

Memorandum Department of Planning and Public Works



To: Planning and Public Works Committee

From: Kristian Corbin, Project Planner

Date: September 22, 2011

Re: **T.S.P 32-2011 AT&T (18614 Olive Street Road)**: A request to obtain approval to amend a Telecommunication Siting Permit for the purpose of upgrading existing facilities to accommodate and provide 4G LTE data service on an existing telecommunications tower on a .05 acre lease area zoned "PI" Planned Industrial District located at 18614 Olive Street Road (17W510093).

Summary

AT&T has requested an amendment to a telecommunications siting permit to allow for the location of upgraded antennas to facilitate 4G LTE data service on an existing lattice tower located west of the intersection of Olive Street Road and Chesterfield Airport Road.

City of Chesterfield Ordinance 2391, which governs telecommunications and facilities siting, permits applications for equipment upgrades to be submitted for sites that currently hold a telecommunications siting permit without the need for a public hearing. Staff has reviewed the request by AT&T and has determined that the proposed addition of the 4G LTE antennas are indeed an upgrade to an existing and permitted site and may amend said existing permit without the need for a public hearing.

Attached are copies of the site plan, elevations, boundary plat, and propagation study.

Respectfully Submitted,

Kristian Corbin
Project Planner

T.S.P 32-2011 AT&T (18614 Olive Street Road)
Planning and Public Works Committee
September 22, 2011

CC: Michael G. Herring, City Administrator
Rob Heggie, City Attorney
Michael O. Geisel, Director of Planning & Public Works
Aimee Nassif, Planning & Development Services Director

Attachments: AT&T 4G LTE Upgrade Packet



June 24, 2011

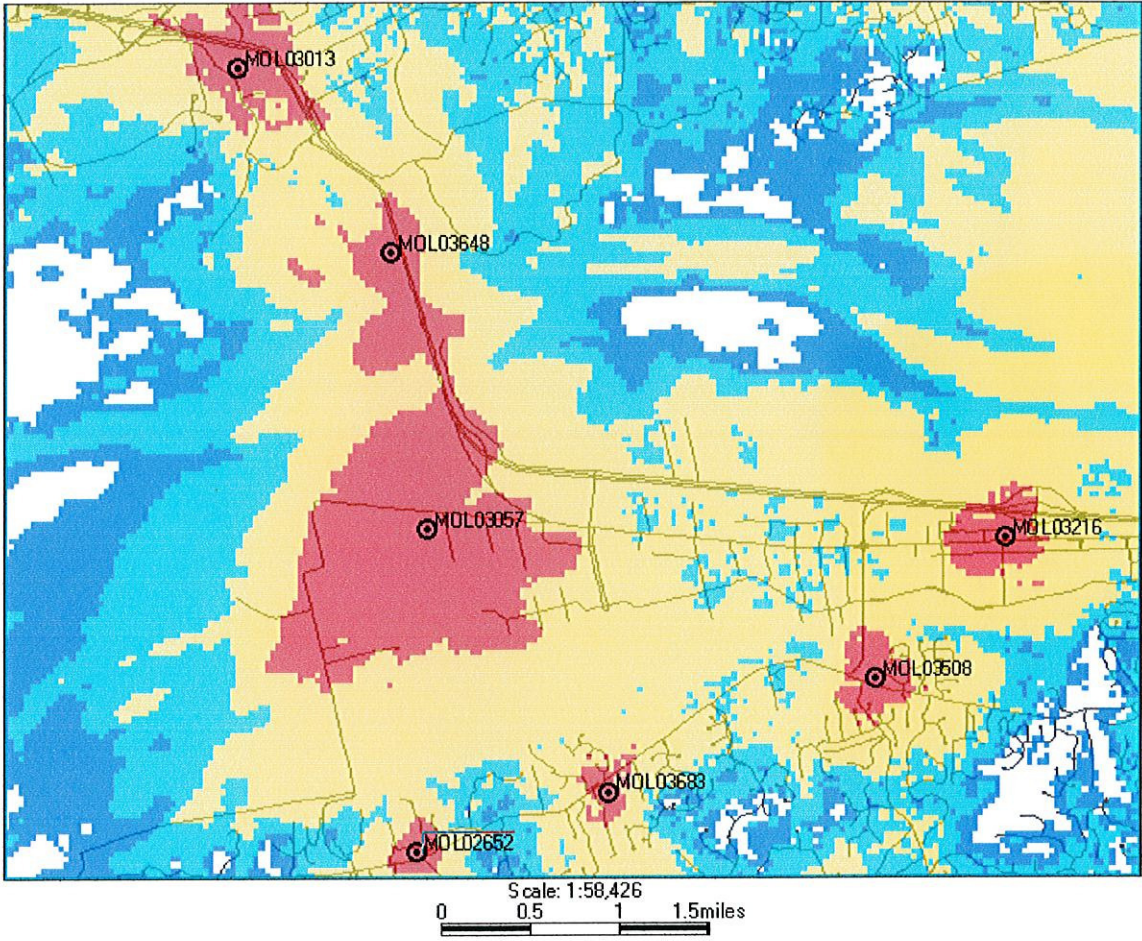
The following is a brief explanation of why AT&T Mobility is proposing to have the current wireless communication facility at 18620 Olive Street Road modified. This facility is labeled as MOL03057 on Map 1. Currently this facility is only capable of broadcasting our older technologies.

This facility currently is broadcasting our "2G" technology (called GSM) and our "3G" technology (called UMTS). Each technology uses its own antennas and equipment. The modification we are proposing is to add our "4G" technology (called LTE). Perhaps you have seen all the television commercials from various wireless carriers talking about their 4G systems. 4G, short for 4th generation of wireless technology, allows wireless carriers to provide much faster data speeds than our current networks. 4G is only for data at this point. All voice calls will still be served on older technologies. Currently AT&T still has the fastest data network. Although as other carriers implement and optimize their 4G networks we expect to lose that advantage and eventually fall behind other carriers unless we also launch our 4G network. The proposed modifications will allow us to implement our 4G technology by using additional antennas and equipment.

Because of national E911 requirements, this site needs to run all technologies. The 4G technology is not capable of handling voice calls at this time and all 911 calls made from a wireless device will be routed through our older technologies. These technologies require that we use a total of 3 antennas for each direction covered. This site, like most of our locations, serves three directions creating a need for 9 antennas. This requires us to add 3 additional antennas for this location.

This plan will have no effect on our coverage for current technologies. Map 1 below shows the proposed coverage for our 4G network in the area. AT&T Mobility has acceptable coverage in most of the surrounding area. Because 4G is a data only service the different signal levels don't indicate whether service exists or not. In general on 4G the stronger the signal (to a point) the faster the data rates will be. It is expected that red, yellow and light blue will have data speeds faster than our 3G technology. The dark blue will likely have data speeds nearly identical to the 3G technology.

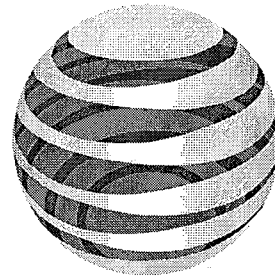
Map 1 Proposed AT&T "4G" coverage



Ron Humphrey

Radio Frequency Design Engineer
AT&T Mobility Division

MO3057 GUMBO



at&t

LTE

100' - SELF SUPPORT TOWER

RECEIVED
JUL 29 2011
DEPT. OF PLANNING
& PUBLIC WORKS



13075 MANCHESTER RD, SUITE 100
ST LOUIS, MO 63131



10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

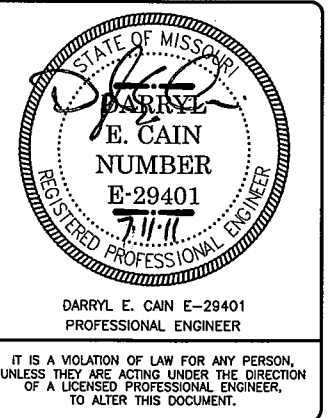
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001846

PROJECT NO: 168986

DRAWN BY: RCC

CHECKED BY: GPX

REV	DATE	DESCRIPTION
0	07/11/11	ISSUED FOR ZONING



MO3057
GUMBO
18620 OLIVE STREET RD
CHESTERFIELD, MO 63005
LTE - SST

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

AT&T RF: _____ DATE: _____
 AT&T OPERATIONS: _____ DATE: _____
 AT&T SITE AQ: _____ DATE: _____
 OCI: _____ DATE: _____
 PROPERTY OWNER: _____ DATE: _____
 MUNICIPAL: _____ DATE: _____

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
Z-1	SITE SURVEY (BY OTHER)
Z-2	OVERALL SITE PLAN
Z-3	SITE PLAN
Z-4	SITE ELEVATION
Z-5	SITE ELEVATION
Z-6	ANTENNA/RRH MOUNT DETAIL

DO NOT SCALE DRAWINGS

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



TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MISSOURI, CALL MISSOURI ONE CALL

TOLL FREE: 1-800-344-7483 OR
www.mo1call.com

MISSOURI STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

ENGINEERING

2009 INTERNATIONAL BUILDING CODE
2008 NATIONAL ELECTRIC CODE
TIA/EIA-222-F OR LATEST EDITION

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT CABINETS FOR AT&T'S CONDUCTORLESS TELECOMMUNICATIONS NETWORK. INSTALLATION OF (3) RRHs, (1) FIBER CABLE, (2) DC POWER CABLES, (1) RAYCAP SURGE PROTECTOR, (1) LTE RACK, (3) PIPE MOUNTED LTE PANEL ANTENNAS INCLUDING (1) LTE GPS ANTENNA ARE PROPOSED.

SITE INFORMATION

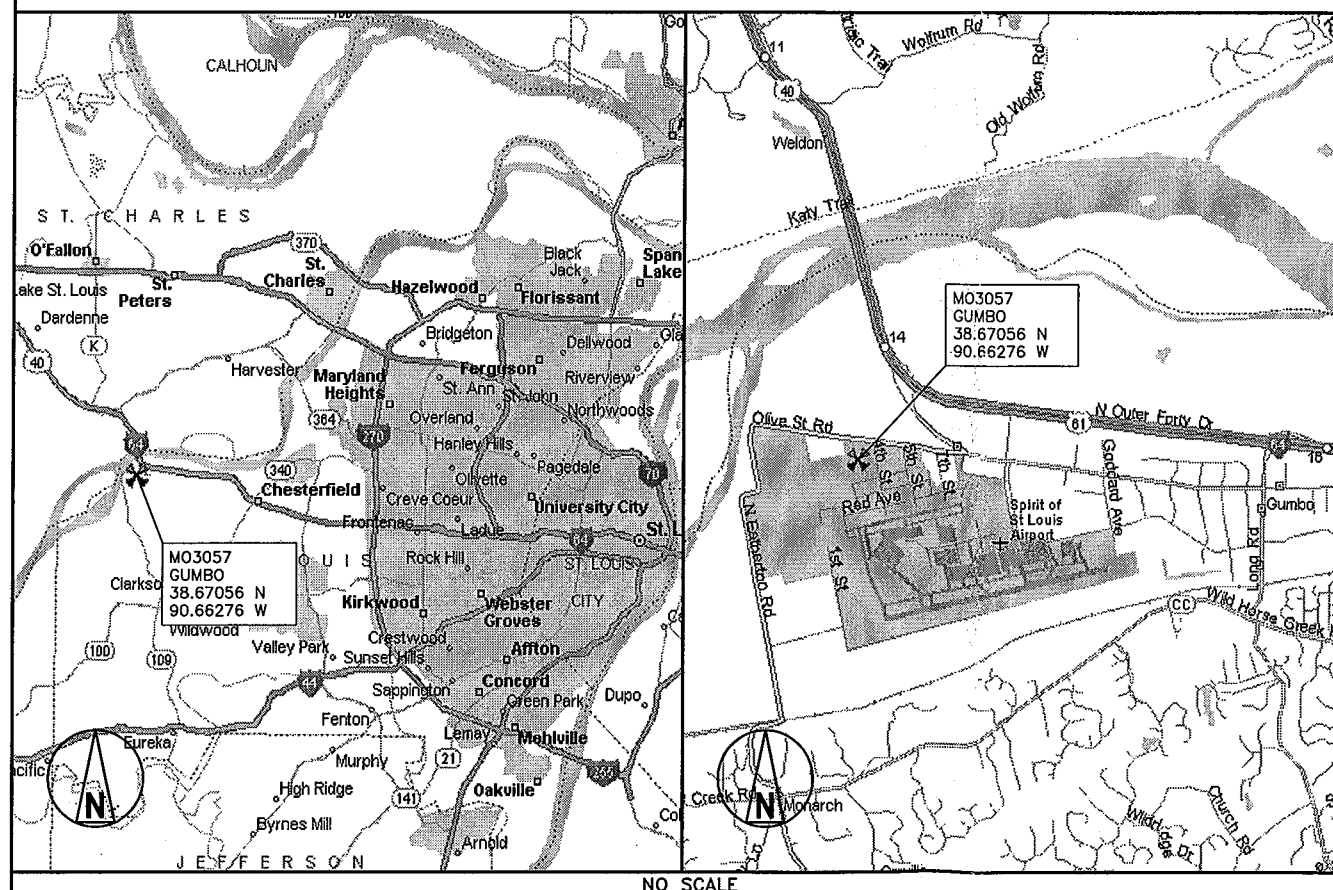
PROPERTY OWNER: AMERICAN TOWER CORPORATION
 ADDRESS:
 TOWER OWNER: AMERICAN TOWER CORPORATION
 SITE NAME: GUMBO
 SITE NUMBER: 305973
 SITE CONTACT: SHARON KEEFE
 (781) 926-4910
 SITE ADDRESS: 18614 OLIVE STREET
 AKA 18616 OLIVE STREET
 CHESTERFIELD, MO 63005
 COUNTY: ST LOUIS
 LATITUDE (NAD 83): 38° 40' 14.02" N
 38.67056
 LONGITUDE (NAD 83): 90° 39' 46.01" W
 -90.66278
 GROUND ELEVATION: 463' AMSL
 RAD CENTER: 98' AGL
 ZONING JURISDICTION: CITY OF CHESTERFIELD, MO
 ZONING DISTRICT: NA
 PARCEL #: NA
 OCCUPANCY GROUP: U
 CONSTRUCTION TYPE: V-B
 POWER COMPANY: AMEREN MO
 TELEPHONE COMPANY: AT&T
 SITE ACQUISITION CONTACT: DOUG KONRATH
 (314) 605-7542
 RF ENGINEER: RON HUMPHREY
 CONSTRUCTION MANAGER: KEN SHAW
 (314) 210-8629

IF USING 11"X17" PLOT, DRAWINGS
WILL BE HALF SCALE

CONTACT INFORMATION

ENGINEER: 15450 S OUTER FORTY DR, SUITE 200
CHESTERFIELD, MO 63017
 CONTACT: GEORGE P. XENOS
 PHONE: (913) 687-9233

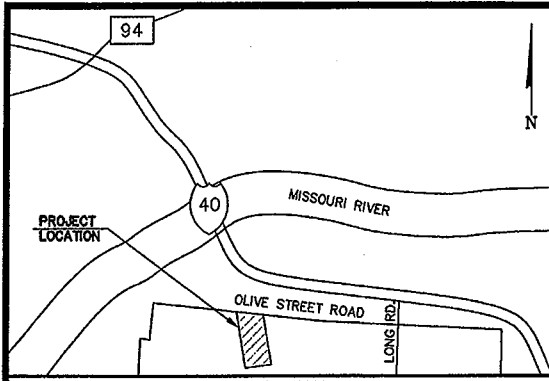
LOCATION MAPS



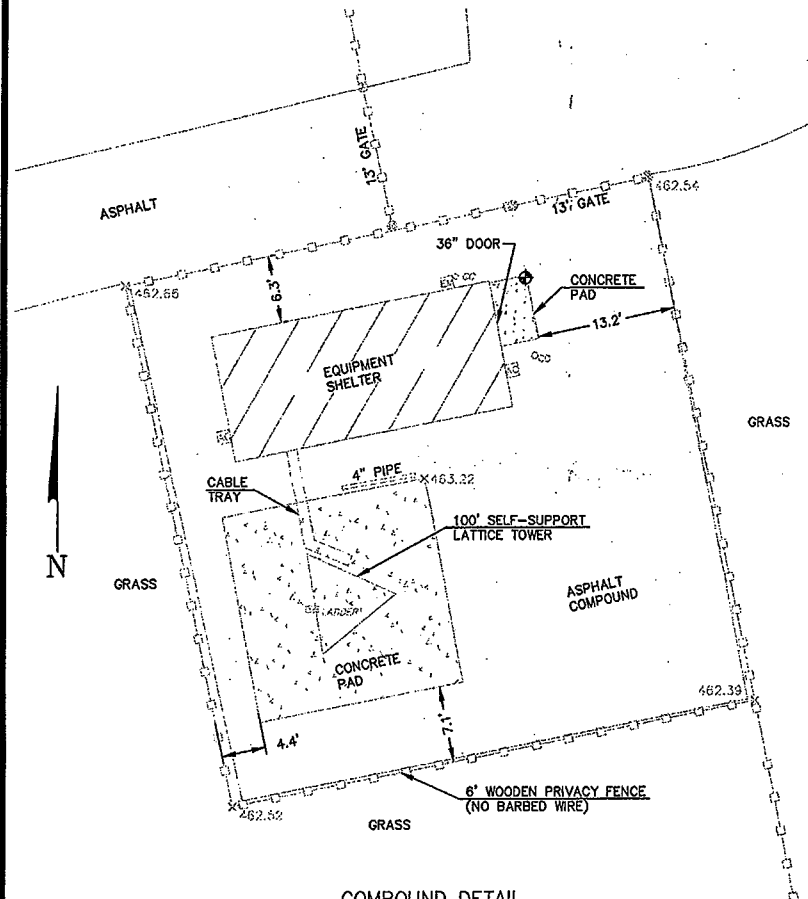
DRIVING DIRECTIONS

DIRECTIONS FROM NEAREST AT&T OFFICE:
 GO NORTH ON I-270 TO I-64/US-40 HWY (2.4 MI.) THEN WEST ON I-64/US-40 HWY TO LONG RD (10 MI.)
 GO STRAIGHT ON LONG RD (130 YDS) THEN WEST ON CHESTERFIELD AIRPORT RD TO AVIATION MUSEUM BLVD (1.8 MI.)
 TURN SOUTH ON AVIATION MUSEUM BLVD THEN IMMEDIATELY WEST ON OLIVE ST RD
 GO WEST ON OLIVE ST RD TO LOCAL RD (0.6 MI.) THEN SOUTH TO SITE

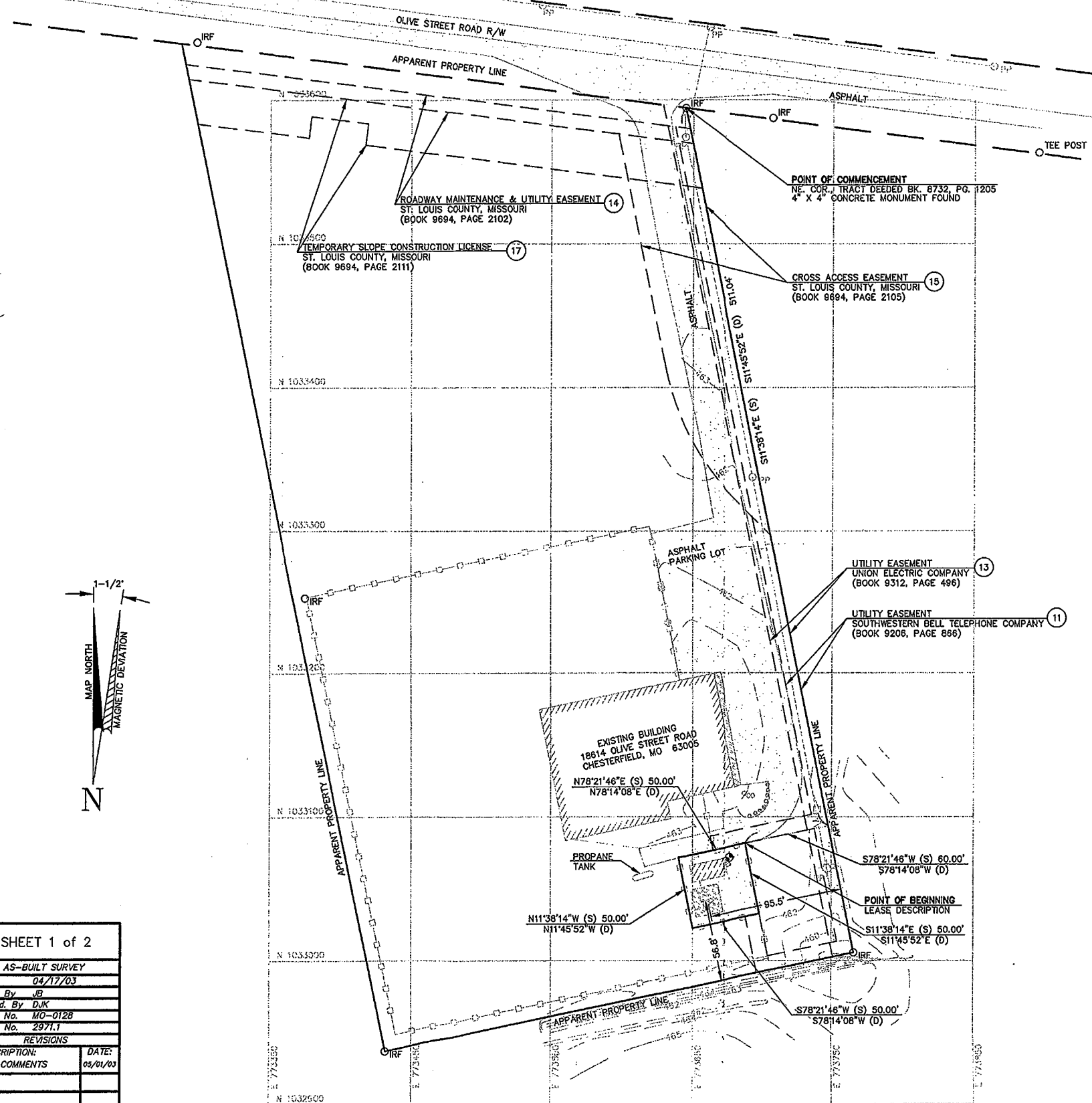
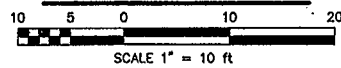
GUMBO/MO-0128



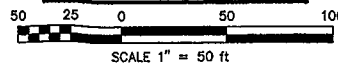
VICINITY MAP
NOT TO SCALE



COMPOUND DETAIL



SURVEY PLAN



<p>Work Coordinated by:</p> <p>ASC NATIONAL LLC 1264 Main Street Walham, MA 02451 Telephone 781.893.6177 Fax 781.893.7091</p>	<p>Surveyor:</p> <p>Klinkenborg & Associates, Inc.</p> <p>Professional Land Surveying Services 5651 Broadmoor - Mission, Kansas 66202 (913) 831-9997 - FAX 831-9998 kasa.com</p>	<p>SHEET 1 of 2</p> <p>AS-BUILT SURVEY</p> <p>Date 04/17/03</p> <p>Dwn. By JB</p> <p>Apprd. By DJK</p> <p>Dwg. No. MO-0128</p> <p>Proj. No. 2971.1</p> <table border="1"> <thead> <tr> <th>REVISIONS</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td>DESCRIPTION:</td> <td>05/01/03</td> </tr> <tr> <td>PER COMMENTS</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	REVISIONS	DATE:	DESCRIPTION:	05/01/03	PER COMMENTS															
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PER COMMENTS																						
<p>Prepared For:</p> <p>SPECTRASITE COMMUNICATIONS 100 REGENCY FOREST DRIVE, SUITE 400 CARY, NC. 27511</p>	<p>Project Location CHESTERFIELD, MISSOURI</p> <p>Project Address 18614 OLIVE STREET ROAD</p> <p>Site Name GUMBO</p> <p>SpectraSite Number MO-0128</p>	<p>SPECTRASITE CONSTRUCTION AS-BUILT LAND SURVEY SCOPE REVISION 1</p>																				



13075 MANCHESTER RD, SUITE 100
ST LOUIS, MO 63131



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

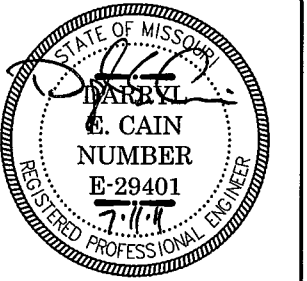
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001648

PROJECT NO: 168986

DRAWN BY: RCC

CHECKED BY: GPX

REV	DATE	DESCRIPTION
0	07/11/11	ISSUED FOR ZONING



DARRYL E. CAIN E-29401
PROFESSIONAL ENGINEER

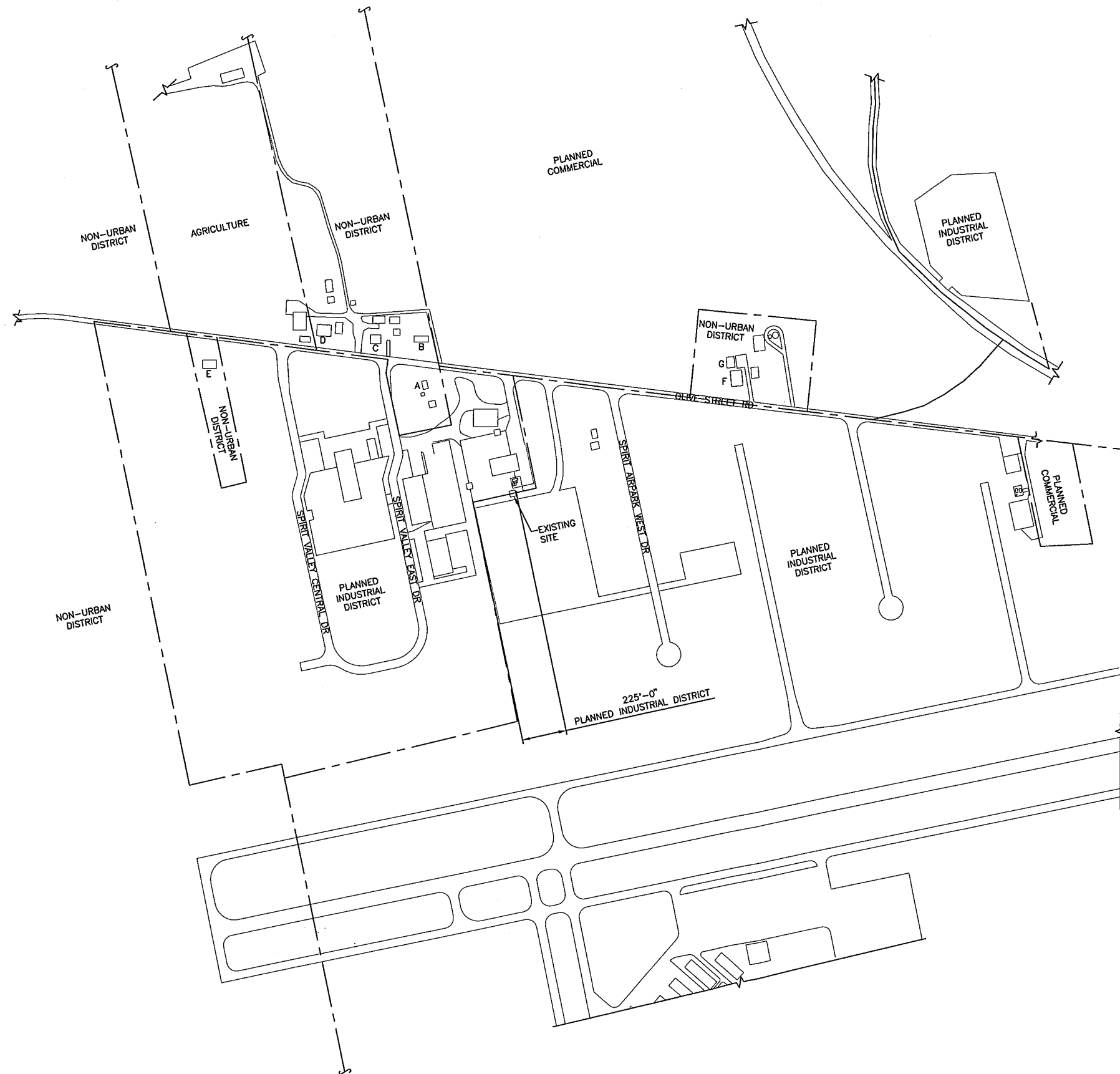
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TO ALTER THIS DOCUMENT.

MO3057
GUMBO
18620 OLIVE STREET RD
CHESTERFIELD, MO 63005
LTE - SST

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER

Z-2



RESIDENCE	DISTANCE FROM CL OF SELF SUPPORT TOWER
A	645'-0"±
B	830'-0"±
C	975'-0"±
D	1180'-0"±
E	1610'-0"±
F	1190'-0"±
G	1210'-0"±

LEGEND	
WOOD FENCE	— ○ — ○ —
VINYL FENCE	— □ — □ —
LEASE AREA	— — — — —
ICE BRIDGE	▨
OVERHEAD POWER	— OHP — OHP — OHP —
UNDERGROUND POWER	— UGP — UGP — UGP —
OVERHEAD UTILITIES	— OHU — OHU — OHU —
UNDERGROUND TELCO	— UGT — UGT — UGT —

SITE PLAN
SCALE: 1" = 300'-0"





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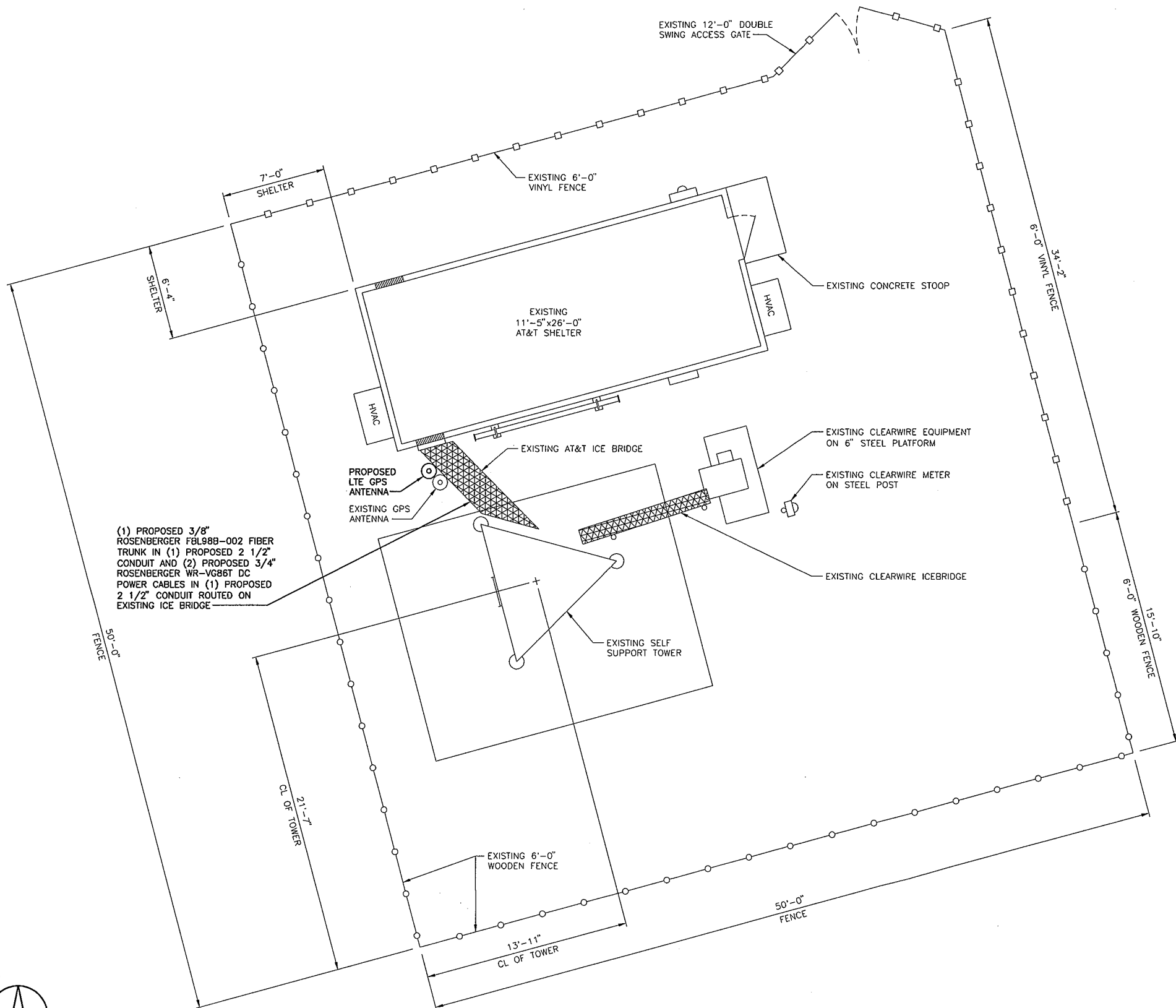
DARRYL E. CAIN E-29401
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SHEET TITLE
SITE PLAN

SHEET NUMBER
Z-3



(1) PROPOSED 3/8" ROSENBERGER FBL988-002 FIBER TRUNK IN (1) PROPOSED 2 1/2" CONDUIT AND (2) PROPOSED 3/4" ROSENBERGER WR-VG88T DC POWER CABLES IN (1) PROPOSED 2 1/2" CONDUIT ROUTED ON EXISTING ICE BRIDGE

SITE PLAN
SCALE: 1/4" = 1'-0"

LEGEND

WOOD FENCE	—○—○—○—
VINYL FENCE	—□—□—□—
LEASE AREA	— · — · — · —
ICE BRIDGE	—X—X—X—X—X—X—
OVERHEAD POWER	—OHP—OHP—OHP—
UNDERGROUND POWER	—UGP—UGP—UGP—
OVERHEAD UTILITIES	—OHU—OHU—OHU—
UNDERGROUND TELCO	—UGT—UGT—UGT—





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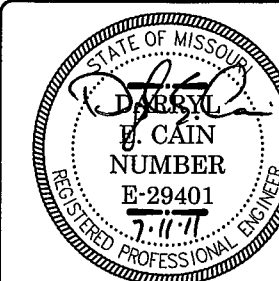
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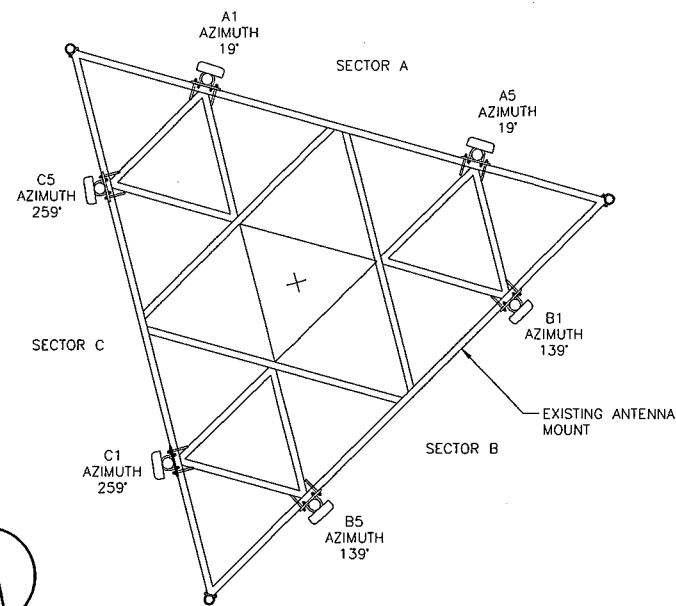
Z-4

NOTES

- ALL MAIN CABLES WILL BE GROUNDED W/ COAXIAL CABLE GROUNDING KITS AT:
 - THE ANTENNA LEVEL.
 - MID LEVEL IF TOWER IS OVER 200'.
 - BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
 - OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
 - INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
- ALL PROPOSED GROUNDING BAR DOWNLOADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR DOWNLOADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
- THE SUB CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION, MAKE AND MODELS, PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S STANDARD DETAILS.
- THE EXISTING TOWER IS CURRENTLY BEING ANALYZED BY OTHERS TO DETERMINE ITS STRUCTURAL CAPACITY TO CARRY THE PROPOSED NEW COAX AND ANTENNAS. THESE DRAWINGS HAVE BEEN CREATED BASED ON THE ASSUMPTION THE STRUCTURAL ANALYSIS WILL SHOW THAT THE TOWER HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED NEW LOADS. INSTALLATION OF THE COAX AND ANTENNAS SHALL NOT COMMENCE UNTIL AN APPROVED STRUCTURAL ANALYSIS HAS BEEN RECEIVED BY THE OWNER OR AT&T AND HAS BEEN REVIEWED BY BLACK AND VEATCH.
- SUBCONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

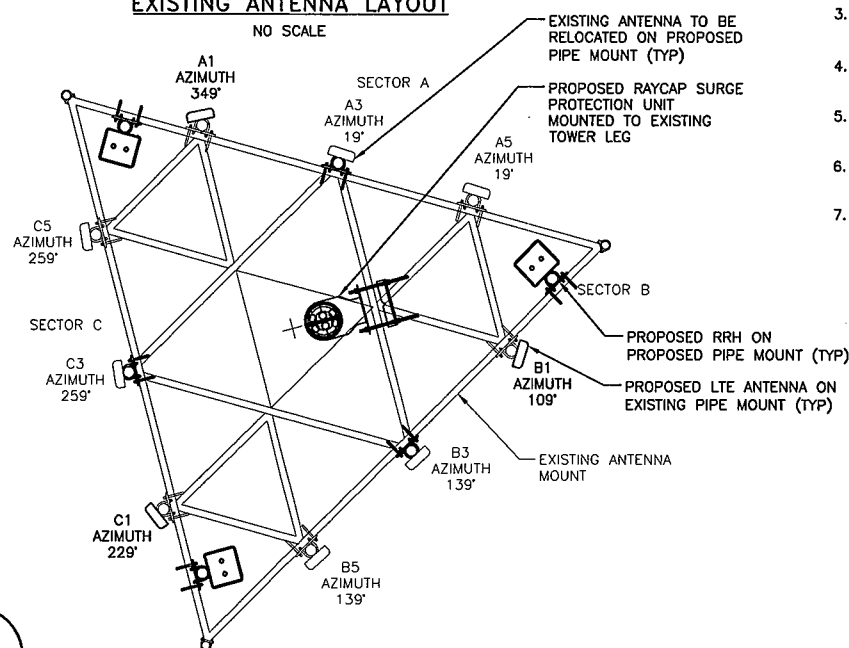
COAXIAL ANTENNA CABLE NOTES

- TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, SUBCONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- SUB CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
- CONTRACTOR TO CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 REFER TO THE LATEST VERSION.
- ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE WILL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".
- ALL COAXIAL CABLE WILL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.
- CONTRACTOR MUST FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
- WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS.



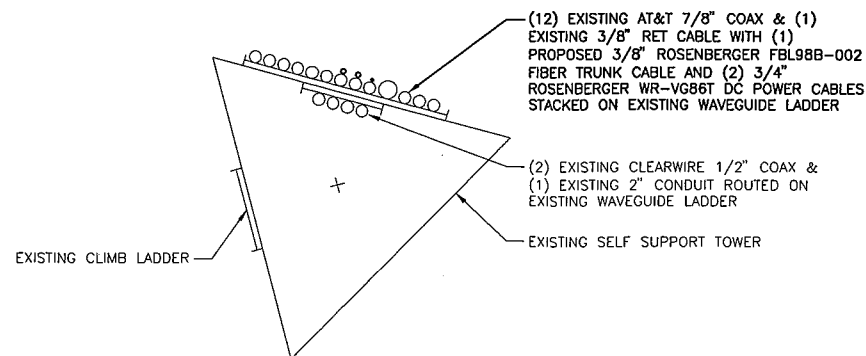
EXISTING ANTENNA LAYOUT

NO SCALE



PROPOSED ANTENNA LAYOUT

NO SCALE

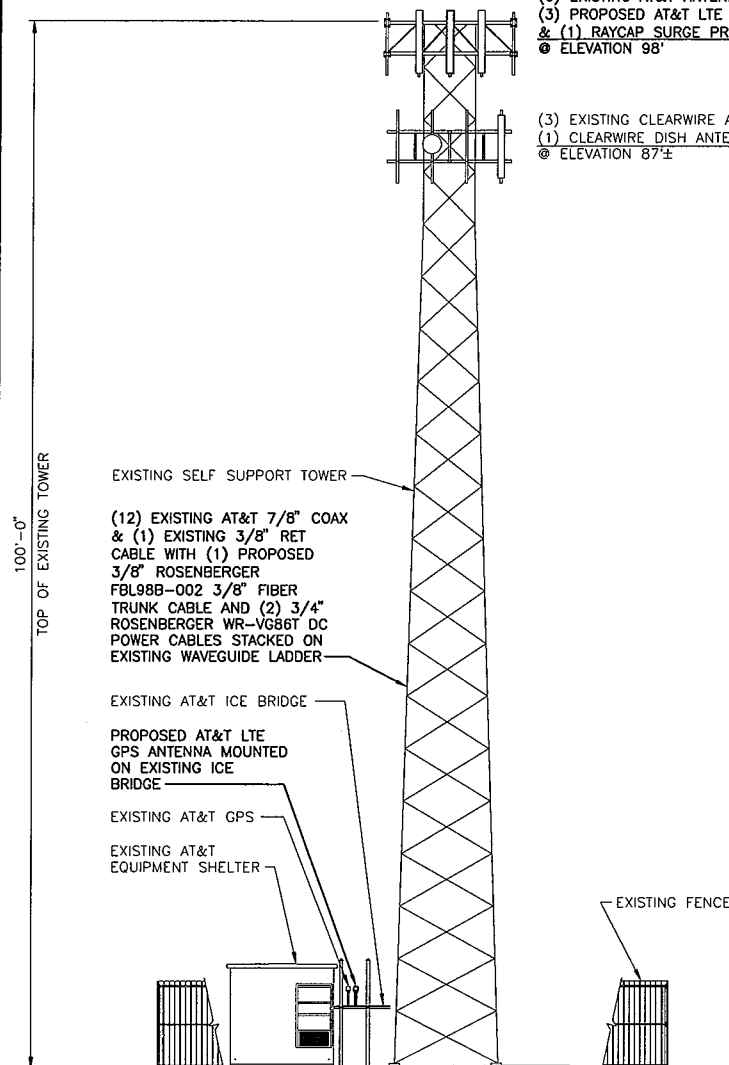


COAX ROUTING DETAIL

NO SCALE

(6) EXISTING AT&T ANTENNAS, (6) EXISTING TMAs WITH
(3) PROPOSED AT&T LTE ANTENNAS, (3) PROPOSED RRHs
& (1) RAYCAP SURGE PROTECTOR UNIT
⊙ ELEVATION 98'

(3) EXISTING CLEARWIRE ANTENNAS AND
(1) CLEARWIRE DISH ANTENNA
⊙ ELEVATION 87'±



SITE ELEVATION

NO SCALE



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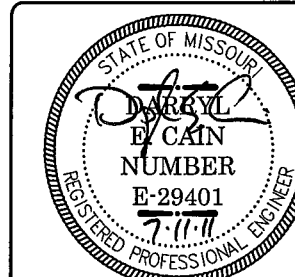
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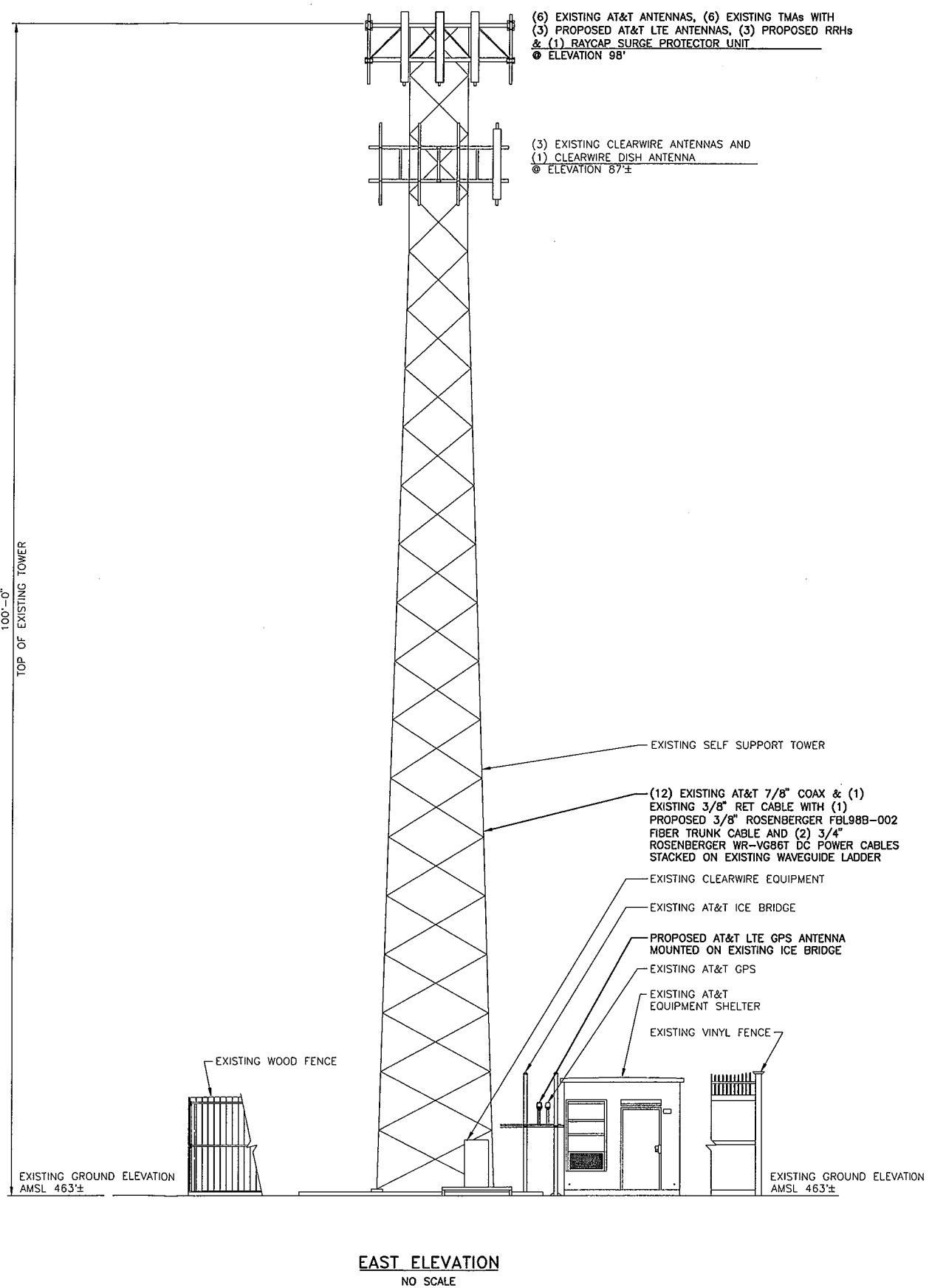
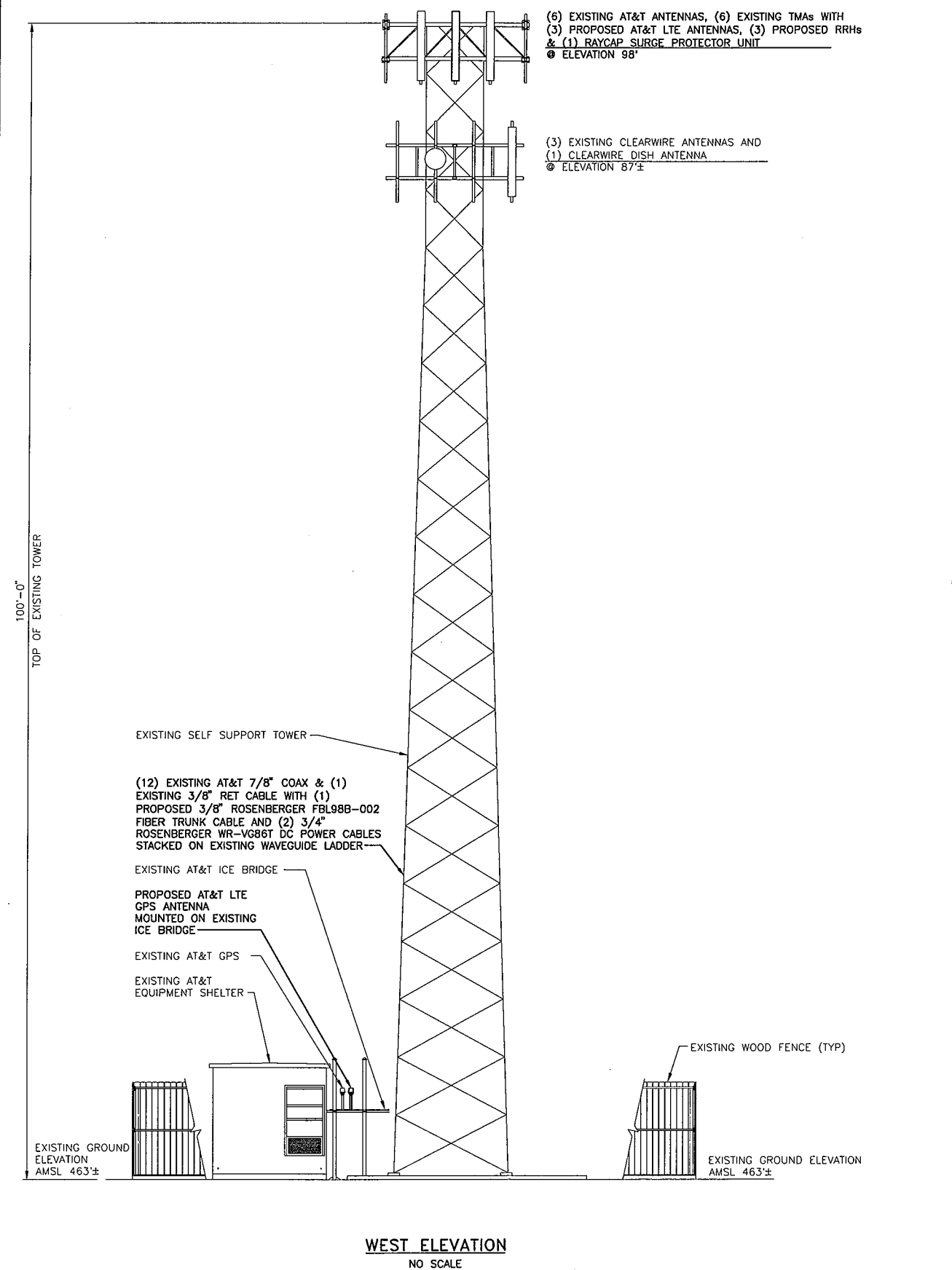
DARRYL E. CAIN E-29401
PROFESSIONAL ENGINEER

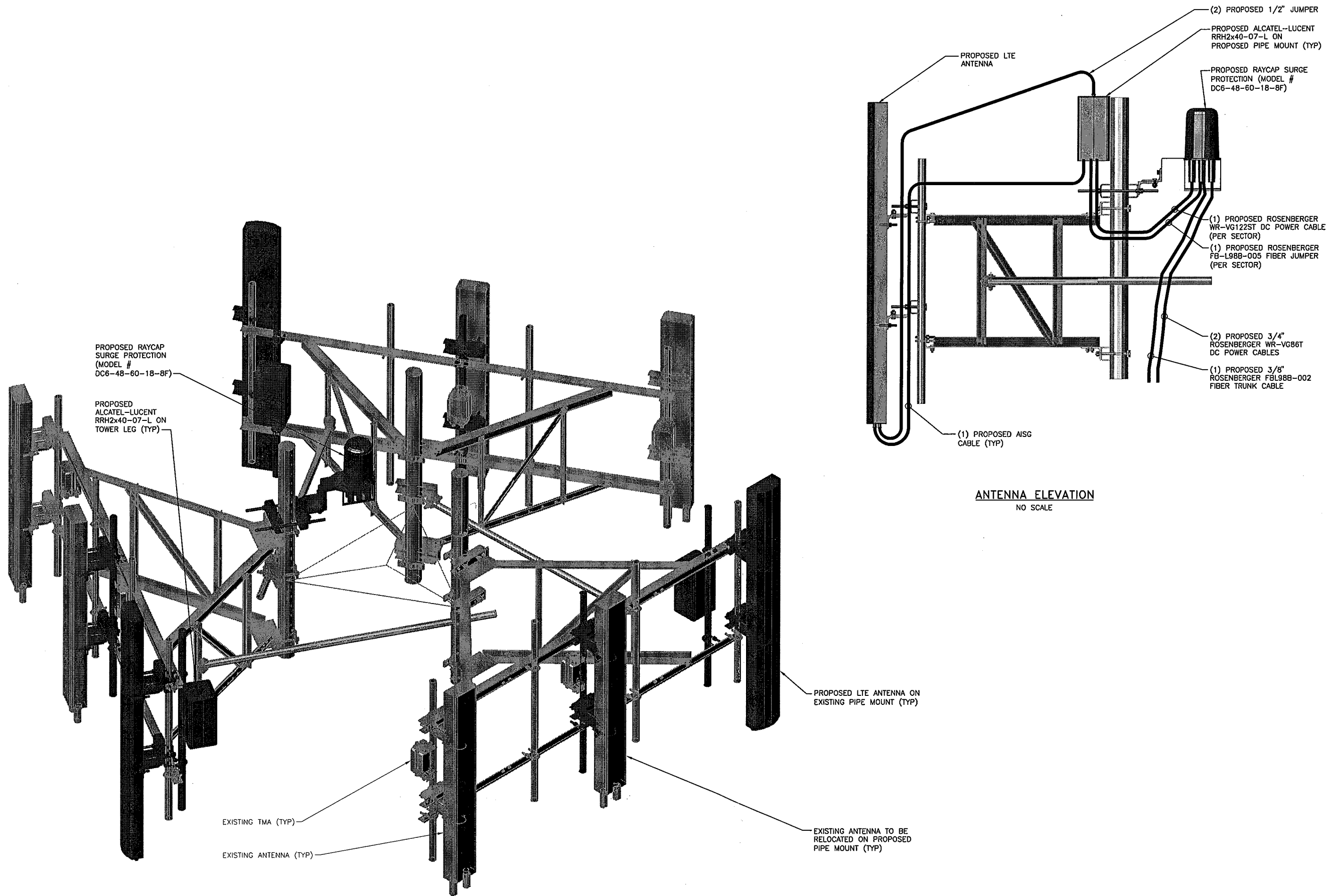
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SHEET TITLE
SITE ELEVATION

SHEET NUMBER
Z-5





ANTENNA ELEVATION
NO SCALE

DETAIL A
NO SCALE



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SHEET TITLE
ANTENNA/RRH MOUNT
DETAIL

SHEET NUMBER
Z-6