#### NOTICE OF A REGULAR MEETING

Pursuant to Section 54954.2 of the Government Code of the State of California, a Regular meeting of the City of Tracy Planning Commission is hereby called for:

**Date/Time:** Wednesday, August 13, 2014

7:00 P.M. (or as soon thereafter as possible)

**Location:** City of Tracy Council Chambers

333 Civic Center Plaza

Government Code Section 54954.3 states that every public meeting shall provide an opportunity for the public to address the Planning Commission on any item, before or during consideration of the item, however no action shall be taken on any item not on the agenda.

#### REGULAR MEETING AGENDA

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

MINUTES APPROVAL

DIRECTOR'S REPORT REGARDING THIS AGENDA

ITEMS FROM THE AUDIENCE - - In accordance with <u>Procedures for Preparation, Posting and Distribution of Agendas and the Conduct of Public Meetings</u>, adopted by Resolution 2008-140 any item not on the agenda brought up by the public at a meeting, shall be automatically referred to staff. If staff is not able to resolve the matter satisfactorily, the member of the public may request a Commission Member to sponsor the item for discussion at a future meeting.

- 1. OLD BUSINESS
- 2. NEW BUSINESS
  - A. PUBLIC HEARING TO CONSIDER APPLICATIONS FOR A CONDITIONAL USE PERMIT AND DEVELOPMENT REVIEW TO ALLOW CONSTRUCTION OF A NEW TELECOMMUNICATION FACILITY IN THE FORM OF A PINE TREE, KNOWN AS A MONOPINE, AND FOUR APPROXIMATELY 230 SQUARE FOOT EQUIPMENT SHELTERS, LOCATED APPROXIMATELY 1,000 FEET WEST OF CORRAL HOLLOW ROAD, SOUTH OF W. SCHULTE ROAD, ASSESSOR'S PARCEL NUMBER 240-010-07. APPLICANT IS SAC WIRELESS REPRESENTING AT&T. PROPERTY OWNER IS THE UNION PACIFIC RAILROAD COMPANY. APPLICATION NUMBERS CUP13-0007 AND D13-0013
- 4. ITEMS FROM THE AUDIENCE
- 5. DIRECTOR'S REPORT
- 5. ITEMS FROM THE COMMISSION
- 6. ADJOURNMENT

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The City of Tracy complies with the Americans with Disabilities Act and makes all reasonable accommodations for the disabled to participate in public meetings. Persons requiring assistance or auxiliary aids in order to participate should call City Hall (209-831-6000), at least 24 hours prior to the meeting.

Any materials distributed to the majority of the Planning Commission regarding any item on this agenda will be made available for public inspection in the Development and Engineering Services department located at 333 Civic Center Plaza during normal business hours.

# MINUTES TRACY CITY PLANNING COMMISSION WEDNESDAY, JULY 23, 2014 – 7:00 P.M. CITY OF TRACY COUNCIL CHAMBERS 333 CIVIC CENTER PLAZA

**CALL TO ORDER** – Chair Sangha called the meeting to order at 7:00 p.m.

**PLEDGE OF ALLEGIANCE** – Chair Sangha led the Pledge of Allegiance.

ROLL CALL – Found Chair Sangha, Vice Chair Orcutt, Commissioner Mitracos, Commissioner Ransom and Commissioner Vargas present. Also present were staff members Andrew Malik, Development Services Director; Bill Dean, Assistant Development Services Director; Scott Claar, Associate Planner; Kimberly Matlock, Assistant Planner; Cris Mina, Senior Engineer; Bill Sartor, Assistant City Attorney; Jeremy Watney, Police Captain; Lani Smith, Support Operations Division Manager, Police Department; Kuldeep Sharma, Utilities Director; and Janis Couturier, Recording Secretary.

**MINUTES APPROVAL** – Chair Sangha called for a review of the May 14, 2014, Minutes. Commissioner Orcutt moved to approve the minutes as written, Commissioner Ransom seconded; all in favor, none opposed.

**DIRECTOR'S REPORT REGARDING THIS AGENDA** – None.

**ITEMS FROM THE AUDIENCE** – None.

- 1. OLD BUSINESS None.
- 2. **NEW BUSINESS** 
  - A. PUBLIC HEARING TO CONSIDER APPROVAL OF A TENTATIVE SUBDIVISION MAP FOR THE FIRST PHASE OF THE MODIFIED ELLIS PROJECT, CONSISTING OF 296 RESIDENTIAL LOTS AND 6 OTHER PARCELS ON APPROXIMATELY 150 ACRES, LOCATED WEST OF CORRAL HOLLOW ROAD IN THE VICINITY OF PEONY DRIVE AND LINNE ROAD, ASSESSOR'S PARCEL NUMBERS 240-140-30 AND 31. THE APPLICANT IS THE SURLAND COMPANIES. THE PROPERTY OWNER IS SURLAND COMMUNITIES, LLC. APPLICATION NUMBER TSM11-0002

Chair Sangha presented agenda item 2A and requested the staff report. Associate Planner Scott Claar presented the staff report. Mr. Claar advised that City staff had been working with the applicant for a number of years adding that the review process involved a variety of City departments and outside agencies. He reviewed the site of 150 acres as shown on the location map indicating that the proposal was to subdivide the site which was designated residential mixed. He then reviewed the design elements indicating the overall intent was to be a walkable, pedestrian friendly environment. He summarized that there would be 12 different lot types which exceeds the requirement of the Specific Plan requirement of four. He reviewed that there would be a three-acre neighborhood park. He reviewed the various parcels and aspects of the future phases of the development.

Mr. Claar indicated that the architecture had been reviewed and approved by Council in the Ellis Specific Plan and Pattern Book, but these homes would be subject to building permit review prior to building. He concluded by stating that staff was recommending Planning Commission approval of the item and mentioned that various departments of the City were present to answer any questions the Commissioners or community might have.

Commissioner Mitracos asked about the proposed communication tower, asking if it was part of the EIR or if it would have any impact. Mr. Dean advised that the tower was not specifically identified in the EIR. The Commissioner then asked if it would be addressed. Mr. Dean advised that the issue of the tower would be addressed in a separate CIP and that staff was working with the County toward constructing the tower.

Chair Sangha opened the public hearing at 7:10 p.m. and asked if the applicant was available.

Chris Long, Surland Companies, thanked the Commissioners for the opportunity to present and introduced the various other members of the Surland staff and consultants who were present to answer any questions. He began his presentation with the genesis of the Ellis Project discussing the history of Tracy and the Ellis site historical precedence as well as a review of the local architecture. He introduced a PowerPoint presentation.

Barry Long, Principle of Urban Design Associates, discussed design elements and how they were derived based on existing elements in the City of Tracy. He then discussed the origins of the Ellis Pattern Book adding that it would be a design manual that would assure that the Ellis Project would complement existing community homes and neighborhoods. He added that there would be a diversity of styles, housing and lot types adding that Ellis would be similar to the existing Redbridge neighborhood. It will feature a variety of lot types to integrate the design elements including parks, pedestrian friendly areas, along with a City Center.

Mr. Long then reviewed the tentative map. He advised that the focus was on the 296 residential lots. He reviewed the uses for the various parcels and indicated that there would be bike facilities along with various paths to encourage multiple uses. He reviewed the hierarchy of streets indicating that some streets would be community streets and others would be neighborhood streets and alleyways. He indicated that each street would have its own identity. Chris Long closed the presentation by indicating that Surland was hoping for approval of the Tentative Map and that they wished to begin building as soon as possible with the support of City staff.

Commissioner Orcutt asked if market demand would dictate the allocation of how the lot types would be laid out or assigned. Chris Long advised that it might; but deferred to Barry Long. Barry Long indicated the map was pre-scripted that the lot types would remain as indicated on the map adding that Surland had spent a lot of time setting it up.

Commissioner Orcutt then asked about a project timeline. Mr. Long indicated that it all would start with approval and then be subject to the market demand and growth ordinances.

Commissioner Vargas stated that she loved the project, the diversity and the streetscape and pedestrian connectivity. She indicated that she had met with the applicant and City staff, and asked if Surland had read and was satisfied with all of the conditions of approval

as written. Chris Long indicated there was only one condition; Condition B6, which Surland did not feel they had an obligation to pay the required amount. He added that they would like to fund the entire amount prior to map approval. He provided a handout with alternative wording to the Commission as follows:

"B.6. <u>Emergency Radio Communication System</u>. There is a need for a new radio communications tower and appurtenances ("Radio Tower") to provide adequate emergency services to the City including the Ellis Specific Plan Area. Subdivider has agreed to and shall, prior to final map approval, pay to the City the sum of \$155,141.50 to be sued by the City toward the construction and implementation of the Radio Tower."

Chair Sangha asked staff if this was the first time the Planning Commission was hearing about the Radio Tower. Mr. Dean advised that it was the first time this was discussed with Planning Commission. The Chair then asked how funding this issue would be handled with other developers. Mr. Dean indicated that everybody would be treated the same.

Commissioner Ransom asked why this issue was tied to the Tentative Map and where an issue like this would normally be included in the approval process. She then reviewed the Fair Share Tower report adding that this appeared to be new.

Jeremy Watney, Police Captain, advised that the tower had been identified as a CIP project for 15 years adding that in April 2013, the final report of the City Master Plan indicated that this was brought forward, but that it had been waiting on development that would require it. The Commissioners clarified that this was not something that had been discussed with them.

Commissioner Mitracos suggested there appeared to be a sticking point with the applicant as to when this fee had been initiated. Mr. Dean indicated that the Public Safety Master Plan was adopted and the need for a tower was identified in it. As each project had gone forward, these items have been re-evaluated. The Ellis Project was originally approved in 2008. Subsequent to court proceedings, the new application had been submitted during which time the Master Plan was already underway. He indicated that during the fall of this last year there was greater development volume which changed the requirements. He advised that there was a disagreement with Surland about the legality of adding this requirement which was outlined in the memo from Lani Smith. He added that it is normal to add this type of condition.

Commissioner Mitracos stated that it appeared that the cost per resident would be \$20.55 asking if this was the first time we had seen it in this manner. Mr. Dean responded that the fee resolution was approved by Council. There was some discussion about when the fees had been taken to Council. Mr. Malik advised staff would be coming back to Council relative to the fee structure in the near future.

Commissioner Vargas expressed confusion about the fact that this condition had not been a requirement for other developments that had been recently approved. She wondered why the City would require this of Ellis and not for the previous developers. There was general discussion among the Commissioners about the timing of the fee and its inclusion in the conditions for the Tentative Map approval for the Ellis Project.

Dan Doporto, special counsel for the City of Tracy, indicated that the language the Surland Companies preferred suggested that the payment of the fee was voluntary, but the City believed that the fee was not voluntary. He indicated that the City did have the authority to impose the fee. He stated that the City felt the City's position was right and the language included was important.

Commissioner Vargas asked if there was alternative language that would be suitable. A general discussion followed between staff and the Commissioners about whether the timing of this condition was fair to this project, that the amount was appropriate, and that it would be used properly. Several of the Commissioners suggested that the Tower and the ensuing fees should have been brought to their attention prior to being added as a condition. They did, however, agree that the Tower was necessary.

Chris Long added that as the Commission considered the issue, he felt that the fairness of the timing issue was unfortunate. Commissioner Ransom asked what Surland's specific concern was.

Wilson Wendt, attorney for Surland, indicated Surland did not want any implication that this contribution could be imposed upon them as a fee by the City. He added they would pay, they feel it was a fair share obligation, but not a fee. He added they wanted that statement on the record. He added that Surland has suggested language they felt was simple and sufficient. He finished by saying they want the map approved at this meeting of the Commission.

Commissioner Ransom asked if this fee had been approved by Council. Mr. Dean indicated the fee exists, that this was an update, but the updated amount had not yet been approved. There was then a general discussion about the exact wording of the item.

Mr. Serpa addressed the Commissioners and indicated a level of frustration adding that if the fee can be charged to the Ellis Project, he felt it should not be a condition of the map. If it cannot be charged to the project then he suggested that was why it was listed as a condition. He added that they had never experienced as many delays as they have had with this tentative map. He then provided a summary of the experience. He suggested that staff did not have the unilateral ability to charge a fee that yet needed to be approved by Council. He felt that staff's handling of the situation had been unfortunate.

Commissioner Mitracos asked what difference the timing made to Surland. Mr. Serpa indicated that they felt they were being asked to pay a huge fee upfront; adding that they felt that fees should not be charged to them that had not been approved by Council. The Commissioner then asked if the fee could be assessed at the time building permits would be issued; asking if that would solve the situation. Mr. Dean responded that the issue with Surland came down to whether the City had the right to charge this fee which was the reason why the condition was included. He indicated that as a result of this disagreement the City's attorney advised this was the way it needed to addressed. Commissioner Mitracos said it appeared the issue was primarily a legal issue and that he agreed we need the tower.

Commissioner Ransom asked if staff had tried to hold up the project in order to get the fee approved by Council. Mr. Dean said that there had been several conditions that needed review and that this had been one of them and in no way had staff tried to hold off approval

of the map. There was additional discussion between staff and the Commissioners about how the condition was derived and the exact wording of the condition.

Commissioner Vargas asked if the Planning Commission was the final approval body on the map. Mr. Dean stated the Planning Commission is the approval authority for this map, that this item would not require Council approval.

Commissioner Ransom suggested an alternate wording of the condition. Mr. Doporto did not feel the recommendation would be advisable which was then discussed between staff and the Commission. Various versions of the condition were discussed.

Commissioner Orcutt indicated that there was specific reference to the fee as a fee for the communications equipment; but that staff has referred to the fee as a building use fee. He requested clarification from staff. Mr. Dean stated that Surland has a public buildings fee of which a line item is communications equipment. He added that Surland was stating that the City cannot update the fee in support of the communications tower. As a result, staff indicated that this was a need for the community and as result it would be addressed as a condition of the subdivision map. Further discussion followed between staff and Commission.

Commissioner Mitracos asked to hear from the attorney for Surland. Mr. Serpa indicated they had wanted to call attention to the issue and that they would pay the fee adding that Surland did not wish to go through this exercise again.

There were further questions on the part of the Commission relative to the Public Impact Fee along with a discussion between staff and Commission on what the appropriate wording for the condition should be and when it should be charged.

Chair Sangha closed the public hearing at 8:45 p.m.

Commissioner Ransom asked for clarification on Criseldo Mina's memo. Mr. Mina provided clarification.

Commissioner Vargas asked about condition C.11 and asked if this covered condition B.6. Mr. Mina advised that item was not associated with fees. Further discussion with staff and Commission revolved around the issue of the wording of the condition and if it were not included would the developer be obligated to pay the fee. Mr. Sartor clarified that the fee had not been adopted by City Council.

Mr. Dean requested a five minute break. Chair Sangha called for the break at 9:00 p.m.

The meeting resumed at 9:08 p.m.

Mr. Doporto provided a revised version to which both staff and the developer agreed. Mr. Doporto read the following into the record:

"Emergency Radio Communications System. There is a need for a new radio communications tower and appurtenances ("Radio Tower") to provide adequate emergency services to the City, including the Ellis Specific Plan Area. In lieu of imposing the \$26,131.26 fee, Subdivider agrees to pay a fee of \$155,141.50 at Final

Map approval. This accelerates the Subdivider's payment of the fee to the City. In adopting this condition of approval, neither the Subdivider nor the City waive any right or are prevented from or impaired from either seeking to impose or increase a fee or opposing the authority to impose or increase a fee."

Chris Long thanked the Commissioners for their time and effort in resolving the issue.

Commissioner Vargas moved that the Planning Commission approve the Tentative Subdivision Map for the first phase of the Modified Ellis Project, consisting of 296 residential lots and six other parcels on approximately 150 acres, located west of Corral Hollow Road in the vicinity of Peony Drive and Linne Road, Assessor's Parcel Numbers 240-140-30 and 31, Application Number TSM11-0002, based on the findings and subject to the conditions of approval to include the modification of the alternative language as amended contained in the Planning Commission Resolution dated July 23, 2014.

Commissioner Ransom added: to include the amended language for C.2.4.3 as well as the conditions that were agreed upon by the City and the developer. Commissioner Orcutt seconded, all in favor, none opposed.

B. PUBLIC HEARING TO CONSIDER CONDITIONAL USE PERMIT AMENDMENT AND DEVELOPMENT REVIEW APPLICATIONS FOR A BUILDING Addition AT AN EXISTING FOOD PROCESSING PLANT AT 2401 NORTH MACARTHUR DRIVE, APN 213-070-50; APPLICANT IS E.A. BONELLI & ASSOCIATES AND PROPERTY OWNER IS LEPRINO FOODS - APPLICATION NUMBERS CUP14-0006 & D14-0012.

Jass Sangha presented agenda item 2B and called for the staff report. Kimberly Matlock, Assistant Planner, presented the item. She advised that Leprino Foods had been in business for 40 years adding that the existing vat room no longer met the operational needs of the plant. She indicated that the existing office area would be deconstructed and converted into a new vat room with expansion to provide both vat room and offices. She added that the existing vat room would be taken out of use, but there were no plans at present to modify it.

Ms. Matlock added that a building expansion would require Commission approval of the Conditional Use Permit amendment, but the building addition would normally be granted through Development Review by the Development Services Director. However, for efficiency, the Development Services Director referred the issue to the Planning Commission. She provided detail on the addition/expansion and stated that the proposal met the City's design standards. Because the project would not include increased production or the addition of staff, off-site parking expansion would not be required. She indicated that staff recommended approval of the application.

Chair Sangha asked for the applicant. A representative of E. A. Bonelli and Associates addressed the Commission. He agreed with staff's presentation. Commissioner Mitracos asked about noise issues that had been raised over the years by some of the neighbors. The Plant Manager of Leprino advised that he has been actively working with the neighbors and that the low noise vibration has been addressed and abated. That at present there were other issues which were being worked on.

Commissioner Vargas said she was pleased to see the end product. She suggested an embellishment to the streetscape on the MacArthur Drive side to make it more appealing. She asked if they would be willing to address this. The manager advised they would look into the issue.

Commissioner Ransom raised the noise issue again asking if the expansion might create additional noise. The manager advised that the vats would go in the center of the complex and that there should be no nuisance to the neighbors. Mr. Malik spoke to the issue that Leprino had been working actively with the neighbors. He indicated there had been extensive efforts on the part of Leprino to address noise issues.

Ms. Matlock indicated the Van Lehns came in and reviewed the project with staff previously and that they were not concerned about noise, they had questions about the cheese processing. They made contact with the new plant manager of Leprino who has opened up communication. Further it was added that the wastewater pump was what was causing the vibrations. She added that their absence at this meeting would speak to the fact that they were satisfied with the efforts to date.

Commissioner Ransom asked about the space and if there were plans to relocate the old vats. At present Leprino has no plans for that space.

Chair Sangha opened the public hearing and closed it at 9:30 p.m. There was no public comment.

Commissioner Orcutt moved that the Planning Commission approve the Conditional Use Permit amendment and Development Review applications CUP14-0006 and D14-0012 subject to conditions and based on findings contained in the Planning Commission Resolution dated July 23, 2014 as amended with additional shrubbery to be installed along the entire frontage of MacArthur Drive. Commissioner Vargas seconded; all in favor; none opposed.

- 3. ITEMS FROM THE AUDIENCE None
- 4. DIRECTOR'S REPORT Mr. Dean advised that Jan Couturier was being transferred to the Utilities Division and that Sandra Edwards would become the recording secretary for future meetings.
- 5. ITEMS FROM THE COMMISSION Commissioner Mitracos asked if there was going to be a CIP review. Mr. Dean indicated with the new City Engineer they were a bit behind. Commissioner Mitracos added that he appreciated the Residential Pipeline report and wondered if there was a new report.

Chair Sangha thanked Mr. Sartor for his help and advice. Commissioner Vargas thanked staff for their help as she continues to learn her role on the Commission.

A. ELECTION OF OFFICERS – Commissioner Mitracos moved to elect Commissioner Orcutt as Chair and Commissioner Vargas as Vice Chair adding that he liked to see a rotation of duties on the Commission. Commissioner Orcutt seconded, all in favor, none opposed.

6.	ADJOURNMENT – Commissioner Orcutt moved to	adjourn the meeting at 9:50 p.m.
		CHAIR

STAFF LIAISON

#### **AGENDA ITEM 2A**

#### **REQUEST**

PUBLIC HEARING TO CONSIDER APPLICATIONS FOR A CONDITIONAL USE PERMIT AND DEVELOPMENT REVIEW TO ALLOW CONSTRUCTION OF A NEW TELECOMMUNICATION FACILITY IN THE FORM OF A PINE TREE, KNOWN AS A MONOPINE, AND FOUR APPROXIMATELY 230 SQUARE FOOT EQUIPMENT SHELTERS, LOCATED APPROXIMATELY 1,000 FEET WEST OF CORRAL HOLLOW ROAD, SOUTH OF W. SCHULTE ROAD, ASSESSOR'S PARCEL NUMBER 240-010-07. APPLICANT IS SAC WIRELESS REPRESENTING AT&T. PROPERTY OWNER IS THE UNION PACIFIC RAILROAD COMPANY. APPLICATION NUMBERS CUP13-0007 AND D13-0013

#### **DISCUSSION**

#### Site and Project Description

The project site consists of an approximately 3,150 square foot lease area (30' x 105') located on Union Pacific Railroad property on the southwest corner of W. Schulte Road and Corral Hollow Road, approximately 1,000 feet west of Corral Hollow Road, and approximately 130 feet south of W. Schulte Road (Attachment A: Location Map).

The proposal is to construct a new telecommunication facility in the form of a pine tree, known as a monopine. The monopine would be 88 feet tall and would have the potential for colocation by multiple wireless carriers. The site would include up to four approximately 230 square foot equipment shelters to serve multiple carriers. The perimeter of the site would be enclosed by an 8-foot tall fence. A 10-foot wide landscape strip would be located around the outside of the perimeter fence. A 20-foot wide utility and access corridor, including a 12-foot wide access road would be installed from Corral Hollow Road to the site. The site would be an unmanned facility with one to two vehicles visiting the site approximately once or twice per month to perform service and maintenance (Attachment B: Photo Simulations of the Proposed Monopine and Attachment C: Site Plan and Elevations).

#### <u>Analysis</u>

The site is zoned Low Density Residential (LDR) and has a General Plan designation of Residential Low. The proposed monopine is a major facility as defined in Tracy Municipal Code, Chapter 10.25, Telecommunications Ordinance. The Telecommunications Ordinance allows for wireless telecommunication facilities within any zone in the City. Major facilities, such as the present application, require approval of a Conditional Use Permit by the Planning Commission. The proposed improvements, including the equipment shelters, also require approval of Development Review. Staff has combined both applications for simultaneous review by the Planning Commission. As part of the application review process for this project and in accordance with Tracy Municipal Code Section 10.25.090(b)(3), staff hired a consultant at the applicant's expense to conduct peer review of the technical aspects of the project. Specifically, the consultant was asked to complete the following four tasks:

Task 1: Identify where the search ring is located and its radius; and confirm the need for this new facility, based on radio frequency (RF) coverage maps.

Task 2: Ensure that the proposed monopine, telecommunication facility, is as low in height as possible.

Task 3: Review the alternative site analysis and its conclusions.

Task 4: Ensure that the project, as proposed, will meet FCC radio frequency exposure standards, regarding health risks.

The consultant's complete report is contained in Attachment D. Here is a summary of the findings:

- 1. This site is proposed as a coverage and capacity site. This means that AT&T is both trying to improve the ability to send and receive wireless phone calls in the service area surrounding this proposed site (i.e. coverage), but also increase the number of phone calls that can be placed simultaneously in this same area (i.e, capacity). The center of the search ring was located on West Schulte Road, west of Corral Hollow Road, with a search radius of one-quarter mile. The existing site utilization pattern demonstrates that capacity is limited for several of the sectors surrounding the proposed facility. There is no doubt that this traffic congestion will be substantially improved with the proposed facility. The existing and simulated coverage maps demonstrate that the current coverage in the identified service area allows for "in car" and "outdoor" coverage but that the signal strength is not adequate for reliable "indoors" coverage. Providing indoor coverage is a reasonable consideration as more and more customers are relying on wireless phones as their only phone service.
- 2. The height of the proposed facility is driven by both the coverage area needs of AT&T as well as the desire to accommodate future co-location. The proposed height is reasonable considering these coverage, capacity and co-location objectives. Any significant lowering of the proposed height will result in a degradation of both coverage and capacity and limit future co-location opportunities. The degree to which this loss of coverage, capacity and co-location capability will impact the overall viability of the site relative to its construction and maintenance costs, is a business decision that only SBA Towers and AT&T can make.
- 3. The applicant prepared an Alternative Site Analysis, which examined nine alternative sites and provided rationale for selecting the proposed site. Most notably, three of the alternatives are existing PG&E towers. According to PG&E, the proposed antennas and equipment could not be accommodated on these particular PG&E towers. It was unclear to the consultant whether the PG&E towers could be suitable for AT&T's antennas without the potential for colocation of other carriers. Staff followed up with PG&E directly on this

question. The PG&E representative explained that the proposed AT&T antennas and equipment alone were too large (size and amount) to fit on these particular towers due to the small size and shape of the top of these towers. The PG&E representative explained that this was true even though other wireless carriers had located on some of the same towers in this vicinity because those carriers had installed much smaller equipment. The other alternative sites were dismissed for reasons of being too far outside the search ring and/or closer proximity to residential neighbors than the proposed site. The conclusions of the alternative site analysis are considered reasonable.

4. This proposed wireless facility will be in full compliance with FCC RF public safety standards. Wireless PCS and Cellular transmitters, by design and operation, are low-power devices. Even under maximal exposure conditions in which all the channels from all antennas for all four carriers are operating at full power the maximum exposure from this facility will not result in power densities in excess of 9.7% of the FCC public safety standard at any publically accessible location surrounding the proposed facility. This maximum exposure is more than 10 times lower than the FCC public exposure standards for these frequencies. Additionally, it is important to realize that the FCC maximum allowable exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations.

The applicant conducted an informational meeting on August 6, 2014, to explain the project to neighbors and answer questions.

Staff is recommending approval of the project, based on the findings of the consultant's report and because the proposed facility would be setback approximately 1,000 feet from Corral Hollow Road and be designed to look like a tree. This would be the first monopine in Tracy. Monopines currently exist in many of the surrounding cities. The applicant's original proposal was for a standard monopole and to locate it only approximately 100 feet from Corral Hollow Road. Following discussions between staff and the applicant, the applicant revised the project and resubmitted the application with the current proposal.

#### **Environmental Document**

The project is consistent with the Environmental Impact Report (EIR) that was prepared for the City's General Plan and certified in February 2011. In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15183, no further environmental assessment is required. An analysis of the project shows that no significant on or off-site impacts will occur as a result of this particular project that were not previously addressed in the General Plan EIR. No evidence exists of any significant impacts to occur off-site as a result of the project because traffic, air quality, aesthetics, land use and other potential cumulative impacts have already been considered within the original

environmental documentation. No new evidence of potentially significant effects has been identified as a result of this project.

Additionally, the project is categorically exempt from CEQA pursuant to CEQA Guidelines Section 15332, which pertains to certain infill development projects, because the project is consistent with the General Plan and Zoning, occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses, has no value as habitat for endangered, rare or threatened species, would not result in any significant effects relating to traffic, noise, air quality, or water quality, and can be adequately served by all required utilities and public services. No further environmental assessment is necessary.

#### RECOMMENDATION

Staff recommends that Planning Commission approve the Conditional Use Permit and Development Review to allow construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters, located approximately 1,000 feet west of Corral Hollow Road and approximately 130 feet south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-0013, based on the findings and subject to the conditions contained in the Planning Commission Resolution (Attachment E: Planning Commission Resolution) dated August 13, 2014.

#### **MOTION**

Move that the Planning Commission approve the Conditional Use Permit and Development Review to allow the construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters, located approximately 1,000 feet west of Corral Hollow Road and approximately 130 feet south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-0013, based on the findings and subject to the conditions contained in the Planning Commission Resolution dated August 13, 2014.

Prepared by: Scott Claar, Associate Planner Reviewed by: Victoria Lombardo, Senior Planner

Approved by: Andrew Malik, Development Services Director

#### <u>ATTACHMENTS</u>

A: Location Map

B: Photo Simulations of the Proposed

Monopine (oversized)

C: Site Plan and Elevations (oversized)

D: Consultant's Report

E: Planning Commission Resolution

## **LOCATION MAP**



#### JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM ♦ HEALTH AND MEDICAL PHYSICS CONSULTING ♦

### 7784 Oak Bay Circle Sacramento, CA 95831 (800) 760-8414-jbushberg@hampc.com

Scott Claar Associate Planner, City of Tracy Development Services Department 520 Tracy Boulevard Tracy, CA 95376 July 30, 2014

#### I. Introduction

At your request, I have reviewed the technical specifications for the proposed AT&T wireless telecommunications site, (referenced as site# CVU0717), to be located at the Southwest corner of Corral Hollow Rd. and West Shulte Rd. Tracy, CA 95376, as depicted in attachment 1. You have requested completion of the following four tasks:

- Task 1: Identify where the search ring is located and its radius; and confirm the need for this new facility, based on RF coverage maps.
- Task 2: Ensure that the proposed monopine, telecommunication facility, is as low in height as possible.
- Task 3: Review the alternative site analysis and its conclusions.
- Task 4: Ensure that the project as proposed will meet FCC radio frequency exposure standards.

#### II. Documents Reviewed

- 1. Alternative Site Analysis Report prepared by SAC Wireless Inc on behalf of SBA Towers (appendix A).
- 2. RF Compliance Report from Site Safe Inc. dated April 16, 201 (appendix B).
- 3. Proposed Site Plan and Elevations prepared by SAC Wireless Inc. dated 4/15/14 (appendix C).

#### **III. Facility Description**

This proposed AT&T telecommunication site will utilize directional transmit panel antennae configured in three (3) sectors. The antennae are planned to be mounted on a mono-pine, with their center at least 80 feet above grade directed at 30 (sector A), 130 (sector B) and 240 (sector C) degrees true north. The antennas specified are Andrew, Inc. model# SBNH-1D6565B for all sectors. Technical specifications of these antennae are provided in attachment two. The sectorized antennas are designed to transmit with an effective radiated power (ERP) of up to 2,810 watts per sector within a bandwidth between approximately 737 and 900 MHz (Cellular frequencies) and with an ERP of up to 7,358 watts per sector within a bandwidth between approximately 1,900 and 2,100 MHz (PCS frequencies). The proposal provides for three additional (as yet unspecified) carriers (AC-1, AC-2 and AC-3) to be co-located on the same structure with their antennae centers at 70 (AC-1), 60 (AC-2), 50 (AC-3) feet AGL respectively. Additional RF parameters specific to the AT&T and potential future carriers is shown in table one.

#### IV. Identification of Search Ring location and Radius

This site is proposed as a coverage and capacity site. This means that AT&T is both trying to improve the ability to send and receive wireless phone calls in the service area surrounding this proposed site (i.e, coverage), but also increase the number of phone calls that can be placed simultaneously in this same area (i.e, capacity). The center of the search ring was located on West Shulte Rd., West of Corral Hollow Rd. with a search radius of one-quarter mile (Graphic 1).

Graphic 1: Search Ring



#### V. Evaluation of Need for the Proposed Facility Based on RF Coverage Maps

The existing site utilization pattern on depicted on page 16 of the Alternative Site Analysis Report demonstrates that capacity is limited for several of the sectors surrounding the proposed facility. There is no doubt that this traffic congestion will be substantially improved with the proposed facility. The existing and simulated coverage maps on pages 17 and 18 of the Alternative Site Analysis Report respectively demonstrate that the current coverage in the identified service area allows for "in car" and "outdoor" coverage but that the signal strength is not adequate for reliable "indoors" coverage. Providing indoor coverage is a reasonable consideration as more and more customers are relying on wireless phones as their only phone service. The height of the proposed facility is driven by both the coverage area needs of AT&T as well as the desire to accommodate future co-location. The proposed height is reasonable considering these coverage, capacity and co-location objectives. Any significant lowering of the proposed height will result in a degradation of both coverage and capacity and limit future co-location opportunities. The degree to which this loss of coverage, capacity and co-location capability will impact the overall viability of the site relative to its construction and maintenance costs, is a business decision that only SBA Towers and AT&T can make.

#### VI. Evaluation of Alternative Site Analysis

The alternative site analysis was prepared by SAC Wireless Inc on behalf of SBA Towers. Their report (stamped by the city of Tracy as being received on April 21, 2014) consists of a review of nine alternative sites and rational for selecting the proposed site. Five of the nine alternative sites (B, D, E, H and I) were

outside of the search ring thus it is unclear why they would be included in the evaluation. Alternatives A&C are existing PG&E towers that were unsuitable for co-locating five carriers due to structural limitations. It is not know if the they would be suitable for AT&T without the potential for co-located carriers. Alternatives F&G were deemed unsuitable due to their closer proximity to residential structures compared to the proposed site. Dismissal of the alternative sites as inferior to the proposed site based on structural inadequacies and distance from residential properties is reasonable. This conclusion is based upon the presumption that building a site for co-location as proposed is an imperative.

#### VII. FCC RF Safety Compliance Assessment & Recommendations

The report prepared by Site Safe Inc., dated April 16, 2014 was reviewed in detail. Overall the report consists of mostly boiler plate information that is not site specific. The limited site specific information is largely uninformative relative to the potential RF exposure in the area surrounding the proposed site. Deficiencies include, (1) lack of precision in the estimate of maximum potential public exposures, (2) lack of calculation of rooftop exposure at the closest residence, (3) selection of unrealistic ERP and frequency for the three future co-located carriers that would have the effect of making potential exposures lower than they would likely be.

Independent calculations have been made and are included in this report to address the deficiencies previously noted. The calculations in this analysis of the maximum potential MPE were made in accordance with the recommendations contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (edition 97-01, page 24, equation 10) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." Several assumptions were made in order to provide the most conservative or "worse case" projections of power densities. Calculations were made assuming that all channels from all four carriers (AT&T and three additional carriers) were operating simultaneously at their maximum design effective radiated power. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material. The ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

Realistic assumptions of transmission frequencies and ERP were made for three additional co-located carriers (Verizon, Sprint/Nextel and T-Mobile). The RF characteristics of these carriers is shown in table one along with the information provided for the AT&T proposed facility. The cumulative RF exposure at ground level and at the rooftop of the closest residence are provided in appendix D.

The maximum cumulative RF exposure at ground level and at the rooftop of the closest residence from this proposed facility was calculated to be less than 9.7% and less than 0.01% of the FCC public safety standard respectively. Exposure details are shown in appendix D. A sign conforming to with ANSI C95.2 color, symbol and content, and other markings as appropriate, should be placed close to the antennas with appropriate contact information in order to alert maintenance or other workers approaching the antenna to the presence of RF transmissions and to take precautions to avoid exposures in excess of FCC limits.

Table 1: RF antennae, power and frequency specifications for AT&T and three additional carriers.

					1									
Ant	Spec		Freq	Input			х	Y	Z		Aper	Gain	BWdth;	ERP
Num	ID	Name	(MHz)	Power (W)	Mfg	Model	(ft)	(ft)	(ft)	Туре	(ft)	dBd	Pt Dir	(W)
1	1A	Verizon	700	32.0	Generic	Generic	60.0	60.0	47.0	Panel	4.5	16	65;30	1274
2	2A	Verizon	850	52.0	Generic	Generic	57.0	57.0	47.0	Panel	4.5	16	65;30	2070
3	ЗА	Verizon	1900	22.0	Generic	Generic	55.0	54.0	47.0	Panel	4.5	16	65;30	876
4	4A	Verizon	1900	22.0	Generic	Generic	52.0	51.0	47.0	Panel	4.5	16	65;30	876
5	1B	Verizon	700	32.0	Generic	Generic	48.0	52.0	47.0	Panel	4.5	16	65;130	1274
6	2B	Verizon	850	52.0	Generic	Generic	47.0	55.0	47.0	Panel	4.5	16	65;130	2070
7	3B	Verizon	1900	22.0	Generic	Generic	46.0	59.0	47.0	Panel	4.5	16	65;130	876
8	4B	Verizon	1900	22.0	Generic	Generic	44.0	63.0	47.0	Panel	4.5	16	65;130	876
9	1C	Verizon	700	32.0	Generic	Generic	47.0	66.0	47.0	Panel	4.5	16	65;240	1274
10	2C	Verizon	850	52.0	Generic	Generic	50.0	65.0	47.0	Panel	4.5	16	65;240	2070
11	3C	Verizon	1900	22.0	Generic	Generic	54.0	64.0	47.0	Panel	4.5	16	65;240	876
12	4C	Verizon	1900	22.0	Generic	Generic	58.0	63.0	47.0	Panel	4.5	16	65;240	876
13	1A	TMO	1900	50.0	Generic	Generic	60.0	60.0	57.0	Panel	4.5	16	65;30	1991
14	2A	TMO	2100	50.0	Generic	Generic	57.0	57.0	57.0	Panel	4.5	16	65;30	1991
15	ЗА	TMO	1900	50.0	Generic	Generic	55.0	54.0	57.0	Panel	4.5	16	65;30	1991
16	4A	TMO	2100	50.0	Generic	Generic	52.0	51.0	57.0	Panel	4.5	16	65;30	1991
17	1B	TMO	1900	50.0	Generic	Generic	48.0	52.0	57.0	Panel	4.5	16	65:130	1991
18	2B	TMO	2100	50.0	Generic	Generic	47.0	55.0	57.0	Panel	4.5	16	65;130	1991
19	3B	TMO	1900	50.0	Generic	Generic	46.0	59.0	57.0	Panel	4.5	16	65;130	1991
20	4B	TMO	2100	50.0	Generic	Generic	44.0	63.0	57.0	Panel	4.5	16	65;130	1991
21	1C	TMO	1900	50.0	Generic	Generic	47.0	66.0	57.0	Panel	4.5	16	65;240	1991
22	2C	TMO	2100	50.0	Generic	Generic	50.0	65.0	57.0	Panel	4.5	16	65;240	1991
23	3C	TMO	1900	50.0	Generic	Generic	54.0	64.0	57.0	Panel	4.5	16	65;240	1991
24	4C	TMO					58.0						-	
			2100	50.0	Generic	Generic		63.0	57.0	Panel	4.5	16	65;240	1991
37	1A	SPT/NEX	850	84.5	Generic	Generic	60.0	60.0	67.0	Panel	4.5	16	65;30	3364
38	2A	SPT/NEX	1900	33.8	Generic	Generic	57.0	57.0	67.0	Panel	4.5	16	65;30	1346
39	3A	SPT/NEX	850	84.5	Generic	Generic	55.0	54.0	67.0	Panel	4.5	16	65;30	3364
40	4A	SPT/NEX	1900	33.8	Generic	Generic	52.0	51.0	67.0	Panel	4.5	16	65;30	1346
41	1B	SPT/NEX	850	84.5	Generic	Generic	48.0	52.0	67.0	Panel	4.5	16	65;130	3364
42	2B	SPT/NEX	1900	33.8	Generic	Generic	47.0	55.0	67.0	Panel	4.5	16	65;130	1346
43	3B	SPT/NEX	850	84.5	Generic	Generic	46.0	59.0	67.0	Panel	4.5	16	65;130	3364
44	4B	SPT/NEX	1900	33.8	Generic	Generic	44.0	63.0	67.0	Panel	4.5	16	65;130	1346
45	1C	SPT/NEX	850	84.5	Generic	Generic	47.0	66.0	67.0	Panel	4.5	16	65;240	3364
46	2C	SPT/NEX	1900	33.8	Generic	Generic	50.0	65.0	67.0	Panel	4.5	16	65;240	1346
47	3C	SPT/NEX	850	84.5	Generic	Generic	54.0	64.0	67.0	Panel	4.5	16	65;240	3364
48	4C	SPT/NEX	1900	33.8	Generic	Generic	58.0	63.0	67.0	Panel	4.5	16	65;240	1346
49	1A	ATT	737	60.0	Andrew	SBNH-1D6565B	60.0	60.0	77.0	Panel	6.1	12.91	70;30	1173
49	1A	ATT	2100	66.0	Andrew	SBNH-1D6565B	60.0	60.0	77.0	Panel	6.1	15.71	70;30	2458
50	2A	ATT	1900	40.0	Andrew	SBNH-1D6565B	57.0	57.0	77.0	Panel	6.1	16.11	70;30	1633
51	ЗА	ATT	850	80.0	Andrew	SBNH-1D6565B	55.0	54.0	77.0	Panel	6.1	13.11	70;30	1637
52	4A	ATT	1900	80.0	Andrew	SBNH-1D6565B	52.0	51.0	77.0	Panel	6.1	16.11	70;30	3267
53	1B	ATT	737	60.0	Andrew	SBNH-1D6565B	48.0	52.0	77.0	Panel	6.1	12.91	70;30	1173
53	1B	ATT	2100	66.0	Andrew	SBNH-1D6565B	48.0	52.0	77.0	Panel	6.1	15.71	70;30	2458
54	2B	ATT	1900	40.0	Andrew	SBNH-1D6565B	47.0	55.0	77.0	Panel	6.1	16.11	70;30	1633
55	3B	ATT	850	80.0	Andrew	SBNH-1D6565B	46.0	59.0	77.0	Panel	6.1	13.11	70;30	1637
56	4B	ATT	1900	80.0	Andrew	SBNH-1D6565B	44.0	63.0	77.0	Panel	6.1	16.11	70;30	3267
57	1C	ATT	737	60.0	Andrew	SBNH-1D6565B	47.0	66.0	77.0	Panel	6.1	12.91	70;30	1173
57	1C	ATT	2100	66.0	Andrew	SBNH-1D6565B	47.0	66.0	77.0	Panel	6.1	15.71	70;30	2458
58	2C	ATT	1900	40.0	Andrew	SBNH-1D6565B	50.0	65.0	77.0	Panel	6.1	16.11	70;30	1633
59	3C	ATT	850	80.0	Andrew	SBNH-1D6565B	54.0	64.0	77.0	Panel	6.1	13.11	70;30	1637
60	4C	ATT	1900	80.0	Andrew	SBNH-1D6565B	58.0	63.0	77.0	Panel	6.1	16.11	70;30	3267
JU	10	AII	1900	00.0	- HIGHEW	ODINI - IDUJUJD	30.0	03.0	17.0	ratiet	0.1	10.11	10,50	JZUI

#### **RF Safety Standards**

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHZ in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is 1,000  $\mu$ W/cm². This compares to 5,000  $\mu$ W/cm² at the most restrictive of the PCS frequencies (~1,800 MHZ) that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled" (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at PCS frequencies to 1,000 µW/cm².

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A revision of this standard (C95.1-2005) was completed in October 2005 by SCC 39 the IEEE International Committee on Electromagnetic Safety. Their recommendations are similar to the NCRP recommendation for the maximum permissible exposure (MPE) to the public PCS frequencies (950 µW/cm² for continuous exposure at 1,900 MHZ) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at PCS frequencies of 1,000 µW/cm<sup>2</sup>). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., PCS company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

#### **Summary & Conclusions**

This proposed wireless facility as specified above will be in full compliance with FCC RF public safety standards. Wireless PCS and Cellular transmitters, by design and operation, are low-power devices. Even under maximal exposure conditions in which all the channels from all antennas for all four carriers are operating at full power the maximum exposure from this facility will not result in power densities in excess of 9.7% of the FCC public safety standard at any publically accessible location surrounding the proposed facility. This maximum exposure is more than 10 times lower than the FCC public exposure standards for these frequencies. A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from wireless telecommunications systems in perspective.

It is important to realize that the FCC maximum allowable exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus the previously mentioned maximum exposure at any publically accessible location inside or surrounding the building represent a "safety margin" from this threshold of potentially adverse health effects of more than 500 times.

Given the low levels of radiofrequency fields that would be generated from this facility, and given the evidence on biological effects in a large data base, there is no scientific basis to conclude that harmful effects will attend the utilization of the proposed wireless telecommunications facility. This conclusion is supported by a large numbers of scientists that have participated in standard-setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by the City of Tracy. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,

Jerrold T. Bushberg Ph.D., DABMP, DABSNM, FAAPM

June T. Bully

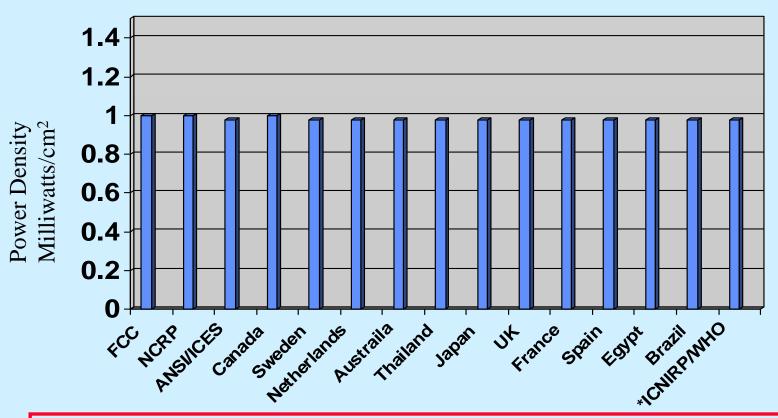
Diplomate, American Board of Medical Physics (DABMP)

Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Fellow, American Association of Physicists in Medicine (FAAPM)

Enclosures: Figures 1-3; Attachments 1, 2; Appendices A-D and Statement of Experience

## National and International Public RF Exposure Standards (PCS @ 1,950 MHz)



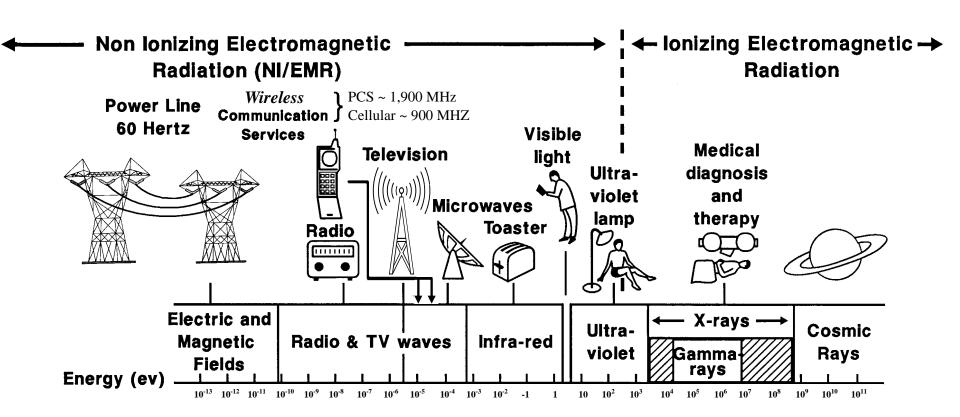
\*International Commission on Non-Ionizing Radiation Protection (ICNIRP) Public Safety Exposure Standard. ICNIRP standard recommended by the World Health Organization (WHO). Members of the ICNIRP Scientific Committee were from:

- Australia
- Finland
- France
- Germany

• Hungary

- Italy
- Sweden
- Japan
- United Kingdom

• United States



The Electromagnetic Spectrum

Figure 2

# Typical Exposure from Various Radio Frequency / Microwave Sources

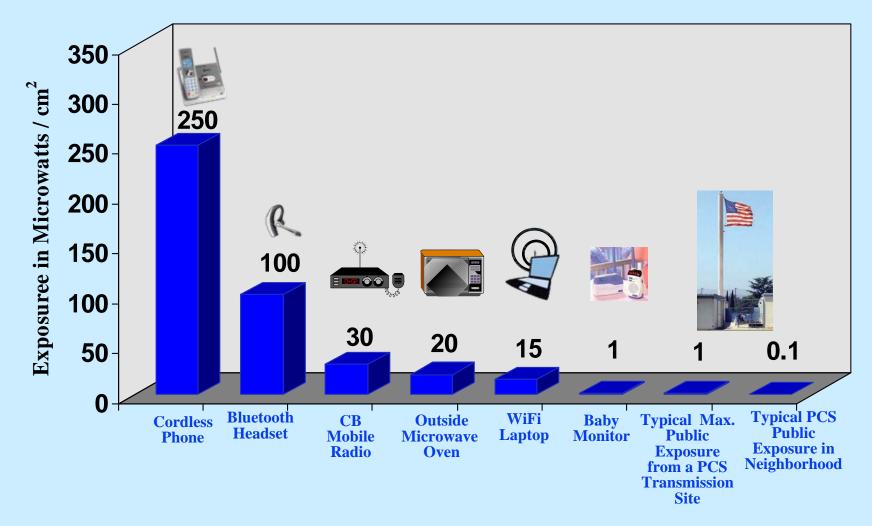


Figure 3

## **Attachment 1**

**Site Specifications** 



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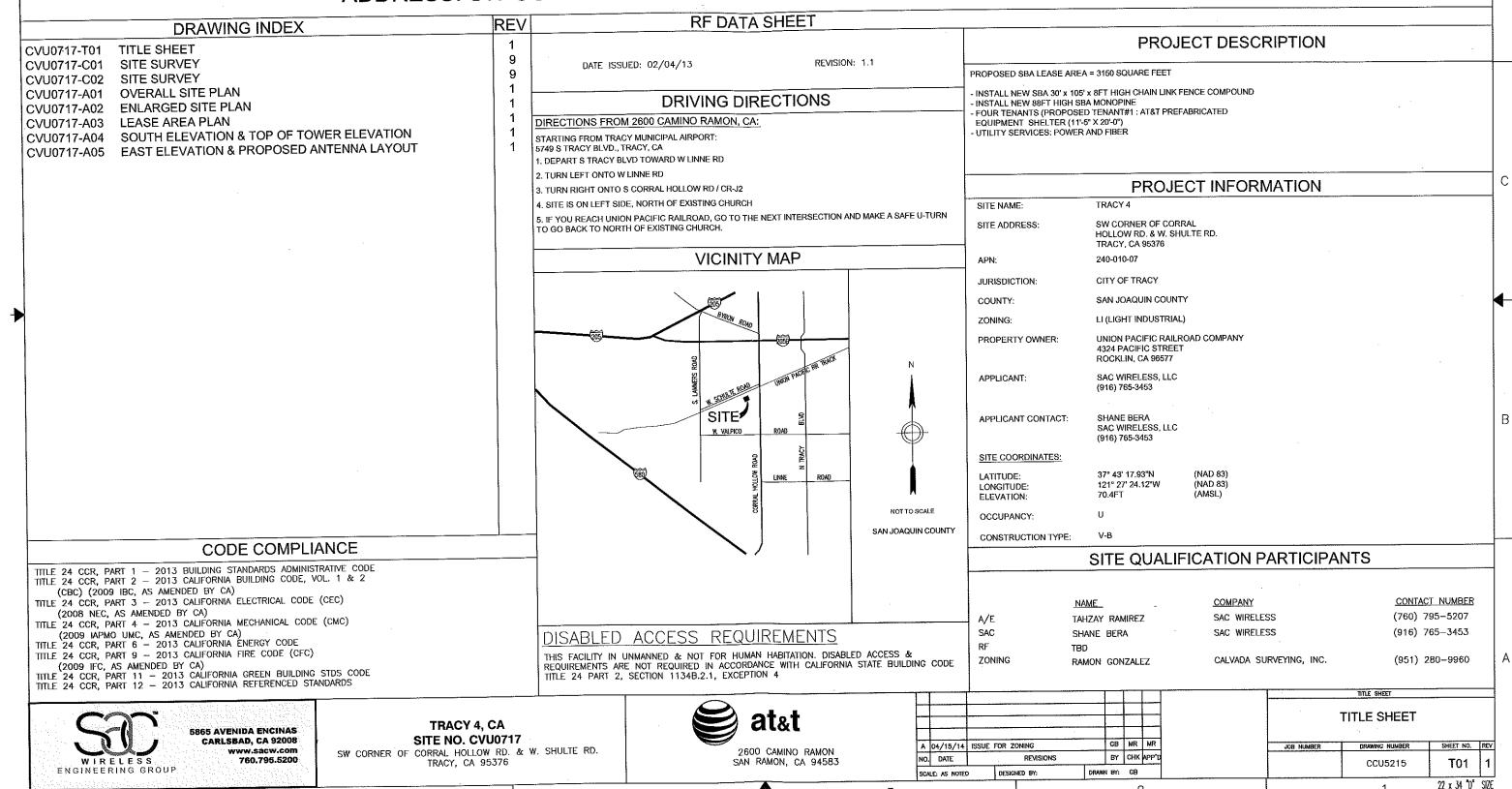
5



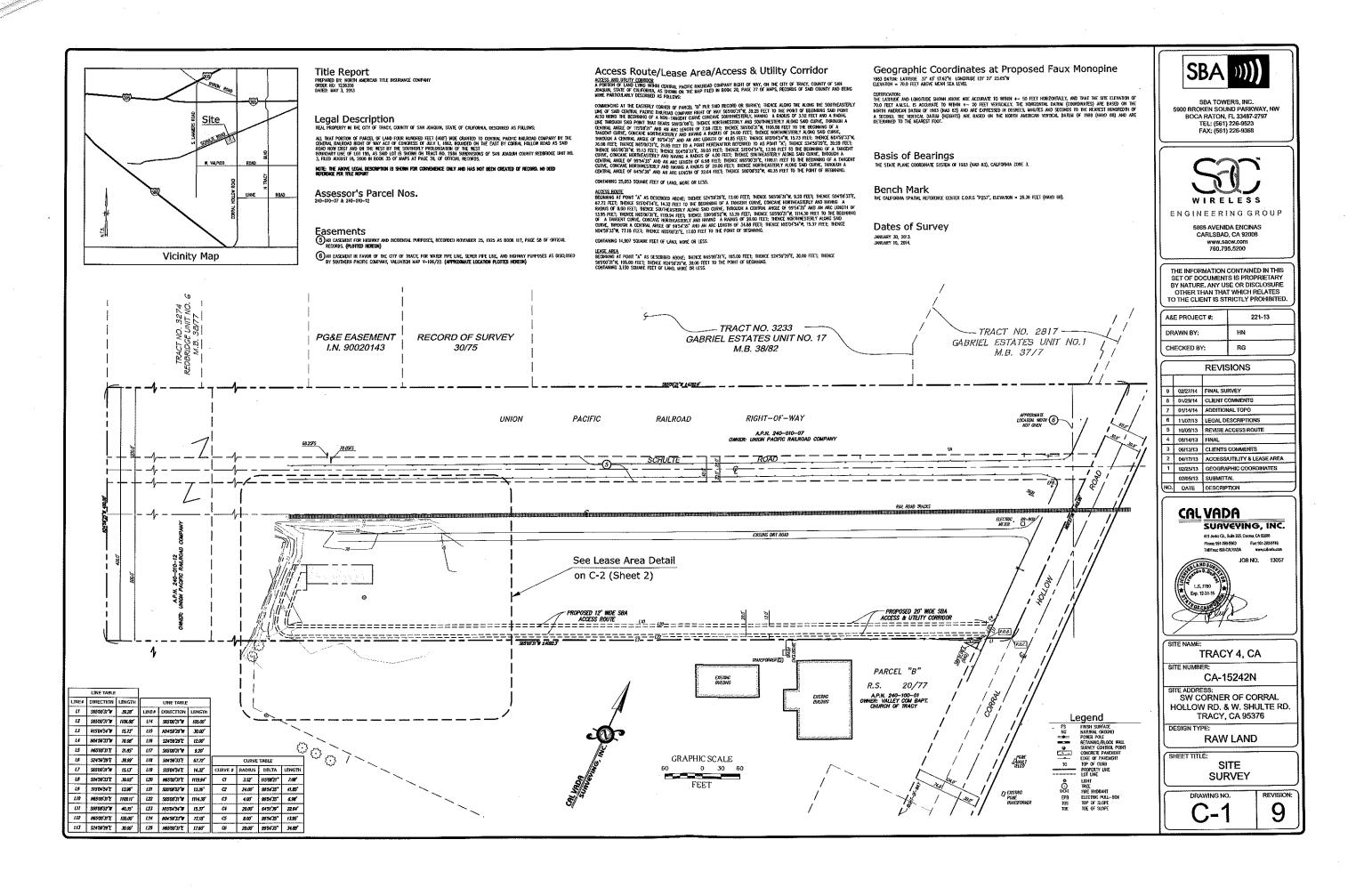
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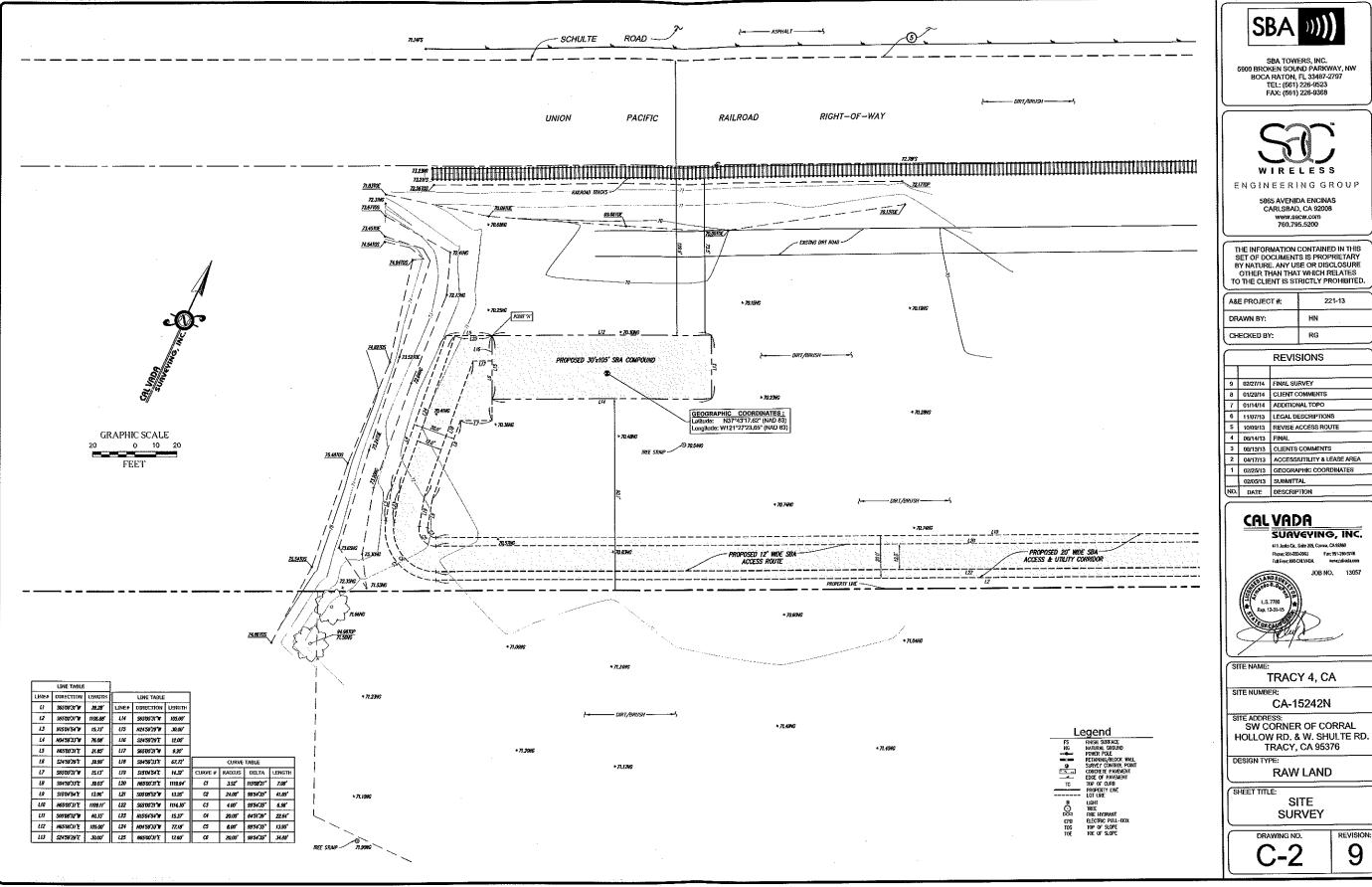
SITE NAME: MCARTHUR & SCHULTE RD

ADDRESS: SW CORNER OF CORRAL HOLLOW RD. & W. SHULTE RD.TRACY, CA 95376



3







SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT IS STRICTLY PROHIBITED.

A&E PROJECT#:	221-13
DRAWN BY:	HN
CHECKED BY:	RG

_					
REVISIONS					
9	02/27/14	FINAL SURVEY			
8	01/29/14	CLIENT COMMENTS			
7	01/14/14	ADDITIONAL TOPO			
6	11/07/13	LEGAL DESCRIPTIONS			
5	10/09/13	REVISE ACCESS ROUTE			
4	06/14/13	FINAL			
3	06/13/13	CLIENTS COMMENTS			
2	04/17/13	ACCESS/UTILITY & LEASE AREA			
1	02/25/13	GEOGRAPHIC COORDINATES			
	02/05/13	SUBMITTAL			
NO.	DATE	DESCRIPTION			

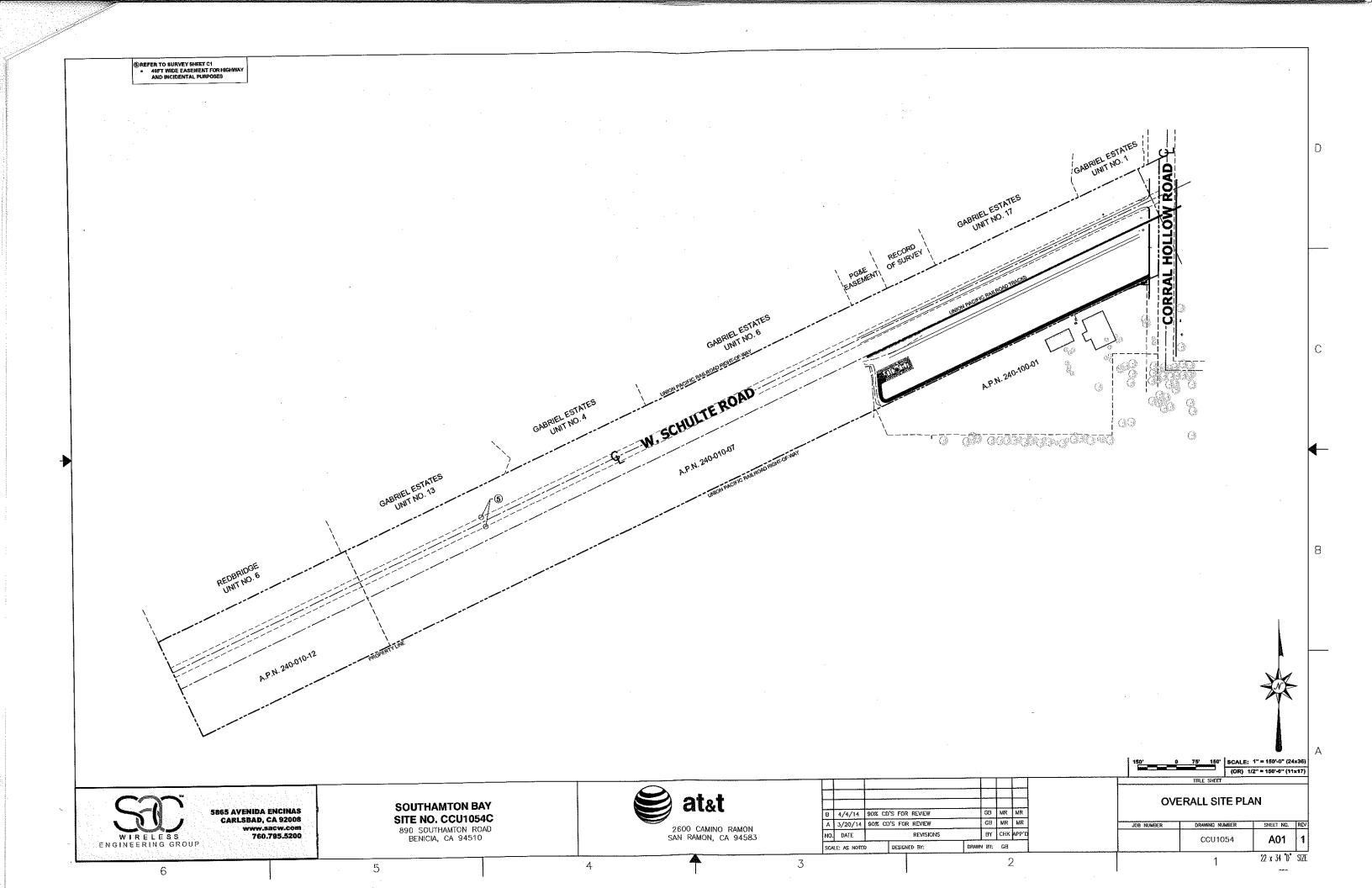
SURVEYING, INC.

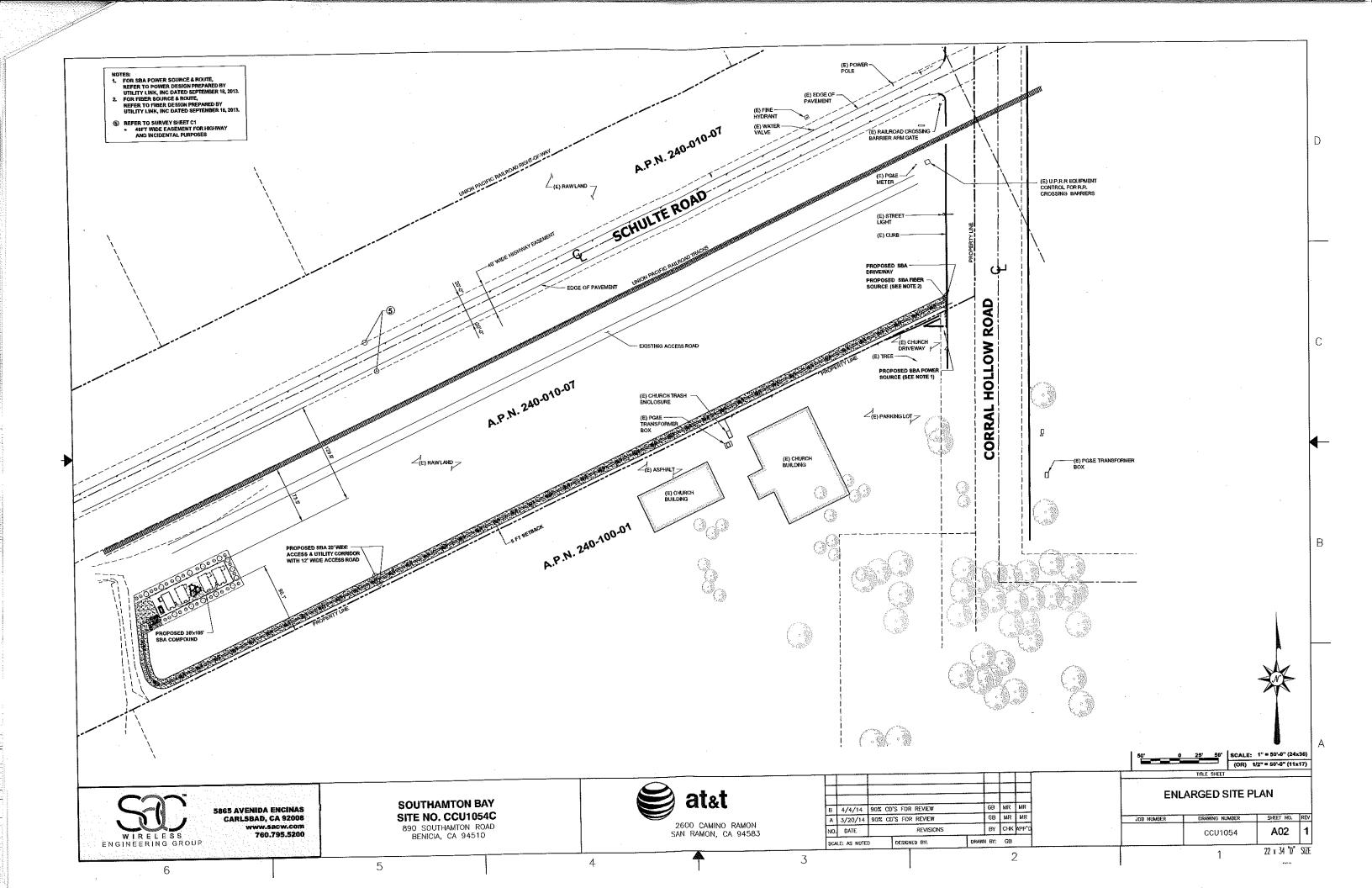
Face: 961-280-9963 Fac: 951-280-9748 Toll Free: 800-CALVADA www.cakeda.com

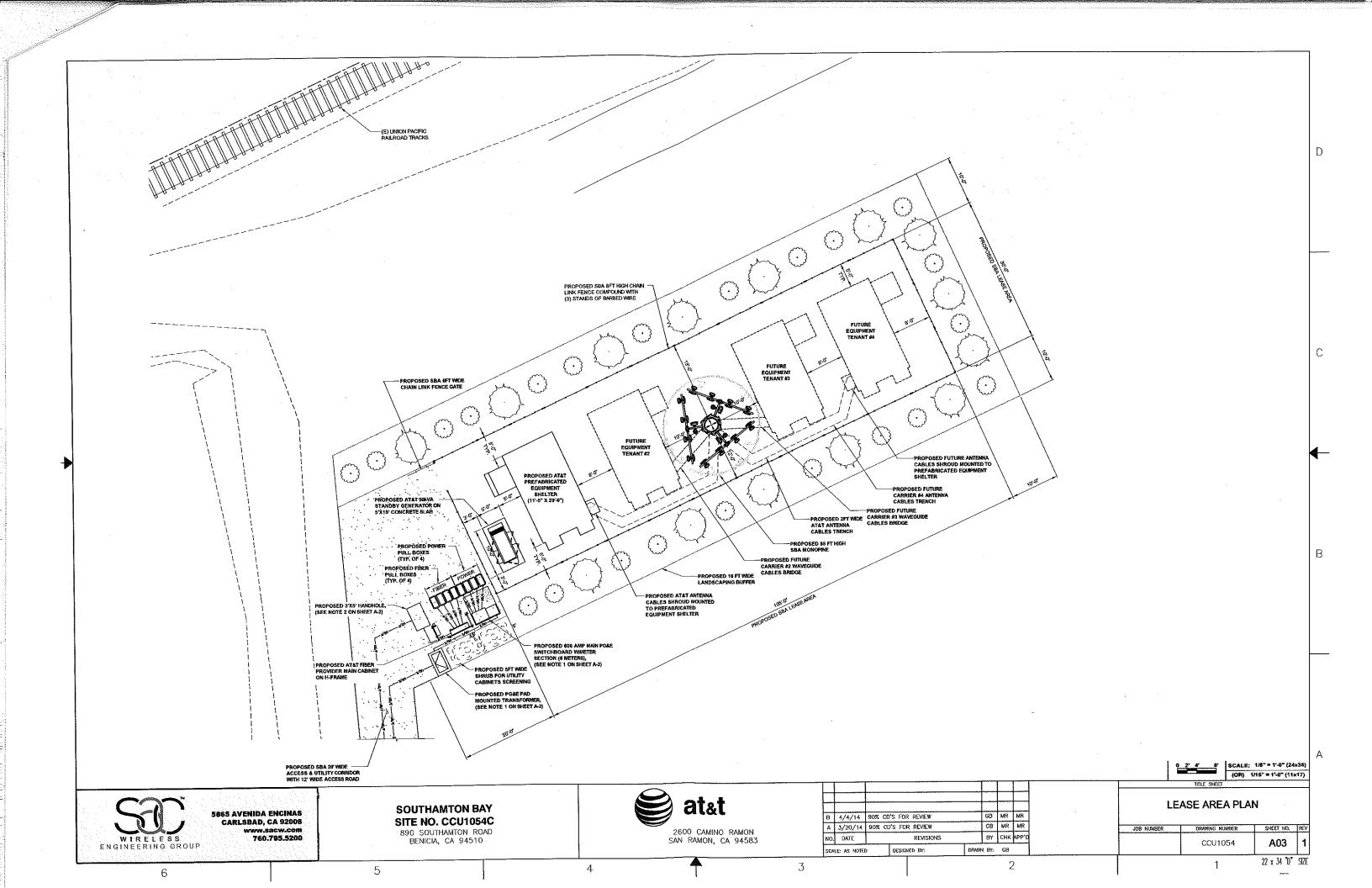


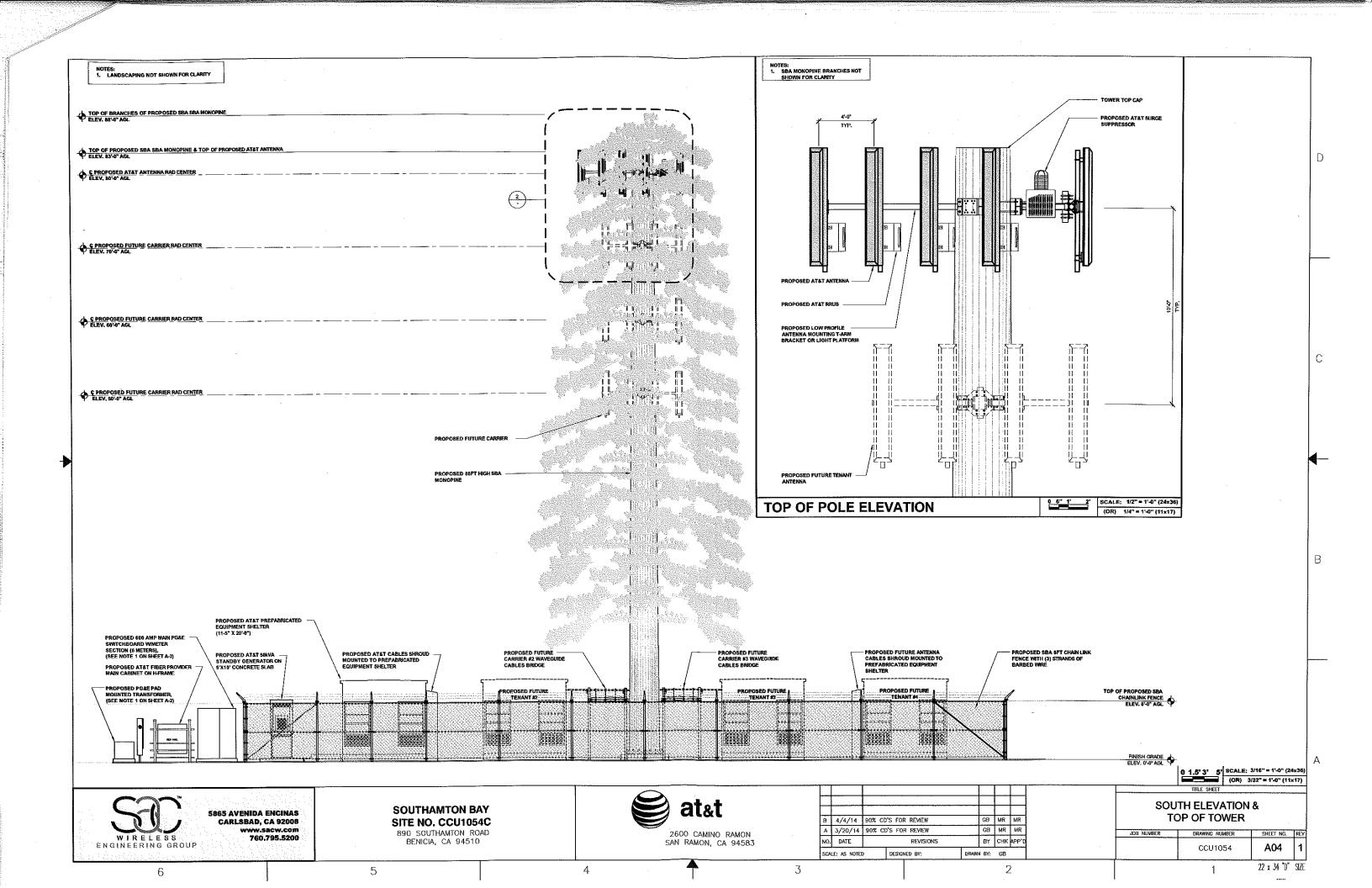
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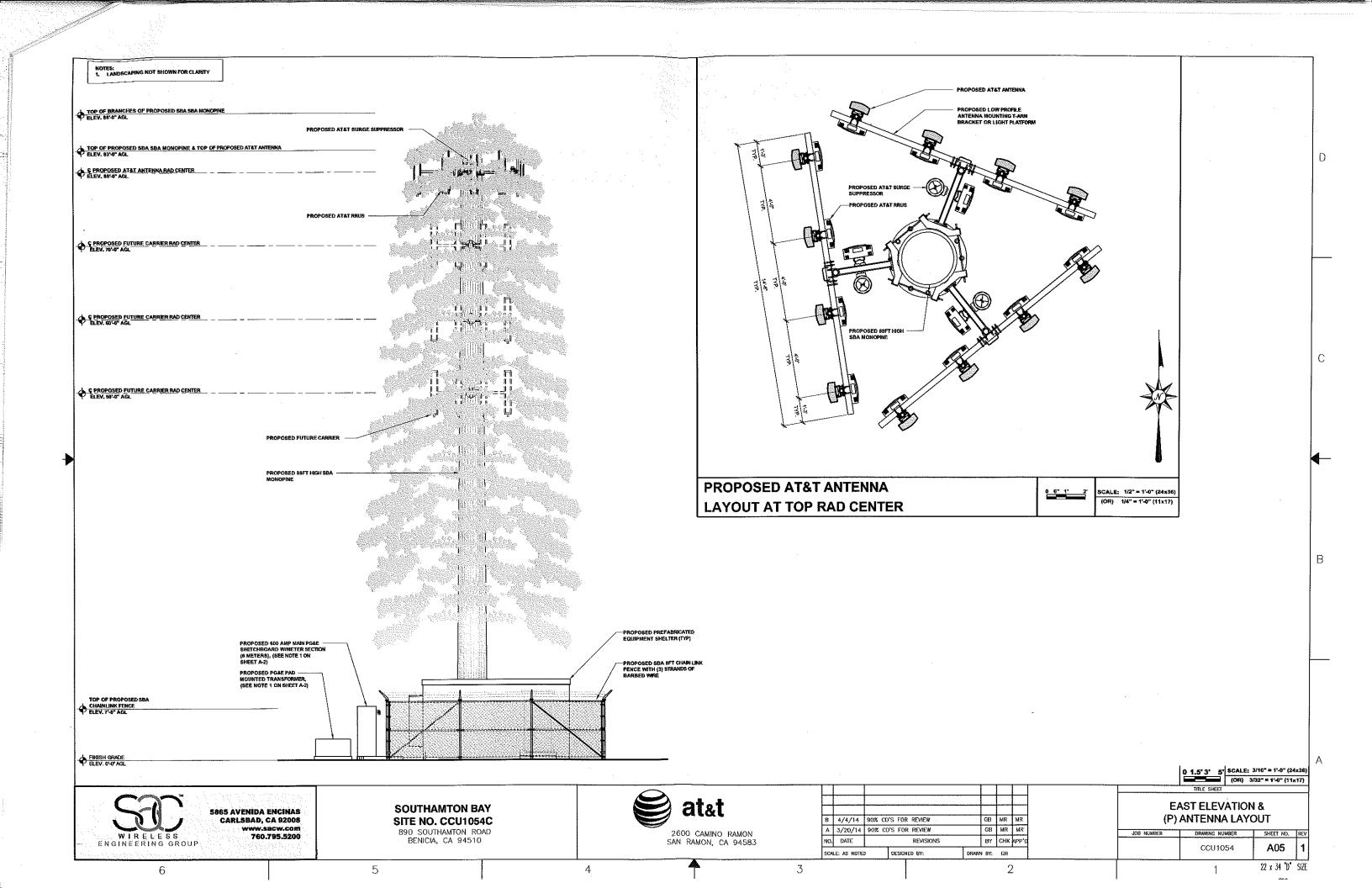
9











## **Attachment 2**

**Antenna Specifications** 

## Product Specifications



SBNHH-1D65B

Andrew® Tri-band Antenna, 1 x 698–896 MHz and 2 x 1710–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.





#### **Electrical Specifications**

Frequency Band, MHz	698-806	806-896	1710-1880	1850-1990	1920-2180	2300-2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 °   14.6 7 °   14.6 14 °   14.2	0 °   14.5 7 °   14.4 14 °   13.6	0 °   17.4 3 °   17.5 7 °   17.4	0 °   17.8 3 °   17.9 7 °   17.9	0 °   18.1 3 °   18.3 7 °   18.2	0 °   18.2 3 °   18.4 7 °   18.4
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
Beam Tilt, degrees	0-14	0-14	0-7	0-7	0-7	0-7
USLS, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR   Return Loss, dB	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°

<sup>\*</sup>Values calculated using NGMN Alliance N-P-BASTA v9.6

#### **Mechanical Specifications**

Color   Radome Material	Light gray   Fiberglass, UV resistant
Connector Interface   Location   Quantity	7-16 DIN Female   Bottom   6
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.4 km/h   150.0 mph
Antenna Dimensions, L x W x D	1828.0 mm x 301.0 mm x 181.0 mm   72.0 in x 11.9 in x 7.1 in
Net Weight	18.4 kg   40.6 lb



# **Appendix A**

Alternative Site Analysis Report prepared by SAC Wireless Inc on behalf of SBA Towers.



APR 21 2014 CITY OF TRACY

on behalf of



# ALTERNATIVE SITE ANALYSIS FOR THE PROPOSED

AT&T Wireless Communications Facility
SBA TOWERS SITE NUMBER: CA-15242N
SBA TOWERS SITE NAME: TRACY 4
UPRR Property Located at the Corner of Coral Hollow and Schulte Road, Tracy, CA 95376

### PROJECT NARRATIVE

### **SEARCH AREA**



This telecommunications facility is being built by SBA Towers, Inc., and will initially be used by AT&T with the potential for future collection for other wireless carriers. The red circle in the above map shows the area in which the RF Engineers wanted to focus their search for a new telecommunication facility. The purpose of the new site is to relieve capacity issues with existing AT&T facilities and provide improved service in the area.

This proposed site location is ideal to accomplish the above goals, as it is located between four existing AT&T facilities, in an area where no facilities currently exist. One particular existing AT&T facility, located southeast of the proposed facility, is undergoing extreme congestion during busy times of the day, causing poor service quality in the area. By offloading some of the over-burdened facility's calls to the new facility, each facility will be better able to handle the large amount of calls throughout the day, especially during busy times of the day thereby improving overall quality of cellular service in the area.

The proposed telecommunication facility will improve coverage and quality of coverage to the residential area in the blue region above within the boundaries of S. Lemmers Road, W 11<sup>th</sup> Street, S. McArthur Drive and Valpico Road.

### **ZONING REGULATION**

Pursuant to Tracy, California Code of Ordinances Sec. 10.25.090.-Telecommunications facilities—Minimum application requirements.

All major facilities and minor facilities shall comply with the following:

- (a) The applicant for a telecommunications facility shall submit the following information in order to initiate the review process: a completed development application form in compliance with applicable requirements of the development review process set forth in Article 30 of this title or the conditional use permit process set forth in Article 34 of this title, including signature of the property owner; application fees as established in Section 10.25.060 for minor facilities and Section 10.25.080 for major facilities; completed supplemental project information forms; a specific maximum requested gross crosssectional area, or silhouette, of the facility; service area maps; network maps; alternative site analysis as prescribed in subsection (e) of this section, including written documentation demonstrating a good faith effort to locate facilities in compliance with the site preferences of Section 10.25.130; visual impact demonstrations including mock-ups and/or photomontages showing all poles, buildings, other structures, antennas, panels, mounting brackets, cable and other exterior support and accessory features; NIER exposure information, certifying that emissions will not exceed adopted government standards; preliminary title report(s); security considerations; list of other nearby telecommunication facilities; master plan for all related facilities within the City and within one-quarter mile therefrom; facility design alternatives to the proposal; and payment of costs for peer review, if deemed necessary by the Community Development Director pursuant to subsection (d) of this section.
- (b) All co-located and multiple-user telecommunication facilities shall be designed to promote facility and site sharing. To this end telecommunication towers and necessary appurtenances, including but not limited to, parking areas, access roads and utilities shall be shared by site users when in the determination of the Community Development Director or Planning Commission, as appropriate, this will minimize overall visual impact to the community.
  - (1) The facility shall make available unutilized space on the structure for co-location of other telecommunication facilities, including space for these entities providing similar, competing services. A good faith effort in achieving co-location shall be required of the host entity. Requests for utilization of facility space and responses to such requests shall be made in a timely manner and in writing and copies shall be provided to the City's permit files. Co-location is not required in cases where the addition of the new service or facilities would cause quality of service impairment to the existing facility or if it became necessary for the host to go off-line for a significant period of time.
  - (2) Approval for the establishment of facilities improved with an existing microwave

band or other public service use or facility, which creates interference or interference is anticipated as a result of such establishment of additional facilities, shall include provisions for the relocation of such existing public use facilities. All costs associated with such relocation shall be borne by the applicant for the additional facilities.

(3) An analysis shall be prepared by or on behalf of the applicant, subject to the approval of the Community Development Director, which identifies all reasonable, technically feasible, alternative locations and/or facilities which would provide the proposed telecommunication service. The intention of the alternatives analysis is to present alternative strategies which would minimize the number, size, and adverse environmental impacts of facilities necessary to provide the needed services to the City and surrounding rural and urban areas. The analysis shall address the potential for co-location at an existing or a new site and the potential to locate facilities as close as possible to the intended service area. It shall also explain the rationale for selection of the proposed site in view of the relative merits of any of the feasible alternatives. Approval of the project is subject to the Planning Commission or Community Development Director, as appropriate, making a finding that the proposed site results in fewer or less severe environmental impacts than any feasible alternative site. The City may require independent peer review of this analysis at the applicant's expense. Applications for facilities which are not proposed to be co-located with another telecommunication facility shall include a written explanation why the subject facility is not a candidate for co-location.

### 10.25.130 - Telecommunication facilities—Site preference.

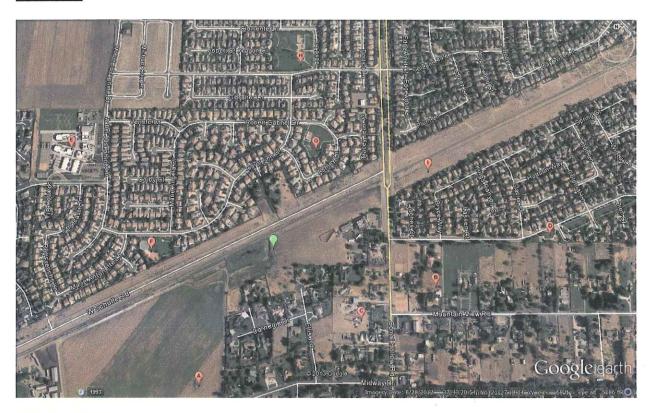
- (a) Telecommunication facilities shall be located in the following order of preference for minor facilities:
  - (1) Completely within existing structures;
  - (2) Existing structures that allow facade-mounted antennas;
  - (3) Co-location on existing telecommunications facilities or light standards at a lower height;
  - (4) Existing structures that require modification of the structure architecturally or in height in order to mount antennas (including roof mounts);
  - (5) Co-location on existing telecommunication facilities or light standards at a higher height.
- (b) Telecommunication facilities shall be located in the following order of preference for major facilities:
  - (1) New telecommunications tower for co-location;
  - (2) New telecommunications tower for a single carrier.
- (c) Site preference of subsection (a) and (b) of this section notwithstanding, the City encourages locating telecommunications facilities on City-owned property. The City recognizes

a potential public interest in locating telecommunication facilities on City property (light standards at City parks, water towers, in conjunction with City communication needs, etc.) The potential benefits include the following:

- (1) Greater public control over siting, design, maintenance, and removal of telecommunication facilities;
- (2) Co-locate current or future City emergency and other communication facilities; and
- (3) Public revenue through lease agreements with telecommunication service providers. (§ 1, Ord. 955 C.S., eff. April 15, 1997)

### Alternative Analysis Pursuant to 10.25.090(b)(3)

## <u>Identification of All Reasonable, Technically Feasible, Alternative Locations and/or Facilities:</u>



Above is a map showing the proposed site (Green Marker) and the nine (9) alternative sites (Lettered Red Markers) that were considered for placing the telecommunications facility. Each Alternative Site is considered below:

Alternative A

PG&E Moitoso - End of Midway Drive off of Coral Hollow Road

Latitude/Longitude: 37.717878", -121.459154"

Proposal: Collocation



Considerations: This candidate consists of two PG&E towers, located side by side on agricultural land. The towers are about 92'-3" in height. According to PG&E neither of these towers can accommodate the amount of equipment that is required to accomplish AT&T's goals for this site as the top cages are too small and unsafe. These towers are some of the smallest PG&E towers in PG&E's system and are simply not large enough to accommodate AT&T's requirements for this search area.

Alternative B

PG&E Hawkins – 11913 Mountain View Road Latitude/Longitude: 37.720352", -121.451543"

Proposal: Collocation



Considerations: This Candidate consists of two PG&E towers located side by side on residential land. The towers are about 92'-3" in height. According to PG&E neither of these towers could accommodate the amount of equipment that is required to accomplish AT&T's goals for this site, as the top cages are too small. These towers are some of the smallest PG&E towers in PG&E's system and are simply not large enough to accommodate AT&T's requirements. Furthermore, this candidate is on residential land and very close to numerous homes which could become an issue as construction and maintenance could disrupt residents and the negative visual impact of the facility will be higher in a residential area. Lastly, this Candidate is outside of AT&T's search ring as it is East of Coral Hollow Road and therefore will not properly address AT&T's capacity and coverage concerns.

Alternative C

PG&E Towers at 26101 Corral Hollow Road Latitude/Longitude: 37.719511", -121.454013"

Proposal: Collocation



Considerations: This candidate consists of two PG&E towers located side by side on residential land. According to PG&E neither of these towers could accommodate the amount of equipment that is required to accomplish AT&T's goals for this site. These towers already hold two wireless carriers' equipment and have no available space for collocation. These towers are able to accommodate such equipment because the equipment is significantly smaller in quantity and size than what AT&T requires to accomplish its goal of improving the quality of coverage in this area.

Alternative D

Evans Park - 1730 Parkside Drive

Latitude/Longitude: 37.721696",-121.447616"

Proposal: Monopine



Considerations: This candidate is a City of Tracy park and is not a valid candidate. This site is not suitable because it is located in a densely residential area and therefore the facility would have a large negative visual impact on its surroundings. There is no way to decrease the visual impact of the facility at this location. Also, there is very limited space available at the park, so the facility would take away from valuable park space, thereby diminishing the value of the park to the community. Finally, this candidate is outside of AT&T's search ring and is too close to an existing AT&T site to meet the AT&T's objectives.

Alternative E

George Kelly Elementary School - 535 Mabel Josephine Drive

Latitude/Longitude: 37.723988",-121.463664"

Proposal: Monopole or Rooftop



**Considerations:** This candidate is an elementary school located in an extremely dense residential area and the facility would be easily visible, causing a negative visual impact. This candidate is also outside of AT&T's search ring and therefore, it will not sufficiently accomplish AT&T's goal of increased coverage quality in this area.

Alternative F

Sparks Park - 2428 Carol Ann Drive

Latitude/Longitude: 37.721395",-121.460708"

Proposal: Monopine



**Considerations:** This candidate is a City of Tracy park. This site is not suitable because it is located in a densely residential area and therefore the facility would have a large negative visual impact on its surroundings. Also, there is very limited space available at the park, so the facility would take away from valuable park space, thereby diminishing the value of the park to the community.

Alternative G

Chadeayne Park – 2101 Robert Gabriel Drive Latitude/Longitude: 37.724533",-121.455228"

Proposal: Monopine



Considerations: This candidate is a City of Tracy park. This site is not suitable because it is located in a densely residential area and therefore the facility would have a large negative visual impact on its surroundings. Also, there is very limited space available at the park, so the facility would take away from valuable park space, thereby diminishing the value of the park to the community.

Alternative H

Marlow Brothers Park – 2217 Golden Leaf Ln Latitude/Longitude: 37.726198",-121.456422"

Proposal: Monopine



Considerations: This candidate is a City of Tracy park. This site is not suitable because it is located in a densely residential area and therefore the facility would have a large negative visual impact on its surroundings. Also, there is very limited space available at the park, so the facility would take away from valuable park space, thereby diminishing the value of the park to the community. Finally, this candidate is outside of AT&T's search ring and is too close to an existing AT&T site to meet the AT&T's objectives.

### Alternative I

Union Pacific Land - Near the corner of Summertime Drive and Bryce Way

Latitude/Longitude: 37.723298",-121.451671"

Proposal: Monopine



Considerations: This candidate consists of raw land owned by the Union Pacific Railroad. This candidate borders a dense residential neighborhood making the negative visual impact quite high. This candidate is also outside of AT&T's search ring, being east of Corral Hollow Road. Therefore, it will not sufficiently accomplish AT&T's goal of increased coverage quality in this area. Finally, this site is too close to an existing AT&T site to meet the AT&T's objectives.

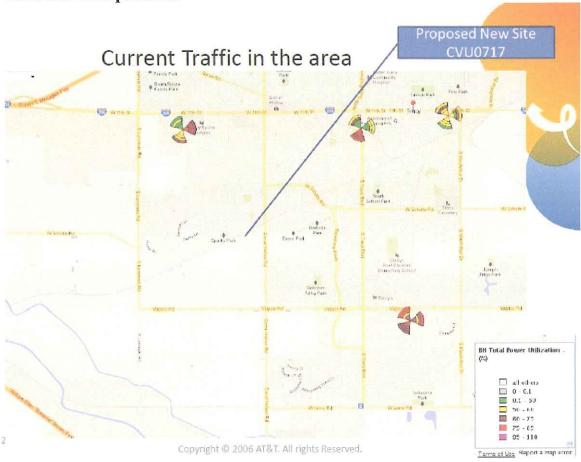
### **Rationale for Selection of the Proposed Site:**

Union Pacific Land - Corner of Corral Hollow Road and W. Schulte Road

Latitude/Longitude: 37°43'17.11"N, 121°27'24.49"W

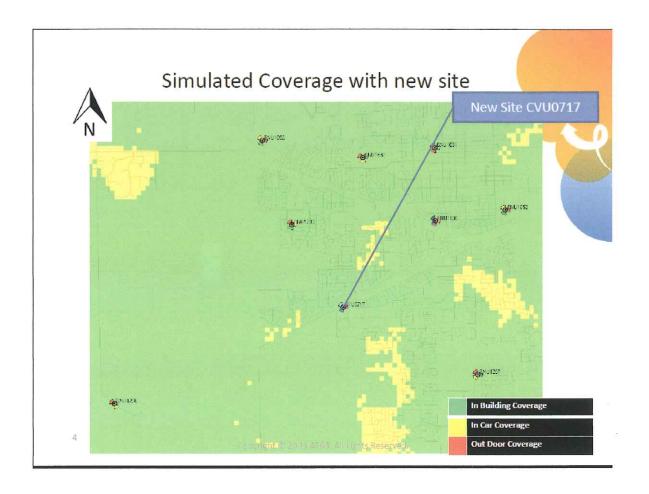
Proposal: Monopine

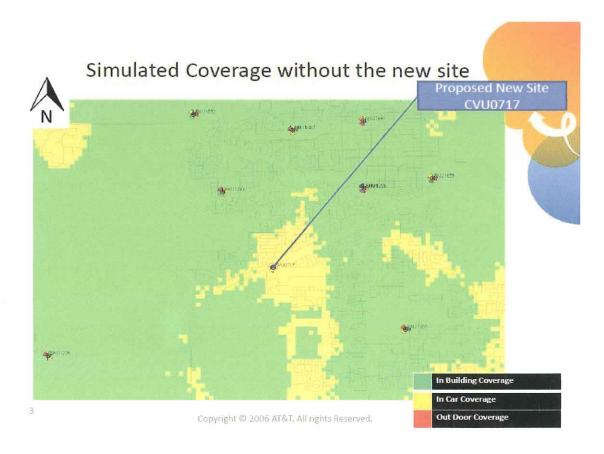
1. Level of service provided:



The above AT&T Service Map shows the level of cellular communications "traffic" on each of the existing AT&T telecommunication facilities in the area immediately surrounding the proposed site. When a telecommunications facility experiences a high volume of cellular "traffic", the geographic area that it can cover begins to shrink in order to handle the high volume. The facility on the southeast side of the map, along Valpico Road, is experiencing very high utilization rates and its coverage area and quality of coverage are suffering. Additionally, the facility near the corner of W. 11<sup>th</sup> and North Tracy Blvd and the facility near the corner of W. 11<sup>th</sup> and Jefferson Pkwy are experiencing high utilization rates. The proposed site will be located centrally between these three facilities, allowing for each of them to offload some of their traffic onto it. By doing this AT&T will be able to reconfigure its towers to better work within its network, allowing the service area and quality of service to increase. This increase in service is evidenced by the two coverage maps below. When comparing the two it is easy to see

that the green area, which represents coverage inside of buildings, significantly increases in the residential neighborhoods in the area, upon the installation of the new site.





Lastly, this site will offer LTE technology. 4G LTE is capable of delivering speeds up to 10 times faster than industry-average 3G speeds. LTE technology offers lower latency (the processing time it takes to move data through a network). Lower latency helps to improve the quality of personal wireless services. Moreover, LTE uses spectrum more efficiently than other technologies, creating more space to carry data traffic to deliver a better overall network experience. AT&T designs and builds its wireless network to satisfy its customer service standards, which ensure customers receive reliable in-building service quality. In-building service is critical as customers increasingly use their mobile phones as their primary communication device (landlines to residences have decreased significantly) and rely on their mobile phones to do more (E911, GPS, web access, text, etc.).

- 1. Potential visual impacts: The potential visual impact of the facility is minimized, as the potential site is not near residential neighborhoods but instead is located on unused railroad property. The proposed facility will be a stealth monopine tower. A monopine is a stealthed monopole designed to emulate the appearance of a pine tree and to hide the antennas. The potential site location abuts a ridge which contains trees and other vegetation. There are also large trees near the proposed site location which will help the monopine to blend in with its surroundings. Finally, the monopine is designed to allow multiple carriers to collocate toreduce the need for future towers in the area.
- 2. Residential proximity and compatibility with property type: The proposed tower location is at least 240' from the nearest residential property line. 110% of 83 ft. is 90 ft.

which indicates that if the tower fell, it would not reach the nearest residential neighbor's property. Furthermore, the subject property is owned by Union Pacific Rail Road. The proposed facility is compatible in that it is currently undeveloped and is very limited in what it can be used for based upon its proximity to the railroad track.

### SITE PREFERENCE CONSIDERATIONS PER SECTION 10.25.130

- (a) Telecommunication facilities shall be located in the following order of preference for minor facilities:
  - (1) Completely within existing structures;

There are no existing structures within the search ring that are able to acocmodate AT&T's antenna height and equipment requirements.

(2) Existing structures that allow facade-mounted antennas;

There are no existing structures that allow for façade mounted antennas within the search ring that are able to accommodate AT&T's antenna height and equipment requirements.

(3) Co-location on existing telecommunications facilities or light standards at a lower height;

There are no existing telecommunications facilities or light standards within the earch ring that can accommodate AT&T's antenna height and euqipment requirements.

(4) Existing structures that require modification of the structure architecturally or in height in order to mount antennas (including roof mounts);

There are no existing structures within the search ring that can be reasonably modified to accommodate AT&T's antenna height and equipment requirements.

(5) Co-location on existing telecommunication facilities or light standards at a higher height.

There are no existing telecommunications facilities or light standards within the search ring that are able to accommodate AT&T's antenna height and equipment requirements at a higher height

- (b) Telecommunication facilities shall be located in the following order of preference for major facilities:
  - (1) New telecommunications tower for co-location;

The proposed site will allow for co-location.

- (2) New telecommunications tower for a single carrier.
- (c) Site preference of subsection (a) and (b) of this section notwithstanding, the City encourages locating telecommunications facilities on City-owned property.

Candidates E, G, H and I are all city owned parks. However, the negative visual impact is far too high to place the communications facilities in the parks, as they are all surrounded by densely populated residential neighborhoods and there are not enough tall trees to provide the tower with adequate

camouflage.

### **CONCLUSION**

After considering all of the available alternatives in the area it is clear that the proposed site is the best and least visually and environmentally intrusive option. This proposed site falls within the search ring provided by AT&T and is ideally situated in between three other AT&T telecommunications facilities, allowing the other facilities to offload cellular traffic, ultimately providing better quality and broader service to the residents of the City of Tracy. Furthermore, the proposed site is at least 240' feet away from the nearest residential property and does not abut any commercial properties. Therefore its visual impact is far more limited than it would be forall of the other alternatives. When all factors are considered, the proposed site location is the least intrusive and best choice to provide the improved cellular service for the residents of Tracy.

# **Appendix B**

RF Compliance Report from Site Safe Inc. Dated April 16, 2014.





AT&T Mobility, LLC Site ID – 135641-10552183-CVU0717 Site Name – Tracy 4, CA. Site Compliance Report

SW Corner of Corral Hollow Road & W. Shulte Road Tracy, CA 95376

Latitude: N37-43-17.62 Longitude: W121-27-23.65 Structure Type: Monotree

Report generated date: April 15, 2014 Report by: Brandon Green Customer Contact: Ellen Magnie

APR 2 1 2014 CITY OF TRACY

AT&T Mobility, LLC Will Be Compliant Based on FCC Rules and Regulations.

© 2014 Sitesafe, Inc. Arlington, VA



David Charles Cotton, Jr.

Registered Professional Engineer (Electrical)
State of California, 18838

**Date: 2014-April-16** 



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### 1 General Site Summary

- 1.1 Climate Conditions N/A.
- **1.2 Access Information** N/A.

### 1.3 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	Yes
RF Sign(s) @ access point(s)	[None]
RF Sign(s) @ antennas	[None]
Barrier(s) @ sectors	[None]
Max cumulative measured MPE Level on the Rooftop	N/A
Max cumulative simulated MPE level on Rooftop	<5% of General Public MPE limit
FCC & AT&T Compliant?	No

Site Map For: Tracy 4, CA.

RAILROAD PROPOSED SBA LEASE AREA

UNKNOWN PROPOSED TENANTS

SCHULTE ROAD

(Feet)

110

www.sitesafe.com Site Name:Tracy 4, CA.

220 AT&T MOBILITY LLC

SPRINT-NEXTEL

CLEARWIRE

Sitesafe Inc. assumes no responsibility for modeling results not verified by Sitesafe personnel. Contact Sitesafe Inc. for modeling assistance at [703] 276-1100
SitesafeTC Vervins: 1 0.0.0



# 3 Antenna Inventory

The following antenna inventory and representative photographs, on this and the following page, were obtained or verified during the site visit and were utilized to create the site model diagrams:

Ant ID	Corporation	Antenna Make & Model	<u> </u>	TX Freq	Az	Hor BW	Ant Len	Ant Gain	2G GSM	3G UMTS	4G Radio(s)	Total ERP	*	>	
-	AT&1	Andrew SBNH-1D6565B	Panel	737	80	70	6.1	12.91	0	0	0	1172.6	169.1	,019	177
-	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	2100	80	65	6.1	15.71	0	0	0	2449.9	169.1	610'	77.
2	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	80	57	6.1	16.11	0	0	0	1633.3	164.5'	606.7	.77
က	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	850	80	29	6.1	13.11	0	0	0	1637.2	159.1'	603.2′	77.
ო	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	80	22	6.1	16.11	0	0	0	3266.6	159.1	603.2'	77.
4	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	737	200	70	6.1	12.91	0	0	0	1172.6	150.7'	8.909	77.
4	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	2100	200	65	6.1	15.71	0	0	0	2449.9	150.7'	8.909	77.
2	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	200	22	6.1	16.11	0	0	0	1633.3	150.7'	612.9'	77.
9	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	850	200	29	6.1	13.11	0	0	0	1637.2	150.5'	618.7'	77.
9	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	200	22	6.1	16.11	0	0	0	3266.6	150.5'	618.7'	77.
7	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	737	320	70	6.1	12.91	0	0	0	1172.6	156.9'	621.8'	77.
7	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	2100	320	99	6.1	15.71	0	0	0	2449.9	156.9'	621.8'	77.
80	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	320	22	6.1	16.11	0	0	0	1633.3	162.6'	620.5	77.
6	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	850	320	29	6.1	13.11	0	0	0	1637.2	167.8'	618.9'	77.
6	AT&T MOBILITY LLC (Proposed)	Andrew SBNH-1D6565B	Panel	1900	320	22	6.1	16.11	0	0	0	3266.6	167.8'	618.9'	77.
10	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	65	6.3	16.26	į	ř	£	1000	160.2'	620'	,6'99
-	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	65	6.3	16.26	,	•	1	1000	161.8'	617.8'	,6'99
12	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	65	6.3	16.26	ı	1	1	1000		615.4	,6'99
13	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	65	6.3	16.26	,		1	1000	_	613.1	,6'99
14	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	65	6.3	16.26	,	ï	1	1000	165.5'	,019	,6.99

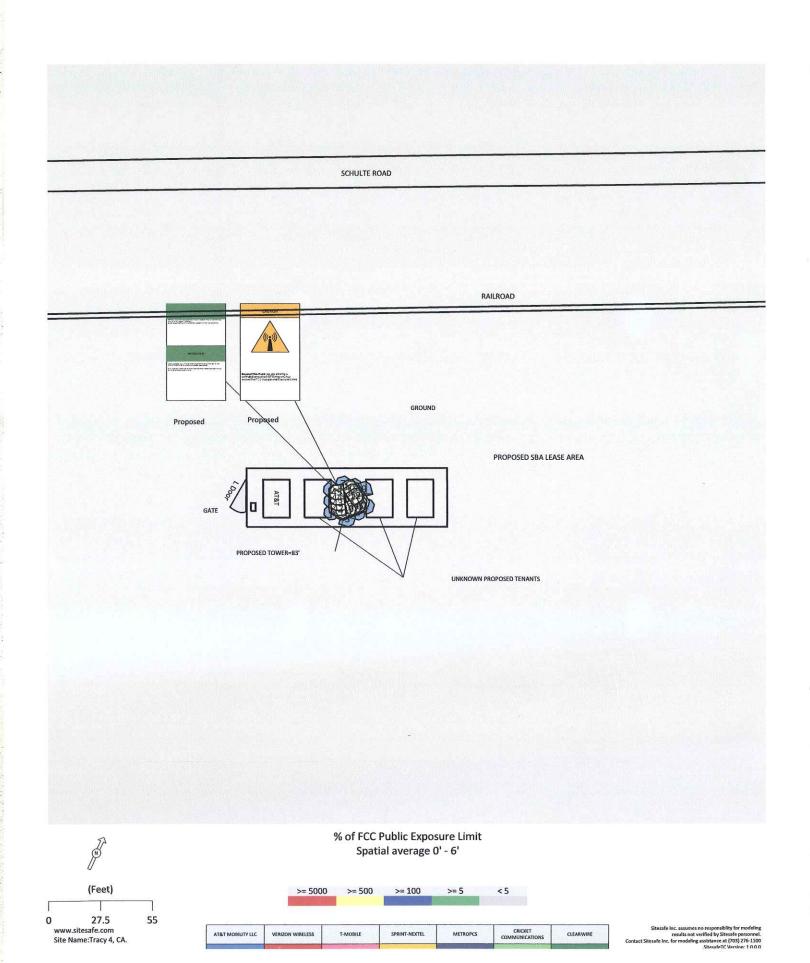


Ant ID	Operator	Antenna Make & Model	<u>8</u>	TX Freq	Az (Deg)	Hor BW	Ant Len	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS	4G Radio(s)	Total ERP (Watts)	×	>	Z
15	UNKNO	Generic 6 Ft./65 Deg.	Panel	1900	130	65	6.3	16.26			-	1000	162.9'	608.9	.6.99
16	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	65	6.3	16.26	ı		1	1000	160'	.6'.209	,6'99
17	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	99	6.3	16.26	,		ı	1000	157.1'	606.7"	.6.99
18	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26		-	-	1000	153.1	611.8'	,6'99
19	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	59	6.3	16.26	ı		ı	1000	153.1'	,609	,6'99
20	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	-		7	1000	153.1	614.6'	,6.99
21	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	L			1000	153.1	617.4	,6'99
22	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	59	6.3	16.26			1	1000	162.4'	618.5	56.9'
23	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	59	6.3	16.26		ī	1	1000	163.8'	616.3	56.9'
24	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	59	6.3	16.26		-	1	1000	165.2'	614.1'	56.9'
25	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	99	6.3	16.26		1	1	1000	166.6'	612'	56.9'
26	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	59	6.3	16.26	-	Е	##X	1000	164.1'	'6'609	56.9'
27	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	59	6.3	16.26			1	1000	161.4'	608.9	56.9'
28	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	59	6.3	16.26			į	1000	158.6'	'6.709	56.9'
29	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	99	6.3	16.26	-	•	-	1000	155.9'	,6'909	56.9'
30	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	59	6.3	16.26	1	•	3	1000	154.9'	.9.609	56.9'
31	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	I.			1000	154.6'	612.2	56.9'
32	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	ā			1000	154.3'	614.9'	56.9'
33	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	t		£	1000	154.1'	617.5'	56.9'
34	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	99	6.3	16.26		-	-	1000	160.5'	619.1	46.9'
35	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	99	6.3	16.26			-	1000	162'	8.919	46.9'
36	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	99	6.3	16.26		1	-	1000	163.6'	614.3'	46.9'
37	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	30	99	6.3	16.26				1000	165.2	612'	46.9'
38	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	92	6.3	16.26	E	-		1000	164.7'	610.6'	46.9'
39	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	99	6.3	16.26	,	1	1	1000	162.1	609.5	46.9'
40	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	65	6.3	16.26	Ē	E)	r	1000	159.5'	608.5	46.9'
41	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	130	99	6.3	16.26	ı	1		1000	156.9'	607.5'	46.9'
42	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	1	1	ı	1000	154.3'	608.9	46.9'
43	UNKNOWN(Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	ı	1	T.	1000	154'	611.5	46.9'

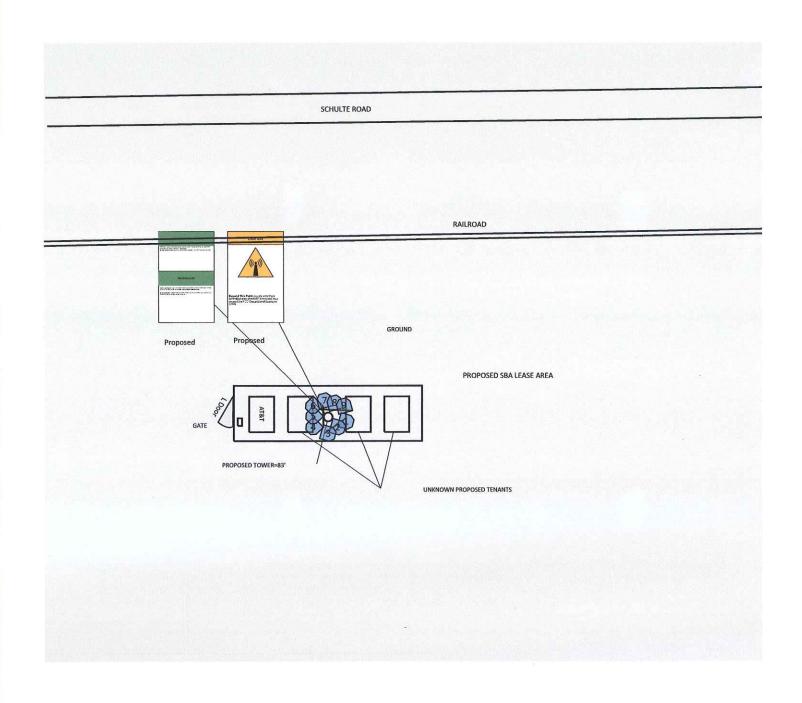


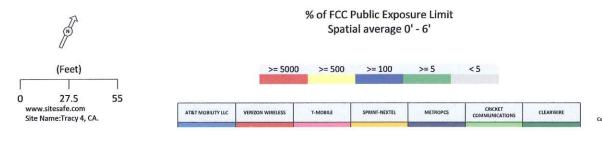
AntID	Operator	Antenna Make & Model	Туре	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Hor BW Ant Len (Deg) (ff)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	×	>	Z
44	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	65	6.3	16.26		1	,	1000	153.7' 614.4'	_	46.9'
45	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	ı	Ŀ	ı	1000	153.4' 617.3'		46.9'
48	UNKNOWN (Proposed)	Generic 6 Ft./65 Deg.	Panel	1900	240	99	6.3	16.26	-	1		1000	148.5' 658'	,829	46.9'

operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are NOTE: X, Y and Z indicate relative position of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the based on obtained information or Sitesafe experience.

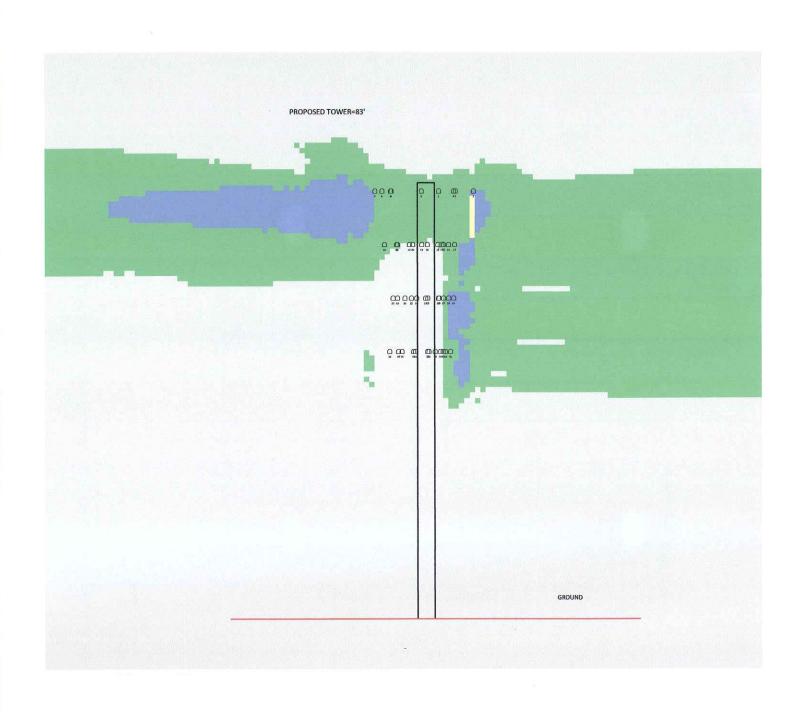


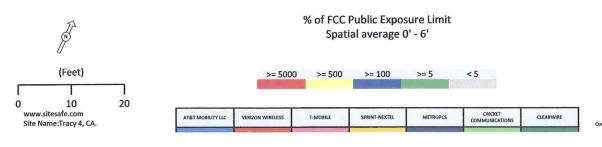
# RF Emissions Simulation For: Tracy 4, CA. AT&T Mobility, LLC Contribution





# RF Emissions Simulation For: Tracy 4, CA. Elevation View







### 5 Site Compliance

### 5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, and a thorough review of site access procedures, RF hazard signage and visible antenna locations, Sitesafe has determined that:

This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65. The corrective actions needed to make this site compliant are located in Section 5.2.

The compliance determination is based on General Public MPE levels due to theoretical modeling and/or physical measurements, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant. Measurements have also been performed to validate the assumptions used in our theoretical modeling of this site.

Modeling is used for determining compliance and the percentage of MPE contribution. Measurements provide a view of MPE percentage levels at the site at the time of Sitesafe's visit and are used to validate modeling results.

### 5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance.

Sitesafe found one or more issues that led to our determination. The site will be made compliant if the following changes are implemented:

 Posting RF signs that a person could read and understand the signs prior to accessing the site;

### **Site Access Location**

Information Sign 1 required, in English. Information Sign 1 required, in Spanish. Yellow caution sign required.

### AT&T Mobility, LLC Proposed Alpha Sector Location No action required.

AT&T Mobility, LLC Proposed Beta Sector Location No action required.

AT&T Mobility, LLC Proposed Gamma Sector Location No action required.

sitesafe

**6 Engineer Certification** 

The professional engineer whose seal appears on the cover of this document hereby

certifies and affirms that:

I am registered as a Professional Engineer in the jurisdiction indicated in the professional

engineering stamp on the cover of this document; and

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I

provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal

Communications Commission (FCC) as well as the regulations of the Occupational Safety and

Health Administration (OSHA), both in general and specifically as they apply to the FCC

Guidelines for Human Exposure to Radio-frequency Radiation; and

That survey measurements of the site environment of the site identified as 135641-

10552183-CVU0717 - Tracy 4, CA. have been performed in order to determine where there might

be electromagnetic energy that is in excess of both the Controlled Environment and

Uncontrolled Environment levels; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true

and accurate to the best of my knowledge as assembled by and attested to by Brandon

Green.

April 15, 2014



### Appendix A – Statement of Limiting Conditions

Sitesafe field personnel visited the site and collected data with regard to the RF environment. Sitesafe will not be responsible for matters of a legal nature that affect the site or property. The property was visited under the premise that it is under responsible ownership and management and our client has the legal right to conduct business at this facility.

Due to the complexity of some wireless sites, Sitesafe performed this visit and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by AT&T Mobility, LLC, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.



### Appendix B – Regulatory Background Information

### **FCC Rules and Regulations**

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to accessible areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

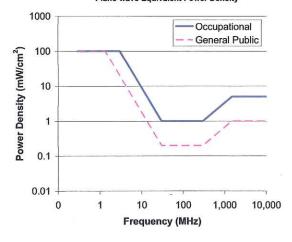
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:







### Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	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 <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-			5	6
100,000				

### Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-		==	1.0	30
100,000				

f = frequency in MHz

### **OSHA Statement**

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (a) Each employer -
  - shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
  - (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

<sup>\*</sup>Plane-wave equivalent power density



# Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

<u>General Maintenance Work:</u> Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

<u>Training and Qualification Verification:</u> All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

<u>Physical Access Control:</u> Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

<u>Site RF Emissions Diagram:</u> Section 5 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.



# Appendix D - RF Emissions

### **RF Emissions Diagram**

The RF diagram(s) above display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as recommended in OET Bulletin 65 and assumptions detailed in Appendix E.

Composite Exposure Levels

- Gray represents areas predicted to be at 5% of the MPE limits, or below.
- Green represents areas predicted to be between 5% and 100% of the MPE limits.
- Blue represents areas predicted to be between 100% and 500% of the MPE limits.
- Yellow represents areas predicted to be between 500% and 5000% of the MPE limits.
- Red areas indicated predicted levels greater than 5000% of the MPE limits.

General Population diagrams are specified when an area is accessible to the public; i.e. personnel that do not meet Occupational or RF Safety trained criteria, could gain access.

If trained occupational personnel require access to areas that are delineated as **Blue** or above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

The key at the bottom also indicates the level or height of the modeling with respect to the main level. The origin is typically referenced to the main rooftop level, or ground level for a structure without access to the antenna level. For example:

Average from 0 feet above to 6 feet above origin

and

Average from 20 feet above to 26 feet above origin

The first indicates modeling at the main rooftop (or ground) level averaged over 6 feet. The second indicates modeling at a higher level (possibly a penthouse level) of 20 feet averaged over 6 feet.

Abbreviations used in the RF Emissions Diagrams

PH=##'	Penthouse at ## feet above main roof	
M##	Measurement ## taken during a site visit	

As discussed in Section 5, site measurement locations for spatial average measurements collected at the time of Sitesafe's visit have been added to the RF emissions diagram. While the theoretical modeling represents worst case MPE levels based on the assumption(s) detailed above, the measurement data is a snapshot of MPE levels at the time of our visit, and dependent on transmitter duty cycle, system implementation and emissions from other RF sources at nearby antenna sites.



# Appendix E – Assumptions and Definitions

### **General Model Assumptions**

In this site compliance report, it is assumed that all antennas are operating at **full power** at all times. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a worst-case analysis, based on best available data. Areas modeled to predict emissions greater than 100% of the applicable MPE level may not actually occur, but are shown as a worst-case prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

#### **Use of Generic Antennas**

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.



### **Definitions**

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

**Gain (of an antenna)** – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where RFR exposure may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.



**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

**Radio Frequency Radiation** – Electromagnetic waves that are propagated from antennas through space.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.



# Appendix F - References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, Inc.

http://www.sitesafe.com

FCC Radio Frequency Safety

http://www.fcc.gov/encyclopedia/radio-frequency-safety

National Council on Radiation Protection and Measurements (NCRP)

http://www.ncrponline.org

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

http://www.ieee.org

American National Standards Institute (ANSI)

http://www.ansi.org

Environmental Protection Agency (EPA)

http://www.epa.gov/radtown/wireless-tech.html

National Institutes of Health (NIH)

http://www.niehs.nih.gov/health/topics/agents/emf/

Occupational Safety and Health Agency (OSHA)

http://www.osha.gov/SLTC/radiofrequencyradiation/

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

http://www.icnirp.org

World Health Organization (WHO)

http://www.who.int/peh-emf/en/

National Cancer Institute

http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED\_1\_3X\_Cellular\_Phone\_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health-Risks

http://ec.europa.eu/health/ph\_risk/committees/04\_scenihr/docs/scenihr\_o\_022.pdf

Fairfax County, Virginia Public School Survey

http://www.fcps.edu/fts/safety-security/RFEESurvey/

UK Health Protection Agency Advisory Group on Non-ionising Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\_C/1317133826368

Norwegian Institute of Public Health

http://www.fhi.no/dokumenter/545eea7147.pdf

# **Appendix C**

Proposed Site Plan and Elevations prepared by SAC Wireless Inc. Dated 4/15/14.



APR 21 2014 CITY OF TRACY

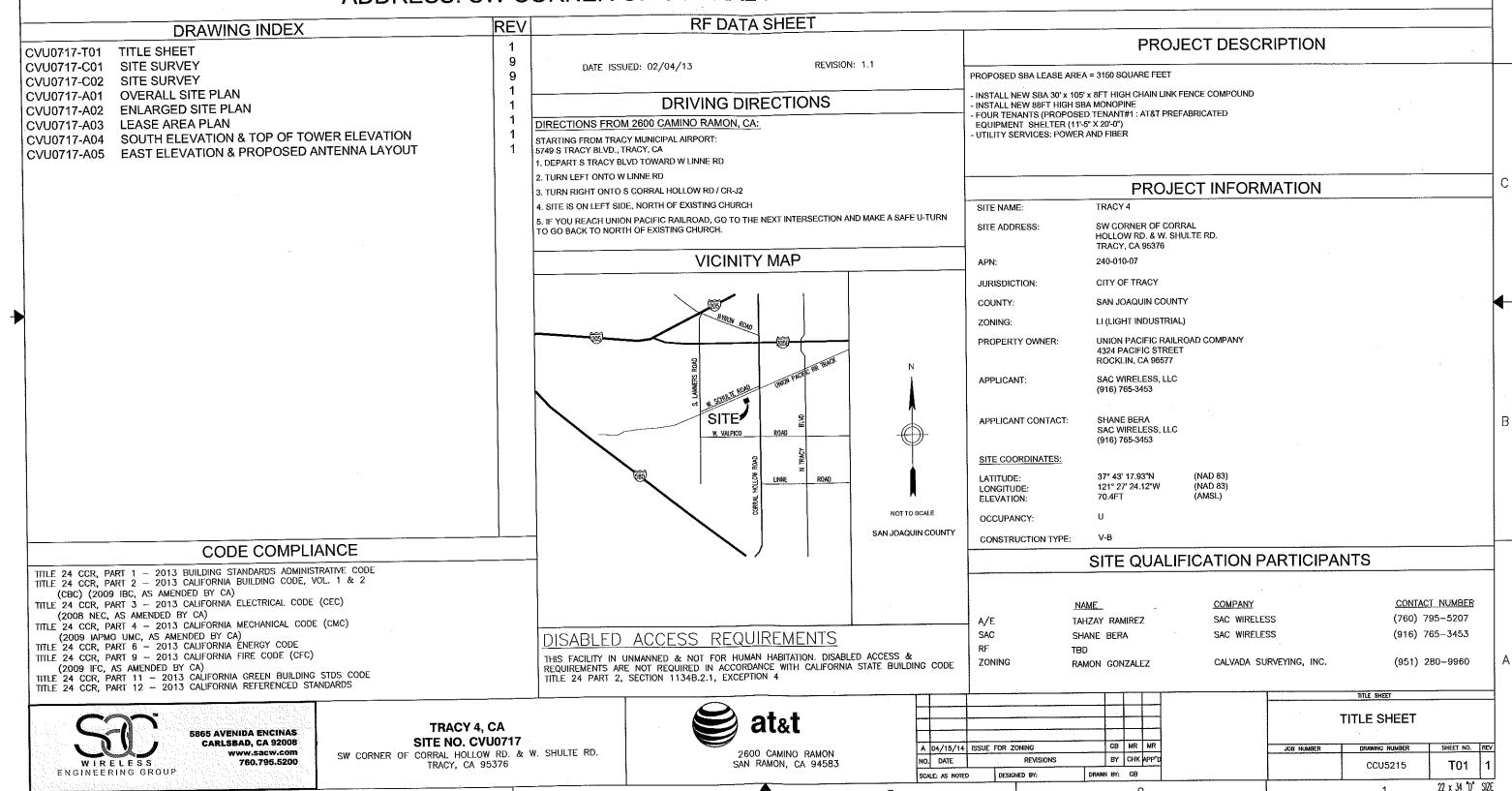
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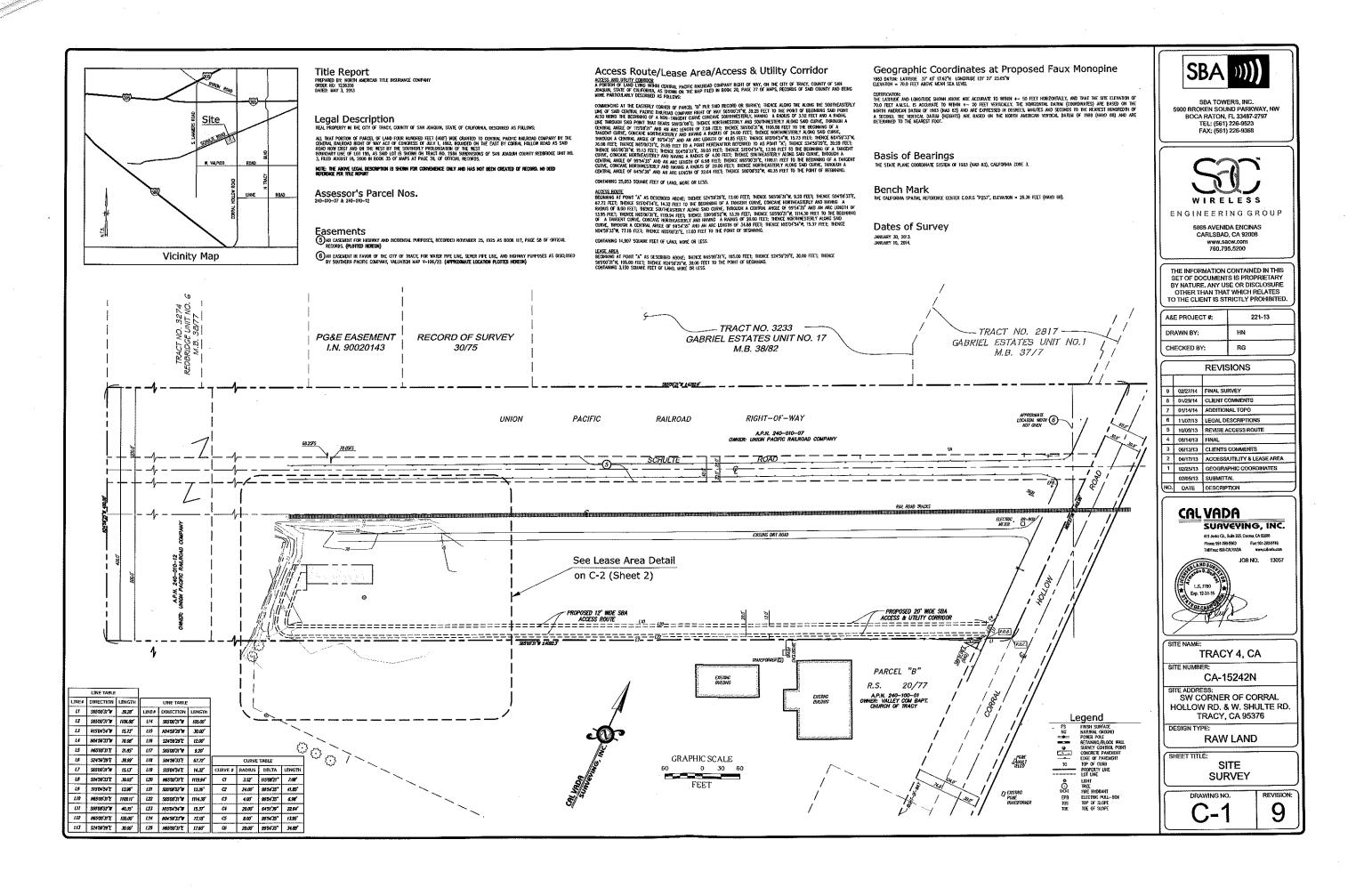
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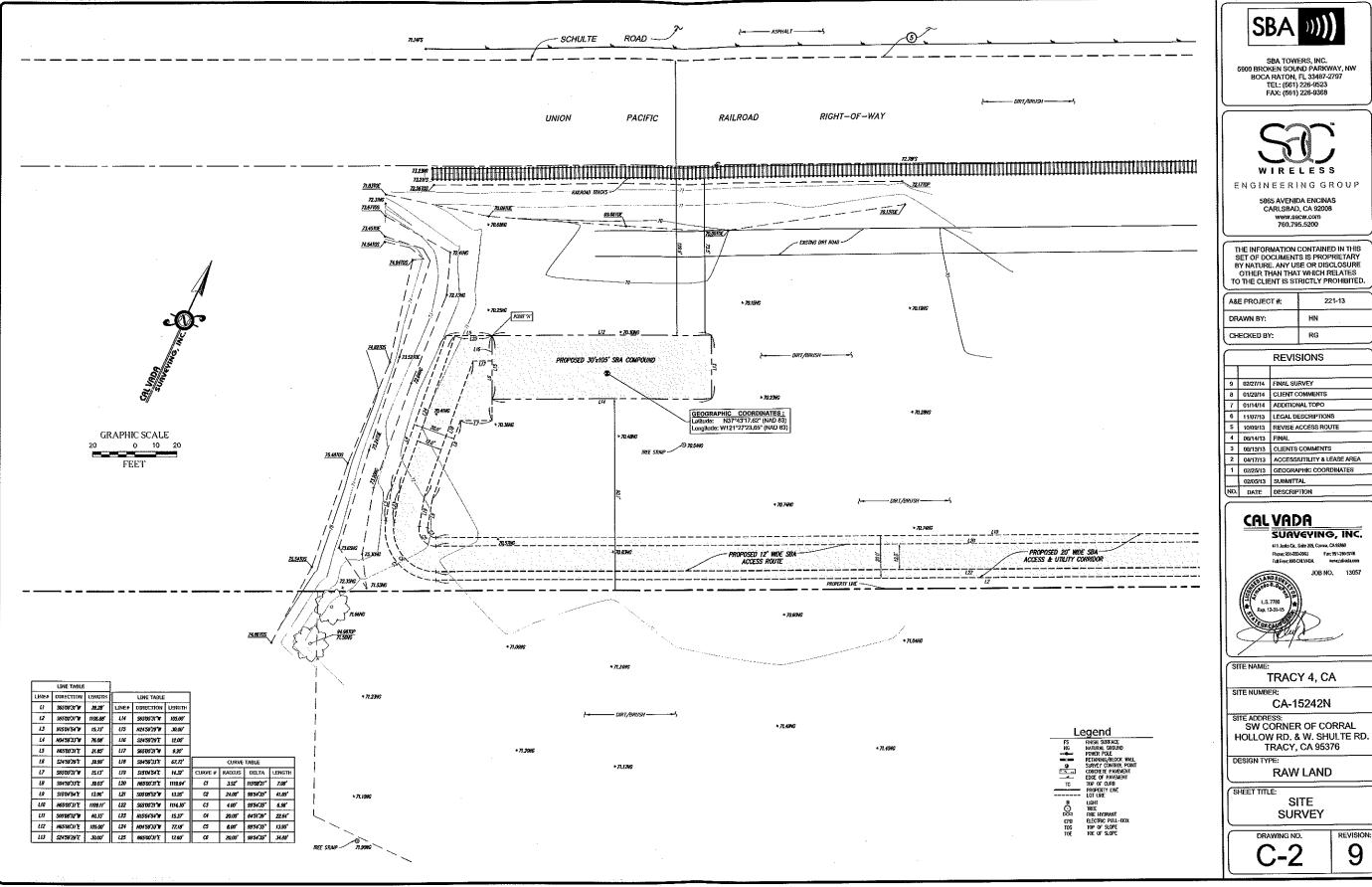
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ADDRESS: SW CORNER OF CORRAL HOLLOW RD. & W. SHULTE RD.TRACY, CA 95376



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CHECKED BY:	RG

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REVISIONS				
9	02/27/14	FINAL SURVEY		
8	01/29/14	CLIENT COMMENTS		
7	01/14/14	ADDITIONAL TOPO		
6	11/07/13	LEGAL DESCRIPTIONS		
5	10/09/13	REVISE ACCESS ROUTE		
4	06/14/13	FINAL		
3	06/13/13	CLIENTS COMMENTS		
2	04/17/13	ACCESS/UTILITY & LEASE AREA		
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	02/05/13	SUBMITTAL		
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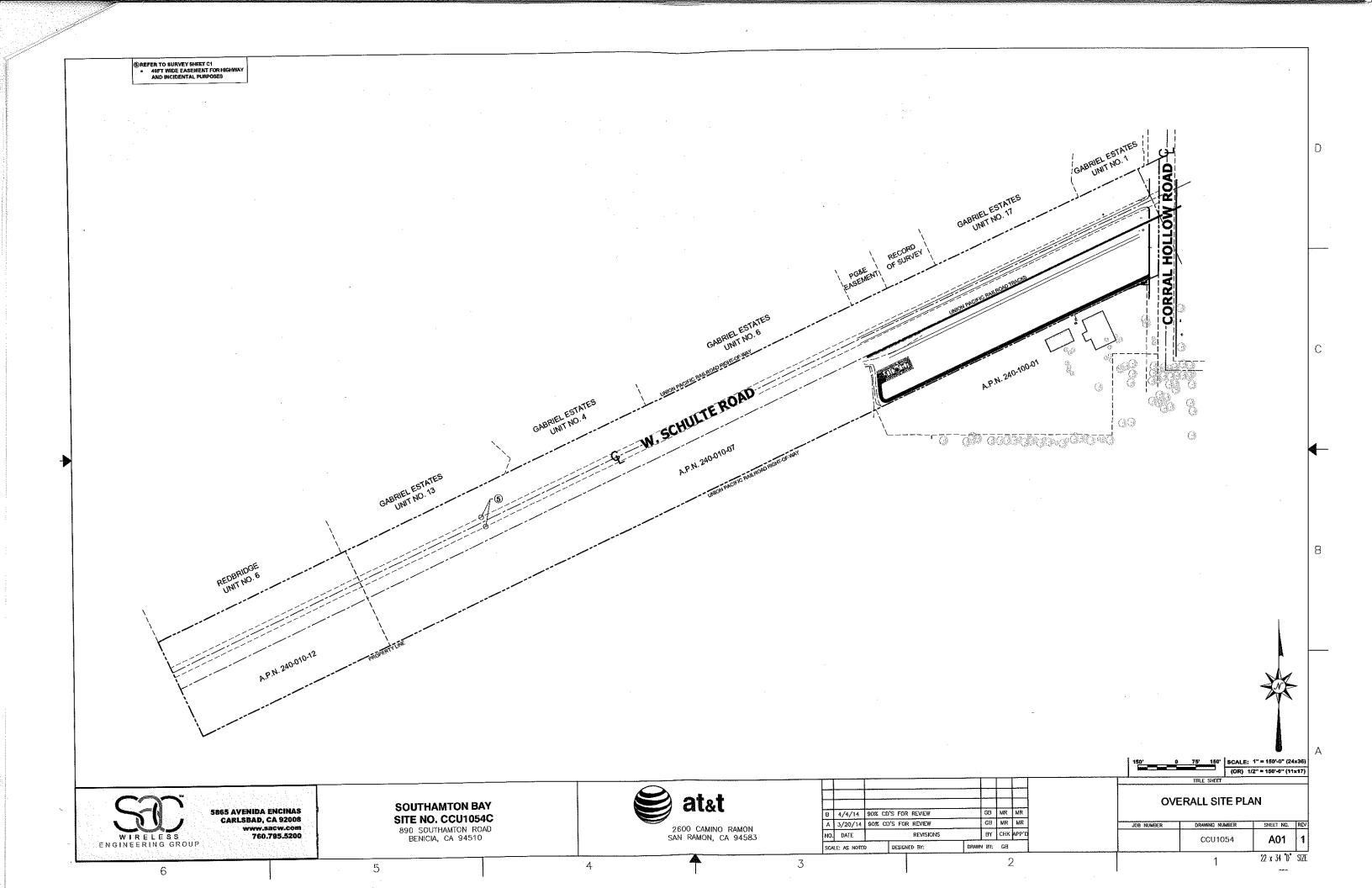
SURVEYING, INC.

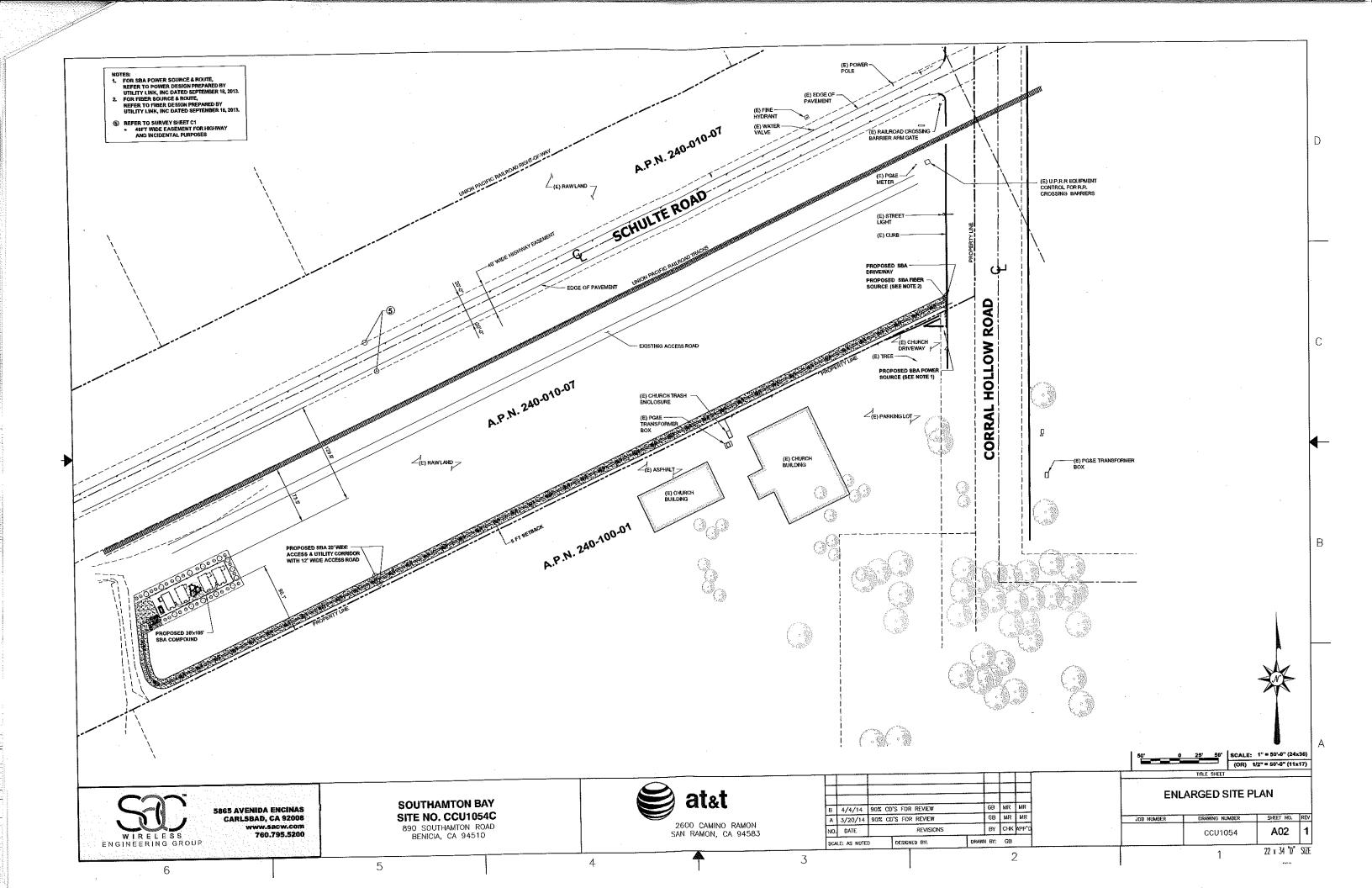
Face: 961-280-9963 Fac: 951-280-9748 Toll Free: 800-CALVADA www.cakeda.com

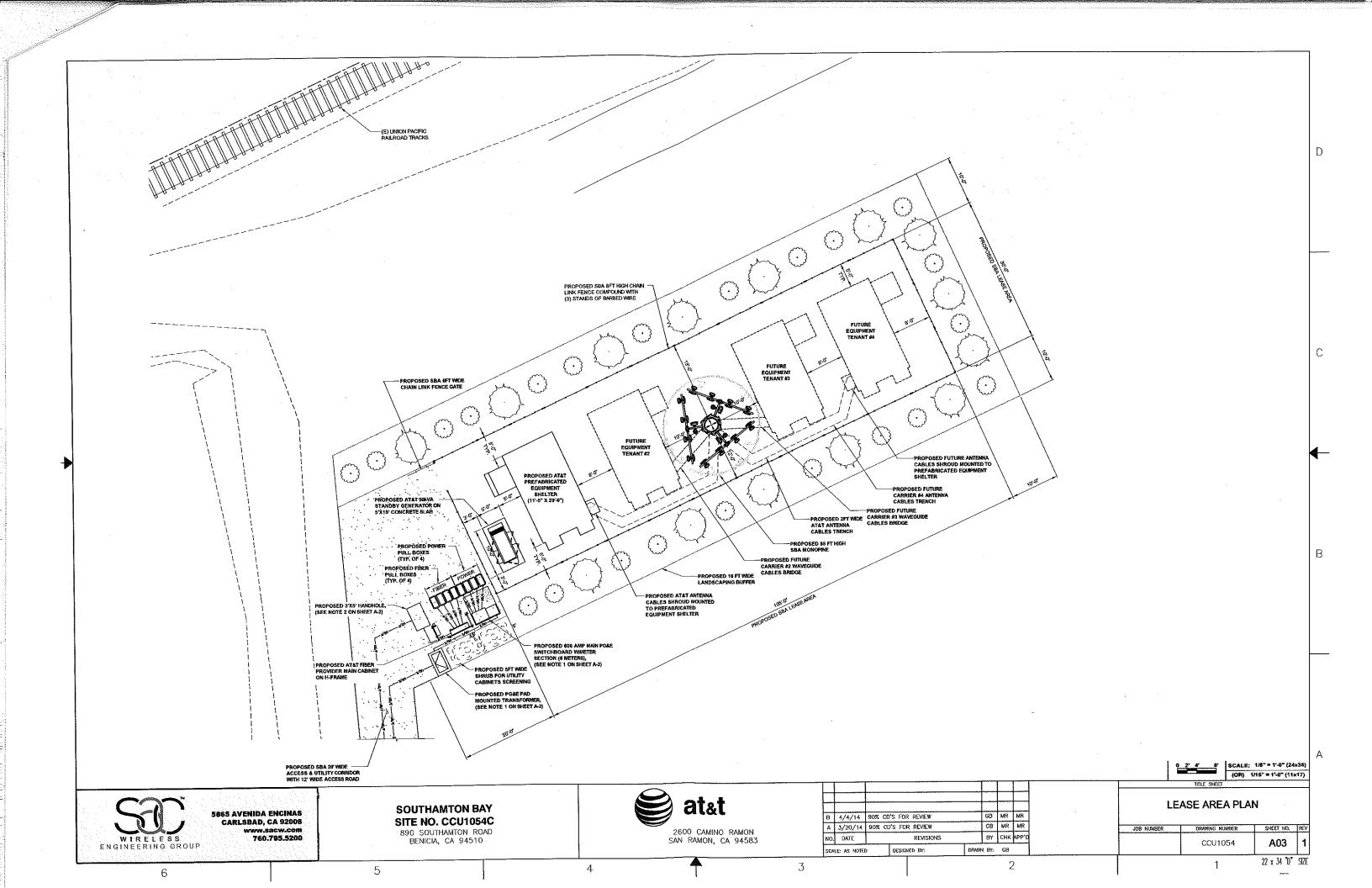


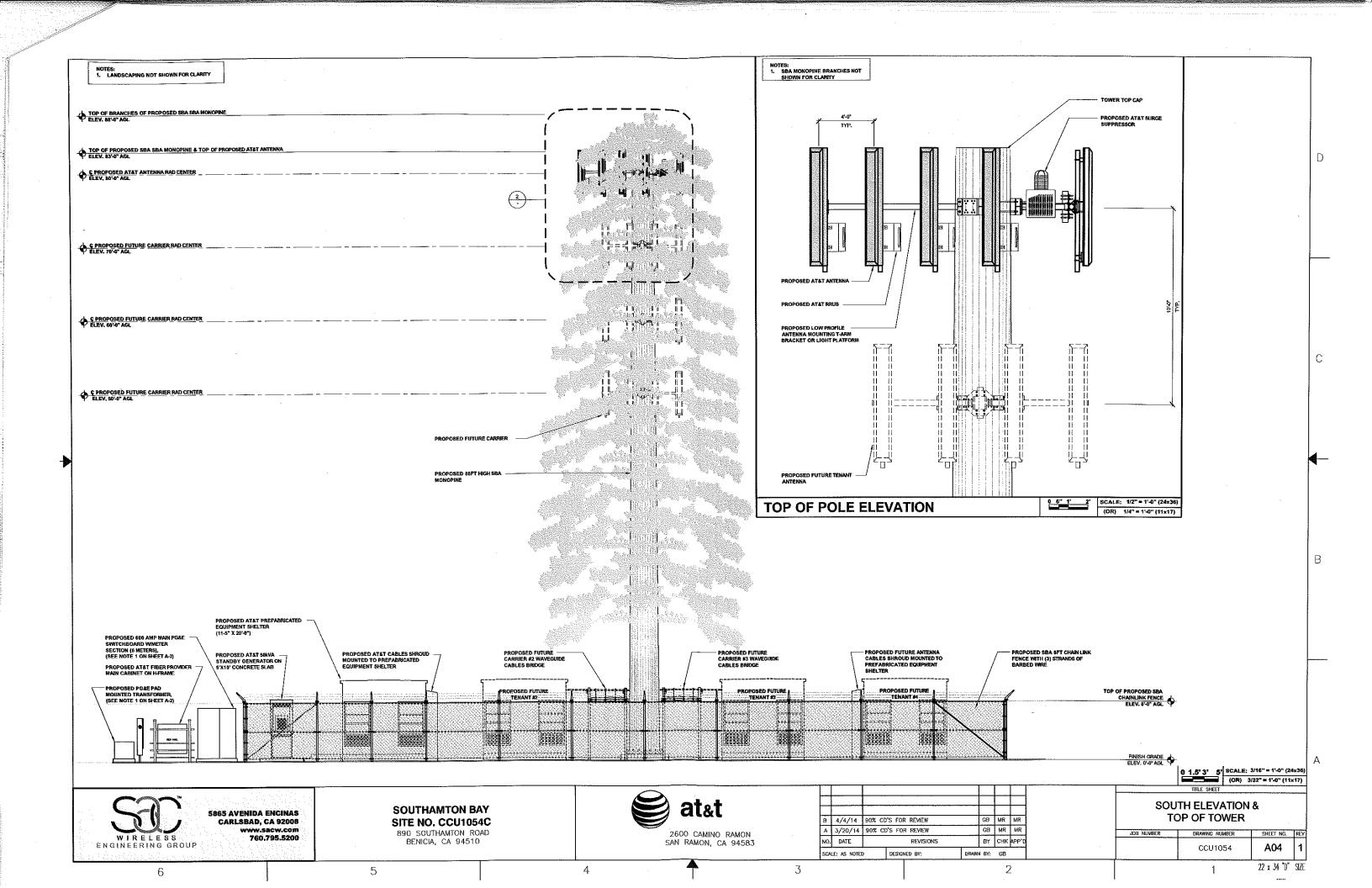
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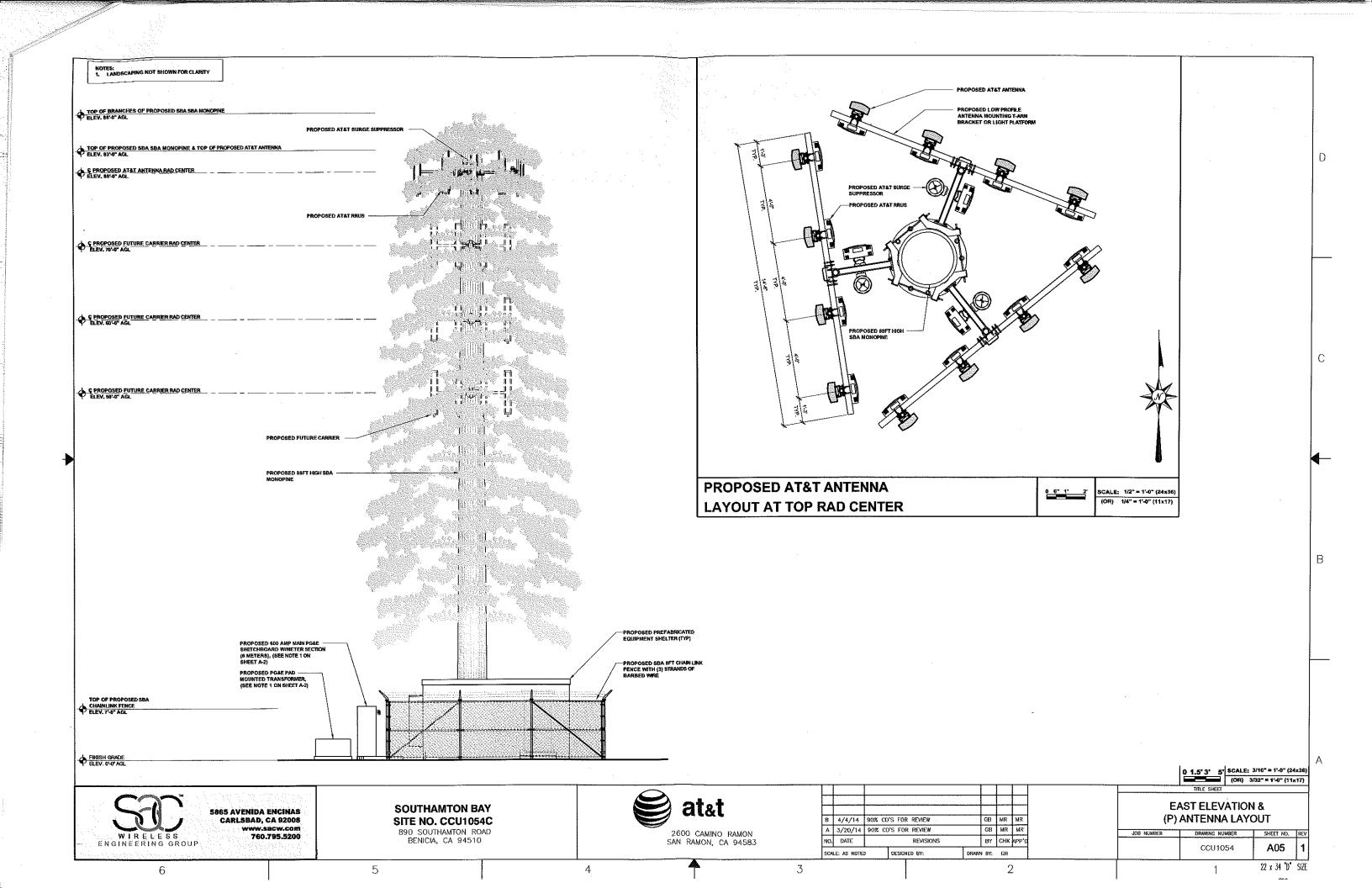
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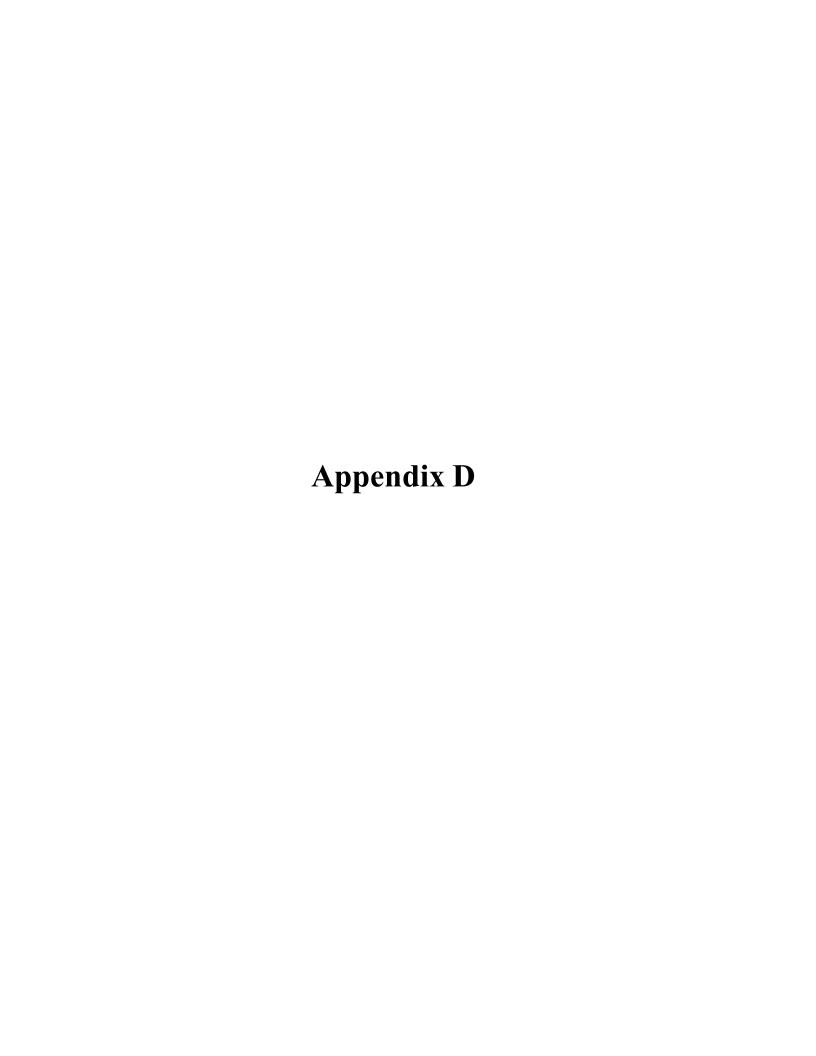














#### STATEMENT OF EXPERIENCE

# Jerrold Talmadge Bushberg, Ph.D., DABMP, DABSNM, FAAPM

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Dr. Jerrold Bushberg has performed health and safety analysis for RF & ELF transmissions systems since 1978 and is an expert in both health physics and medical physics. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. In addition, Dr. Bushberg has extensive experience and lectures on several related topics including medical physics, radiation protection, (ionizing and non-ionizing), radiation biology, the science of risk assessment and effective risk communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional involvement in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, the California Council on Science and Technology, national news organizations, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections. Dr. Bushberg has performed RF & ELF environmental field measurements and recommend appropriate mitigation measures for numerous transmission facilities in order to assure compliance with FCC and other safety regulations and standards. The consultation services provided by Dr. Bushberg are based on his professional judgement as an independent scientist, however they are not intended to necessarily represent the views of any other organization.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of nonionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of nonionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurements (NCRP). He is also the Senior Scientific Vice-President of the NCRP and chairman of the NCRP Board of Directors. Dr. Bushberg has served as chair of the NCRP committee on Radiation Protection in Medicine and he continues to serve as a member of this committee as well as the NCRP scientific advisory committee on Non-ionizing Radiation Safety. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. The current FCC RF exposure safety standards are based, in large part, on the recommendations of the NCRP. Dr. Bushberg was elected to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of responsibility the examination and interpreting the biological effects of non-ionizing electromagnetic energy and presenting its findings in an authoritative and professional manner. Dr. Bushberg also served for several years as a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the FCC and the FDA Center for Devices and Radiological Health.

Dr. Bushberg is a full member of the Bioelectromagnetics Society, the Health Physics Society and the Radiation Research Society. Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is a fellow of the American Association of Physicists in Medicine and is certified by several national professional boards with specific sub-specialty certification in radiation protection and medical physics. Prior to coming to California, Dr. Bushberg was on the faculty of Yale University School of Medicine.

RESOLUTION 2014-	
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APPROVING OF A CONDITIONAL USE PERMIT AND DEVELOPMENT REVIEW TO ALLOW CONSTRUCTION OF A NEW TELECOMMUNICATION FACILITY IN THE FORM OF A PINE TREE, KNOWN AS A MONOPINE, AND FOUR APPROXIMATELY 230 SQUARE FOOT EQUIPMENT SHELTERS LOCATED APPROXIMATELY 1,000 FEET WEST OF CORRAL HOLLOW ROAD, SOUTH OF W. SCHULTE ROAD, ASSESSOR'S PARCEL NUMBER 240-010-07. APPLICANT IS SAC WIRELESS REPRESENTING AT&T. PROPERTY OWNER IS THE UNION PACIFIC RAILROAD COMPANY.

APPLICATION NUMBERS CUP13-0007 AND D13-0013

WHEREAS, On October 15, 2013, SAC Wireless representing AT&T submitted an application for a Conditional Use Permit and Development Review for construction of a new telecommunication facility to be located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-0013, and

WHEREAS, The proposal is classified as a major facility, according to Tracy Municipal Code, Chapter 10.25, Telecommunications Ordinance, and

WHEREAS, The Tracy Municipal Code, Chapter 10.25, Telecommunications Ordinance, allows for major facilities with approval of a Conditional Use Permit by the Planning Commission, and

WHEREAS, The project is consistent with the Environmental Impact Report (EIR) that was prepared for the City's General Plan and certified in February 2011. In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15183, no further environmental assessment is required. An analysis of the project shows that no significant on or off-site impacts will occur as a result of this particular project that were not previously addressed in the General Plan EIR. No evidence exists of any significant impacts to occur offsite as a result of the project because traffic, air quality, aesthetics, land use and other potential cumulative impacts have already been considered within the original environmental documentation. No new evidence of potentially significant effects has been identified as a result of this project. Additionally, the project is categorically exempt from CEQA pursuant to CEQA Guidelines Section 15332, which pertains to certain infill development projects, because the project is consistent with the General Plan and Zoning, occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses, has no value as habitat for endangered, rare or threatened species, would not result in any significant effects relating to traffic, noise, air quality, or water quality, and can be adequately served by all required utilities and public services. No further environmental assessment is necessary, and

WHEREAS, The Planning Commission conducted a public hearing to review and consider the Conditional Use Permit and Development Review application numbers CUP13-0007 and D13-0013 on August 13, 2014;

NOW, THEREFORE BE IT RESOLVED, The Planning Commission hereby approves the Conditional Use Permit and Development Review to allow the construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four

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STAFF LIAISON

approximately 230 square foot equipment shelters located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-0013, subject to the conditions contained in Exhibit 1 to this Resolution, and based on the following findings:

- There are circumstances or conditions applicable to the land, structure or use, which make
  the granting of a use permit necessary for the preservation and enjoyment of a substantial
  property right because wireless communication sites are permitted subject to the granting of
  a Conditional Use Permit as provided in Tracy Municipal Code, Chapter 10.25,
  Telecommunications Ordinance.
- 2. The proposed location of the wireless communication site is in accordance with the objectives of Chapter 10.08 of the Tracy Municipal Code, and the purposes of the zone in which the site is located because the location of the site and the proposed design as a monopine is consistent with the Telecommunication Ordinance, the General Plan designation of Residential Low, and the Low Density Residential Zone District in which it is located.
- 3. The proposed location of the use and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to, or inharmonious with, properties or improvements in the vicinity because the wireless communication site, as designed and conditioned, will be harmonious with the properties and improvements in the vicinity and therefore will not have negative effects on property in the vicinity because the design as a monopine is compatible with the surrounding area and because the facility will be set back approximately 1,000 from Corral Hollow Road. Furthermore, the proposed wireless communication site will meet the requirements of the California Environmental Quality Act, the Uniform Building Code, applicable provisions of the Tracy Municipal Code, and standards established by the Federal Communication Commission (FCC).

Tracy Mu	nicipal Code because the pro ents of the City's Telecommu	ch of the applicable provisions of Chapter 10.08 of the bject is consistent with the procedural and design inication Ordinance, Tracy Municipal Code Chapter
The 1	foregoing Resolution August 2014, by the following	was adopted by the Planning Commission on the vote:
AYES: NOES: ABSENT: ABSTAIN:	COMMISSION MEMBERS COMMISSION MEMBERS COMMISSION MEMBERS COMMISSION MEMBERS	5: 5: 5:
ATTEST:		CHAIR

Exhibit "1"

Conditions of Approval for a Conditional Use Permit and Development Review to allow the construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07
Application Numbers CUP13-0007 AND D13-0013

These Conditions of Approval shall apply to the Conditional Use Permit and Development Review approval for construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-0013 (hereinafter "Project") proposed by SAC Wireless representing AT&T (hereinafter "Applicant").

- A. The following definitions shall apply to these Conditions of Approval:
  - 1. "Applicant" means any person, or other legal entity, defined as a "Developer".
  - 2. "City Engineer" means the City Engineer of the City of Tracy, or any other duly licensed engineer designated by the City Manager, the Development Services Director, or the City Engineer to perform the duties set forth herein.
  - "City Regulations" mean all written laws, rules, and policies established by the City, including those set forth in the City of Tracy General Plan, the Tracy Municipal Code, ordinances, resolutions, policies, procedures, and the City's Design Documents (including the Standard Plans, Standard Specifications, Design Standards, and relevant Public Facility Master Plans).
  - 4. "Conditions of Approval" shall mean the conditions of approval applicable to the Conditional Use Permit and Development Review for Application Numbers CUP13-0007 and D13-0013.
  - 5. "Developer" means any person, or other legal entity, who applies to the City to divide or cause to be divided real property within the Project boundaries, or who applies to the City to develop or improve any portion of the real property within the Project boundaries. The term "Developer" shall include all successors in interest.
  - 6. "Development Services Director" means the Development Services Director of the City of Tracy, or any other person designated by the City Manager or the Development Services Director to perform the duties set forth herein.
  - 7. "Project" means the Conditional Use Permit and Development Review approval for construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07, Application Numbers CUP13-0007 and D13-013.
  - 8. "Property" means the real property located approximately 1,000 feet west of Corral Hollow Road, south of W. Schulte Road, Assessor's Parcel Number 240-010-07,

which is the subject of Conditional Use Permit and Development Review approval for construction of a new telecommunication facility in the form of a pine tree, known as a monopine, and four approximately 230 square foot equipment shelters, Application Numbers CUP13-0007 and D-13-0013.

## B. Planning Division Conditions of Approval

- 1. The Developer shall comply with all laws (federal, state, and local) related to the development of real property within the Project, including, but not limited to: the Planning and Zoning Law (Government Code sections 65000, et seq.), the California Environmental Quality Act (Public Resources Code sections 21000, et seq., "CEQA"), the Guidelines for California Environmental Quality Act (California Administrative Code, title 14, sections 1500, et seq., "CEQA Guidelines"), Uniform Building Code, and Uniform Fire Code.
- 2. Unless specifically modified by these Conditions of Approval, the Developer shall comply with all City Regulations.
- 3. Any violation of State or Federal Law or local ordinances shall be grounds for revocation of the conditional use permit.
- 4. Pursuant to Government Code section 65009, including section 65009(e)(1), the City HEREBY NOTIFIES the applicant that any action challenging these conditions must be commenced, in writing, within 90 days of the approval of this conditional use permit.
- 5. The project shall be developed in substantial compliance with the site plans and elevations received by the Development Services Department on May 23, 2014 and the photo simulations received April 21, 2014.
- 6. Prior to issuance of a building permit, the Developer shall submit a landscape and irrigation plan that shows the 10-foot wide landscape strip around the outside of the perimeter fence to include the planting of drought tolerant shrubs and at least 10 drought tolerant trees, to the satisfaction of the Development Services Director.
- 7. Prior to issuance of a building permit, the Developer shall submit construction plans that show a minimum 12-foot wide all-weather access road capable of sustaining fire apparatus (needs to be able to sustain 25,000 pounds per axle vertical loading) with two turn-outs (500-foot intervals) of minimum 20-foot width and 40-foot length with a 30-foot transition lane in front of and behind each turn-out location, and also provide an area for emergency vehicle turnaround, to the satisfaction of the Development Services Director.
- 8. Prior to issuance of final building inspection, the Developer shall install Knox-Boxes or Knox-Padlocks at all entry gates, to the satisfaction of the Development Services Director.