ABBREVIATIONS WHERE APPLICABLE

ADJ	ADJUSTABLE	MIN	MINIMUM
APPROX.	APPROXIMATE	MTL	METAL
CAB	CABINET	NIC	NOT IN CONTRACT
CLG	CEILING	NTS	NOT TO SCALE
CONC.	CONCRETE	OC	ON CENTER
CONT	CONTINUOUS	OPP	OPPOSITE
CJ	CONSTRUCTION JOINT	SF	SQUARE FOOT
DIA	DIAMETER	SHT	SHEET
DWG	DRAWING	SIM	SIMILAR
EGB	EQUIPMENT GROUND BAR	SS	STAINLESS STEEL
EA	EACH	STL	STEEL
ELEC	ELECTRICAL	TOC	TOP OF CONCRETE
EL	ELEVATION	TOM	TOP OF MASONRY
EQ	EQUAL	TYP	TYPICAL
EQUIP	EQUIPMENT	VIF	VERIFY IN FIELD
EXT	EXTERIOR	UON	UNLESS OTHERWISE NOTED
FF	FINISHED FLOOR	WWF	WELDED WIRE FABRIC
GA	GAUGE	℄	CENTERLINE
GALV	GALVANIZED	ℙ	PLATE
GC	GENERAL CONTRACTOR	AGL	ABOVE GRADE LEVEL
GRND	GROUND	AMSL	ABOVE MEAN SEA LEVEL
LG	LONG		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MIGB	MASTER ISOLATED GROUND BAR		

SYMBOLS AND MATERIALS WHERE APPLICABLE

- NEW ANTENNA
- EXISTING ANTENNA
- ASPHALT
- ELECTRIC BOX
- LIGHT POLE
- FND. MONUMENT
- xxxx.xx SPOT ELEVATION
- SET ELEVATION
- REVISION
- GRID REFERENCE
- DET. # / SHT. # DETAIL REFERENCE
- D / SH ELEVATION
- D / SH SECTIONS AND DETAILS

- GROUT OR PLASTER
- BRICK
- MASONRY
- CONCRETE
- EARTH
- GRAVEL
- PLYWOOD
- SAND
- WOOD CONT.
- WOOD BLOCKING
- STEEL
- CENTER LINE
- PROPERTY LINE
- S——S STEPPED FOOTING
- MATCH LINE
- WORK POINT
- —C— COAXIAL CABLE
- —G— GROUND WIRE # 2 AWG

CONTRACTOR SHALL REFER TO AT&T WIRELESS DETAILED SPECIFICATIONS FOR CELL SITES FOR ANY ITEMS OR WORK NOT LISTED OR DETAILED HEREON. STANDARD SPECIFICATIONS SHALL SUPERSEDE WHERE CONFLICTS OCCUR.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DIG ALERT:

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING
PH: (800) 782-5348

at&t

SITE NUMBER: B012-A
SITE NAME: LONG REALTY

CROWN CASTLE INTERNATIONAL

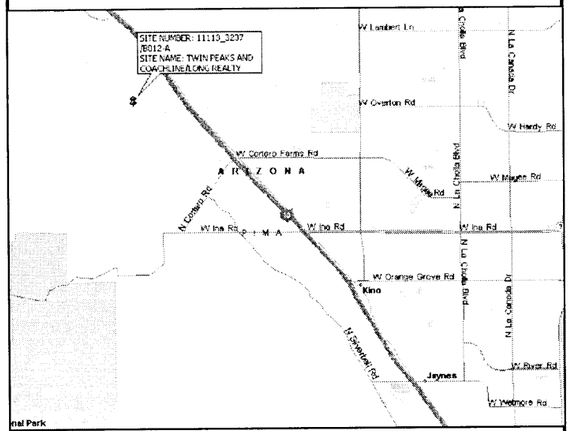
SITE NUMBER: 11113_3237
SITE NAME: TWIN PEAKS AND COACHLINE

7575 W. TWIN PEAKS ROAD
TUCSON, AZ 85743
NEW CROWN CASTLE/AT&T TELECOMMUNICATIONS SITE

APPROVAL

OWNER	SIGNATURE	DATE
RF ENGINEERING	SIGNATURE	DATE
GENERAL CONTRACTOR	SIGNATURE	DATE
PROJECT MANAGER	SIGNATURE	DATE
MANAGER OF CONSTRUCTION	SIGNATURE	DATE

VICINITY MAP



LATITUDE: 32° 22' 26.4"
LONGITUDE: -111° 7' 27.2"
ELEVATION: 2110.8' AMSL (NAVD88)

DRIVING DIRECTIONS

FROM PHOENIX TAKE I-10 EAST TOWARDS TURCSON, TAKE THE CORTARD ROAD EXIT. TAKE CORTARD WEST TO SILVERBELL TAKE SILVERBELL ROAD NORTH TO TWIN PEAKS ROAD. TAKE TWIN PEAKS EAST TO THE SITE ON THE SOUTH SIDE OF THE ROAD JUST PAST COACHLINE BOULEVARD.

PROJECT SUMMARY

SITE NUMBER:	11113_3237/B012-A
SITE NAME:	TWIN PEAKS AND COACHLINE/LONG REALTY
SITE ADDRESS:	7575 W. TWIN PEAKS RD. TUCSON, ARIZONA 85743
APPLICANT:	LYLE 10201 S. 51ST ST. SUITE 20 PHOENIX, ARIZONA 85044 CONTACT: GARY HAMILTON PH:(480) 652-3208
PROPERTY OWNER:	CJR INVESTMENT & INA AUTO CAR CARE 10120 N. ORACLE ROAD TUCSON, AZ 85737
OTHER ON-SITES TELECOM FACILITIES:	NONE
ACCESSORS PARCEL NUMBER:	226-11-844E
EXISTING ZONING:	F
PROPOSED PROJECT AREA:	900 SQ. FEET
PROPOSED TYPE OF CONSTRUCTION:	TYPE V-B
PROPOSED OCCUPANCY:	U
EXISTING TYPE OF CONSTRUCTION:	TBD
EXISTING OCCUPANCY:	A
JURISDICTION:	TOWN OF MARANA

CONSULTANT TEAM

CIVIL & ELECTRICAL ENGINEER:
W-T COMMUNICATIONS DESIGN GROUP, LLC
3001 LBJ FREEWAY, SUITE 129
DALLAS, TEXAS 75234
CONTACT: KELLY MORAN
PH: (972) 739-0761
FAX: (972) 739-0762

LAND SURVEY
WESTERN GEOMATRICS SERVICES
707 E. PONY LANE
GILBERT, ARIZONA 85296
PH: (480) 656-7912 FAX: (480) 219-5195

UTILITIES

TELEPHONE COMPANY:
QWEST

POWER COMPANY:
TEP

SHEET INDEX

PAGE	DESCRIPTION
T-1	TITLE SHEET
Z-0	OVERALL SITE PLAN
Z-1	ENLARGED SITE PLAN
Z-2	NORTH AND SOUTH ELEVATION
Z-3	EAST AND WEST ELEVATION
LS-1	SITE SURVEY (BY OTHERS)

PROJECT DESCRIPTION

CROWN CASTLE INC. PROPOSES TO CONSTRUCT AND MANAGER AN UNMANNED WIRELESS COMMUNICATIONS FACILITY THAT WILL CONSIST OF A 65' MONOPALM AND A 15'X46' EQUIPMENT AREA SURROUNDED BY AN 8' HIGH CMU SECURITY/SCREEN WALL. AT&T PROPOSES TO INSTALL AND OPERATE A CELL SITE THAT WILL INCLUDE 6 ANTENNAS MOUNTED ON THE PORPOSED MONOPALM AND A 10'X20' EQUIPMENT PAD WITH CABINETS BEHIND THE SCREEN WALL. UNDERGROUND ELECTRIC AND TELEPHONE SERVICE RUNS WILL SERVE THE SITE.

LEGAL DESCRIPTION

SEE SURVEY FOR LEASE AREA LEGAL DESCRIPTION

LYLE
10201 SOUTH 51ST. ST SUITE 220
PHOENIX, ARIZONA 85044

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DR.
CANONSBURG, PA 15317

at&t
20830 NORTH TATUM BOULEVARD
SUITE 400
PHOENIX, ARIZONA 85050

1	08/27/08	FINAL
0	06/27/08	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
3001 LBJ Freeway, Suite 129
Dallas, Texas 75234
PH: (972) 739-0761 FAX: (972) 739-0762
www.wtengineering.com
IL License No.: 184-001108 Exp: 04/30/09

Registered Professional Engineer (Civil)
CERTIFICATE NO.
32546
SCOTT R. TRIPHAHN
Date Signed
ARIZONA U.S.A.

DATE: _____ EXPIRES: 03/31/09

PROJECT NO: T081301

DRAWN BY: SDW

CHECKED BY: KWM

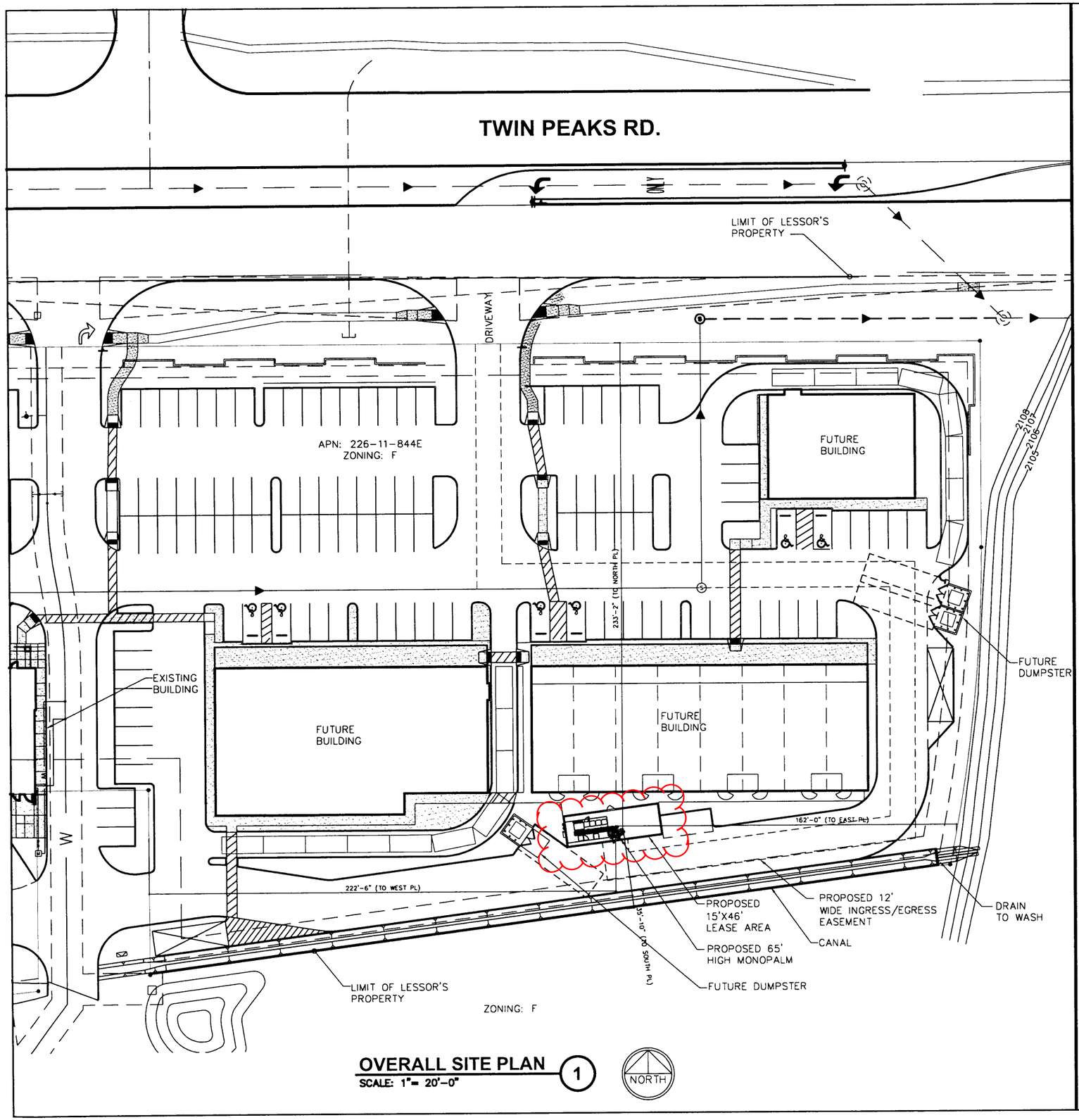
SITE NUMBER: 11113_3237/ B012-A

TWIN PEAKS & COACHLINE/ LONG REALTY

7575 W. TWIN PEAKS RD. TUCSON, AZ 85743

SHEET TITLE

SHEET NUMBER
T-1



OVERALL SITE PLAN 1

SCALE: 1"= 20'-0"

NORTH

SECTION ANTENNA	DIRECTION	AZIMUTH	ANTENNA MODEL NO.	MECH. DOWNTILL	ELEC. DOWNTILL	COAX CABLE LENGTH (±5')	JUMPER LENGTH (±3')	COAX SIZE
A1	NORTH EAST	120°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
A2		120°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
A3								
A4								
B1	SOUTH	240°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
B2		240°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
B3								
B4								
C1	NORTH WEST	340°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
C2		340°	POWERWAVE RA11.7760.0	0°	2°	85'	10'	7/8"
C3								
C4								

1. CONTRACTOR TO PROVIDE ALL LABOR TO INSTALL 24 RUNS OF COAX, 6 TMA'S AND 6 ANTENNAS.
2. CW TO PROVIDE ALL COAX, CONNECTORS, ANCILLARY EQUIPMENT (INCLUDING WEATHER STRIPPING, GROUND KITS, ETC.)
3. CONTRACTOR TO COLOR CODE ALL COAX AS FOLLOWS:

SECTOR "A"

GSM	1900 TX/RX1	RED
GSM	1900 RX2	RED-RED
GSM	1900 TX/RX1	RED-RED-RED
GSM	1900 RX2	RED-RED-RED-RED
GSM	1900 TX/RX1	RED-RED-RED-RED-RED
GSM	1900 RX2	RED-RED-RED-RED-RED-RED
UMTS	1900 TX1/RX1	RED-RED-RED-RED-RED-RED-RED
UMTS	1900 TX2/TX2	RED-RED-RED-RED-RED-RED-RED-RED

SECTOR "B"

GSM	1900 TX/RX1	BLUE
GSM	1900 RX2	BLUE-BLUE
GSM	1900 TX/RX1	BLUE-BLUE-BLUE
GSM	1900 RX2	BLUE-BLUE-BLUE-BLUE
GSM	1900 TX/RX1	BLUE-BLUE-BLUE-BLUE-BLUE
GSM	1900 RX2	BLUE-BLUE-BLUE-BLUE-BLUE-BLUE
UMTS	1900 TX1/RX1	BLUE-BLUE-BLUE-BLUE-BLUE-BLUE-BLUE
UMTS	1900 TX2/TX2	BLUE-BLUE-BLUE-BLUE-BLUE-BLUE-BLUE-BLUE

SECTOR "C"

GSM	1900 TX/RX1	GREEN
GSM	1900 RX2	GREEN-GREEN
GSM	1900 TX/RX1	GREEN-GREEN-GREEN
GSM	1900 RX2	GREEN-GREEN-GREEN-GREEN
GSM	1900 TX/RX1	GREEN-GREEN-GREEN-GREEN-GREEN
GSM	1900 RX2	GREEN-GREEN-GREEN-GREEN-GREEN-GREEN
UMTS	1900 TX1/RX1	GREEN-GREEN-GREEN-GREEN-GREEN-GREEN-GREEN
UMTS	1900 TX2/TX2	GREEN-GREEN-GREEN-GREEN-GREEN-GREEN-GREEN-GREEN

4. ALL ANTENNAS AND ANTENNA CABLE SHALL BE FURNISHED BY AT&T WIRELESS AND INSTALLED BY ANTENNA INSTALLATION CONTRACTOR.
5. PRIOR TO PLACEMENT OF ANTENNA POLE MOUNTS, THE CONTRACTOR SHALL VERIFY THAT THE AZIMUTH AND DIMENSIONS SHOWN ON THE PLANS MATCH ACTUAL FIELD CONDITIONS. ALLOWABLE TOLERANCE: HORIZONTAL ALIGMENT = ±; VERTICAL ALIGMENT = ±1°.
6. ANTENNA INSTALLATION CONTRACTOR SHALL PROVIDE ALL CONDUIT, CABLE TRAY, GROUNDS, ETC. FOR COMPLETE INSTALLATION OF ANTENNAS AND CABLES SHOWN AND INTENDED AS REQUIRED FOR A COMPLETE OPERATING SYSTEM IN ACCORDANCE WITH AT&T WIRELESS STANDARDS.
7. IN NO CASE SHALL THERE BE ANY MORE THAN TWO (2) 90° TURNS (OR EQUIVALENT) IN ANY CONTINUOUS LENGTH ON CONDUIT BETWEEN PULL BOXES OR SIMILAR FEATURES.
8. ANTENNA CONDUIT SHALL ONLY INCLUDE FACTORY-MADE LARGE RADIUS SWEEPS AT ALL CHANGES IN DIRECTIONS. SWEEP RADIUS SHALL BE 18" MINIMUM ABOVE GROUND AND 36" MINIMUM BELOW GROUND.
9. CONDUIT SHALL BE 3" ø MINIMUM. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL EXPOSED CONDUIT ABOVE GRADE SHALL IMC OR RIGID GALVANIZED. ALL EXPOSED CONDUIT PROTECTED IN A BUILDING OR ON A ROOF SHALL BE EMT OR UV STABILIZED PAINTED SCHEDULE 80 PVC.
10. IN HIGH TRAFFIC AREAS OR WHERE SUSCEPTIBLE TO DAMAGA CONTRACTOR SHALL PROVIDE FORMED 14 GA. GALVANIZED SHEET METAL COVER OVER COAXIAL CABLE ROUTES. WHERE CABLE IS RUN ON THE WALL, ATTACH UNISTRUT TO WALL AND COVER AT&T WIRELESS CONTRUCTION MANAGER.
11. VERIFY ROUTE AND LENGTH OF CABLE PRIOR TO CUTTING. ADJUST INDICATED ROUTE AS REQUIRED TO CLEAR EXISTING EQUIPMENT AT FACILITIES.
12. MAXIMUM LENGTH OF 7/8" COAX CABLES SHALL BE 140'-0" MAXIMUM LENGTH OF 1-1/4" COAX CABLE SHALL BE 190'-0" MAXIMUM LENGTH OF 1-5/8" COAXIAL CABLES SHALL BE 235'-0".
13. VERIFY MODEL NUMBERS OF ANTENNAS WITH AT&T WIRELESS SERVICES.
14. THE CONTRACTOR SHALL PROVIDE TESTING OF ANTENNAS AND SHALL PROVIDE DOCUMENTATION TO THE AT&T WIRELESS PROJECT MANAGER.
15. INSTALL EMBOSSED ALUMINUM IDENTIFICATION TAGS AT EACH END OF THE MAIN COAX CABLE RUNS, ALONG WITH THE END OF THE JUMPER CABLE LOCATED WITHIN THE PLINTH SECTION OF THE BTS UNIT. TAGS SHALL BE LABELED PER THE FOLLOWING:

ANTENNA 1. ALNA RX=A1R TX=A1T	ANTENNA 7. ALNA RX=B3R TX=B3T
ANTENNA 2. ALNA RX=A2R TX=A2T	ANTENNA 8. ALNA RX=B4R TX=B4T
ANTENNA 3. ALNA RX=A3A TX=A3T	ANTENNA 9. ALNA RX=C1R TX=C1T
ANTENNA 4. ALNA RX=A4R TX=A4T	ANTENNA 10. ALNA RX=C2R TX=C2T
ANTENNA 5. ALNA RX=B1R TX=B1T	ANTENNA 11. ALNA RX=C3R TX=C3T
ANTENNA 6. ALNA RX=B2R TX=B2T	ANTENNA 12. ALNA RX=C4R TX=C4T

16. COAXIAL CONNECTORS TORQUE TOLERANCE: ±2lbf-ft (±2.7n M)
17. FOR ALL COAX CONNECTORS, THE COUPLING TORQUE (CONNECTOR TO CONNECTOR) SHALL BE 11 lbf-ft (15n m) TYPICAL, 18.5 lbf-ft (25N m) MAXIMUM.
18. FOR ALL COAX CONNECTORS, AT&T WIRELESS STANDARD PROCEDURE IS TO TIGHTEN THE BACK NUT ONTO THE CONNECTOR BODY. A TORQUE WRENCH OF A SUITABLE SIZE AND TYPE SHOULD BE USED TO CONFIRM THE CORRECT TORQUE SETTINGS AT BOTH CABLE AND ALNA CONNECTIONS. CARE SHOULD BE TAKEN NOT TO SPIN THE CONNECTOR ON THE CABLE SIDE OF THE CONNECTION, STANDARD OPEN END WRENCHES SHALL BE USED FOR TEH CONNECTOR BODIES.
19. THE CLEANLINESS OF THE CONTACT SURFACES IS VERY IMPORTANT IN OBTAINING GOOD CONNECTOR PERFORMANCE. NEW CONNECTORS ARE CLEAN WHEN PACKAGED AND AT&T WIRELESS STRESSES THE NEED TO KEEP CONTACT SURFACES CLEAN AND FREE FROM COPPER FILINGS IN THE CONNECTOR ASSEMBLY PROCESS.

BACKNUT TORQUE TABLE FOR FLEXWELL FLC CONNECTORS		
FLEXWELL COAXIAL CABLE TYPE	CONNECTOR BACKNUT WRENCH SIZE	MAXIMUM COUPLING TORQUE FOR BACKNUT TO BODY ASSEMBLY
S-FLC 12-50	3/4"	15lbf-ft (20 N-m)
FLC 12-50	7/8" (3/4")	12lbf-ft (16 N-m)
FLC 78-50	1-3/8"	20lbf-ft (27 N-m)
FLC 114-50	1-3/4"	30lbf-ft (40 N-m)
FLC 158-50	2-1/4"	40lbf-ft (54 N-m)

GENERAL ANTENNAS AND CABLE NOTES 2

SCALE: N.T.S.

LYLE
10201 SOUTH 51ST. ST SUITE 220
PHOENIX, ARIZONA 85044

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DR.
CANONSBURG, PA 15317

at&t
20830 NORTH TATUM BOULEVARD
SUITE 400
PHOENIX, ARIZONA 85050

1	08/27/08	FINAL
0	06/27/08	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
3001 LBJ Freeway, Suite 129
Dallas, Texas 75234
PH: (972) 739-0761 FAX: (972) 739-0762
www.wtengineering.com
IL. License No.: 184-001108 Exp: 04/30/09

Registered Professional Engineer (Civil)
CERTIFICATE NO.
32546
SCOTT R. TRIPHAHN
Date Signed
ARIZONA U.S.A.

DATE: _____ EXPIRES: 03/31/09

PROJECT NO: T081301

DRAWN BY: SDW

CHECKED BY: KWM

SITE NUMBER: 11113_3237/ B012-A

TWIN PEAKS & COACHLINE/ LONG REALTY

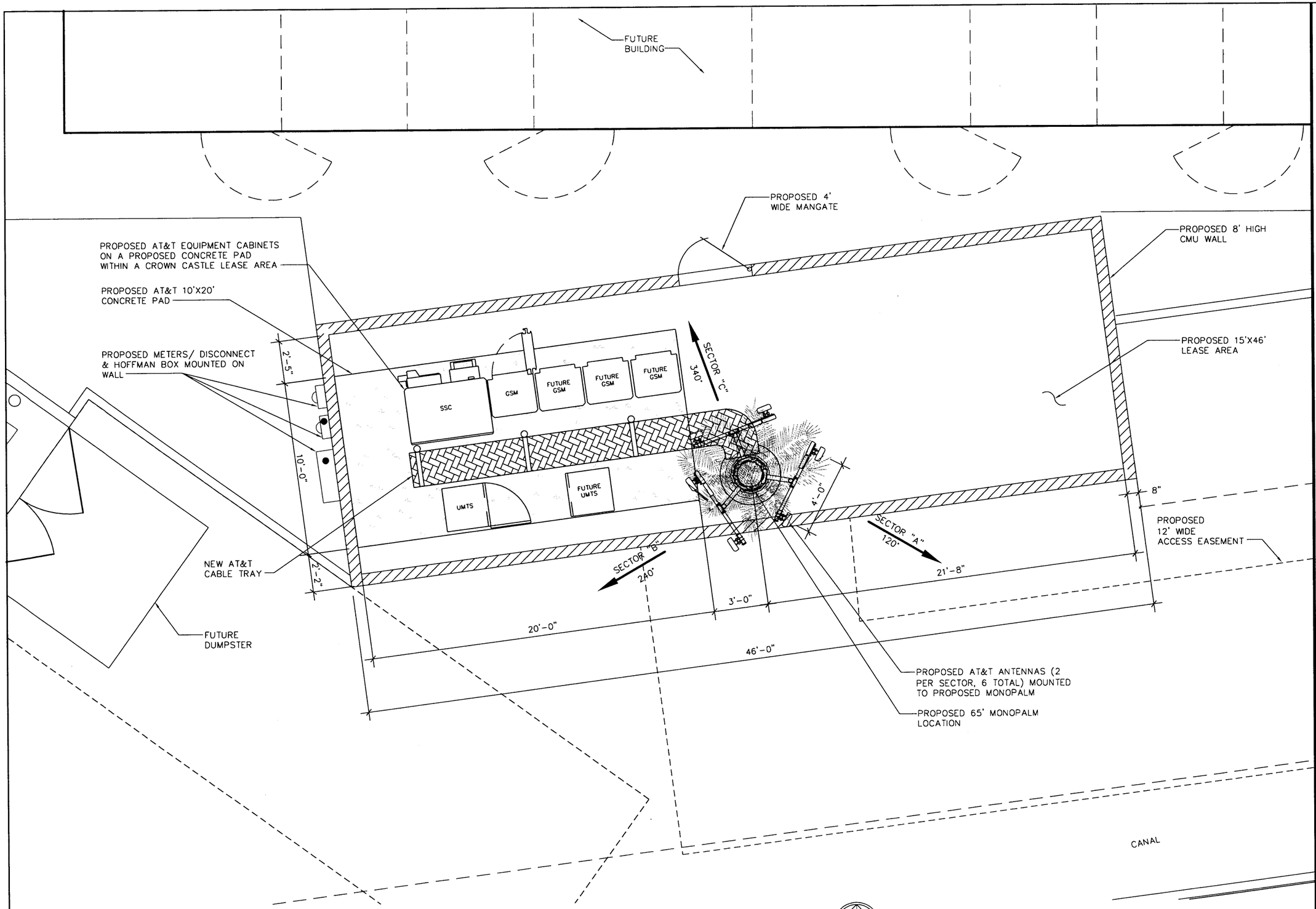
7575 W. TWIN PEAKS RD.
TUCSON, AZ 85743

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

Z-0



ENLARGED SITE PLAN

SCALE: 3/16"=1'

1

NORTH

LYLE
10201 SOUTH 51ST. ST SUITE 220
PHOENIX, ARIZONA 85044

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DR.
CANONSBURG, PA 15317

at&t
20830 NORTH TATUM BOULEVARD
SUITE 400
PHOENIX, ARIZONA 85050

1	08/27/08	FINAL
0	06/27/08	PRELIMINARY

W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
3001 LBJ Freeway, Suite 129
Dallas, Texas 75234
PH: (972) 739-0761 FAX: (972) 739-0762
www.wtengineering.com
IL License No.: 184-001108 Exp: 04/30/09

Registered Professional Engineer (Civil)
CERTIFICATE NO.
32546
SCOTT R.
TRIPHAHN
Date Signed
ARIZONA U.S.A.

DATE: _____ EXPIRES: 03/31/09

PROJECT NO: T081301

DRAWN BY: SDW

CHECKED BY: KWM

SITE NUMBER: 11113_3237/ B012-A

TWIN PEAKS & COACHLINE/ LONG REALTY

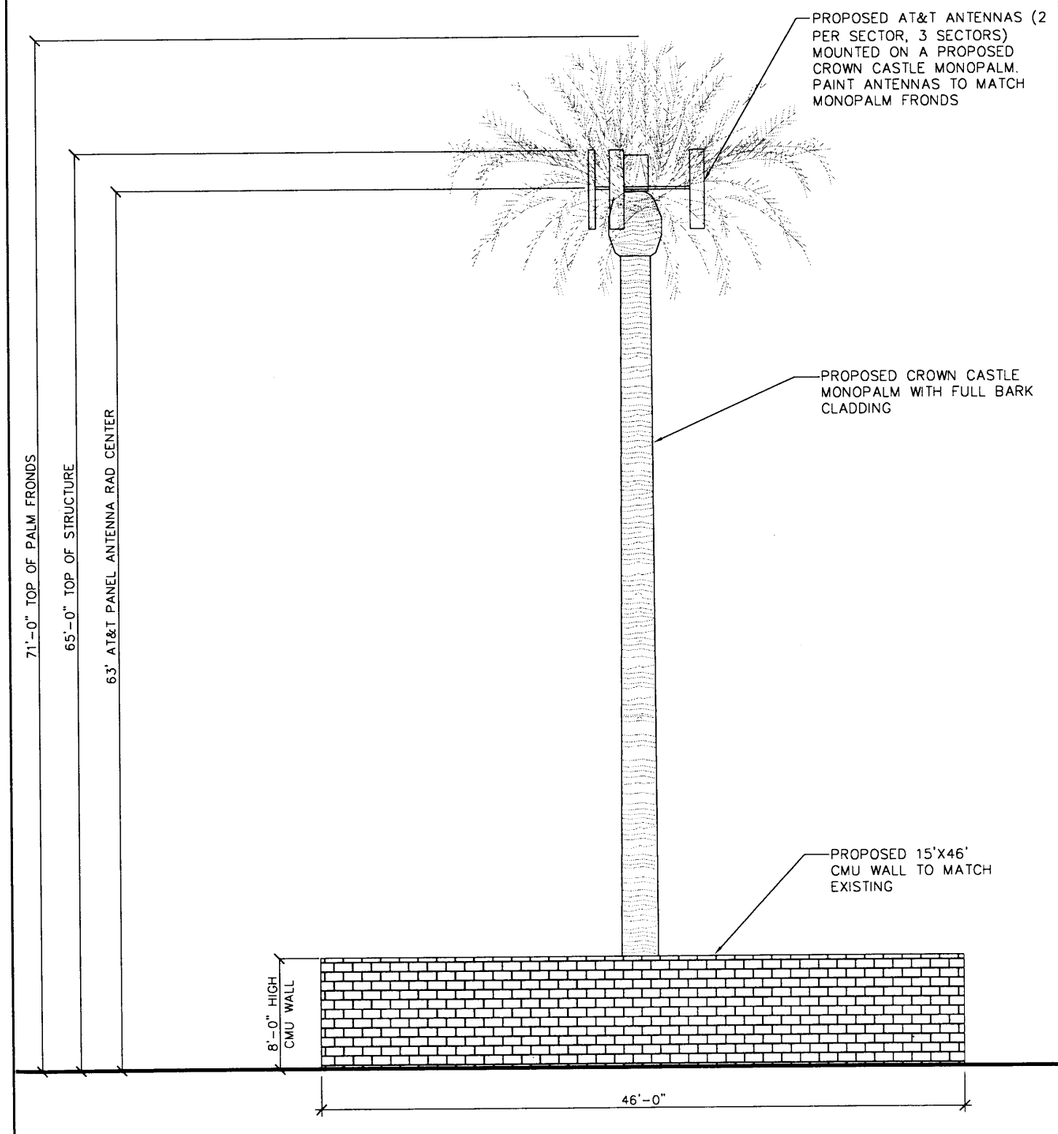
7575 W. TWIN PEAKS RD.
TUCSON, AZ 85743

SHEET TITLE

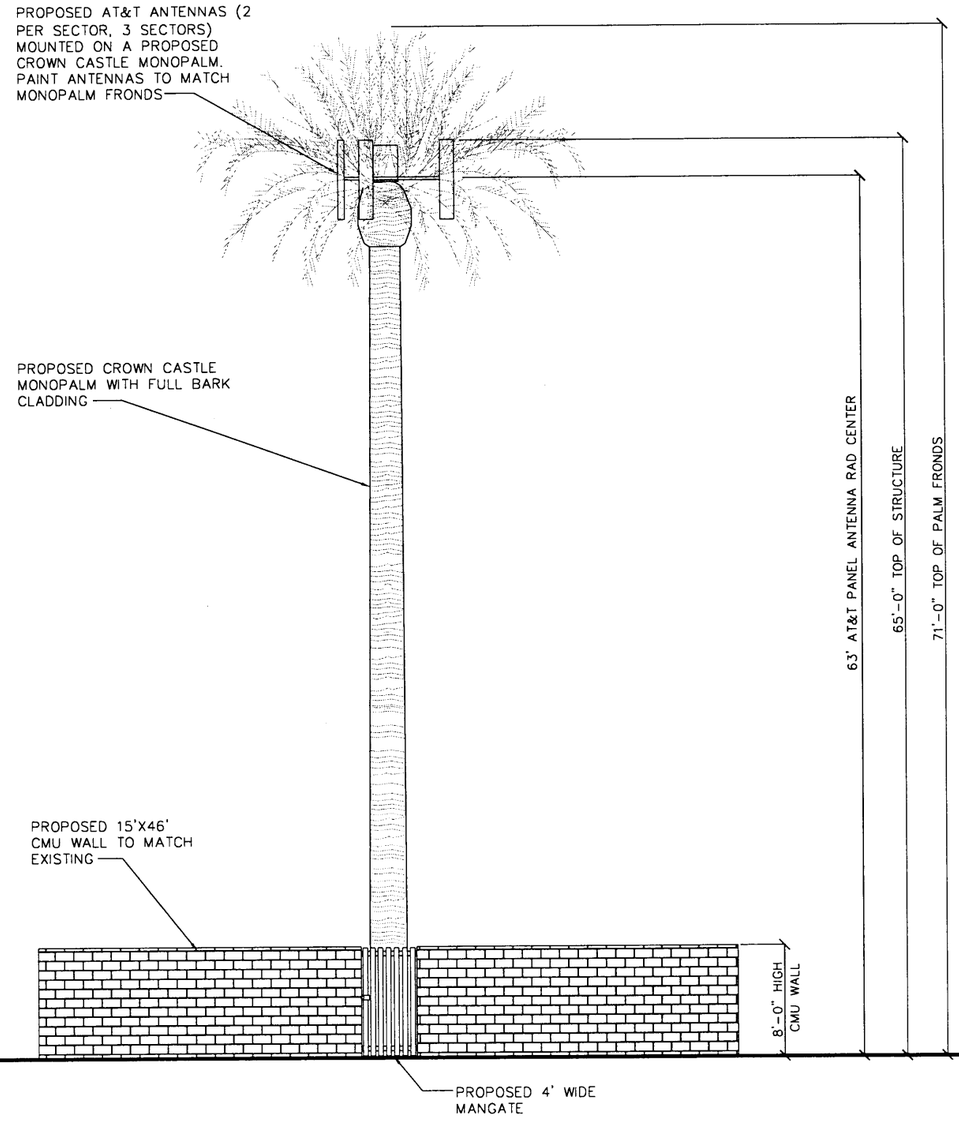
ENLARGED SITE PLAN

SHEET NUMBER

Z-1



SOUTH ELEVATION VIEW (1)
SCALE: 3/32"=1'-0"



NORTH ELEVATION VIEW (2)
SCALE: 3/32"=1'-0"

LYLE
10201 SOUTH 51ST. ST SUITE 220
PHOENIX, ARIZONA 85044

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DR.
CANONSBURG, PA 15317

at&t
20830 NORTH TATUM BOULEVARD
SUITE 400
PHOENIX, ARIZONA 85050

1	08/27/08	FINAL
0	06/27/08	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
3001 LBJ Freeway, Suite 129
Dallas, Texas 75234
PH: (972) 739-0761 FAX: (972) 739-0762
www.wtengineering.com
IL License No.: 184-001108 Exp: 04/30/09

Registered Professional Engineer (Civil)
CERTIFICATE NO.
32546
SCOTT R.
TRIPHAHN
Date Signed
ARIZONA U.S.A.

DATE: _____ EXPIRES: 03/31/09

PROJECT NO: T081301

DRAWN BY: SDW

CHECKED BY: KWM

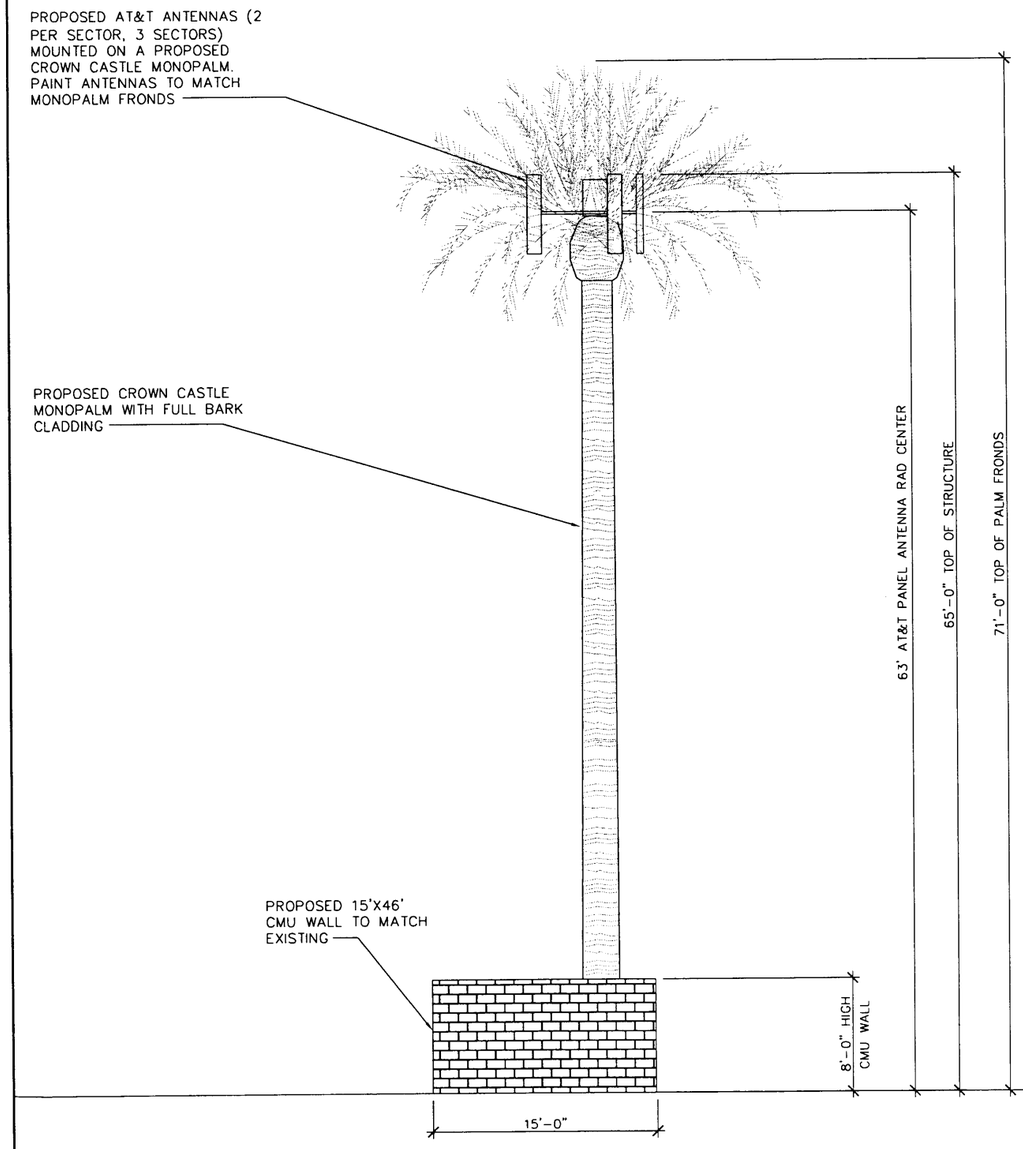
SITE NUMBER: 11113_3237/ B012-A

TWIN PEAKS & COACHLINE/ LONG REALTY

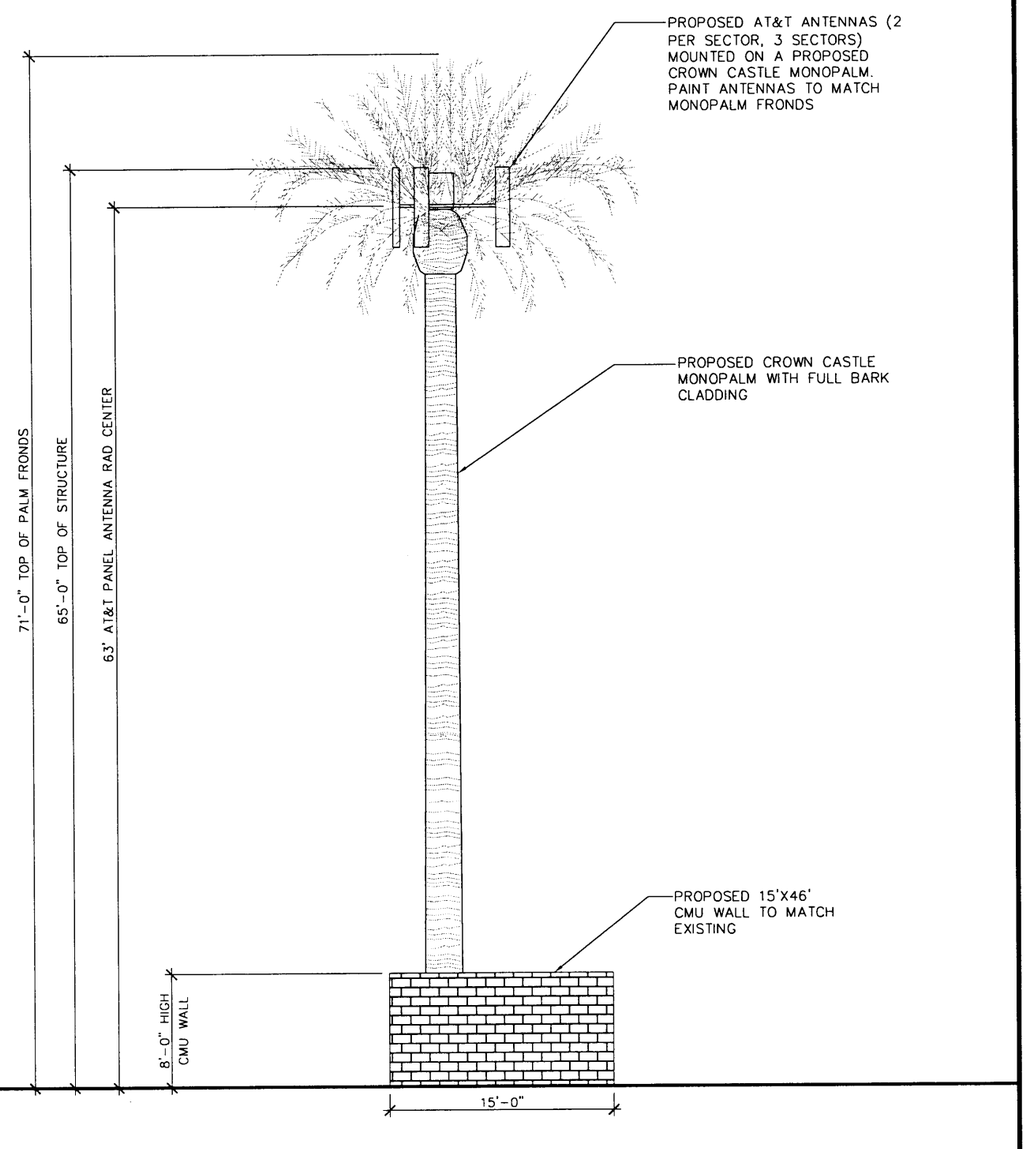
7575 W. TWIN PEAKS RD.
TUCSON, AZ 85743

SHEET TITLE
SOUTH & NORTH ELEVATION VIEWS

SHEET NUMBER
Z-2



WEST ELEVATION VIEW (1)
SCALE: 3/32"=1'-0"



EAST ELEVATION VIEW (2)
SCALE: 3/32"=1'-0"

LYLE
10201 SOUTH 51ST. ST SUITE 220
PHOENIX, ARIZONA 85044

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DR.
CANONSBURG, PA 15317

at&t
20830 NORTH TATUM BOULEVARD
SUITE 400
PHOENIX, ARIZONA 85050

1	08/27/08	FINAL
0	06/27/08	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
3001 LBJ Freeway, Suite 129
Dallas, Texas 75234
PH: (972) 739-0761 FAX: (972) 739-0762
www.wtengineering.com
IL License No.: 184-001108 Exp: 04/30/09

Registered Professional Engineer (Civil)
CERTIFICATE NO. 32546
SCOTT R. TRIPHAHN
Date Signed
ARIZONA U.S.A.

DATE: _____ EXPIRES: 03/31/09

PROJECT NO: T081301

DRAWN BY: SDW

CHECKED BY: KWM

SITE NUMBER: 11113_3237/ B012-A

TWIN PEAKS & COACHLINE/ LONG REALTY

7575 W. TWIN PEAKS RD.
TUCSON, AZ 85743

SHEET TITLE
WEST & EAST ELEVATION VIEWS

SHEET NUMBER
Z-3