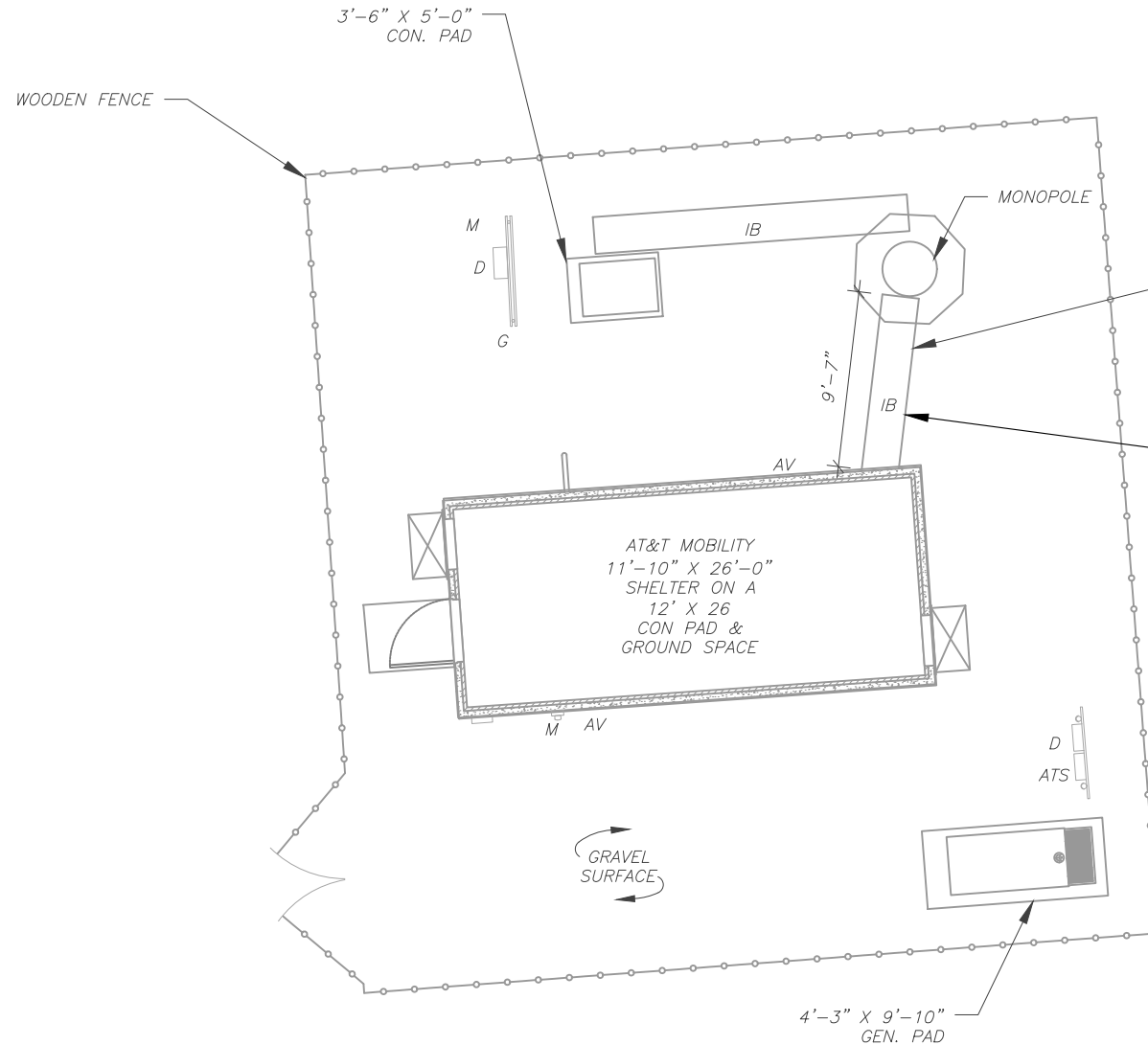


SITE PLAN NOTES:

- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE AT&T REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



EXISTING (10) 1-5/8\" COAX, (1) 7/8\" COAX, (4) 0.96\" 8 AWG 6 DC TRUNK, (1) 0.88\" 8 AWG 6 DC TRUNK AND (2) 0.39\" FIBER TRUNK (TO REMAIN)
 (2) 1-5/8\" COAX AND (1) 0.78\" 8 AWG 6 DC TRUNK (TO BE REMOVED)

PROPOSED (1) 2\" CONDUIT, (1) 0.39\" FIBER TRUNK AND (1) 0.96\" 6 AWG 6 DC TRUNK
 (SEE PROPOSED CABLE LENGTH NOTES ON THIS PAGE FOR LENGTH AND ROUTING GUIDELINES)

GROUND SOW NOTES:

POWER PLANT:

- RETAIN (1) VERTIV STD -48VDC NETSURE 7100 PLANT 1000A
- RETAIN (2) VERTIV C48/24-1500 CONVERTERS
- RETAIN (12) VERTIV R48-2000E3 RECTIFIERS
- RETAIN (8) HT170ET BATTERIES (BATTERY INSTALLATION DATE - 09/24/22)
- RETAIN (3) 200A BATTERY BREAKERS IN POWERPLANT

CIVIL:

- INSTALL E/// BBU EQUIPMENT IN EXISTING FIF
- INSTALL (1) FIBER PATCH PANEL IN EXISTING FIF
- INSTALL (1) GPS SPLITTER IN EXISTING FIF
- INSTALL BREAKERS AS NEEDED PER ATT-CEM-18002
- REMOVE NOKIA BBU EQUIPMENT AFTER SITE CUTOVER
- INSTALL (1) FMB UNDER ICE BRIDGE

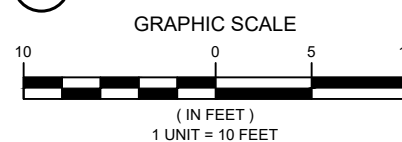
LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE

PROPOSED CABLE NOTES:

- ESTIMATED LENGTH OF PROPOSED CABLE IS **201'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

1 DETAILED SITE PLAN



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 CARY, NC 27511
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LLR	08/21/24

ATC SITE NUMBER:

307538

ATC SITE NAME:

DUBLIN OH

AT&T SITE NAME:

DUBLIN

SITE ADDRESS:

5580 SHIER RINGS RD
 DUBLIN, OH 43016

SEAL:



Digitally Signed: 2024-08-21



ATC PROJ. #: 14846627_GO

CUST. ID: WSOWP0033711

CUST. #: 10011704

DETAILED SITE PLAN

SHEET NUMBER:

C-101

REVISION:

0

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TOP OF EXISTING
HIGHEST APPURTENANCE
ELEV 157.1'

TOP OF EXISTING TOWER
ELEV 151.6'

1
C-402

1
C-401

EXISTING AND
PROPOSED AT&T
EQUIPMENT AND
MOUNT MODIFICATIONS

PROPOSED AT&T
RAD CENTER @ 155'

EXISTING AT&T
RAD CENTER @ 153'

PROPOSED AT&T
RAD CENTER @ 151'

EXISTING CARRIER ANTENNAS
RAD CENTER @ ELEV 143.8'

EXISTING (10) 1-5/8" COAX, (1) 7/8"
COAX, (4) 0.96" 8 AWG 6 DC TRUNK, (1)
0.88" 8 AWG 6 DC TRUNK AND (2) 0.39"
FIBER TRUNK
(TO REMAIN)

(2) 1-5/8" COAX AND (1) 0.78" 8 AWG 6 DC TRUNK
(TO BE REMOVED)

PROPOSED (1) 2" CONDUIT, (1) 0.39"
FIBER TRUNK AND (1) 0.96" 6 AWG 6
DC TRUNK

EXISTING
(6) NNH4-65C-R6 ANTENNAS
(3) DC6-48-60-18-8F SQUID
(TO BE RELOCATED)

EXISTING
(3) AEQK AIRSCALE MAA 64T64R 192AE N77 200W ANTENNAS
(3) SBNHH-1D65C ANTENNAS
(3) AHLBA RRUS
(3) AHFIB RRUS
(3) RRH4X25-WCS RRUS
(3) AHCA RRUS
(TO BE REMOVED)

PROPOSED
(3) AIR 6419 B77D ANTENNAS
(3) AIR 6419 B77G ANTENNAS
(3) RRUS 4490 RRUS
(3) RADIO 4415 B30 RRUS
(3) RRUS 4478 B14 RRUS
(3) RRUS 4890 RRUS

EXISTING TOWER

EXISTING GRADE
ELEV 0'

1 TOWER ELEVATION

PER MOUNT ANALYSIS COMPLETED BY TOWER
ENGINEERING PROFESSIONALS, DATED 08/01/24,
THE EXISTING MOUNT MUST BE MODIFIED TO
ADEQUATELY SUPPORT THE PROPOSED
LOADING. THE MOUNT MODIFICATION PROPOSED
IN THE MOUNT ANALYSIS, INCLUDED AT THE END
OF THIS PLAN SET, MUST BE INSTALLED PRIOR
TO THE INSTALLATION OF THE PROPOSED
ANTENNAS AND OTHER EQUIPMENT.

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IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT
NOR THE ENGINEER WILL BE PROVIDING ON-SITE
CONSTRUCTION REVIEW OF THIS PROJECT.
CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS
AND ADVISE AMERICAN TOWER OR THE SPECIFIED
CARRIER OF ANY DISCREPANCIES. ANY PRIOR
ISSUANCE OF THIS DRAWING IS SUPERSEDED BY
THE LATEST VERSION.

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0	FOR CONSTRUCTION	LLR	08/21/24

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ATC SITE NAME:
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DUBLIN

SITE ADDRESS:
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DUBLIN, OH 43016

SEAL:



Digitally Signed: 2024-08-21



ATC PROJ. #: 14846627_GO
CUST. ID: WSOWP0033711
CUST. #: 10011704

TOWER ELEVATION

SHEET NUMBER:
C-201

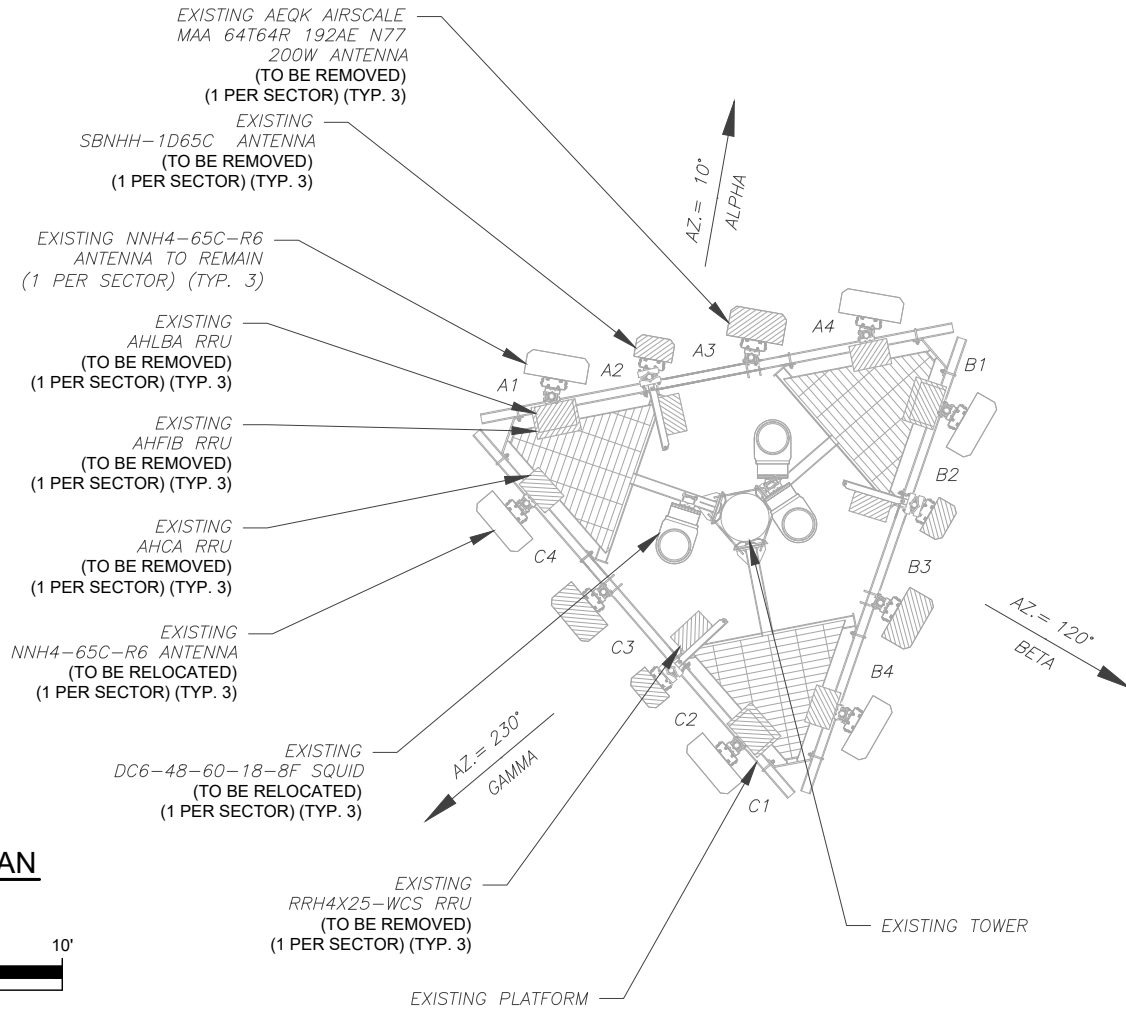
REVISION:
0

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

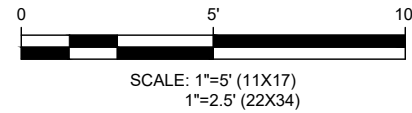
TOWER NOTE:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
- TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 CURRENT ANTENNA PLAN



EXISTING ANTENNA SCHEDULE

LOCATION		ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	153'	10°	A1	NNH4-65C-R6	-	RMN	AHLBA AHFIB	RMV RMV
	153'		A2	SBNHH-1D65C	-	RMV	RRH4x25-WCS	RMV
	149'		A3	AEQK AIRSCALE MAA 64T64R 192AE N77 200W	-	RMV	-	-
	153'		A4	NNH4-65C-R6	-	REL	AHCA	RMV
BETA	153'	120°	B1	NNH4-65C-R6	-	RMN	AHLBA AHFIB	RMV RMV
	153'		B2	SBNHH-1D65C	-	RMV	RRH4x25-WCS	RMV
	149'		B3	AEQK AIRSCALE MAA 64T64R 192AE N77 200W	-	RMV	-	-
	153'		B4	NNH4-65C-R6	-	REL	AHCA	RMV
GAMMA	153'	230°	C1	NNH4-65C-R6	-	RMN	AHLBA AHFIB	RMV RMV
	153'		C2	SBNHH-1D65C	-	RMV	RRH4x25-WCS	RMV
	149'		C3	AEQK AIRSCALE MAA 64T64R 192AE N77 200W	-	RMV	-	-
	153'		C4	NNH4-65C-R6	-	REL	AHCA	RMV

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

2 EQUIPMENT SCHEDULE

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LLR	08/21/24

ATC SITE NUMBER:
307538
ATC SITE NAME:
DUBLIN OH
AT&T SITE NAME:
DUBLIN
SITE ADDRESS:
5580 SHIER RINGS RD
DUBLIN, OH 43016

SEAL:



Digitally Signed: 2024-08-21

EXISTING SQUID SUMMARY

MODEL NUMBER	STATUS
(3) DC6-48-60-18-8F	REL
-	RMV

EXISTING CABLING SUMMARY

CABLE QTY, SIZE, TYPE	STATUS
(10) 1-5/8" COAX, (1) 7/8" COAX, (4) 0.96" 8 AWG 6 DC TRUNK, (1) 0.88" 8 AWG 6 DC TRUNK AND (2) 0.39" FIBER TRUNK	RMN
(2) 1-5/8" COAX AND (1) 0.78" 8 AWG 6 DC TRUNK	RMV

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CUST. ID: WSOWP0033711
CUST. #: 10011704

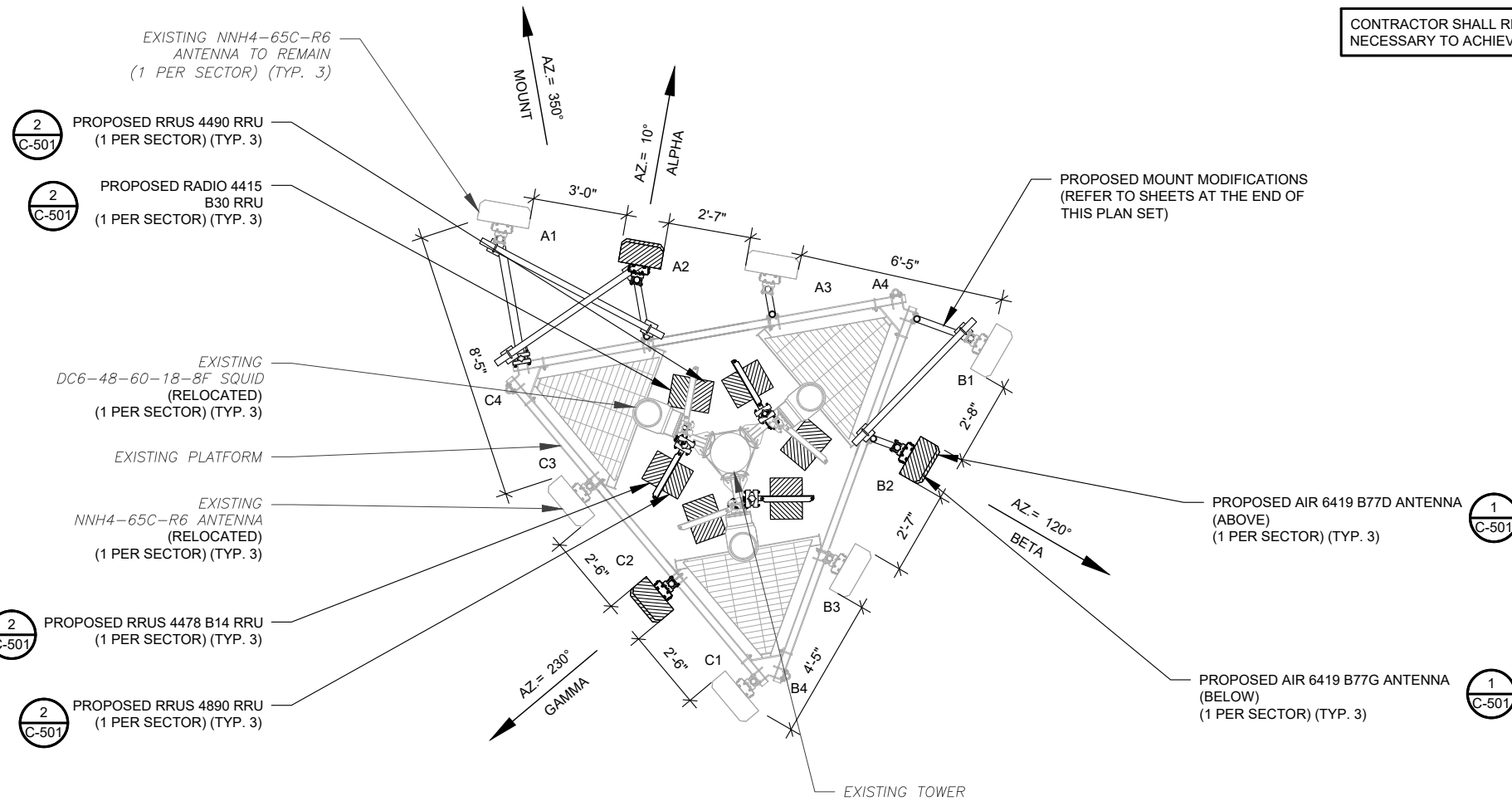
ANTENNA PLAN AND SCHEDULE

SHEET NUMBER:
C-401
REVISION:
0

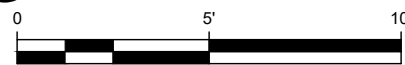
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PER MOUNT ANALYSIS COMPLETED BY TOWER ENGINEERING PROFESSIONALS, DATED 08/01/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

CONTRACTOR SHALL RE-ORIENT ANTENNA MOUNT(S) AS NECESSARY TO ACHIEVE PROPOSED ANTENNA AZIMUTHS



1 FINAL ANTENNA PLAN



SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

PROPOSED RRUS MUST BE INSTALLED A MINIMUM OF 12" AWAY FROM ALL ANTENNAS

UNLESS NOTED OTHERWISE, MOUNT FACE AZIMUTHS MATCH ANTENNA AZIMUTHS.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LLR	08/21/24

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307538
ATC SITE NAME:
DUBLIN OH
AT&T SITE NAME:
DUBLIN
SITE ADDRESS:
5580 SHIER RINGS RD
DUBLIN, OH 43016

- NOTES**
- GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
 - GC TO CAP ALL UNUSED PORTS.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
 - CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-603)

FINAL ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	153'	10°	A1	NNH4-65C-R6	850/700/2300 LTE	RMN	RRUS 4490 RADIO 4415 B30	ADD ADD
	155'		A2	AIR 6419 B77D AIR 6419 B77G	C BAND/DOD 5G	ADD ADD	-	-
	151'		A3	NNH4-65C-R6	700/1900/2100 LTE	REL	RRUS 4478 B14 RRUS 4890	ADD ADD
	153'		A4	-	-	-	-	-
BETA	153'	120°	B1	NNH4-65C-R6	850/700/2300 LTE	RMN	RRUS 4490 RADIO 4415 B30	ADD ADD
	155'		B2	AIR 6419 B77D AIR 6419 B77G	C BAND/DOD 5G	ADD ADD	-	-
	151'		B3	NNH4-65C-R6	700/1900/2100 LTE	REL	RRUS 4478 B14 RRUS 4890	ADD ADD
	153'		B4	-	-	-	-	-
GAMMA	153'	230°	C1	NNH4-65C-R6	850/700/2300 LTE	RMN	RRUS 4490 RADIO 4415 B30	ADD ADD
	155'		C2	AIR 6419 B77D AIR 6419 B77G	C BAND/DOD 5G	ADD ADD	-	-
	151'		C3	NNH4-65C-R6	700/1900/2100 LTE	REL	RRUS 4478 B14 RRUS 4890	ADD ADD
	153'		C4	-	-	-	-	-

FINAL SQUID SUMMARY	
MODEL NUMBER	STATUS
(3) DC6-48-60-18-8F	REL
-	ADD

FINAL CABLING SUMMARY	
CABLE QTY, SIZE, TYPE	STATUS
(10) 1-5/8" COAX, (1) 7/8" COAX, (4) 0.96" 8 AWG 6 DC TRUNK, (1) 0.88" 8 AWG 6 DC TRUNK AND (2) 0.39" FIBER TRUNK	RMN
(1) 2" CONDUIT, (1) 0.39" FIBER TRUNK AND (1) 0.96" 6 AWG 6 DC TRUNK	ADD

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS
JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

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2 EQUIPMENT SCHEDULE

SEAL:

Digitally Signed: 2024-08-21



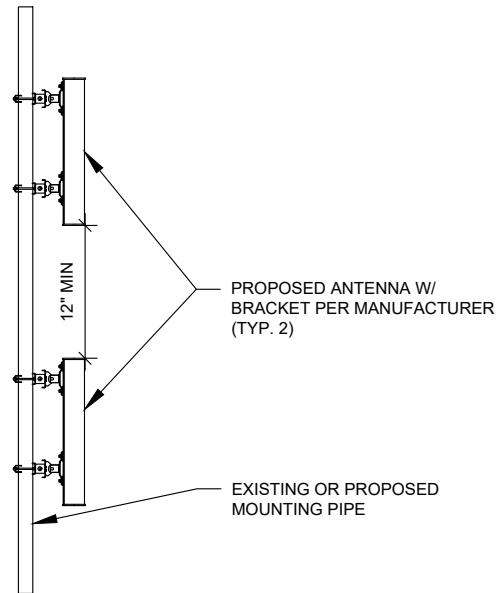
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CUST. ID: WSOWP0033711
CUST. #: 10011704

ANTENNA PLAN AND SCHEDULE

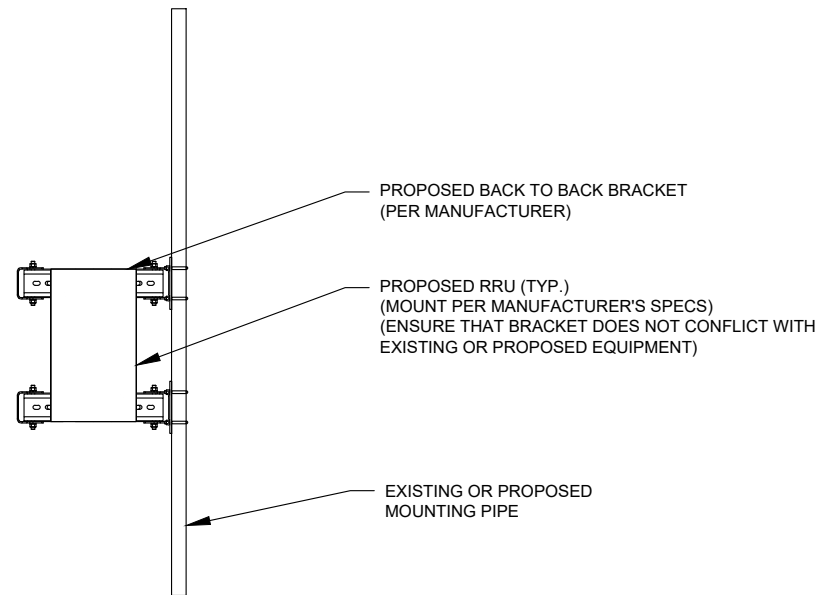
SHEET NUMBER:
C-402
REVISION:
0

EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.

PER MOUNT ANALYSIS COMPLETED BY TOWER ENGINEERING PROFESSIONALS, DATED 08/01/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.

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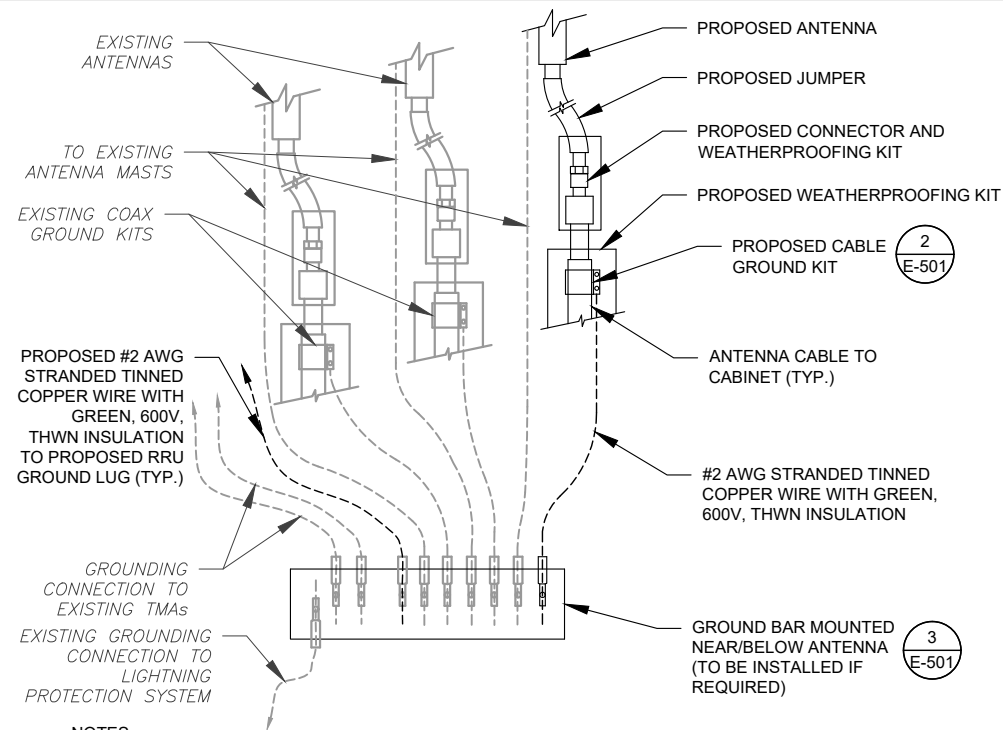


ATC PROJ. #: 14846627_G0
 CUST. ID: WSOWP0033711
 CUST. #: 10011704

**CONSTRUCTION
 DETAILS**

SHEET NUMBER:
C-501
 REVISION:
0

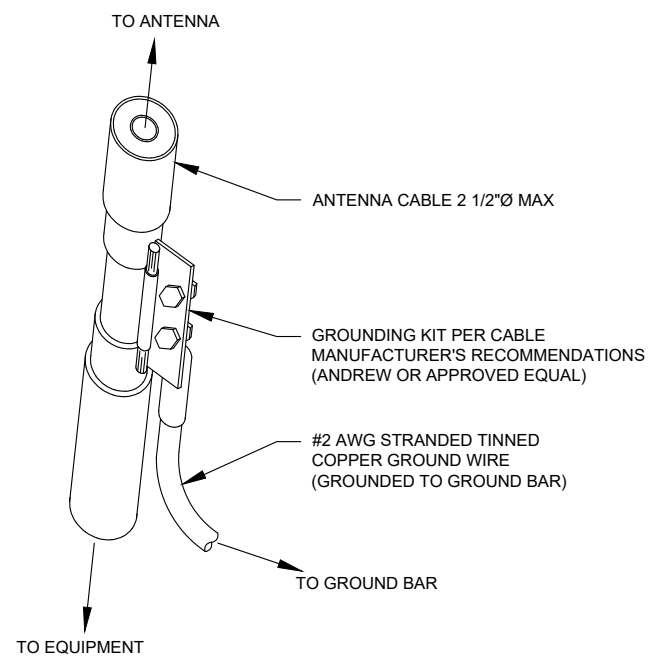
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NOTES:

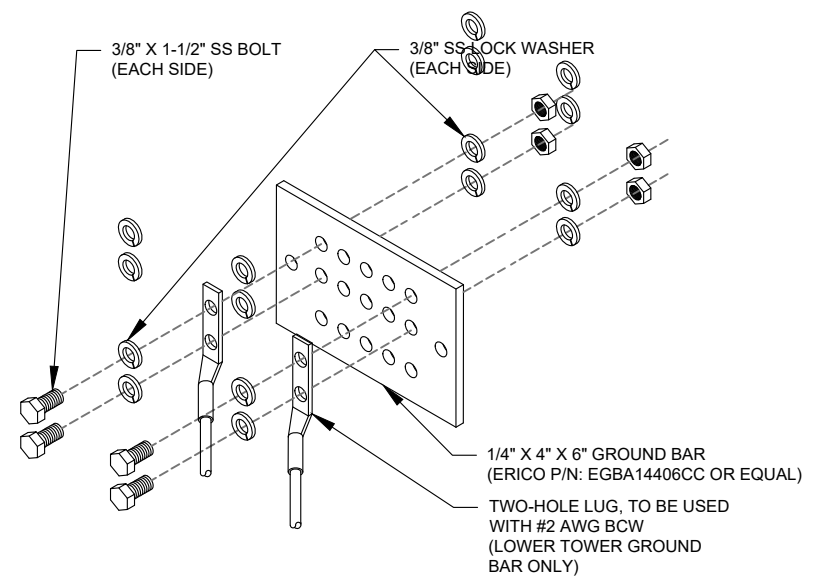
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

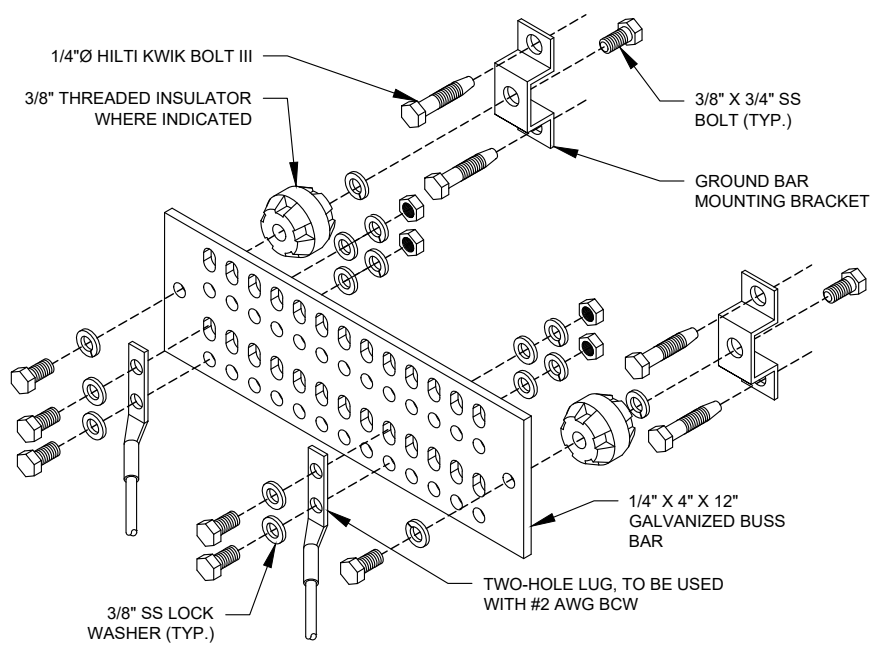
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

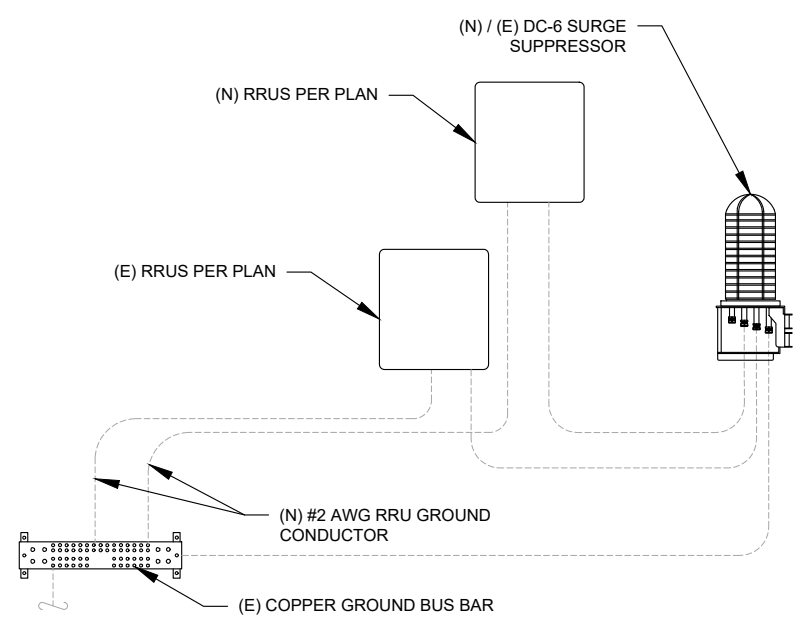
3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



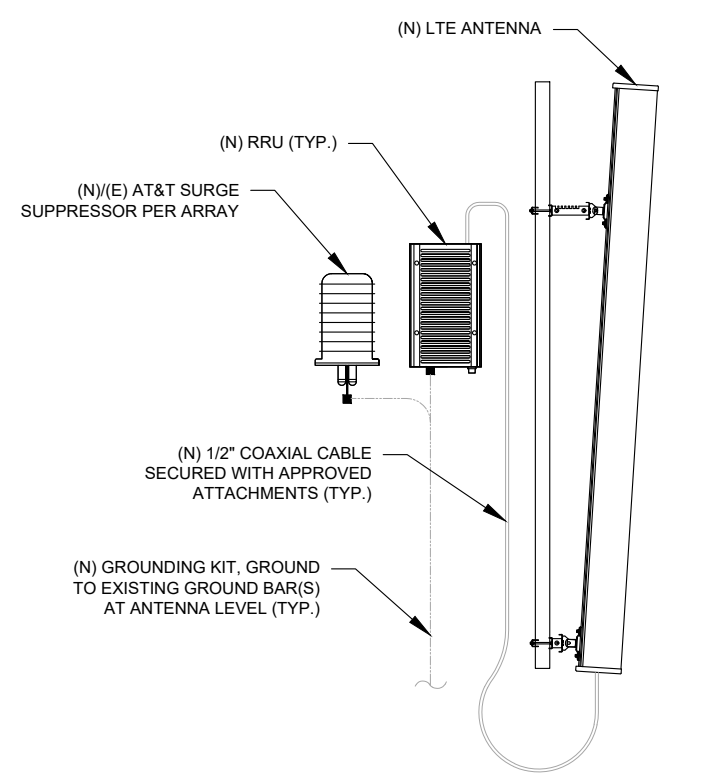
GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL
SCALE: N.T.S.



5 RRU GROUNDING
SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING
SCALE: N.T.S.

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LLR	08/21/24

ATC SITE NUMBER:
307538
ATC SITE NAME:
DUBLIN OH
AT&T SITE NAME:
DUBLIN
SITE ADDRESS:
5580 SHIER RINGS RD
DUBLIN, OH 43016



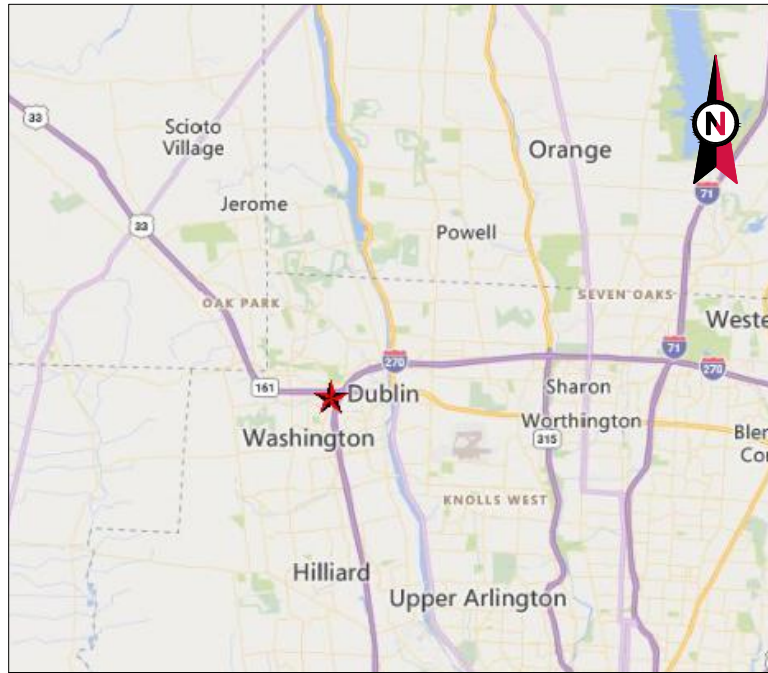
Digitally Signed: 2024-08-21



ATC PROJ. #: 14846627_G0
CUST. ID: WSOWP0033711
CUST. #: 10011704

GROUNDING DETAILS

SHEET NUMBER:
E-501
REVISION:
0

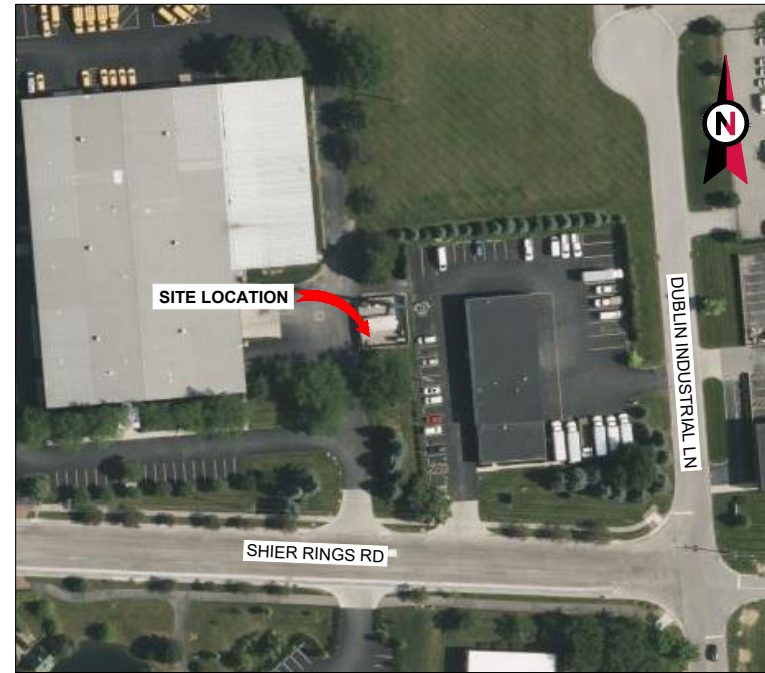


VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: DUBLIN OH
 ATC SITE NUMBER: 307538
 AT&T SITE ID: WSOWP0033711
 AT&T FA CODE: 10011704
 AT&T SITE NAME: DUBLIN
 SITE ADDRESS: 5580 SHIER RINGS RD
 DUBLIN, OH 43016



LOCATION MAP

AMERICAN TOWER®
 ATC TOWER SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 COA.02041

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

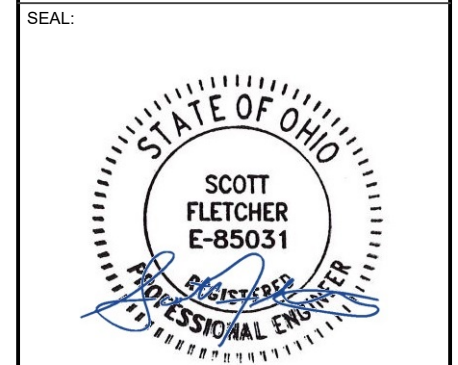
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LLR	08/21/24

AT&T PACE NUMBER(S): MROWP077264, MROWP077697, MROWP077877, MROWP078252, MROWP078652, MROWP078870, MROWP077367, MROWP078462
 AT&T IWM NUMBERS(S): WSOWP0033711, WSOWP0033780, WSOWP0033619, WSOWP0033774, WSOWP0033705, WSOWP0033648

AT&T AMENDMENT PLAN

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 2021 IBC NATIONAL ELECTRICAL CODE (NFPA 70, NEC 2023 W/ AMND) 2024 OHIO MECHANICAL CODE (IMC 2021 W/ AMND) 2024 OHIO PLUMBING CODE (IPC 2021 W/ AMND) 2021 OHIO ENERGY CODE (IECC 2021 W/ AMND) 2017 OHIO FIRE CODE (IFC 2015 W/ AMND) 2024 OHIO EXISTING BUILDING CODE 2024 OHIO BUILDING CODE 2019 OHIO RESIDENTIAL CODE (IRC 2018 W/ AMND) 2015 OHIO FUEL GAS CODE (IFGC 2015)	<u>SITE ADDRESS:</u> 5580 SHIER RINGS RD DUBLIN, OH 43016 COUNTY: FRANKLIN <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 40.09701488 40° 5' 49.254" N LONGITUDE: -83.14023928 83° 8' 24.861" W GROUND ELEVATION: 906' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (6) ANTENNA(S), (12) RRU(S), (2) 1-5/8" COAX AND (1) 0.78" 8 AWG 6 DC TRUNK CABLE(S) INSTALL MOUNT MODIFICATIONS, (6) ANTENNA(S), (12) RRU(S), (1) 2" CONDUIT, (1) 0.39" FIBER TRUNK AND (1) 0.96" 6 AWG 6 DC TRUNK CABLE(S) EXISTING (6) ANTENNA(S), (3) SQUID(S), (10) 1-5/8" COAX, (1) 7/8" COAX, (4) 0.96" 8 AWG 6 DC TRUNK, (1) 0.88" 8 AWG 6 DC TRUNK AND (2) 0.39" FIBER TRUNK CABLE(S) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES LLC 1 FENTON MAIN, STE 300 CARY, NC 27511 <u>PROPERTY OWNER:</u> BATES PROPERTY MANAGEMENT 5580 SHIER RINGS RD DUBLIN, OH 43016	PROJECT NOTES 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001 TITLE SHEET G-002 GENERAL NOTES C-101 DETAILED SITE PLAN C-201 TOWER ELEVATION C-401 ANTENNA PLAN AND SCHEDULE C-402 ANTENNA PLAN AND SCHEDULE C-501 CONSTRUCTION DETAILS E-501 GROUNDING DETAILS SUPPLEMENTAL SHEETS (5 PAGES)				
<u>UTILITY COMPANIES</u> POWER COMPANY: AEP PHONE: (800) 277-2177 TELEPHONE COMPANY: AT&T PHONE: (800) 572-4545	<u>PROJECT LOCATION DIRECTIONS</u> FROM THE NORTHWEST SIDE OF COLUMBUS AND I-270, TURN WEST ONTO US 33, TURN LEFT ONTO AVERY RD, TURN LEFT ONTO SHIER-RINGS RD AND FOLLOW IT TO THE SITE. SITE WILL BE ON THE LEFT. LOOK FOR THE BLUE MONOPOLE.						

ATC SITE NUMBER:
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 ATC SITE NAME:
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 AT&T SITE NAME:
 DUBLIN
 SITE ADDRESS:
 5580 SHIER RINGS RD
 DUBLIN, OH 43016



ATC PROJ. #: 14846627_G0
 CUST. ID: WSOWP0033711
 CUST. #: 10011704

TITLE SHEET

SHEET NUMBER:
G-001
 REVISION:
0



GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEIA/ITIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO

- DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
 24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
 25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
 26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
 27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
 28. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
 29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
 30. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
 31. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
 32. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
 33. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
 34. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
 35. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

**SPECIAL CONSTRUCTION
ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
 - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
 - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
 - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
 - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

- G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
 3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

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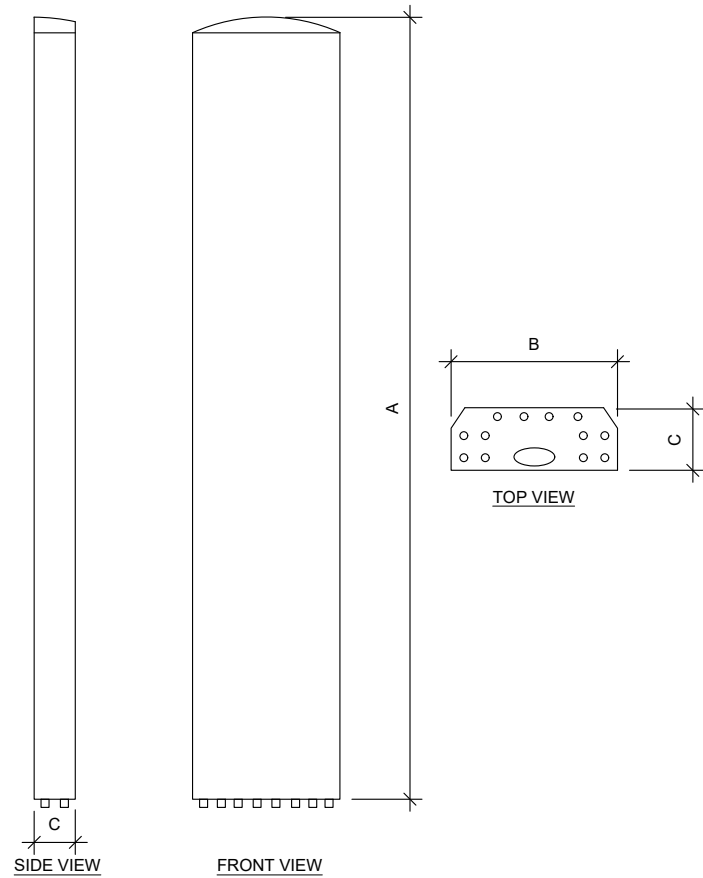
ATC PROJ. #: 14846627_G0
CUST. ID: WSOWP0033711
CUST. #: 10011704

GENERAL NOTES

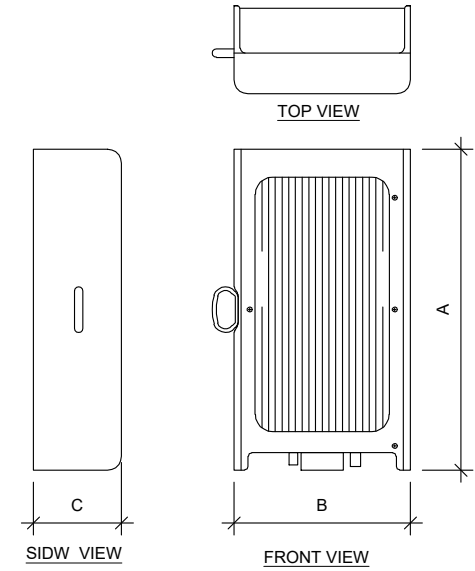
SHEET NUMBER:
G-002

REVISION:
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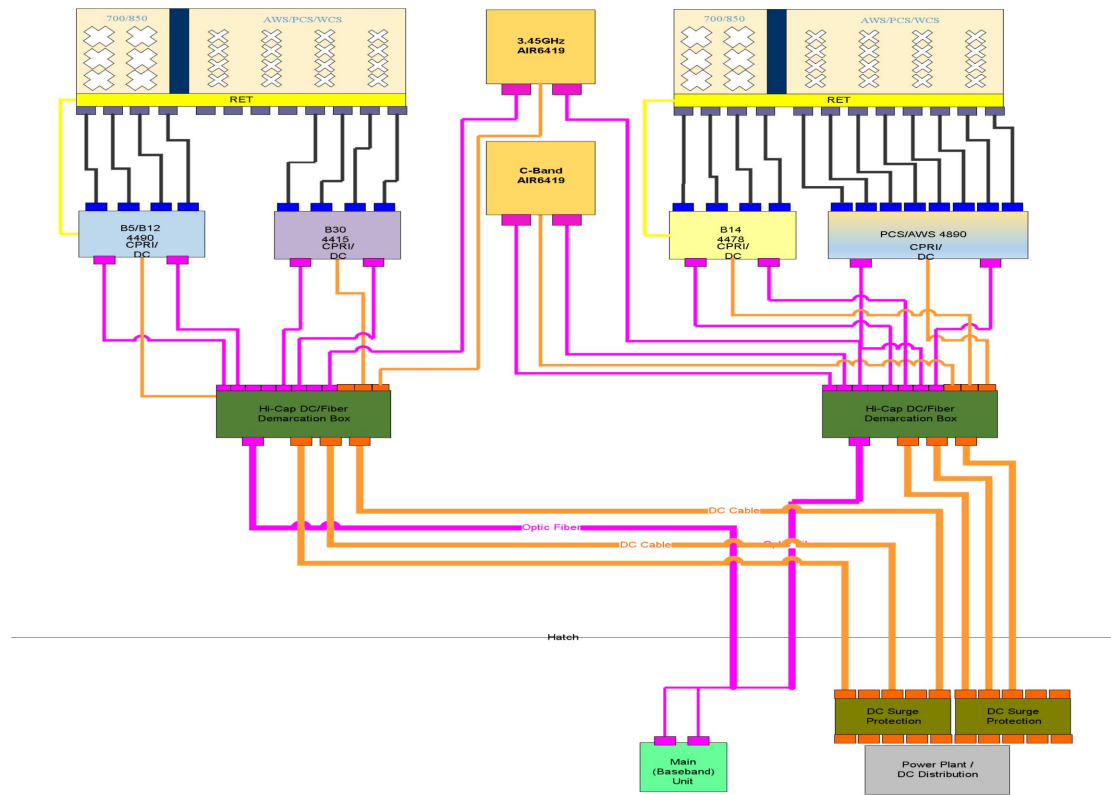


ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR 6419 B77G	28.3"	16.1"	7.9"	66.1
AIR 6419 B77D	31.2"	16.1"	9.1"	63.1



RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RRUS 4478 B14	16.5"	13.4"	7.7"	59.9
RRUS 4490	20.6"	15.7"	7"	68.4
RRUS 4890	20.6"	15.7"	7.2"	69.5
RADIO 4415 B30	15"	13.2"	5"	43

Sector A



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER:
R-602

REVISION:
0

7. Antenna Separation Guidelines (Our Own Antennas)

7.1 MIMO or 4T4R Antenna Separation (excluding 700 MHz B/C or D/E or B14-FirstNet antennas)

For MIMO (Multiple-Input Multiple-Output), the relationship between antenna correlation and performance is more complicated due to different MIMO operation modes. Depending SNR, several operation modes will be implemented in MIMO: transmit diversity-based space frequency block coding (SFBC), rank-based spatial multiplexing and beamforming. A cross-polarization antenna with single antenna array can support 2x2 MIMO or 2T2R. There are two options to support 4T4R operation: using an antenna with two antenna arrays or use two single-array antennas.

- There are two architectures for antennas with two same band arrays:
 - horizontal side-by-side arrays architecture, the antenna may be wider if it consists of two LO arrays.
 - vertical stacking arrays architecture, the trade-off is the gain reduction due to limited antenna elements can be implemented.
- When use two single-array antennas to support 4T4R operation, the horizontal spacing between two antennas can be any distance and no need to be very close to each other. The antennas can be installed at the standard positions. Several antenna vendors also offer dual-antenna bracket option, it is noted that the total weight (two antennas plus bracket) can be more than 200 lbs and possible wind load impact if the antennas are too close.

It is noted that 4T4R operation the same azimuth and tilting for both antennas/arrays must be maintained. Those antennas/arrays may be controlled by different actuators.

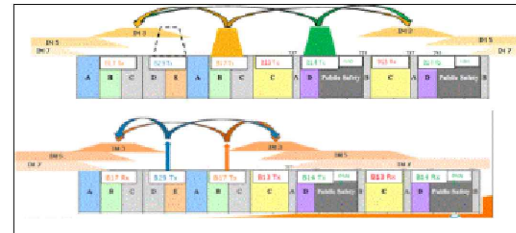
7.2 Integrated Antenna Separation

Integrated Antenna (IA) like ALU AAS or Ericsson AIR consists of radios integrated with the antenna. Adequate free space is required between Integrated Antennas installed side by side. Please refer to OEM product description or installation documents for required free space. Sufficient air flow is needed to cool the integrated radio when Integrated Antenna is installed inside an FRP (Fiber Reinforced Panel) enclosure.

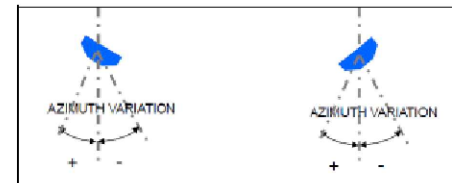
7.3 700 MHz B/C (B17), 700 MHz D/E (B29) and B14-FirstNet Antennas Separation

Due to 700 MHz B/C (Band 17) and 700 MHz D/E (Band 29) are adjacent each other, LTE transmitter in 700 MHz D/E block must be isolated (via filtering and antenna separation) from adjacent 700 B/C receiver. The two main concerns are out-of-band emission (OOBE) and receiver blocking/desensitization.

- B14 + B17 will have 3rd order IM (2A-B) in B17 RX or B14 RX
- B14 + B29 will have 3rd order IM (2A-B) in B14 RX



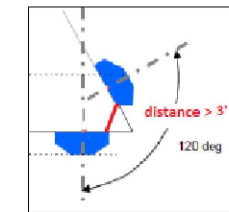
- 700 MHz B/C (B17), 700 MHz D/E (B29) and FirstNet (B14) operation all should have their own antennas. No antenna sharing unless certain dual band or tri-band radios are used.
- At least 6' horizontal separation between 700 MHz D/E (B29) and 700 MHz B/C (B17) antennas within the same sector/face.
 - About 40 dB isolation can be achieved for 65° HBW antennas.
 - More separation is required for wide HBW antennas. The horizontal separation will increase proportionally as the HBW increases, e.g., 50% more horizontal separation for 85° or 90° HBW antennas.
 - Based on measurement data, isolation between 700 B/C and D/E will not be compromised if the azimuth variation is less than ± 6° for the antennas within the same sector as shown in the following figure. Please note a maximum aiming/alignment accuracy of ± 3° is required for all panel (directional) antennas [14].



- At least 3' horizontal separation (edge to edge) between FirstNet (B14) antenna from either 700 MHz D/E (B29) or 700 MHz B/C (B17). More separation between B14 and B17 antennas is recommended such as they are not in adjacent position if possible.
- Considering the vertical or diagonal separation (sections 4.3.1 & 4.3.3) if possible. Good isolation can be easily achieved with more than 3' vertical antenna

separation (distances between the tips of the antennas, i.e., the distance from the tip of the bottom antenna to the bottom of the top one).

- Isolation between 700 MHz antennas in different faces may be an issue if they are close to each other in the corner as shown in the following figure. The distance between the edge of the antenna backplanes should be at least 6' if possible. 3' is minimum.



If the above recommended separation cannot be obtained, exception review is required so alternative solutions can be provided. For example,

- Tolerate additional uplink performance degradation at reduced horizontal antenna separation.
- Reduce radio transmit power.
- Adjust antenna tilting or azimuth or relocate antennas.

The following figures illustrate possible antenna separation between 700 B/C and 700 D/E antennas (shown in green or gray colors). The inter-antenna distance depends upon the sector platform or antenna boom/frame size and the number of antennas positions can be mounted on. The following table lists acceptable antenna positions for typical platform with 10'-14' sector width. Antenna position shall be consistent in all faces and back-to-back separation @ corner > 3'.

# of antenna positions per sector/face	3 antenna positions	4 antenna positions	5 antenna positions
10' platform or antenna boom	(3-B)	(4-A) to (4-C)	(5-B), (5-C), (5-E)
12' platform or antenna boom	(3-A) and (3-B)	(4-A) to (4-C)	(5-A) to (5-F)
14' platform or antenna boom	(3-A) and (3-B)	(4-A) to (4-C)	(5-A) to (5-F)

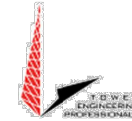
SUPPLEMENTAL

SHEET NUMBER: R-603
REVISION: 0

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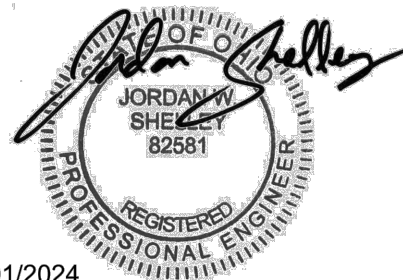


Antenna Mount Analysis Report

ATC Site Name : Dublin OH
ATC Site Number : 307538
Engineering Number : 14846627_C8_01
Mount Elevation : 150 ft
Carrier : AT&T Mobility
Carrier Site Name : DUBLIN
Carrier Site Number : WSOWP0033711
Site Location : 5580 Shier Rings Rd
Dublin, OH 43016-1277
40.097015, -83.140239
County : Franklin
Date : August 1, 2024
Max Usage : 68%
Result : Pass

Prepared By:
Nicholas P. Danyluk
TEP No. 97989.982018

Reviewed By:



08/01/2024

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install (6) SitePro 2120 2.0SCH40x10-ft Mount Pipes (CONMAT No. ANT.55993) to support arms. Connect 1-ft from collar with (3) SitePro BBPM-K3 Crossover Kits (CONMAT No. ANT.56902), centered vertically on support arm.
- Relocate existing antenna pipes to achieve AT&T's 12-ft face, 4-Position configuration.
- Install (1) SitePro USF-4U Standoff Kit (CONMAT No. ANT.55116) to mount pipe in Position 1 of Alpha Sector.
- Install (2) SitePro PM2 Standoff Kit (CONMAT No. ANT.55117) to mount pipe in Position 2 of Alpha Sector and Position 1 of Beta Sector. Connect to existing mount pipes with (2) SitePro DCP18K pipe-to-pipe clamp kits.
- Install (2) SitePro PM1 Standoff Kit (CONMAT No. ANT.55115) to mount pipe in Position 3 of Alpha Sector and Position 2 of Beta Sector. Connect to existing mount pipes with (2) SitePro DCP18K pipe-to-pipe clamp kits.
- Install (2) SitePro P30120 2.5SCH40x10-ft Mount Pipes (CONMAT No. ANT.16008) in Position 1 of Alpha Sector and Position 3 of Beta Sector.
- Install (3) SitePro STK-U Stabilizer Arms (CONMAT No. ANT.54754) from Positions 1 and 2 of Alpha Sector, and Position 1 of Beta Sector to adjacent mount pipe.

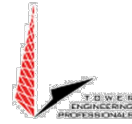
No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact MountAnalysis@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

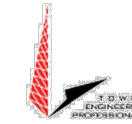
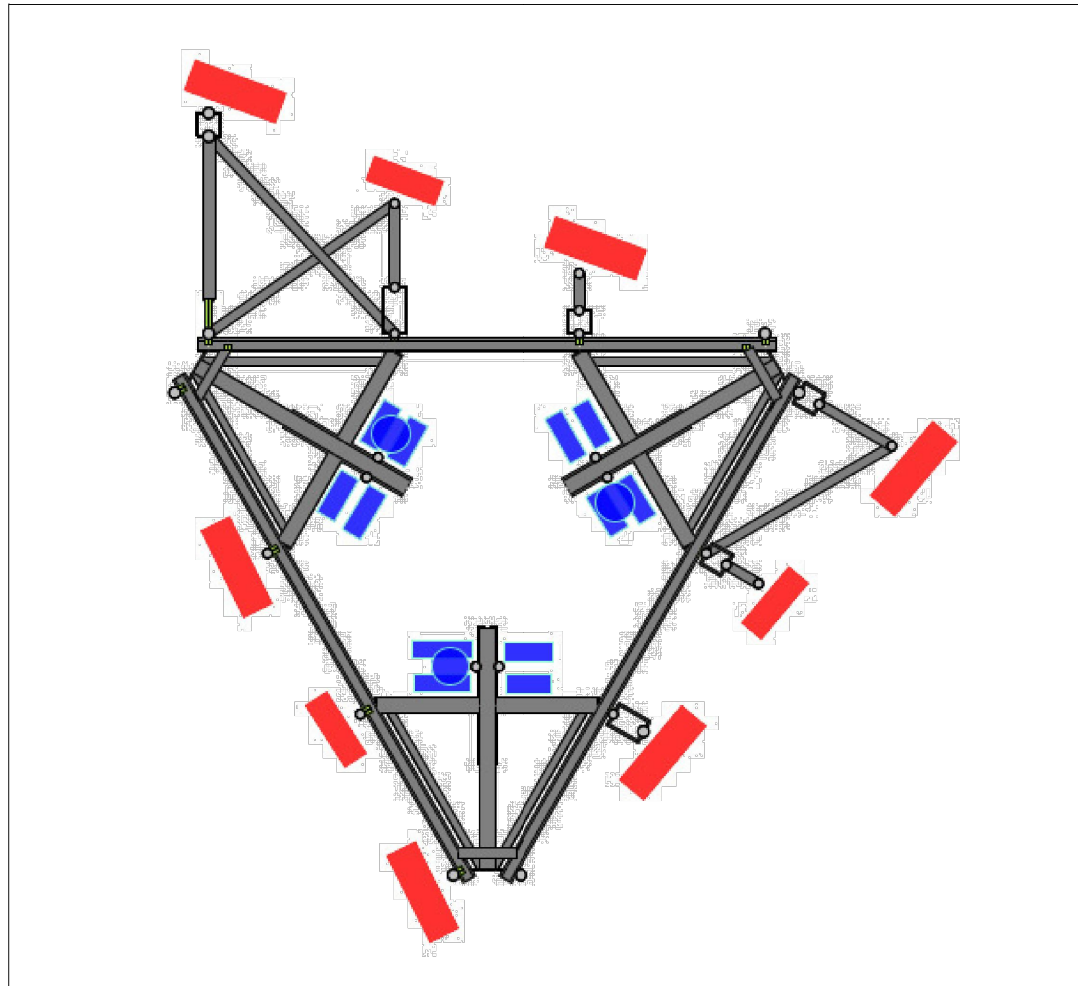
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SUPPLEMENTAL

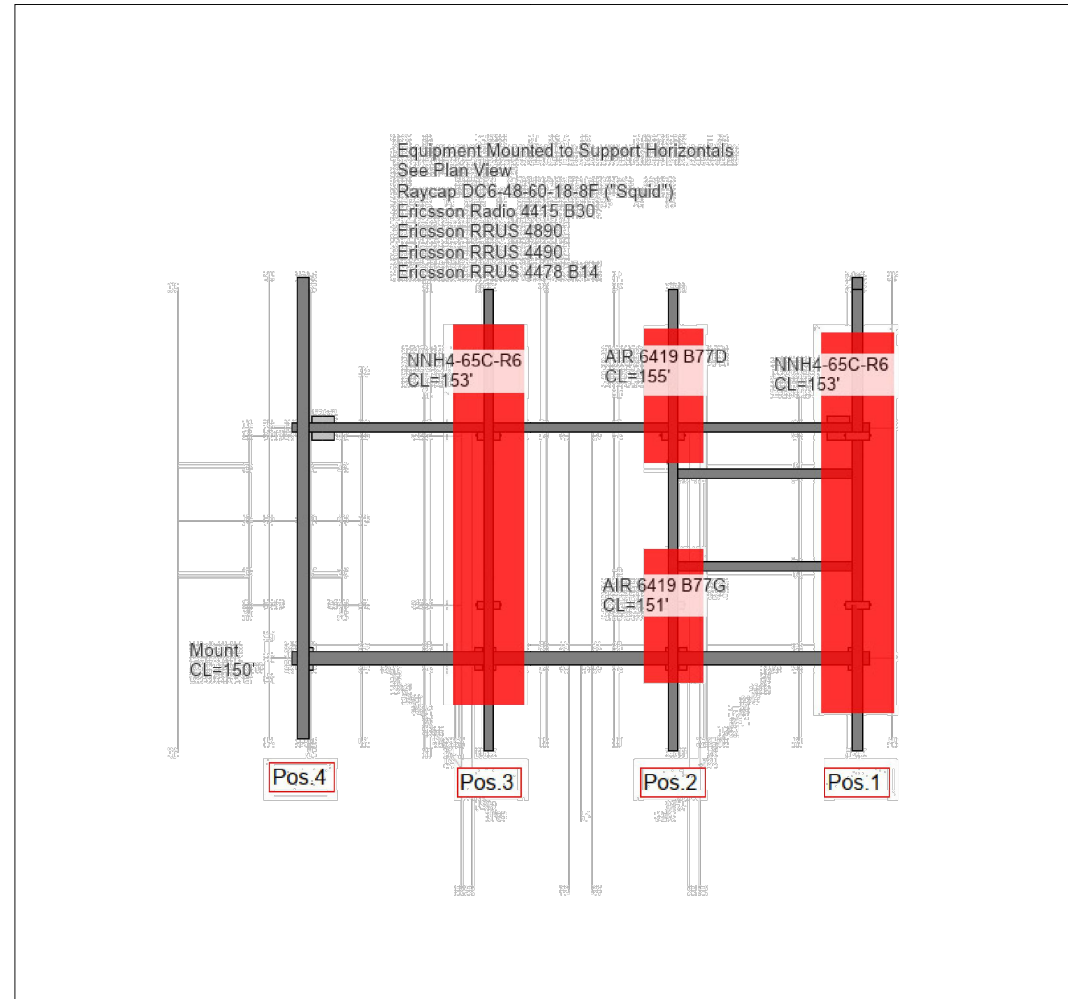
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Mount Layout



Equipment Layout



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