Site ID: WI0161

Site Name: FIRE STATION Primary Pace: MRCHI056132 Fixed Asset Number: 10012369

FOURTH AMENDMENT TO LEASE AGREEMENT

This Fourth Amendment to Lease Agreement ("Fourth Amendment") is made as of the date of the last party to sign below, by and between the City of Milwaukee, a Wisconsin municipal corporation, with its principal mailing address 200 E. Wells Street, Milwaukee, Wisconsin 53202 (hereinafter referred to as "Landlord"), and New Cingular Wireless, PCS, LLC, a Delaware limited liability company (hereinafter referred to as "Tenant"). Landlord and Tenant are at times collectively referred to hereinafter as the "Parties".

WHEREAS, the Parties (or their respective predecessors-in-interest) previously entered into that certain Lease Agreement dated October 19, 2000, as amended by that certain First Amendment To Lease Agreement dated July 23, 2007, as amended by that certain Second Amendment to Lease Agreement dated January 15th, 2013, as amended by that certain Third Amendment to Lease Agreement dated August 13, 2018 (collectively, the "Lease") that provides for the operation of communications equipment on Landlord's tower, and other equipment on portion of the real property owned by Landlord and occupied by the Milwaukee Fire Department (the "MFD"), located in the City of Milwaukee as described in Exhibit B-1 to the Lease ("Property"), together with certain non-exclusive easement rights of access for utility lines and cables and vehicular ingress and egress across and over the Property (collectively the "Leased Space"); and

WHEREAS, Tenant wishes to upgrade its equipment located in and on the Leased Space; and

WHEREAS, the Parties wish to amend the Lease in order to address the above item and

NOW, THEREFORE, in consideration of the promises hereinafter made and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree to the following:

1. Equipment Installation. Landlord hereby grants permission to Tenant to install, maintain and operate on the AT&T Lease Parcel the radio communications equipment, antennas and appurtenances described in Exhibit A to this Fourth Amendment. Tenant has submitted the proposal for the New Equipment to Landlord, and Landlord has approved said items. Tenant may commence the installation of Tenant's New Equipment upon receipt of a fully executed copy of this Fourth Amendment, provided that Tenant has received all necessary permits and approvals from appropriate governing bodies, and further provided Tenant shall coordinate all installation work performed by Tenant in advance with MFD, so as not to materially and adversely interfere with the MFD's operations on the Property.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be effective as of the last date written below.

TENANT: NEW CINGULAR WIRELESS, PCS, LLC A DELAWARE LIMITED LIABILITY COMPANY By: AT&T Mobility Corporation Its: Manager By:______ Title: LANDLORD: CITY OF MILWAUKEE By:______ Tom Barrett, Mayor By:_______ James Owczarski, City Clerk COUNTERSIGNED By: ______Aycha Sawa, City Comptroller Signatures of Tom Barrett, James Owczarski and Aycha Sawa, authenticated this _____ day of ______, 2021. Jeremy R. McKenzie, Assistant City Attorney State Bar No. 1051310 Approved as to form and execution

[Exhibits Follow]

This ___ day of _____ 2021

Assistant City Attorney

EXHIBIT A Depiction of New Equipment



SITE NAME: FIRE STATION

SITE ID: WI0161

FA LOCATION CODE: 10012369

PROJECT: 5G CBAND/ANT.MOD

TOWER NUMBER: N/A

MRCHI056132 / MRCHI056182 / MRCHI055858 PACE ID:

MRCHI055828 / MRCHI055832

5600 WEST OKLAHOMA. ADDRESS: MILWAUKEE, WI 53202

201'-0" MONOPOLE **TOWER INFO:**

42.989041° / -87.984591° SITE COORDINATES:

THE DESIGN SHOWN ON THESE DRAWINGS IS BASED ON INFORMATION GATHERED FROM AT&T RFDS AT&T RFDS V2020_1.00 DATED 04/01/2020.

VICINITY MAP

	SHEET HOEA				
1	SHEET #	SHEET DESCRIPTION			
3	T-1	TITLE SHEET			
	C-1	OVERALL SITE PLAN			
20	C-2	DETAILED SITE PLAN			
	C-3	SHELTER SITE PLAN			
	C-4	TOWER ELEVATIONS			
30	RF-1	RF SCHEDULE			
	RF-2	ALPHA SECTOR ANTENNA PLAN			
	RF-3	BETA SECTOR ANTENNA PLAN			
	RF-4	GAMMA SECTOR ANTENNA PLAN			
ᅺ	EQ-1	EQUIPMENT DETAILS			
	EQ-2	EQUIPMENT DETAILS			
-	GN-1	GENERAL NOTES			
		SCOPE OF WORK			

SHEET INDEX

SCOPE OF WORK

ALPHA, BETA, GAMMA:

- REMOVE 1X EXISTING SBJAH4-1D65B-DL ANTENNA FROM POS2.
- INSTALL 1X NEW NNH4-65B-R6H4 ANTENNA ON POS1.
- INSTALL 1X NEW AIR6449 B77D CBAND ANTENNA ON POS2.
- REMOVE 1X EXISTING RRUS-11 B12 FROM POS2.
- INSTALL 1X NEW 4449 B5/B12 ON POS1 ON NEW COLLAR MOUNT PER ATT-CEM-20003 AND CONNECT IT TO NEW ANTENNA ON POS1.
- INSTALL 1X NEW 4415 B25 ON POS1 ON NEW COLLAR MOUNT PER ATT-CEM-20003
- AND CONNECT IT TO NEW ANTENNA ON POS1. RELOCATE 1X EXISTING 4426 B66 FROM POS2 TO NEW COLLAR MOUNT PER
- ATT-CEM-20003 AND CONNECT IT TO NEW ANTENNA ON POST.
- INSTALL 1X NEW CBC78T-DS-43 DIPLEXER ON POS4 AND CONNECT IT TO EXISTING INSTALL 1X NEW 4478 B14 ON POS4 ON NEW COLLAR MOUNT PER ATT-CEM-20003
- AND CONNECT 2 PORTS TO NEW DIPLEXER AND 2 PORTS TO EXISTING ANTENNA ON
- RECONNECT EXISTING UMTS 850 TO NEW DIPLEXER ON POS4. REMOVE ANY UNUSED GSM AND UMTS EQUIPMENT FROM TOWER TOP IF EXISTING.

- SWAP 1X DC6 WITH 1X NEW DC9 AND ADD 1X NEW 6AWG6 DC TRUNK AND 1X 24 PAIR FIBER TRUNK. REUSE EXISTING 2XDC6'S, 6X DC TRUNKS AND FIBER TRUNKS.
- INSTALL NEW RECTIFIERS (TOTAL OF 10)
- INSTALL NEW CONVERTERS (TOTAL OF 4)
- INSTALL NEW NETSURE 7100-48V DC POWER PLANT (TOTAL OF 1) (AS PER JSA)

ANY DEVIATION THAT DIFFERS SUBSTANTIALLY FROM WHAT IS SHOWN ON THE CONSTRUCTION DRAWINGS MUST BE APPROVED BY THE ENGINEER OF RECORD. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK CAN BE MADE DURING CONSTRUCTION WITHOUT ISSUING A CHANGE ORDER.



Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN, CALL LOCAL STATE ONE CALL

SITE INFORMATION

FIRE STATION

WI0161

10012369

MILWAUKEE 42.989041*

-87.984591°

738'± A.M.S.L

113'-0" A.G.L

AT&T WIRELESS

930 NATIONAL PARKWAY SCHAUMBURG, IL 60173

jack.phipps@nexius.com

CITY OF MILWAUKEE

MONOPOLE

5600 WEST OKLAHOMA

MILWAUKEE. WI 53202

201'-0" A.G.L (ABOVE GROUND LEVEL)

NEXIUS SOLUTIONS, INC. 2595 NORTH DALLAS PKWY, SUITE 300 FRISCO, TX 75034

WHITNEY NEWTON - SITE ACQUISITION SPECIALIST 155 INTERNATIONAL BLVD GLENDALE HEIGHTS, IL 60139 whitney.newton@nexius.com

SITE NAME:

FA LOCATION CODE:

CITY, STATE ZIP:

STRUCTURE TYPE:

SITE ACQUISITION:

A&E SERVICES:

STRUCTURE OWNER:

RAD CENTER:

APPLICANT:

STRUCTURE HEIGHT:

SITE ID:

ADDRESS:

COUNTY:

LATITUDE:

LONGITUDE: GROUND ELEVATION:

> TOLL FREE: 1-800-242-8511 OR www.diggershotline.com

> > WISCONSIN STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE



APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH CURRENT EDITIONS OF THE FOLLOWING APPLICABLE CODES AS ADOPTED BY THE

- 2018 INTERNATIONAL BUILDING CODE
- 2020 NATIONAL ELECTRIC CODE

THESE DRAWINGS ARE DESIGNED TO THE LATEST CODES. THEY ALSO MEET THE ADOPTED CODE REQUIREMENTS OF THE JURISDICTION.

PRELIMINARY: NOT FOR CONSTRUCTIO SUBMITTALS DATE DESCRIPTION A 05/17/21 CD FOR REVIEW 0 08/20/21 FINAL CD

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

FRISCO, TX 75034

930 NATIONAL PARKWAY SCHAUMBURG, IL 60173

FOR CONSTRUCTION

NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032–1 RENEWAL DATE 1/31/22

FIRE STATION

WI0161

5600 WEST OKLAHOMA MILWAUKEE, WI 53202

42.989041° / -87.984591°

TITLE SHEET

T-1

THIS DOCUMENT IS THE DESIGN PROPERTY AND COPYRIGHT OF NEXUS AND FOR THE EXCLUSINE USE BY THE TITLE CLIENT. DUPLICATION OR USE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE CREATOR IS STRICTLY PROHIBITED. DRAWING SCALES ARE INTENDED FOR 22"x34" SIZE PRINTED MEDIA ONLY. 11"x17" IS DEEMED HALF SCALE, AND ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

NOT

THIS PLAN WAS CREATED BASED ON INFORMATION GATHERED FROM PREVIOUS DRAWINGS, AERIAL PHOTOGRAPHY, GIS DATA, AND/OR ASSESSORS MAPS PROVIDED BY LOCAL SOURCES. THIS PLAN IS IN NO WAY INTENDED TO BE USED AS A BOUNDARY SURVEY.





FOR CONSTRUCTION



PE RENEWAL 7/31/22

2 08/20/2 Nexius Solutions, Inc. Wisconsin firm Number 4032–1 Renewal date 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTION

7/21	CD FOR REVIEW
TE	DESCRIPTION
	SUBMITTALS

A 05/17/21 CD FOR REVIEW MH
0 08/20/21 FINAL CD MH

SITE INFORMA

FIRE STATION

WIO161

SITE ADDRESS:
5600 WEST OKLAHOMA
MILWAUKEE, WI 53202

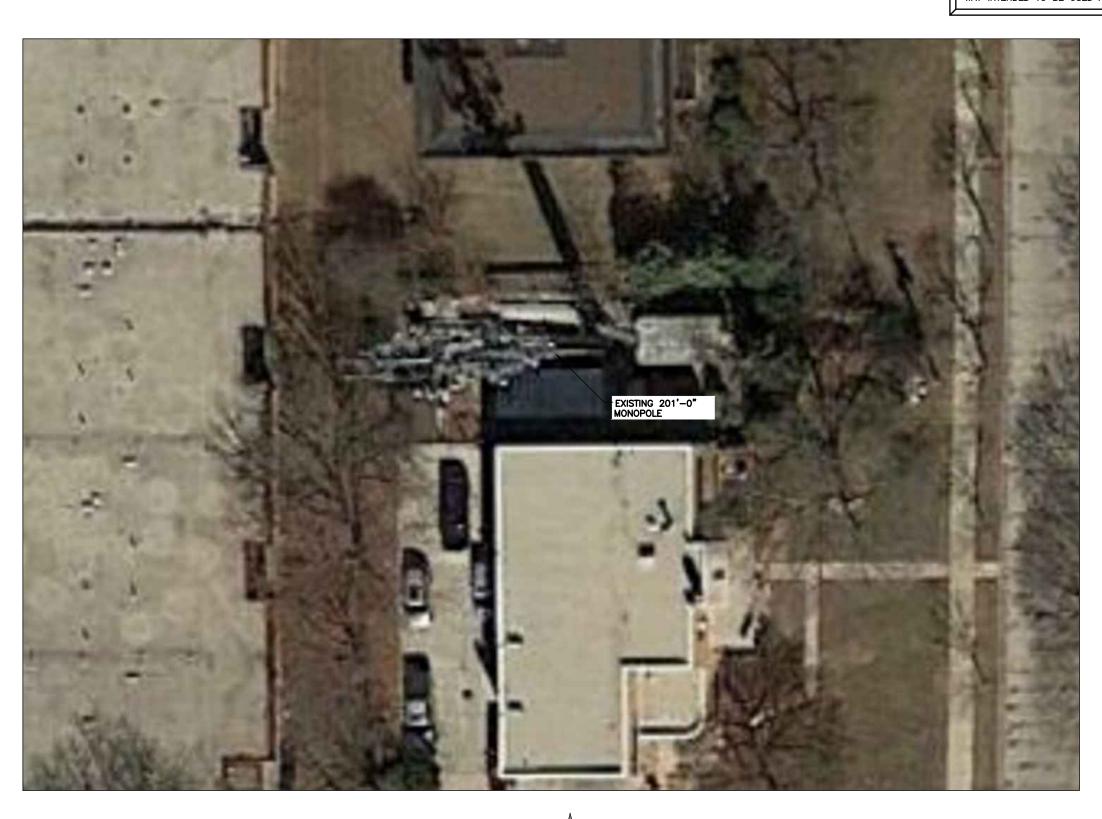
42.989041° / -87.984591°

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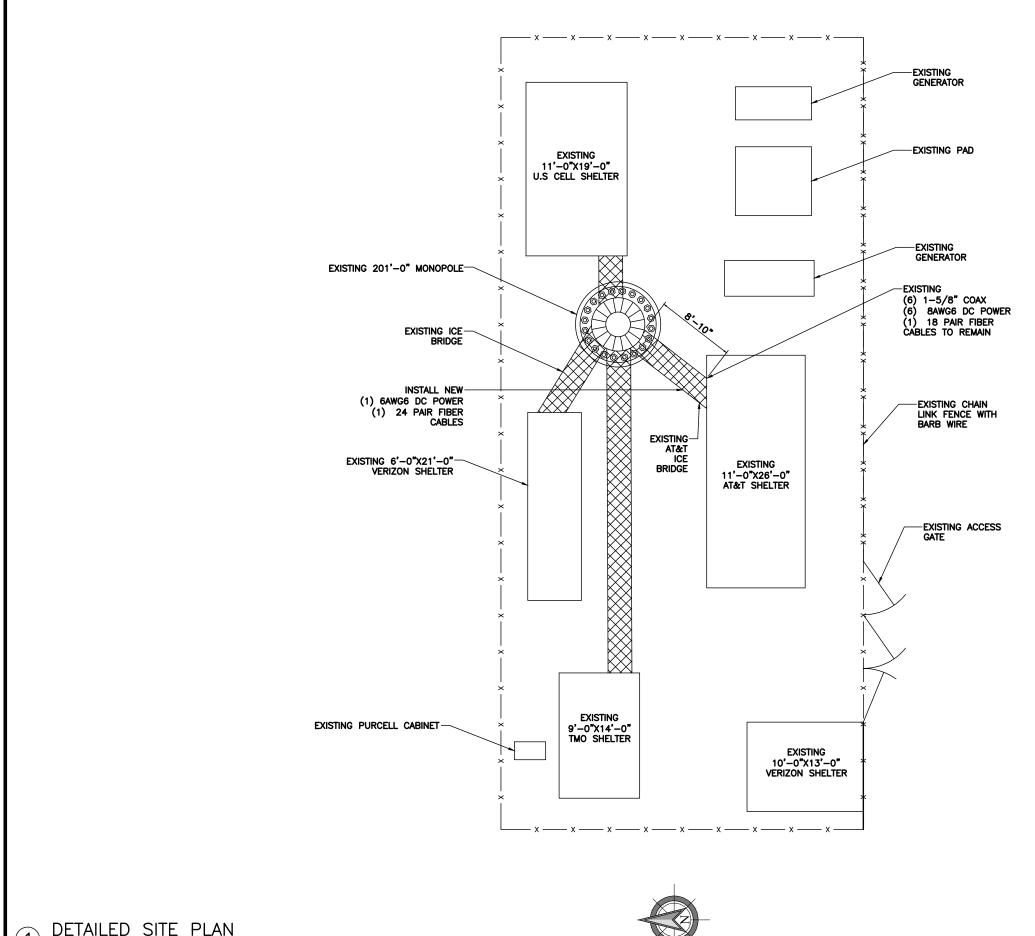
OVERALL SITE PLAN

SHEET NUMBER:

C-1



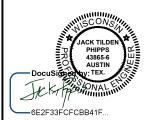
SCALE: 3/16" = 1'-0"



NEXIUS SOLUTIONS, INC.
2595 NORTH DALLAS PARKWAY
SUITE 300
FRISCO, TX 75034



FOR CONSTRUCTION



PE RENEWAL DATE SIGNED: 7/31/22 08/20/21 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032-1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTIO

SUBMITTALS

		000			
REV	DATE	DESCRIPTION	BY		
A	05/17/21	CD FOR REVIEW	МН		
0	08/20/21	FINAL CD	МН		

ALL IN OKRATION.

FIRE STATION

WI0161

5600 WEST OKLAHOMA MILWAUKEE, WI 53202

42.989041° / -87.984591°

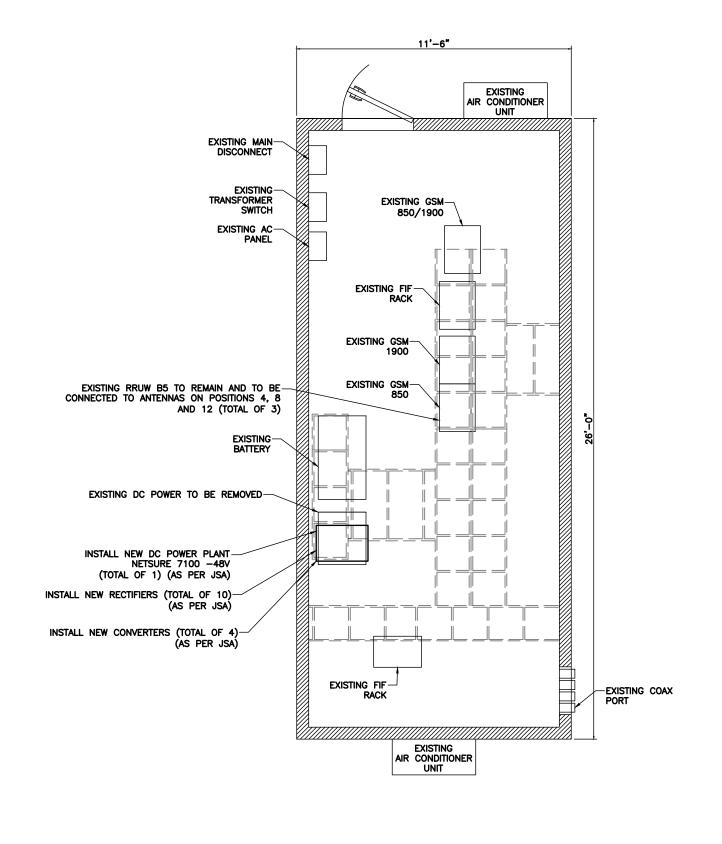
IEET TITLE:

DETAILED SITE PLAN

IEET NUMBER:

C-2

11"x17" SCALE: 3/32" = 1'-0" 0 5'-4" 10'-8" 21'-4" 22"x34" SCALE: 3/16" = 1'-0" 0 2'-8" 5'-4" 10'-8"



NEXIUS SOLUTIONS, INC.
2595 NORTH DALLAS PARKWAY
SUITE 300
FRISCO, TX 75034



FOR CONSTRUCTION



PE RENEWAL 7/31/22

EWAL DATE SIGNED: 2 08/20/21 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032-1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTION

SUBMITTALS

REV DATE DESCRIPTION

	A	05/17/21	CD FOR REVIEW	МН
	0	08/20/21	FINAL CD	МН
ı				

SITE INFOR

FIRE STATION

WI0161

SITE ADDRESS:

5600 WEST OKLAHOMA
MILWAUKEE, WI 53202

42.989041° / -87.984591°

SHEET TITLE:

SHELTER SITE PLAN

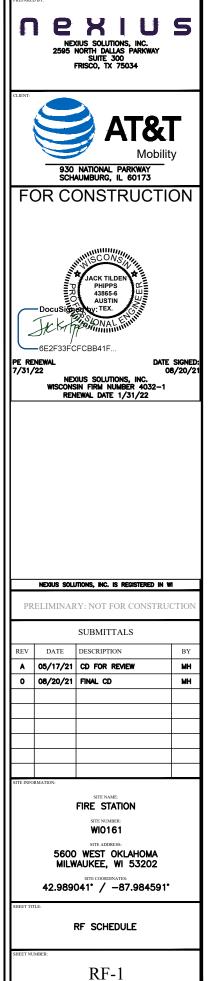
SHEET NUMBER:

C-3

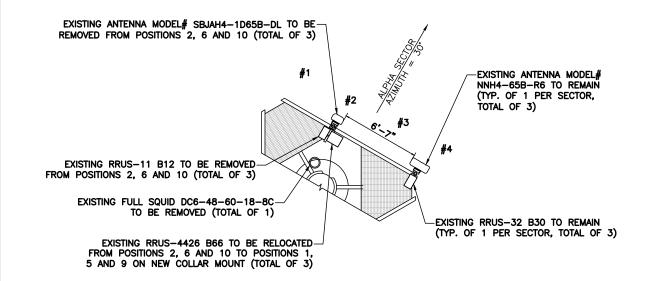
11"x17" SCALE: 1/4" = 1'-0" 0 2' 4'
22"x34" SCALE: 1/2" = 1'-0" 0 1' 2'

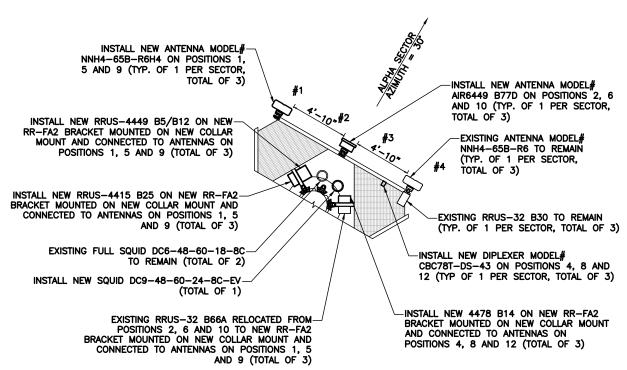
THE DESIGN SHOWN ON THESE DRAWINGS IS BASED ON INFORMATION GATHERED FROM AT&T RFDS AT&T RFDS V2020_1.00 DATED 04/01/2020.

	EXISTING																						
SECTOR	ANTENNA TECHNOLOGY	ANTENNA POSITION	MODEL	RAD CENTER (AGL)	AZIMUTH	COAX CABLES	OTHER CABLES	TMA'S	TOWER DIPLEXERS	RRU'S	OTHER DEVICES												
A L P H	N/A	#1	N/A			30*		N/A	N/A	N/A													
	UMTS 850/LTE 700/AWS	#2	(1) SBJAH4-1D65B-DL	113'-0"	30°			N/A	N/A	(1) RRUW B5 (BOTTOM) (1) RRUS-11 B12 (1) 4426 B66													
A	N/A	#3	N/A				N/A	N/A	N/A														
	LTE-WCS	#4	(1) NNH4-65B-R6	1			Γ	N/A	N/A	(1) RRUS-32 B30													
	N/A	# 5	N/A					N/A	N/A	N/A													
B E T	UMTS 850/LTE 700/AWS	#6	(1) SBJAH4-1D65B-DL	113'-0" 150°	(6) 1-5/8" COAX	(6) 8AWG6 DC POWER (1) 18 PAIR FIBER	N/A	N/A	(1) RRUW B5 (BOTTOM) (1) RRUS-11 B12 (1) 4426 B66	(3) DC6-48-60-18-8C													
A	N/A	#7	N/A	1				N/A	N/A	N/A													
	LTE-WCS	#8	(1) NNH4-65B-R6	-				N/A	N/A	(1) RRUS-32 B30													
	N/A	#9	N/A					N/A	N/A	N/A													
G A M	UMTS 850/LTE 700/AWS	#10	(1) SBJAH4-1D65B-DL	113'-0"	270*	270°	270°			270°					N/A	N/A	(1) RRUW B5 (BOTTOM) (1) RRUS-11 B12 (1) 4426 B66						
Ä	N/A	#11	N/A	1				N/A	N/A	N/A													
	LTE-WCS	#12	(1) NNH4-65B-R6	1				N/A	N/A	(1) RRUS-32 B30													
						PROPOSED																	
SECTOR	ANTENNA TECHNOLOGY	ANTENNA POSITION	MODEL	RAD CENTER (AGL)	AZIMUTH	COAX CABLES	OTHER CABLES	TMA'S	TOWER DIPLEXERS	RRU'S	OTHER DEVICES												
	LTE-700/1900/AWS	#1	(1) NNH4-65B-R6H4				N/A	N/A	(1) 4449 B5 B12 (1) 4415 B25 (1) 4426 B66														
l ĉ	5G CBAND	#2	AIR6449 B77D	1				N/A	N/A	N/A													
P	N/A	#3	N/A	113'-0" 30°			N/A	N/A	N/A														
Ä	UMTS 850/LTE-700/WCS	#4	NNH4-65B-R6													N/A	(1) CBC78T-DS-43	(1) RRUW B5 (BOTTOM) (1) 4478 B14 (1) RRUS-32 B30					
	LTE-700/1900/AWS	# 5	(1) NNH4-65B-R6H4	113'-0" 150'												(6) 8AWG6 DC POWER	N/A	N/A	(1) 4449 B5 B12 (1) 4415 B25 (1) 4426 B66				
B E	5G CBAND	#6	AIR6449 B77D		4500	4471 07	450		(6) 1-5/8" COAX	(1) 6AWG6 DC POWER (1) 18 PAIR FIBER	N/A	N/A	N/A	(2) DC6-48-60-18-8C									
T	N/A	# 7	N/A	113'-0"	130		(1) 18 PAIR FIBER	N/A	N/A	N/A	(1) DC9-48-60-24-8C-EV												
^	UMTS 850/LTE-700/WCS	#8	NNH4-65B-R6																	N/A	(1) CBC78T-DS-43	(1) RRUW B5 (BOTTOM) (1) 4478 B14 (1) RRUS-32 B30	
G	LTE-700/1900/AWS	#9	(1) NNH4-65B-R6H4										N/A	N/A	(1) 4449 B5 B12 (1) 4415 B25 (1) 4426 B66								
Ä	5G CBAND	#10	AIR6449 B77D	1 4471 08	270*			N/A	N/A	N/A													
M	N/A	#11	N/A	113'-0"	2/0	270°		N/A	N/A	N/A													
Ä	UMTS 850/LTE-700/WCS	#12	NNH4-65B-R6					N/A	(1) CBC78T-DS-43	(1) RRUW B5 (BOTTOM) (1) 4478 B14 (1) RRUS-32 B30													

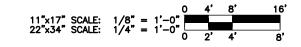


MAINTAIN A MINIMUM OF 3 FEET SEPARATION BETWEEN ALL ANTENNAS. IF 3 FEET IS NOT OBTAINABLE BETWEEN ANY OF THE ANTENNAS, NOTIFY VELEX CM FOR FURTHER DIRECTION.

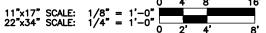




ANTENNA PLAN (EXISTING ALPHA) SCALE: 1/4" = 1'-0"



ANTENNA PLAN (PROPOSED ALPHA) SCALE: 1/4" = 1'-0"





NEXIUS SOLUTIONS, INC. 2595 NORTH DALLAS PARKWAY SUITE 300 FRISCO, TX 75034



FOR CONSTRUCTION



PE RENEWAL 7/31/22

DATE SIGNED: 08/20/21 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032–1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTIO

SUBMITTALS DATE DESCRIPTION мн A 05/17/21 CD FOR REVIEW 0 08/20/21 FINAL CD мн

FIRE STATION

WI0161

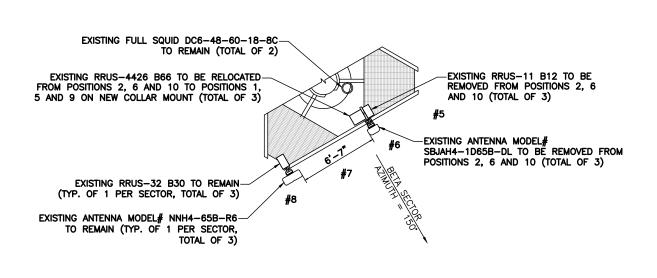
5600 WEST OKLAHOMA MILWAUKEE, WI 53202

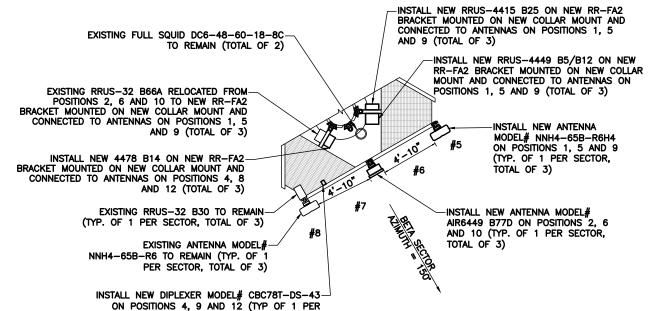
42.989041 / -87.984591

ALPHA SECTOR ANTENNA PLAN

RF-2

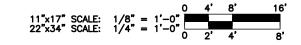
MAINTAIN A MINIMUM OF 3 FEET SEPARATION BETWEEN ALL ANTENNAS. IF 3 FEET IS NOT OBTAINABLE BETWEEN ANY OF THE ANTENNAS, NOTIFY VELEX CM FOR FURTHER DIRECTION.



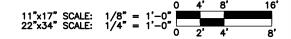


SECTOR. TOTAL OF 3)

ANTENNA PLAN (EXISTING BETA) SCALE: 1/4" = 1'-0"



ANTENNA PLAN (PROPOSED BETA) SCALE: 1/4" = 1'-0"



NEXIUS SOLUTIONS, INC. 2595 NORTH DALLAS PARKWAY SUITE 300 FRISCO, TX 75034



FOR CONSTRUCTION



PE RENEWAL 7/31/22

DATE SIGNED: 08/20/21 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032–1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

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SUBMITTALS DATE DESCRIPTION мн A 05/17/21 CD FOR REVIEW 0 08/20/21 FINAL CD мн

FIRE STATION WI0161

5600 WEST OKLAHOMA MILWAUKEE, WI 53202

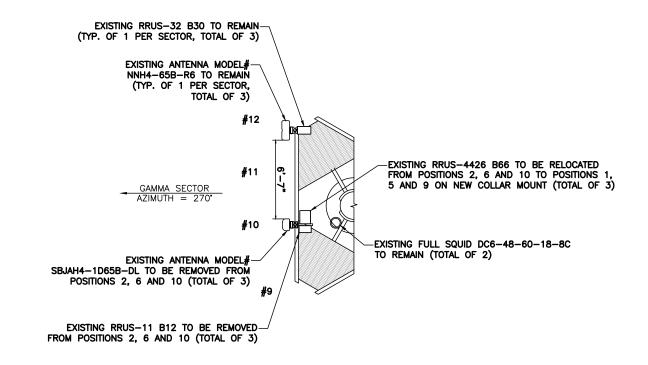
42.989041 / -87.984591

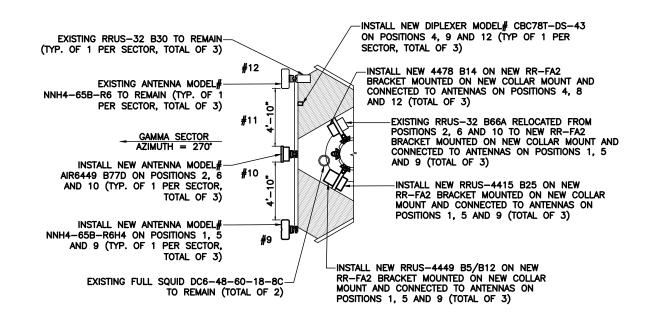
BETA SECTOR ANTENNA PLAN

RF-3



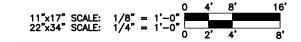
MAINTAIN A MINIMUM OF 3 FEET SEPARATION BETWEEN ALL ANTENNAS. IF 3 FEET IS NOT OBTAINABLE BETWEEN ANY OF THE ANTENNAS, NOTIFY VELEX CM FOR FURTHER DIRECTION.



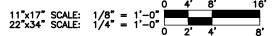


1) ANTENNA PLAN (EXISTING GAMMA)

scale: 1/4" = 1'-0"



2 ANTENNA PLAN (PROPOSED GAMMA)
SCALE: 1/4" = 1'-0"



NEXIUS SOLUTIONS, INC.
2595 NORTH DALLAS PARKWAY
SUITE 300
FRISCO, TX 75034



FOR CONSTRUCTION



PE RENEWAL 7/31/22

WAL DATE SIGNED: 08/20/21 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032-1 RENEWAL DATE 1/31/22

RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTION

мн

0 08/20/21 FINAL CD MH

INFORMATION:

FIRE STATION

WI0161

5600 WEST OKLAHOMA MILWAUKEE, WI 53202

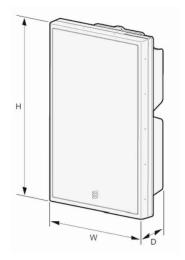
42.989041" / -87.984591"

SHEET TI

GAMMA SECTOR ANTENNA PLAN

SHEET NUMBER

RF-4



ERICSSON AIR6449 B77D				
DIMENSIONS (HxWxD)	30.4"x15.9"x8.1"			
WEIGHT	81.6 lbs.			

1 ERICSSON - AIR6449 B77D N.T.S.



COMMSCOPE NNH4-65B-R6H4				
DIMENSIONS (HxWxD)	71.96"x19.61"x7.76"			
WEIGHT	83.11 lbs.			

COMMSCOPE NNH4-65B-R6H4 DETAIL N.T.S.



RAYCAP DC9-46	8-60-24-8C-EV
DIMENSIONS (HxØ)	31.4"x10.24"
WEIGHT	26.2 lbs.

3 RAYCAP - DC9-48-60-24-8C-EV



RRU BRACKET RR-FA2			
DIMENSIONS (HxWxD)	22.7"x8.6"x5.5/8"		
WEIGHT	40.8 lbs.		
ITEM NUMBER	CEQ.14936		

RRU BRACKET
RR-FA2
N.T.S.



KENWOOD COLLAR	MOUNT T1500KT60A
DIMENSIONS (HxW)	18.0"x14.0"
WEIGHT	82.72 lbs.

KENWOOD
T1500KT60A DETAIL
N.T.S.



TWIN QUADPLEXER-	CBC7823T-DS-43
DIMENSIONS (HxWxD)	6.9"x8.3"x4.8"
WEIGHT	13.0 lbs.

6 TWIN QUADPLEXER- CBC7823T-DS-43





FOR CONSTRUCTION



PE RENEWAL DATE SIGNED 7/31/22 08/20/2 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032-1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTION
SUBMITTALS

REV	DATE	DESCRIPTION	BY
A		CD FOR REVIEW	МН
0	08/20/21	FINAL CD	МН

SITE NAME:
FIRE STATION

WIO161

SITE ADDRESS: 5600 WEST OKLAHOMA MILWAUKEE, WI 53202

42.989041* / -87.984591*

EQUIPMENT DETAILS

EQ-1

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ERICSSON RRUS-	-4449 B5 / B12
DIMENSIONS (HxWxD)	17.9"x13.2"x9.44"
WEIGHT	71 lbs.

1 ERICSSON - RRUS-4449 B5/B12



ERICSSON RRUS 4415 B25	
DIMENSIONS (HxWxD)	16.5"x13.4"x5.9"
WEIGHT	46 lbs.

2 ERICSSON - RRUS 4415 B25 N.T.S.



ERICSSON RRUS 4478 B14	
DIMENSIONS (HxWxD)	15"x13.2"x7.3"
WEIGHT	59.4 lbs.

3 ERICSSON - 4478 B14 N.T.S.





FOR CONSTRUCTION



PE RENEWAL 7/31/22

/22 08/3 NEXIUS SOLUTIONS, INC. WISCONSIN FIRM NUMBER 4032-1 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

PRELIMINARY: NOT FOR CONSTRUCTION

| SUBMITTALS | REV | DATE | DESCRIPTION | BY | A | 05/17/21 | CD FOR REVIEW | MH | O | 08/20/21 | FINAL CD | MH |

SITE INFORMATION

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5600 WEST OKLAHOMA
MILWAUKEE, WI 53202

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SHEET TITLE:

EQUIPMENT DETAILS

SHEET NUMB

EQ-2

GENERAL CONSTRUCTION

- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- 2. GENERAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK. GENERAL CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, ORDINANCES, AND ISSUE ALL APPROPRIATE NOTICES.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- 5. PLANS ARE NOT TO BE SCALED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
- CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS
 THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
- GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- 11. WORK SHALL BE DONE IN A PROFESSIONAL MANNER BY COMPETENT EXPERIENCED PERSONNEL IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
- 12. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
- 13. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- 14. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- 15. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START
- GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
- 17. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- 18. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- 19. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- 20. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A TO 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- 21. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, COMMUNICATIONS, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO: FALL PROTECTION, CONFINED SPACE, ELECTRICAL SAFETY, AND TRENCHING / EXCAVATION.
- 22. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.

- 23. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- 24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
- 25. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR FMRANKMENT
- 26. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE.
- 27. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE—APPROVED BY THE LOCAL JURISDICTION.
- 28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- 29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- 30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS—BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- 31. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
- ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST GROUNDING STANDARD.
- CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- 34. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER.
- 35. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- 36. ALL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

ANTENNA MOUNTING

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC—COATING (HOT—DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- 5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- 7. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.
- 8. MAINTAIN A MINIMUM OF 3 FEET SEPARATION BETWEEN ALL ANTENNAS. IF 3 FEET IS NOT OBTAINABLE BETWEEN ANY OF THE ANTENNAS, NOTIFY VELEX CM FOR FURTHER DIRECTION

TORQUE REQUIREMENTS

- ALL RF CONNECTIONS SHALL BE TIGHTENED WITH A TORQUE WRENCH AND A TORQUE MARK INDICATED ON BOTH SIDES OF THE CONNECTION.
- 2. ALL GROUNDING AND ANTENNA HARDWARE SHALL ALL BE TIGHTENED WITH A TORQUE WRENCH AND A TORQUE MARK INDICATED ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. TORQUE TO THE FOLLOWING VALUES:
 - 2.1. ALL 5/16" ANTENNA HARDWARE TIGHTENED TO 9 FT-LBS.
 - 2.2. ALL 1/2" ANTENNA HARDWARE TIGHTENED TO 43 FT-LBS.
 - 2.3. ALL DIN-TYPE CONNECTIONS TIGHTENED TO 18-22 FT-LBS. 2.4. ALL N-TYPE CONNECTIONS TIGHTENED TO 15-20 IN-LBS.
 - ALE IN THE CONNECTIONS HOMENED I

COAXIAL CABLE NOTES

TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS.
PRIOR TO ORDERING CABLE. CONTRACTOR SHALL VERIEY ACTUAL LENGTH BASED ON

- CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- 2. CONTRACTOR SHALL VERIFY THE DOWNTILTS OF EACH ANTENNA WITH A DIGITAL LEVEL.
- CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.
- 4. USE 1/2" COAX ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
- 5. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.
- ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0".
- CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS. AND ALL OTHER EQUIPMENT.
- ALL OUTDOOR RF CONNECTIONS SHALL BE WEATHERPROOFED USING COLD SHRINK OR HEAT SHRINK ON ALL ANTENNA AND RADIO CONNECTIONS,

GENERAL CABLE AND EQUIPMENT NOTES

- PRIOR TO INSTALLATION CONTRACTOR SHALL VERIFY MAKE AND MODEL OF ANTENNA, DIPLEXERS, AND COAX CONFIGURATION.
- . ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- 4. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX: 4.1. TEMPERATURE SHALL BE ABOVE 50° F.
 - 4.2. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
 - 4.3. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
- 4.4. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.
- 5. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
- 6. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2".





FOR CONSTRUCTION



PE RENEWAL 7/31/22

7/31/22 08/20/2 Nexius Solutions, Inc. Wisconsin Firm Number 4032-1 Renewal Date 1/31/22

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