

NOV 19 2009



**Chandler • Arizona**  
*Where Values Make The Difference*

**MEMORANDUM**                      **Planning and Development – CC Memo No. 09-137**

**DATE:**            NOVEMBER 5, 2009

**TO:**                MAYOR AND CITY COUNCIL

**THRU:**            W. MARK PENTZ, CITY MANAGER  
                         PATRICK MCDERMOTT, ASSISTANT CITY MANAGER  
                         JEFF KURTZ, ASSISTANT PLANNING & DEVELOPMENT DIRECTOR  
                         KEVIN MAYO, ACTING PLANNING MANAGER *KM*

**FROM:**            BILL DERMODY, SENIOR CITY PLANNER *BC*

**SUBJECT:**        ZUP09-0001 KNOX ELEMENTARY MONOPALM

**Request:**        Use Permit approval to install a 65-foot monopalm wireless communication facility

**Location:**      Knox Elementary School campus at 700 W. Orchid Lane, north and east of Ray and Alma School Roads

**Applicant:**      Reliant Land Services (for AT&T)

**Owner:**           Chandler Unified School District

**Zoning:**         Single-Family District (SF-8.5)

**RECOMMENDATION**

Planning Commission and Staff, finding consistency with the General Plan, recommend approval subject to conditions.

**BACKGROUND**

The application requests a new 65' monopalm wireless communications facility to be located on the campus of Knox Elementary School at 700 W. Orchid Lane, north and east of Ray and Alma School Roads. A monopalm is a cell tower disguised as a palm tree. The Zoning Code requires a Use Permit for wireless communication facilities in non-industrial zoning districts that do not utilize existing poles or towers.

The monopalm is proposed for the west-central portion of the school campus, immediately north of an existing parking lot and 40' west of an existing 65'-high T-Mobile monopalm. North of the proposed location are play fields and a municipal park with ball courts. The school campus and park are surrounded by residential uses, including single-family homes 380' to the south, apartments 420' to the west, single-family homes 640' to the north, and single-family homes 1000' to the east of the proposed monopalm.

Two live Date Palm trees of 25' and 30' in height will be planted adjacent the equipment shelter. The applicant also plans to install five (5) Shamel Ash trees around the equipment shelter at the School District's request.

Within the immediate area, there are no suitable alternatives for co-location of the wireless communication facilities on existing poles or towers. According to information provided by the applicant as required by code, there are 12 verticalities of a height similar to or greater than the proposed monopalm within approximately one mile, including power lines, several cell towers disguised within flagpoles, a set of ballfield lights, and an existing cell tower monopole. The applicant has analyzed these co-location possibilities and found them implausible either because they are located outside of the needed coverage area or they are not adaptable for co-location. An inventory of these verticalities provided by the applicant is among the attachments.

### **DISCUSSION**

Planning Commission and Staff find the proposed location to be appropriate for a wireless facility in the form of a monopalm, Date Palm design, in conjunction with live Date Palm trees. The monopalm fits well with the area, given its adjacency to an existing monopalm and its 380' separation from the nearest residences.

### **PUBLIC/NEIGHBORHOOD NOTIFICATION**

- This request was noticed according to the provisions of the City of Chandler Zoning Code.
- A neighborhood meeting was held on October 17, 2009 at the subject site. Four neighbors attended to ask general questions—no neighbors expressed opposition.
- At the time of this writing, staff is not aware of any opposition to the request.

### **PLANNING COMMISSION VOTE REPORT**

Motion to approve.

In Favor: 6    Opposed: 0    Absent: 1 (McClendon)

### **RECOMMENDED ACTION**

Staff, upon finding consistency with the General Plan, recommends approval of ZUP09-0001 KNOX ELEMENTARY MONOPALM subject to the following conditions:

1. Expansion or modification of the use beyond approved exhibits shall void the Use Permit and require new Use Permit application and approval.

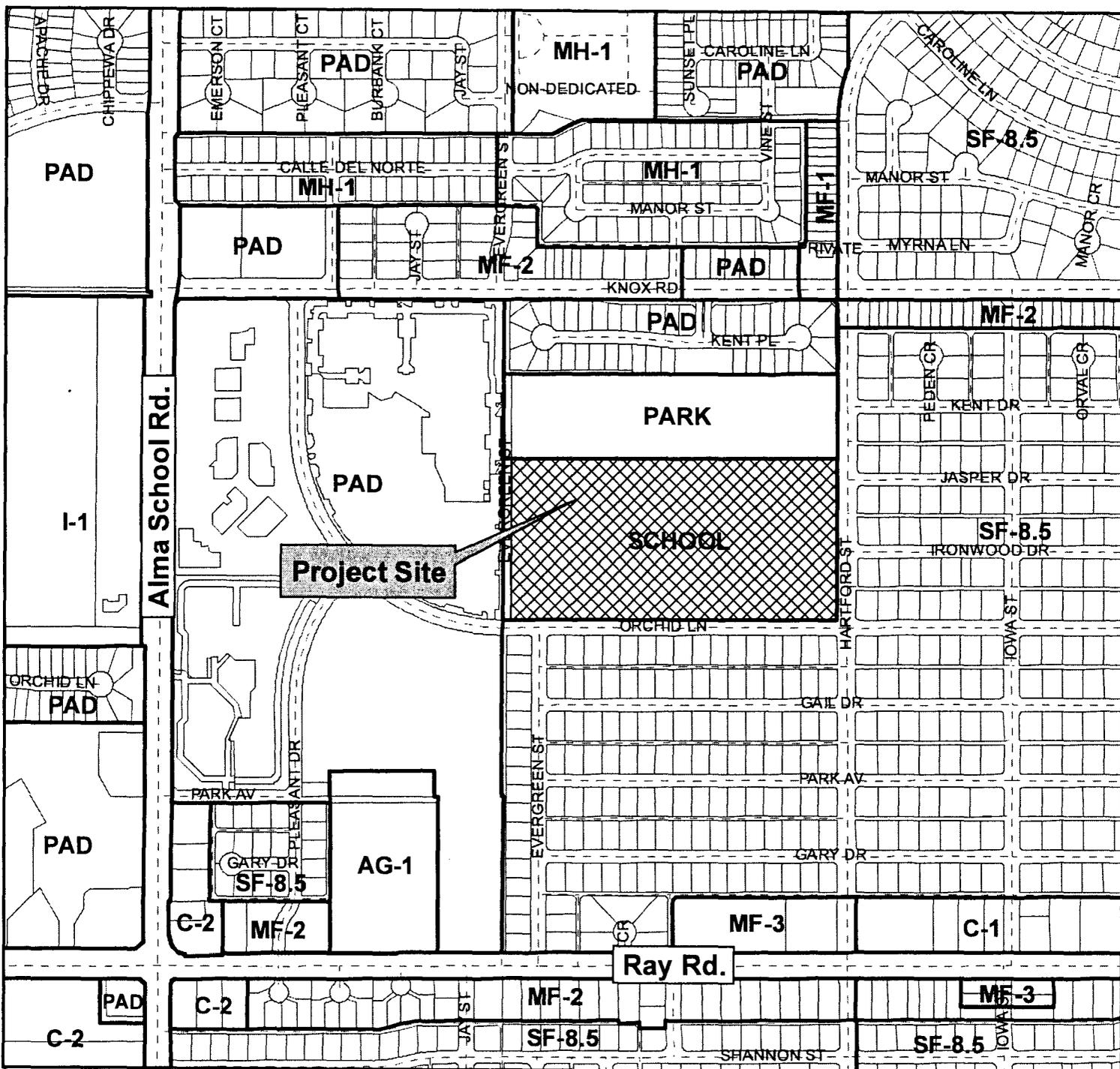
2. There shall be two live Date Palm trees installed and maintained adjacent to the monopalm. The trees shall be of 25' and 30' in height at the time of planting and shall match the monopalm's appearance.
3. The landscaping shall be maintained at a level consistent with or better than at the time of planting. The site shall be maintained in a clean and orderly manner.

**PROPOSED MOTION**

Move to approve ZUP09-0001 KNOX ELEMENTARY MONOPALM Use Permit for a wireless communication facility, subject to the conditions recommended by Planning Commission and Staff.

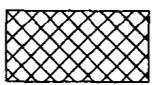
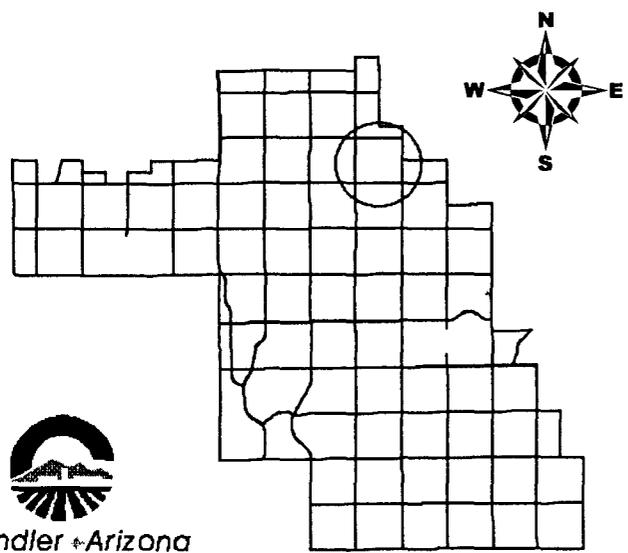
**Attachments**

1. Vicinity Maps
2. Site Plan and Elevation
3. Applicant Narrative
4. Site Analysis Map & Inventory
5. Photosimulations
6. Inventory of AT&T Sites in Chandler



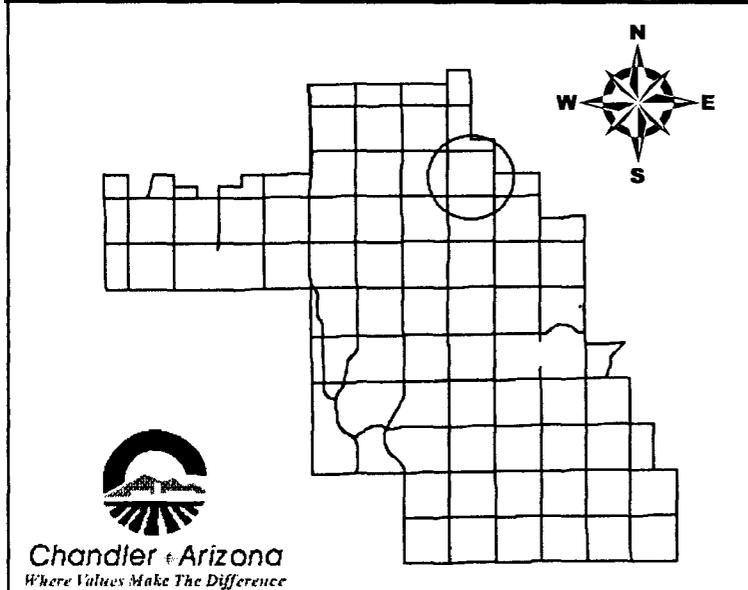
**Project Site**

## Vicinity Map

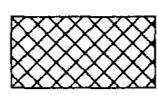


**ZUP09-0001**

**Knox Elementary  
Monopalm**



**Vicinity Map**



**ZUP09-0001**

**Knox Elementary  
Monopalm**

**PROJECT INFORMATION**

SCOPE OF WORK: INSTALLATION OF AN UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF (7) EQUIPMENT CABINETS, (1) GPS ANTENNAS, CABLE BRIDGE, AND (6) PANEL ANTENNAS ON PROPOSED 70' HIGH MONOPALM AT 63' RAD CENTER WITHIN 10' HIGH GAU WALL ENCLOSURE TEXTURE TO MATCH.

SITE ADDRESS: 700 W. ORCHID LN  
CHANDLER, AZ 85225

LATITUDE: 33° 19' 31.11" N  
LONGITUDE: -111° 51' 12.95" W  
JURISDICTION: CITY OF CHANDLER  
EXISTING USE: SCHOOL  
APN: 302-43-006-J  
PROPOSED USE: UNMANNED TELECOMMUNICATIONS FACILITY

**DRAWING INDEX**

**REV**

25471-620 PHNX-X129-T01	TITLE SHEET	0
25471-620 PHNX-X129-LS1	SITE SURVEY	0
25471-620 PHNX-X129-Z01	SITE PLAN	0
25471-620 PHNX-X129-Z02	ENLARGED SITE PLAN, EQUIPMENT & ANTENNA LAYOUT	0
25471-620 PHNX-X129-Z03	ELEVATIONS	0

DESIGN PACKAGE BASED ON RF DATA SHEET DATE STAMPED 05/19/2009 X129-AA V.1

**NOTES**

1. THE FOLLOWING NOTES, SYMBOLS AND DETAILS FROM BECHTEL DOCUMENT NUMBER 24782-000-A3-EF-00001 APPLIES TO THE IMPLEMENTATION OF THIS SITE DESIGN PACKAGE. REFERENCE STANDARD NOTES SHEET.

GENERAL NOTES	DETAIL 623	REV 1
CONSTRUCTION NOTES	DETAIL 101	REV 2
GROUNDING NOTES	DETAIL 621	REV 3
ELECTRICAL INSTALLATION NOTES	DETAIL 622	REV 4
RF NOTES	DETAIL 116	REV 6
CONCRETE AND REINFORCING STEEL NOTES	DETAIL 102	REV 4
SITE WORK GENERAL NOTES	DETAIL 619	REV 2

**A/E DOCUMENT REVIEW STATUS**

1	ACCEPTED - WITH MINOR OR NO COMMENTS, CONSTRUCTION MAY PROCEED
2	NOT ACCEPTED - PLEASE RESOLVE COMMENTS AND RESUBMIT
ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN DETAILS, CALCULATIONS, ANALYSIS, TEST METHODS OR MATERIALS DEVELOPED OR SELECTED BY SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATION.	
REVIEWED:	ENG. _____ CONST. _____
BY:	DATE: _____

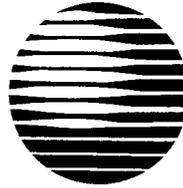
**REDLINE DRAWING REVIEW**

NAME (PRINT) \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

GENERAL CONTRACTOR - CONFIRM ACCURACY OF THESE REDLINE DRAWINGS  
NAME (PRINT) \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

FIELD COORDINATOR - VERIFY INSTALLATION PER REDLINE DRAWINGS  
NAME (PRINT) \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

ENGINEERING - Market Engineer Shall Review Redline Drawings to Ensure Changes Do Not Alter The Original Design Intent And/Or Are Code Compliant

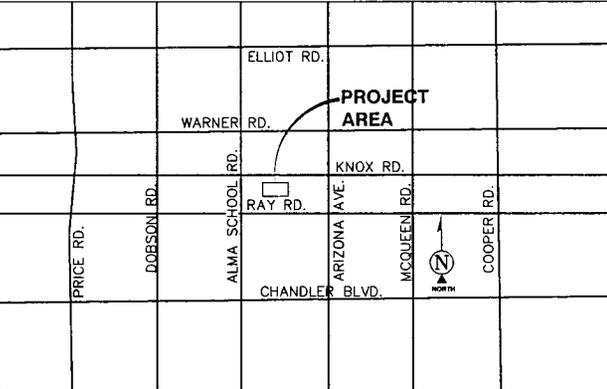


**at&t**

**SITE NUMBER: X129-A**  
**CANDIDATE NAME: KNOX ELEMENTARY**

**VICINITY MAP**

**DIRECTIONS:**  
FROM AT&T OFFICE: TAKE 101 LOOP EAST. CONTINUE ON 101-S TO RAY RD. TAKE THE RAY RD. EXIT AND TURN LEFT. TAKE RAY RD. TO ALMA SCHOOL RD. TURN LEFT. TAKE ALMA SCHOOL TO W. PARK AVE. TURN RIGHT. THEN TURN LEFT ON N. PLEASANT DRIVE. TAKE PLEASANT DR. TO N. ORCHID LN. TURN RIGHT ON N. ORCHID LN. SCHOOL WILL BE LEFT HAND SIDE.



**APPLICABLE BUILDING CODES AND STANDARDS**

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (A.H.) FOR THE LOCATION. THE EDITION OF THE A.H. ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:  
INTERNATIONAL BUILDING CODE 2006

ELECTRICAL CODE:  
[NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2005, NATIONAL ELECTRICAL CODE,  
LIGHTNING PROTECTION CODE:  
[NFPA 780 - 2000, LIGHTNING PROTECTION CODE]

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:  
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION  
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES  
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM  
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS, REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

DETAIL 103

**SITE QUALIFICATION PARTICIPANTS**

NAME	COMPANY	NUMBER
A/E	JERRY CASTILLO	PDG 323-541-6689
SAC	JIM KUZMICH	RLS 480-628-6175
RF	GEOFFREY BURLEY	AT&T 619-316-3306
LANDLORD	FRANK LEON	SCHOOL DISTRICT 80 602-550-7129



Pittman design group  
3334 S. FAIR LANE RD  
TEMPE, AZ 85282

**KNOX ELEMENTARY**

**X129-A**

700 W. ORCHID LN  
CHANDLER, AZ 85225



**at&t**

AT&T MOBILITY  
20830 N. TATUM BLVD, SUITE 400  
PHOENIX, AZ 85050  
PHONE: (480) 414-1829

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/20/09	ISSUED FOR FINAL ZDS	JC	AM	JS
A	07/13/09	ISSUED FOR REVIEW	JC	AM	JS

SCALE AS SHOWN DESIGNED: \_\_\_\_\_ DRAWN: \_\_\_\_\_

**TITLE SHEET**

PROJECT NUMBER	DRAWING NUMBER	REV
25471-620	PHNXAZX129-T01	0

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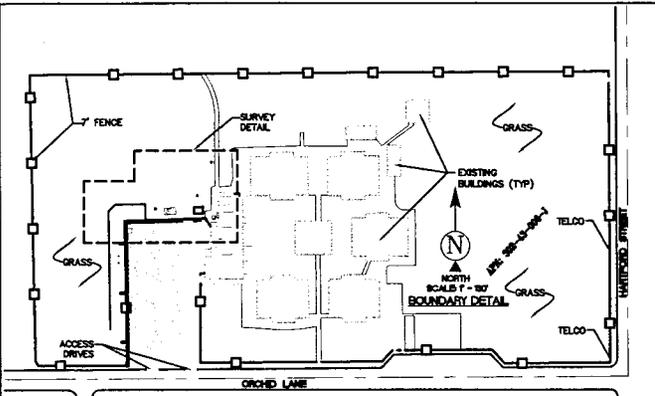
D

D

C

B

A



- LEGEND**
- NG NATURAL GRADE
  - BLDG TOP OF BUILDING
  - FC FACE OF CURB
  - R/W RIGHT OF WAY
  - AP ASPHALT
  - TOP TOP OF SLOPE
  - TOE TOE OF SLOPE
  - SW SIDEWALK
  - CLF CHAIN LINK FENCE
  - DUY WHR
  - ⊙ FOUND AS NOTED
  - ⊛ LIGHT POLE
  - ED AIR CONDITIONING UNIT
  - ◆ POSITION OF GEODETIC COORDINATES
  - SPOT ELEVATION

POSITION OF GEODETIC COORDINATES  
 LATITUDE 33° 19' 30.8" NORTH (NAD83)  
 LONGITUDE 111° 51' 13.0" WEST (NAD83)  
 ELEVATION 1207.1' (NAVD88)

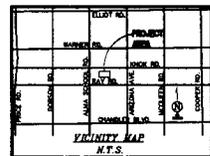
**UTILITY NOTES**  
 SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS ARE DEFINITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE, ALL UTILITIES PRIOR TO CONSTRUCTION, REMOVAL, RELOCATION AND/OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

**BENCHMARK**  
 PROJECT ELEVATIONS ESTABLISHED FROM GPS DERIVED ORTHOMETRIC HEIGHTS BY APPLICATION OF NGS "GEOID 03" MODELED SEPARATIONS TO ELLIPSOID HEIGHTS DETERMINED BY RAW STATIC GPS DATA PROCESSED ON THE NGS CRUISE WEBSITE. ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO NAVD88.

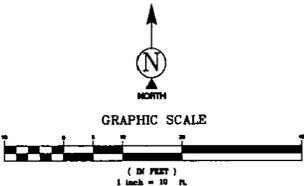
**BASIS OF BEARING**  
 BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM ARIZONA STATE PLANE COORDINATE ZONE CENTRAL, DETERMINED BY GPS OBSERVATIONS.

**SURVEY DATE**  
 06/23/09

**LESSOR'S LEGAL DESCRIPTION**  
 TO BE PROVIDED BY TITLE



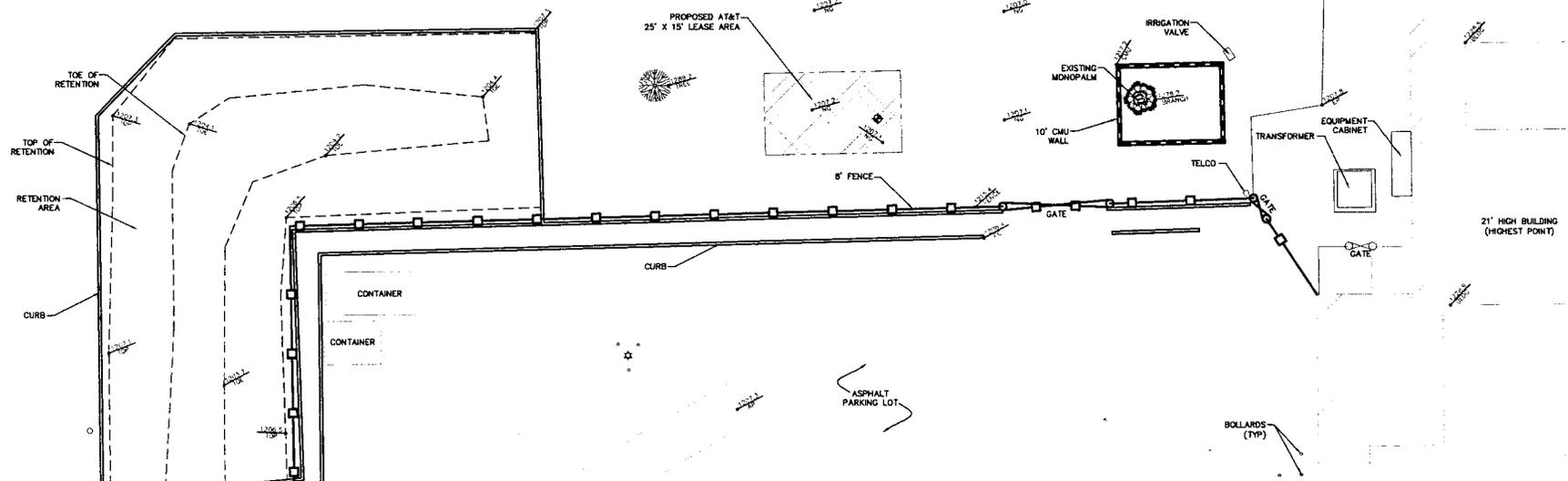
**DIRECTIONS TO SITE**  
 FROM AT&T OFFICE: TAKE 101 LOOP EAST. CONTINUE ON 101-S TO RAY RD. TAKE THE RAY RD. EXIT AND TURN LEFT. TAKE RAY RD. TO ALMA SCHOOL RD. TURN LEFT. TAKE ALMA SCHOOL TO W. PARK AVE. TURN RIGHT. THEN TURN LEFT ON N. PLEASANT DRIVE. TAKE PLEASANT DR. TO N. ORCHID LN. TURN RIGHT ON N. ORCHID LN. SCHOOL WILL BE LEFT HAND SIDE.



NORTH

GRAPHIC SCALE

1 inch = 30 ft.



RELIANT LAND SERVICES INC.  
 3524 S. FIRM LN.  
 TOLSON, AZ 85086  
 PH. (602)453-0090  
 FAX. (602)453-0002

**KNOX ELEMENTARY  
 X129-A**  
 700 WEST ORCHID LANE  
 CHANDLER, ARIZONA 85225



AT&T MOBILITY  
 20830 N. TARUM BLVD, SUITE 400  
 PHOENIX, AZ 85050  
 PHONE: (480) 414-1829

NO.	DATE	REVISIONS	BY	CHK	APP'D
A	06/24/09	ISSUED FOR REVIEW	MF	QA	MB

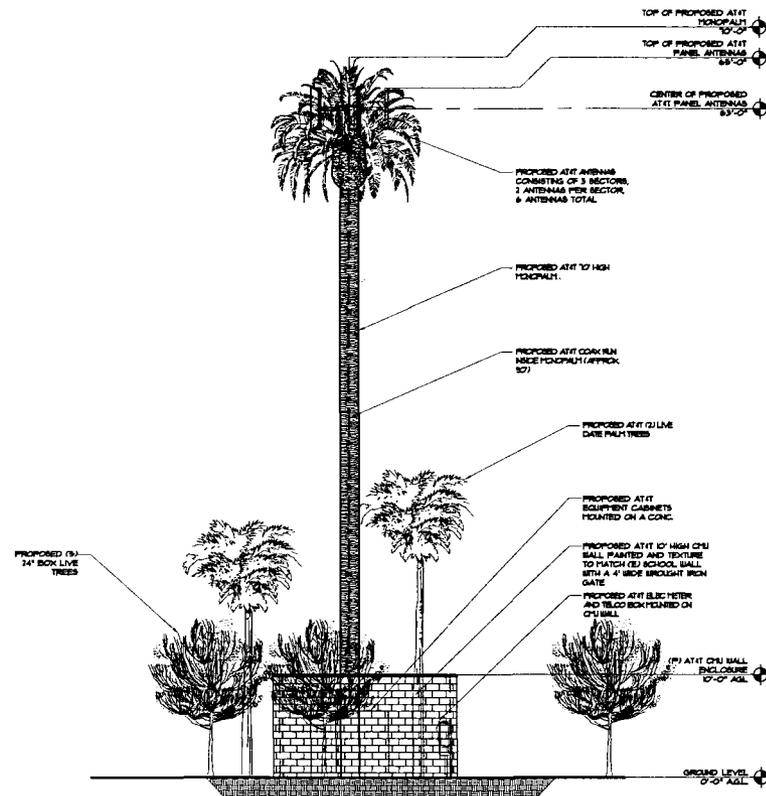
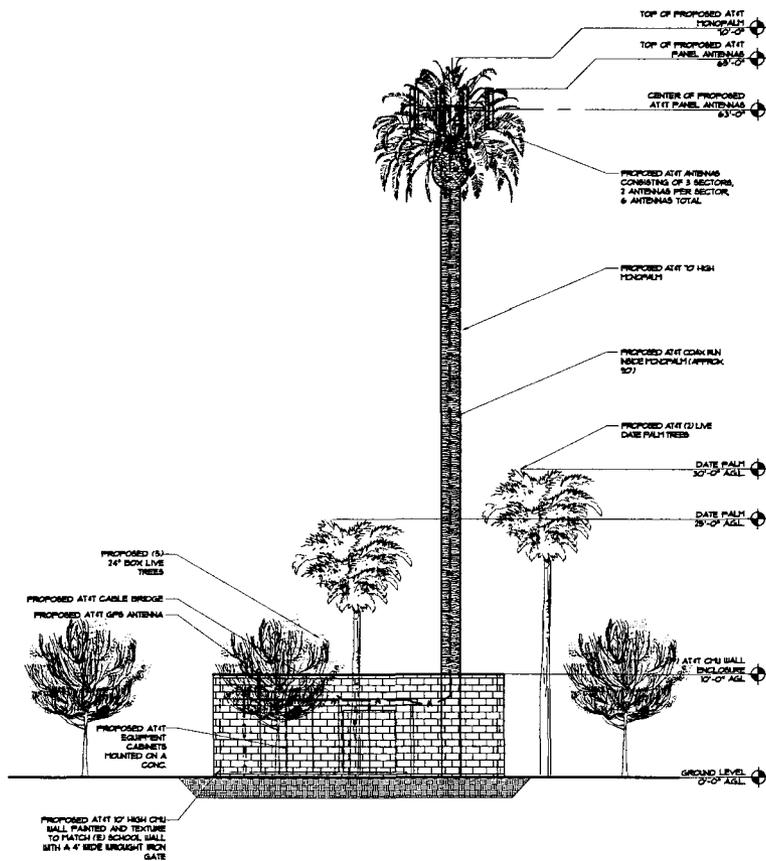
AT&T MOBILITY  
**SITE SURVEY**

PROJECT NUMBER	DRAWING NUMBER	REV
25471-620	PHNX-AZX129-04A	A





9. THESE ARCHITECTURAL ELEVATIONS, INCLUDING THESE ELEVATIONS, ARE HEREBY SUBMITTED FOR REVIEW, CONSTRUCTION AND RECORD. ANY REVISIONS TO THESE ARCHITECTURAL ELEVATIONS, INCLUDING THESE ELEVATIONS, MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL. ANY REVISIONS TO THESE ARCHITECTURAL ELEVATIONS, INCLUDING THESE ELEVATIONS, MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL. ANY REVISIONS TO THESE ARCHITECTURAL ELEVATIONS, INCLUDING THESE ELEVATIONS, MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL.



**SOUTH ELEVATION**



SCALE: 3/16"=1'-0"

**EAST ELEVATION**



SCALE: 3/16"=1'-0"



**KNOX ELEMENTARY**  
 X129-A  
 700 W. GROUND LN.  
 CHANDLER, AZ 85225



NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/25/08	ISSUED FOR FINAL ZDS	JC	AM	JS
1	07/13/08	ISSUED FOR REVIEW	JC	AM	JS

SCALE: AS SHOWN    DESIGNED:    DRAWN:

**ARCHITECTURAL ELEVATIONS**

PROJECT NUMBER	DRAWING NUMBER	REV
25471-620	PHNXAZK129-203	0

6

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2

D

C

C

B

A

Application for Use Permit  
Case # TBD



## Project Description/Narrative

Date: July 31, 2009

Property Owner:  
Chandler Unified School  
District #80  
350 N. Arizona Ave

Applicant:  
AT&T Mobility  
20830 N. Tatum Blvd  
Phoenix, AZ 85050

Applicant Representative:  
Danielle Waechter  
Reliant Land Services  
3234 S. Fair Lane  
Tempe, AZ 85282  
602-405-6750  
Danielle.waechter@rlsusa.com

602-550-7129

480-414-1829

Project Name: X129-A Knox Elementary  
Property Address: 700 W. Orchid  
County Parcel#: 302-43-006J  
Case Number: TBD  
Case Manager: TBD  
Zoning Designation: School  
Zoning Process: Use Permit

### Project Description:

To enhance its current service in the area, AT&T proposes the installation of a 70' tall Mono-palm wireless telecommunication facility located at 700 W. Orchid. The antennas will be concealed behind/under the palm fronds at the top of the pole.

In order to minimize any disruption to the school on the property, AT&T proposes to locate the facility closer to the northwest part of the property just north of the parking lot. The facility will be compatible in design, color, and materials with real palm trees further adhering to the camouflaging of the design.

AT&T will install equipment cabinets in order to operate its facility. The cabinets located at the base of the monopole will be surrounded/enclosed by an 8' tall concrete masonry (CMU) wall. AT&T proposes to install (5) 24" box live trees to soften the CMU wall.

This facility will be unmanned and will require infrequent maintenance once the facility is constructed.

AT&T will also confirm that the tower receives all necessary FAA approvals.

### FCC Regulations:

All of AT&T's facilities, including this proposed facility, strictly comply with FCC requirements for cumulative field measurements of radio frequency power densities and electromagnetic fields.

### FCC Interference:

All of AT&T's facilities, including this proposed facility, will strictly comply with current FCC regulations prohibiting localized interference with reception of television and radio broadcasts.

Thank you,  
Danielle Waechter



55' Flagpole WCF

side Warner & West side Alma School

60' Flagpole WCF

60' Flagpole WCF

Ballfield Lights Existing AT&T Site

65' T-Mobile Monopalm

100' Powerline R/W

80' Monopole AT&T Existing Site

80' Flagpole

80' Monopole AT&T Existing Location

40' Po

N Dobson Rd

W Ray Rd

N Arizona Ave

E Ray Rd

N McQueen Rd

S McQueen Rd

100' Ballfield Lights

© 2009 Google  
© 2009 Europa Technologies

Imagery Date: Nov 2005

33°19'28.41" N 111°50'46.48" W elev 1212 ft

Eye

VERTICLE TOWER/STRUCTURE INVENTORY WITHIN 1 MILE OF KNOX  
ELEMENTARY SCHOOL, 700 WEST ORCHID, CHANDLER, AZ  
FOR PROPOSED AT&T WIRELESS MONOPALM (ZUP09-0001)

Existing Power Poles and Flagpoles:

1. 60' Power line poles along the North side of Warner Road and West side of Alma School Road. **NOT AVAILABLE FOR LOCATION.**
2. 60' Flagpole Communications Site at Fire Station, SEC Alma School/Warner. **TOO LOW. OUT OF SEARCH RING.**
3. 55' Flagpole Communications Site at Carwash, 800 W Warner. **TOO LOW. OUT OF SEARCH RING.**
4. 80' Flagpole at NEC Warner/Arizona Ave. **OUT OF SEARCH RING.**
5. 60' (40'RAD) Power pole Communications Site at NWC Ray/McQueen. **TOO LOW. OUT OF SEARCH RING.**
6. 100' Power line R/W runs North/South ¼ mi East of Arizona Ave. **OUT OF SEARCH RING.**
7. 60' Flagpole Communications Site at Kachina Apts/1400 Alma School. **TOO LOW. OUT OF SEARCH RING.**

**THE SEARCH RING FOR THIS PROPOSED SITE IS BOUNDED NORTH BY KNOX ROAD. EAST BY IOWA STREET. SOUTH BY DUBLIN STREET. WEST BY N KAREN DRIVE.**

Existing Towers/Structures equal to or greater in height than proposed facility:

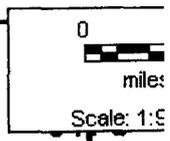
- A. 80' Monopole (3 Carriers) at SEC Arizona Ave/Warner. AT&T is already located on this structure.
- B. 60' Ballfield Light Communications Sites at Anderson Jr High/Pennington & Ironwood. AT&T is already located at this facility.
- C. 80' Monopole (3 Carriers) at 401 E Ray. AT&T is already located on this structure.
- D. 100' Ballfield Lights at Chandler High School/Oakland Street. Located approx 1 mi South of the proposed site location. Too far out of the AT&T RF Search Ring.
- E. 65' Monopalm (T-Mobile) at Knox Elementary School. AT&T is requesting same RF RAD center for its proposed site.





Site type

- Existing + in progress
- Future



AT&T Wireless sites  
within 2 miles  
(existing + planned)

