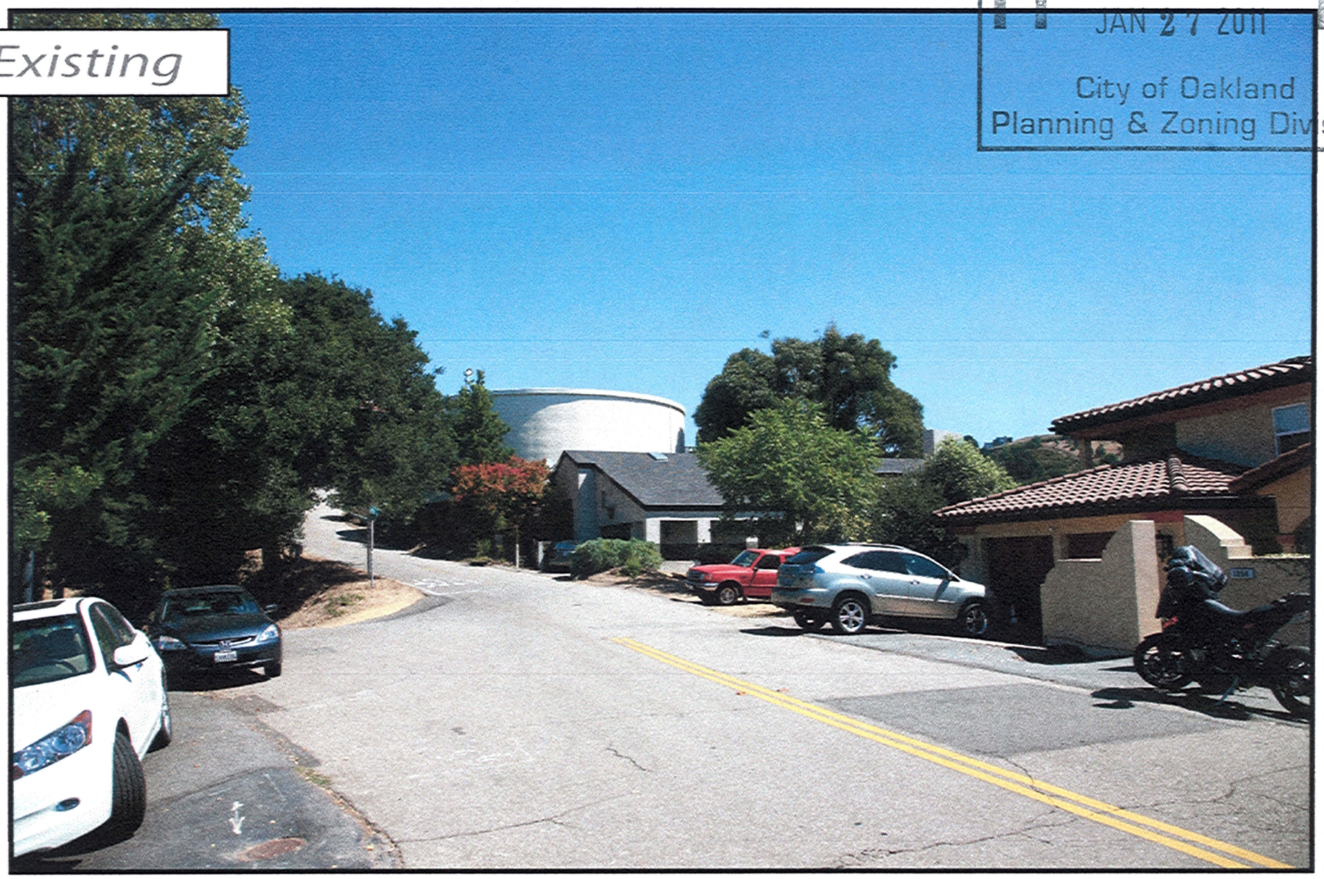
Existing



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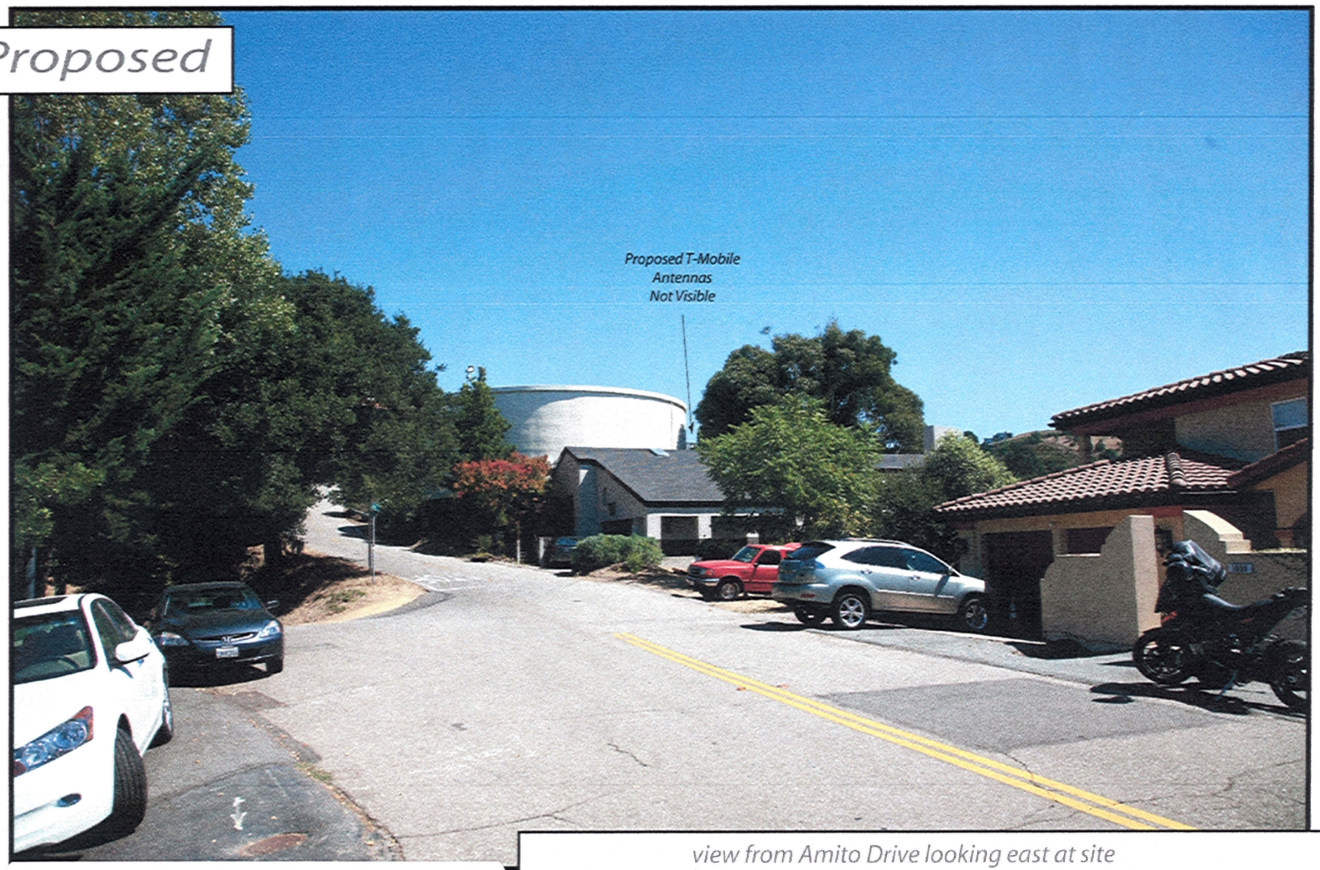

view from Amito Drive looking east at site

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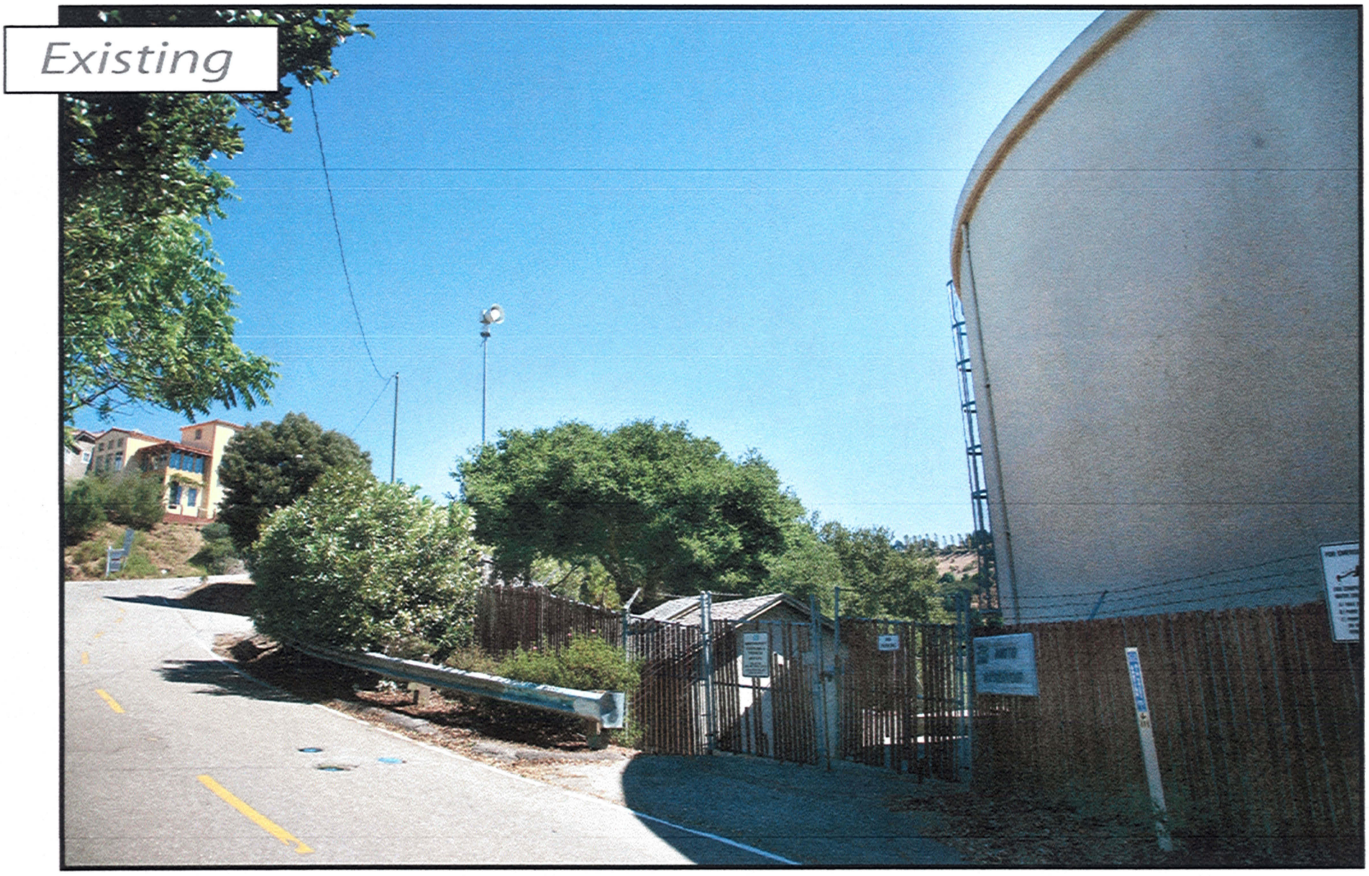

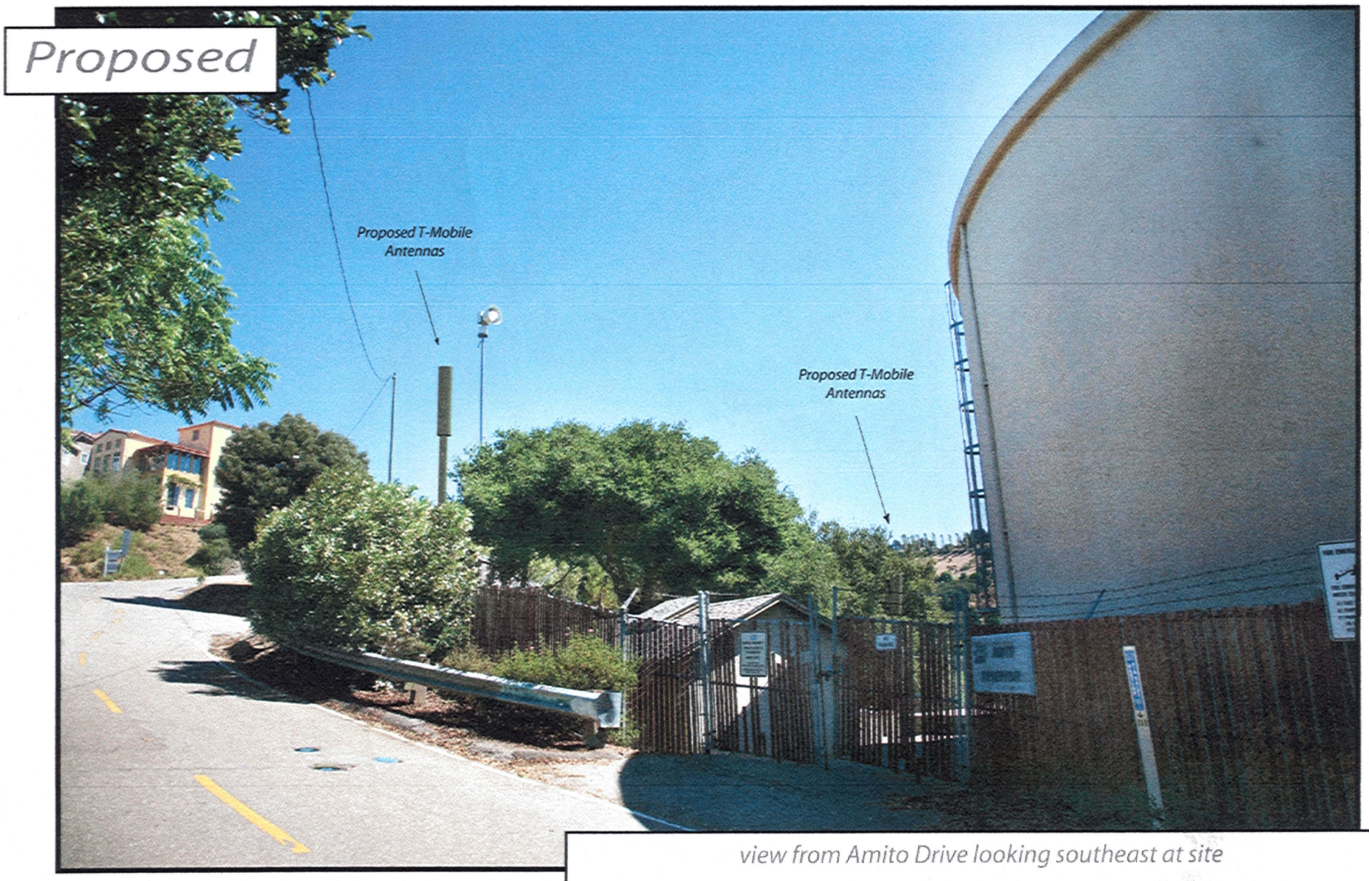

view from Amito Drive looking southeast at site

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Photo Simulation Solutions
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view from Drury Road looking southwest at site

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1076 Amito Drive, Berkeley , CA

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Photo Simulation Solutions
Contact (925) 202-8507

view from Besto Avenue looking northwest at site

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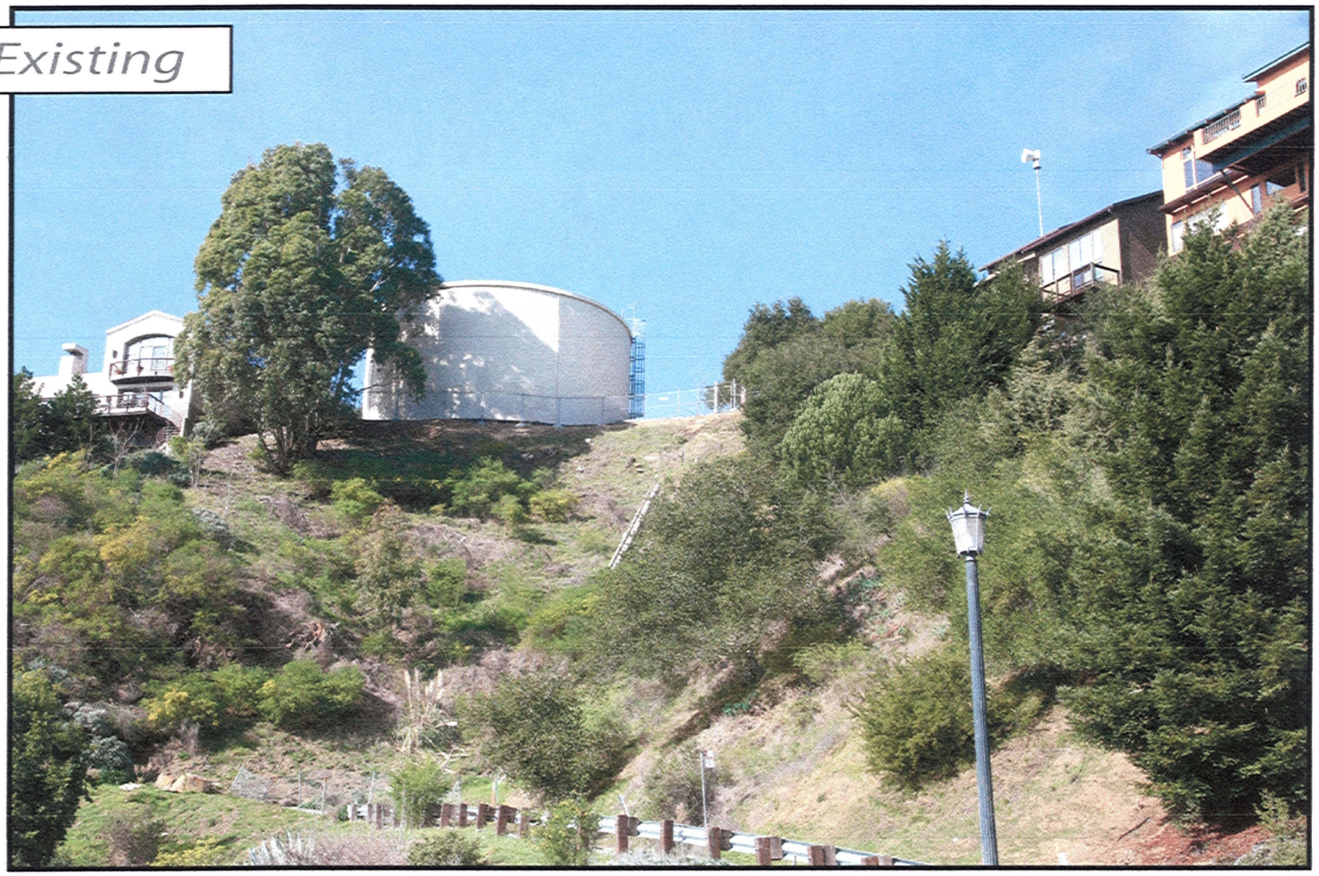

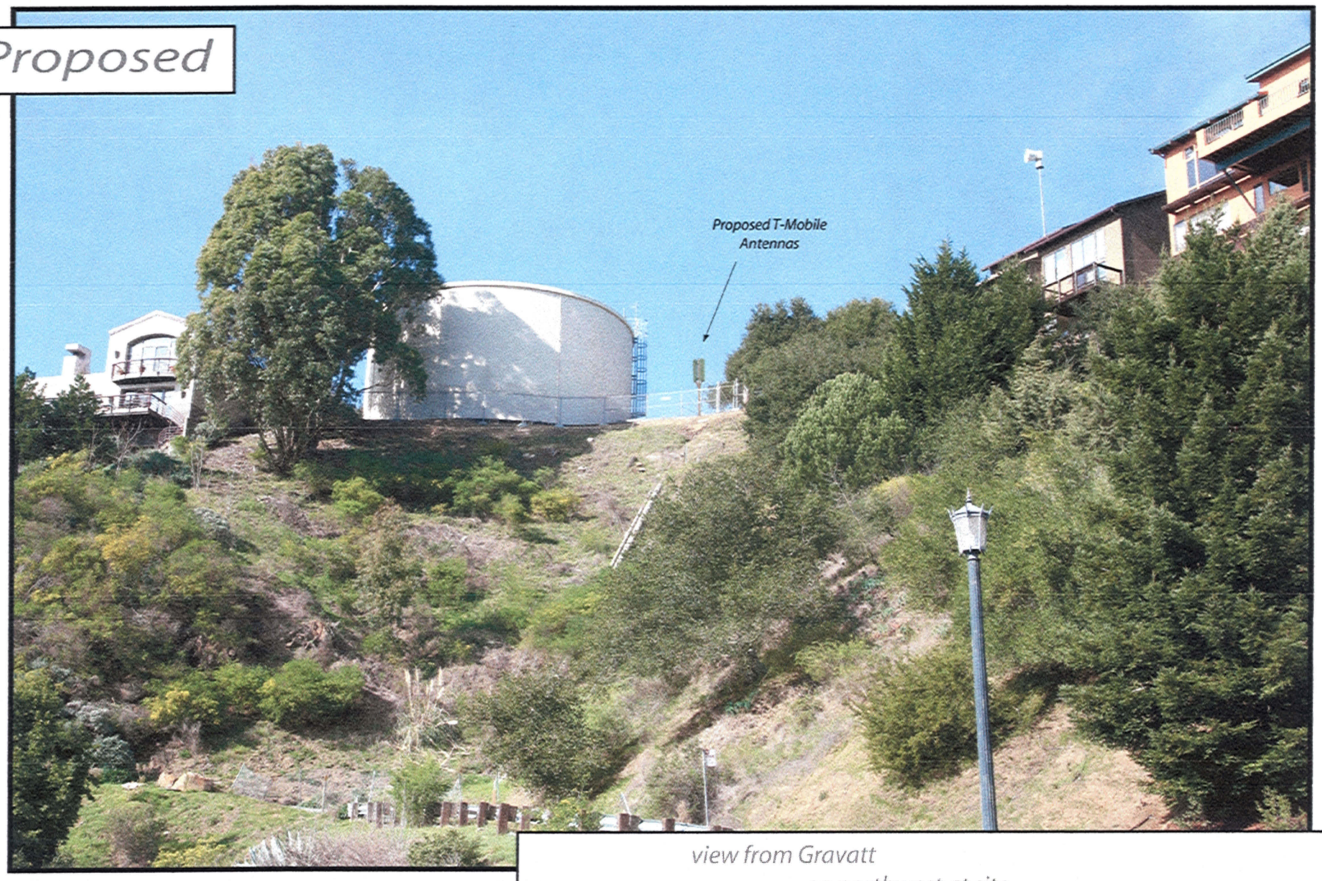

view from Gravatt

ıg northwest at site

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1076 Amito Drive, Berkeley , CA

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

Rivera, Mike

From: Howard Matis [hsmatis@gmail.com]
Sent: Sunday, January 30, 2011 8:40 PM
To: Rivera, Mike
Subject: 1076 Amito Avenue (APN: 048H-7612-016-00)

I support the proposal to to install two 15-ft. high steel poles located about 25-ft. to the east and 60-ft to the northeast of the EBMUD water tank, 1 pole containing 1 concealed panel antenna and the other pole containing 2 panel antennas including the installation of ground-mounted equipment cabinets located about 20-ft to the southeast of the existing utility building.

T-Mobile service is poor in this neighborhood. The addition of better service would be a boon to its customers. As a scientist, I know that cell phone radiation is safe. There is much hysteria in the community about the dangers of cell phones. This information is based on erroneous information.

Furthermore, if you don't allow the cell phone tower for esthetics, then you should shut down KPFA. It is an ugly tower that I can see from my house. It puts out much more power. If you don't allow this cell phone tower, then whey do you allow KPFA.

In summary, the cell phone tower is needed in the Oakland Hills, is safe, and there are much more uglier radio towers.

Therefore, please support the application.

Howard Matis
Ph.D - Physics

6824 Sherwick Drive

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