



AT&T

Mobility

SITE NAME: AWE - MILWAUKEE FIRE DEPARTMENT
 SITE ID: WIL01206
 FA LOCATION CODE: 10080329
 PROJECT: LTE-5G NR
 TOWER NUMBER: N/A
 PACE ID: MRCHI055385
 ADDRESS: 8814 WEST LISBON, MILWAUKEE, WI 53222
 TOWER INFO: 195'-0" MONOPOLE
 SITE COORDINATES: 43.083412° / -88.022484°

THE DESIGN SHOWN ON THESE DRAWINGS IS BASED ON INFORMATION GATHERED FROM AT&T RFDS AT&T RFDS V2021_1.00 DATED 05/21/2021.



FOR CONSTRUCTION



DocuSigned by:
Jack Phipps

PE RENEWAL 7/31/22 DATE SIGNED: 07/28/21
 NEXIUS SOLUTIONS, INC.
 WISCONSIN FIRM NUMBER 4032-1
 RENEWAL DATE 1/31/22

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

FOR CONSTRUCTION

SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	07/28/21	CD FOR REVIEW	LM
0	07/29/21	FINAL CD	LM

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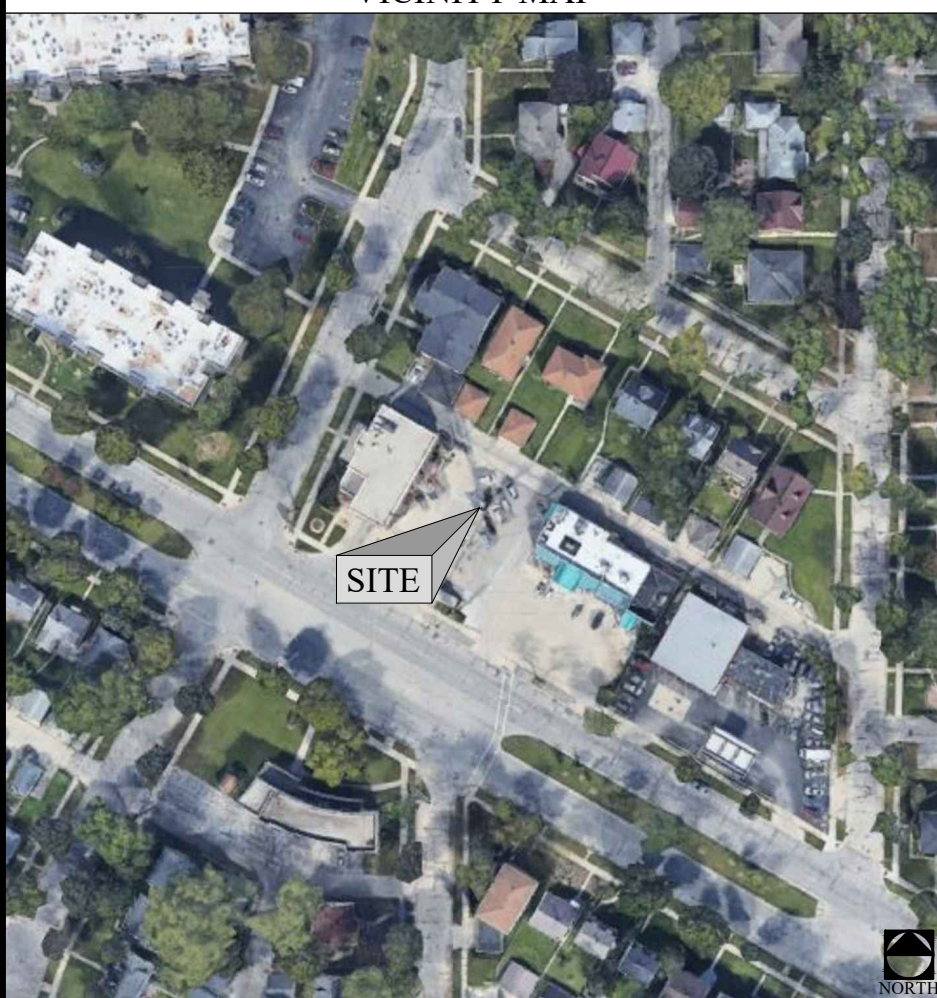
SHEET TITLE: TITLE SHEET

SHEET NUMBER: T-1

SITE INFORMATION

SITE NAME:	AWE - MILWAUKEE FIRE DEPARTMENT
SITE ID:	WIL01206
FA LOCATION CODE:	10080329
ADDRESS:	8814 WEST LISBON
CITY, STATE ZIP:	MILWAUKEE, WI 53222
COUNTY:	MILWAUKEE
LATITUDE:	43.083412°
LONGITUDE:	-88.022484°
GROUND ELEVATION:	753'± A.M.S.L
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	195'-0" A.G.L (ABOVE GROUND LEVEL)
RAD CENTER:	156'-0" A.G.L
APPLICANT:	AT&T WIRELESS 930 NATIONAL PARKWAY SCHAUMBURG, IL 60173
SITE ACQUISITION:	WHITNEY NEWTON - SITE ACQUISITION SPECIALIST 155 INTERNATIONAL BLVD GLENDALE HEIGHTS, IL 60139 whitney.newton@nexius.com
A&E SERVICES:	NEXIUS SOLUTIONS, INC. 2595 NORTH DALLAS PKWY, SUITE 300 FRISCO, TX 75034 jack.phipps@nexius.com
STRUCTURE OWNER:	CITY OF MILWAUKEE

VICINITY MAP



SHEET INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
C-1	OVERALL SITE PLAN
C-2	DETAILED SITE PLAN
C-3	SHELTER SITE PLAN
C-4	TOWER ELEVATIONS
RF-1	RF SCHEDULE
RF-2	ANTENNA PLAN
EQ-1	EQUIPMENT DETAILS
GN-1	GENERAL NOTES

SCOPE OF WORK

- ALPHA, BETA, GAMMA:
- REMOVE (1) SBNHH-1D65B FROM POS2.
 - INSTALL (1) AIR6449 B77D ON POS2.
 - RELOCATE (1) 4415 B25 FROM POS2 TO POS1 AND CONNECT IT TO EXISTING ANTENNA ON POS1.
 - INSTALL (1) CBC78T-DS-43 ON POS4 AND CONNECT IT TO EXISTING ANTENNA ON POS4.
 - RECONNECT UMTS 850 TO NEW DIPLEXER ON POS4 THROUGH COAX MAIN LINES.
 - RECONNECT 2 PORTS OF EXISTING 4478 B14 TO NEW DIPLEXER ON POS4.
 - REMOVE ANY UNUSED GSM AND UMTS EQUIPMENT FROM TOP IF EXISTING.
- POWER:
- SWAP (1) DC6 WITH (1) DC9 AND ADD (1) NEW 6AWG6 DC TRUNK. REUSE EXISTING (2) DC6, (6) 8AWG6 DC TRUNKS AND (2) FIBER TRUNKS.
 - INSTALL NEW NETSURE 7100 -48V DC POWER PLANT (AS PER JSA).
 - INSTALL NEW (10) RECTIFIERS, (4) NEW CONVERTERS AND (12) NEW BATTERIES (AS PER JSA).
- *NEW AND RELOCATED RADIOS ARE TO BE MOUNTED ON NEW COLLAR MOUNT IF SPACE ALLOWS.

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.

APPLICABLE CODES

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

- 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.

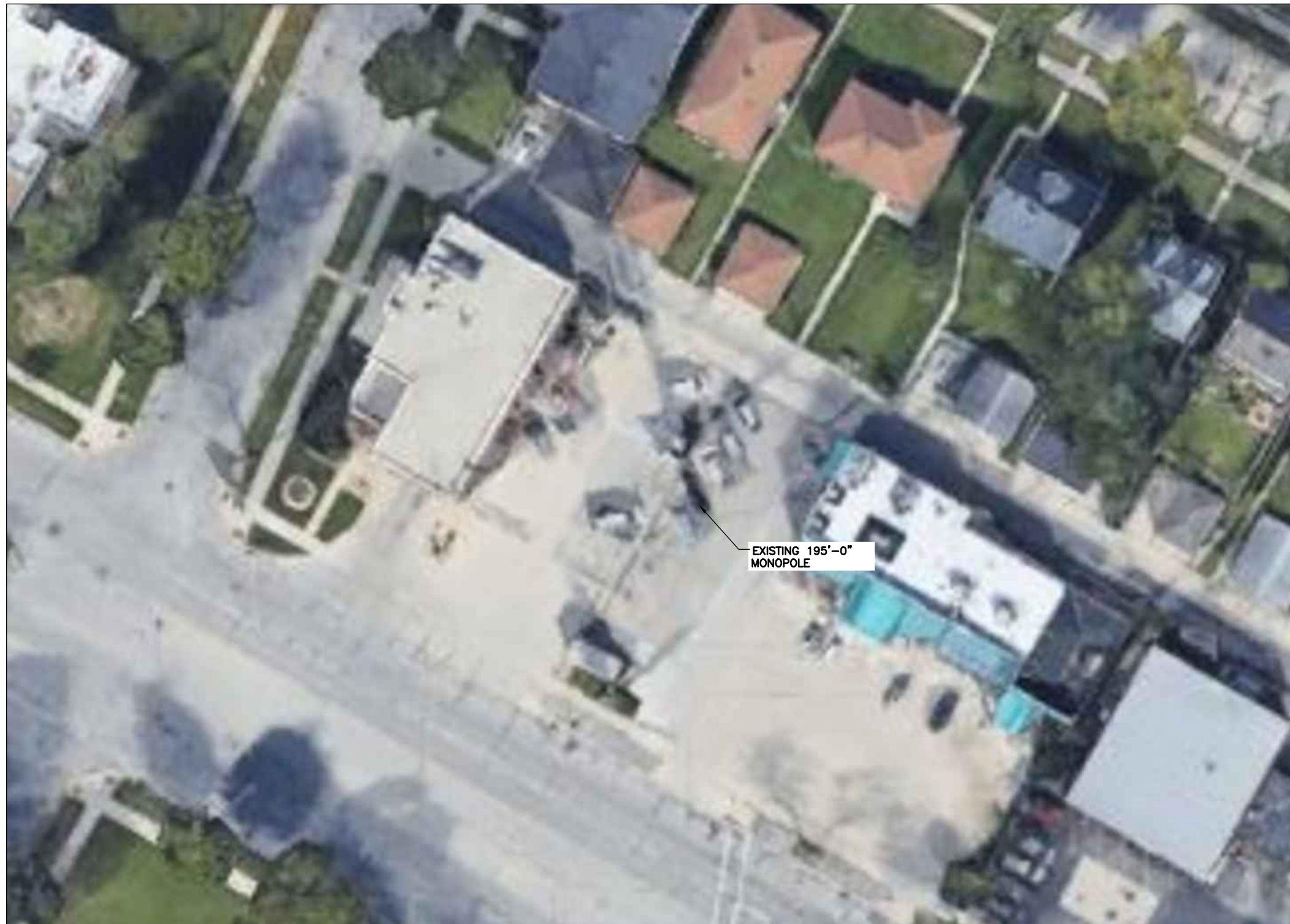


Know what's below.
Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN, CALL LOCAL STATE ONE CALL
 TOLL FREE: 1-800-242-8511 OR
 www.diggershotline.com

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

NOTE:
 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.



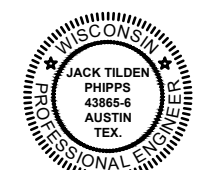
nexus


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

CLIENT:

 930 NATIONAL PARKWAY
 SCHAUMBURG, IL 60173

FOR CONSTRUCTION



DocuSigned by:

 PE RENEWAL 7/31/22 DATE SIGNED: 07/28/21
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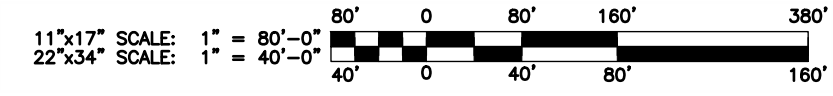
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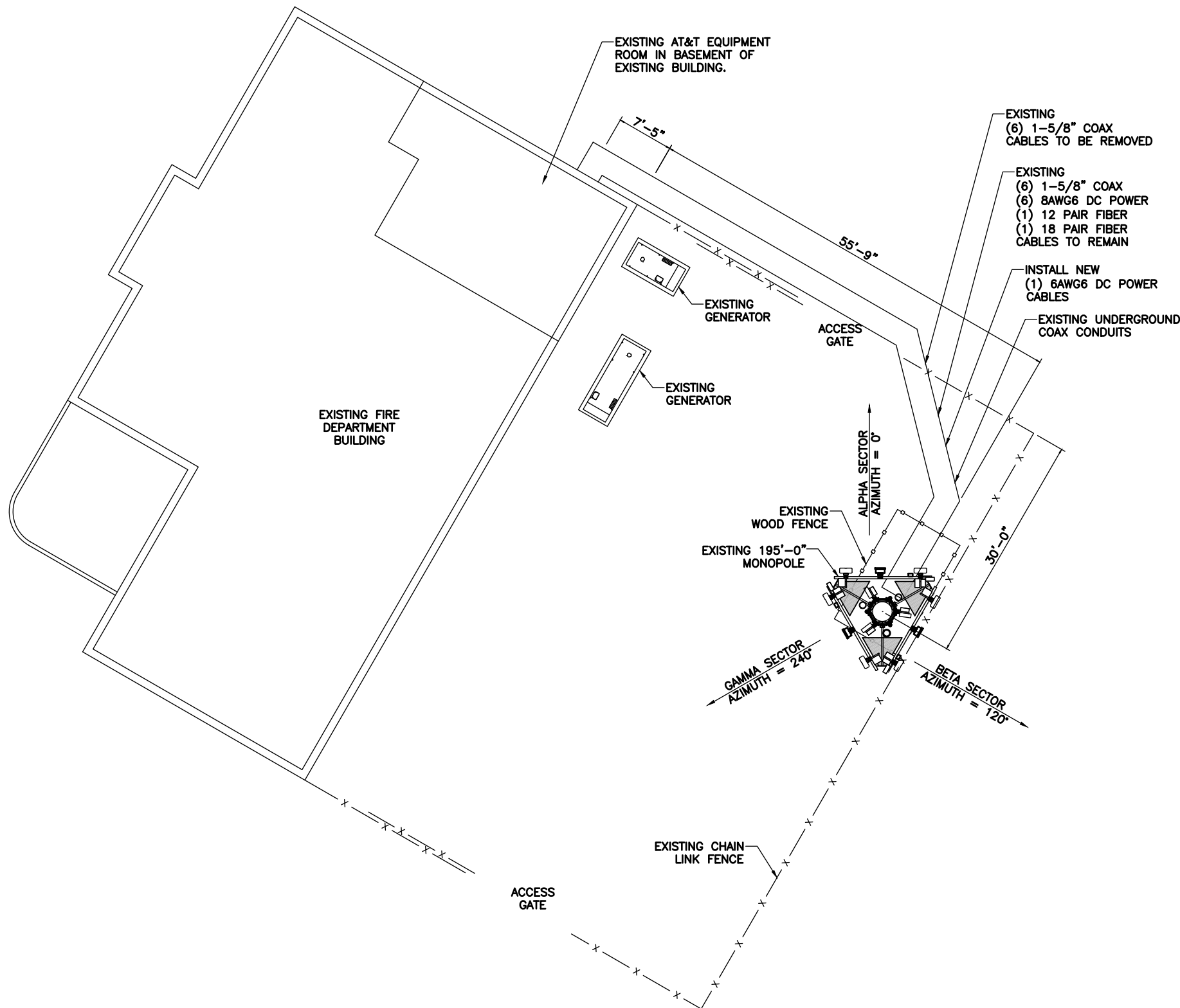
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**8814 WEST LISBON
 MILWAUKEE, WI 53222**
 SITE COORDINATES:
43.083412' / -88.022484'

SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER:
C-1



1 OVERALL SITE PLAN
 SCALE: 1:40



nexus
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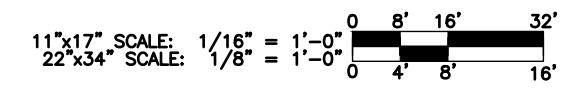
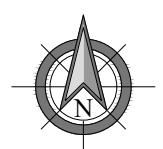
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SHEET TITLE:
DETAILED SITE PLAN

SHEET NUMBER:
C-2

1 DETAILED SITE PLAN
 SCALE: 1"=8'-0"



FOR CONSTRUCTION


 JACK TILDEN
 PHIPPS
 43865-6
 AUSTIN
 TEX.
 DocuSigned by:

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RF SCHEDULE

SHEET NUMBER:
RF-1

THE DESIGN SHOWN ON THESE DRAWINGS IS BASED ON INFORMATION GATHERED FROM AT&T RFDS AT&T RFDS V2021_1.00 DATED 05/21/2021.

EXISTING												
SECTOR	ANTENNA TECHNOLOGY	ANTENNA POSITION	MODEL	RAD CENTER (AGL)	AZIMUTH	COAX CABLES	OTHER CABLES	TMA'S	TOWER DIPLEXERS	RRU'S	OTHER DEVICES	
ALPHA	LTE-700 / 850	#1	(1) NNH4-65B-R6H4	156'-0"	0°					(1) 4449 B5/B12		
	LTE-UMTS-850 / 1900	#2	(1) SBNHH-1D65B									(1) RRUW B5 (1) 4415 B25
	N/A	#3	N/A									N/A
	LTE-700 / AWS / WCS	#4	(1) NNH4-65B-R6									(1) 4478 B14 (1) 4426 B66 (1) RRUS-32 B30
BETA	LTE-700 / 850	#5	(1) NNH4-65B-R6H4	156'-0"	120°	(12) 1-5/8" COAX	(6) 8AWG6 DC POWER (1) 12 PAIR FIBER (1) 18 PAIR FIBER			(1) 4449 B5/B12	(3) DC6-48-60-18-8C	
	LTE-UMTS-850 / 1900	#6	(1) SBNHH-1D65B									(1) RRUW B5 (1) 4415 B25
	N/A	#7	N/A									N/A
	LTE-700 / AWS / WCS	#8	(1) NNH4-65B-R6									(1) 4478 B14 (1) 4426 B66 (1) RRUS-32 B30
GAMMA	LTE-700 / 850	#9	(1) NNH4-65B-R6H4	156'-0"	240°					(1) 4449 B5/B12		
	LTE-UMTS-850 / 1900	#10	(1) SBNHH-1D65B									(1) RRUW B5 (1) 4415 B25
	N/A	#11	N/A									N/A
	LTE-700 / AWS / WCS	#12	(1) NNH4-65B-R6									(1) 4478 B14 (1) 4426 B66 (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	
ALPHA	LTE-700 / 850 / 1900	#1	(1) NNH4-65B-R6H4	156'-0"	0°					(1) 4449 B5/B12 (1) 4415 B25		
	5G-CBAND	#2	(1) AIR6449 B77D									N/A
	N/A	#3	N/A									N/A
	LTE-700 / UMTS-850 / AWS / WCS	#4	(1) NNH4-65B-R6									(1) 4478 B14 (1) RRUW B5 (1) 4426 B66 (1) RRUS-32 B30
BETA	LTE-700 / 850 / 1900	#5	(1) NNH4-65B-R6H4	156'-0"	120°	(6) 1-5/8" COAX	(6) 8AWG6 DC POWER (1) 6AWG6 DC POWER (1) 12 PAIR FIBER (1) 18 PAIR FIBER			(1) 4449 B5/B12 (1) 4415 B25	(2) DC6-48-60-18-8C (1) DC9-48-60-24-8C-EV	
	5G-CBAND	#6	(1) AIR6449 B77D									N/A
	N/A	#7	N/A									N/A
	LTE-700 / UMTS-850 / AWS / WCS	#8	(1) NNH4-65B-R6									(1) 4478 B14 (1) RRUW B5 (1) 4426 B66 (1) RRUS-32 B30
GAMMA	LTE-700 / 850 / 1900	#9	(1) NNH4-65B-R6H4	156'-0"	240°					(1) 4449 B5/B12 (1) 4415 B25		
	5G-CBAND	#10	(1) AIR6449 B77D									N/A
	N/A	#11	N/A									N/A
	LTE-700 / UMTS-850 / AWS / WCS	#12	(1) NNH4-65B-R6									(1) 4478 B14 (1) RRUW B5 (1) 4426 B66 (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.

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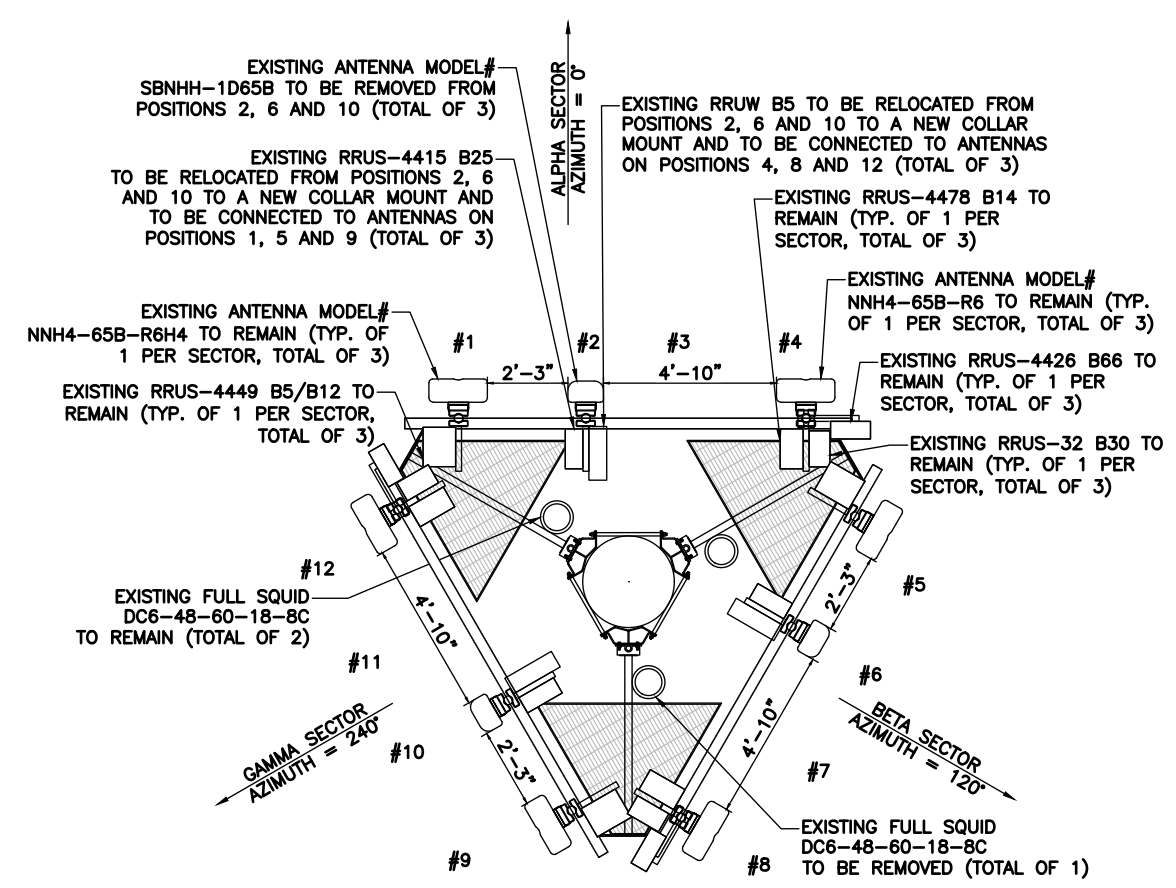
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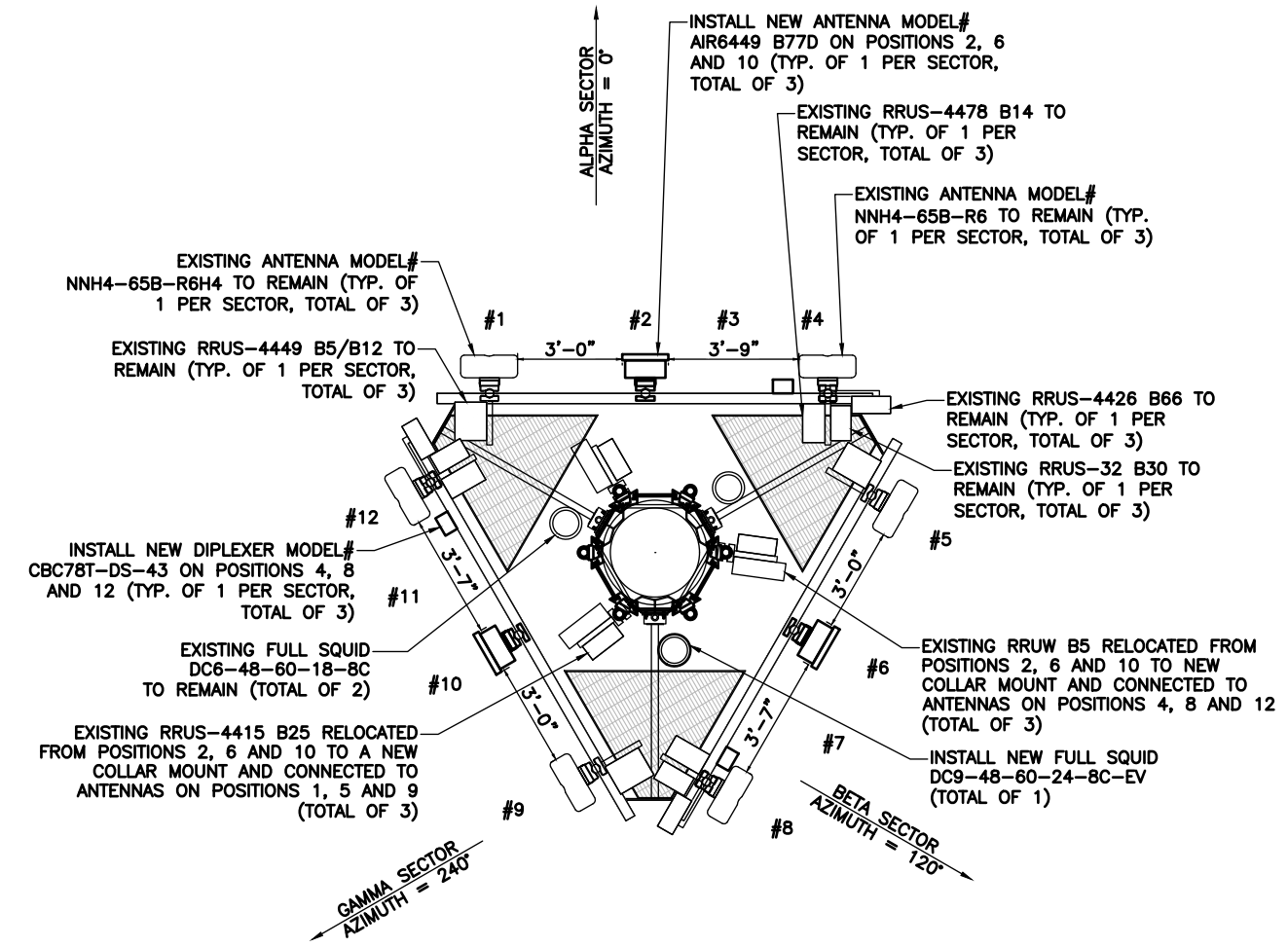
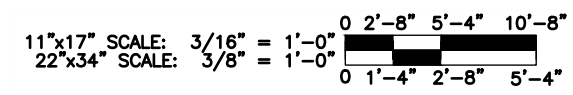
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SHEET TITLE:
ANTENNA PLAN

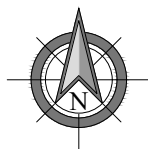
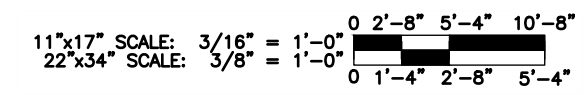
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RF-2

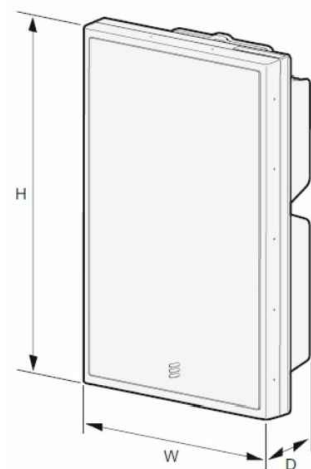


① ANTENNA PLAN (EXISTING)
 SCALE: 3/8" = 1'-0"



② ANTENNA PLAN (PROPOSED)
 SCALE: 3/8" = 1'-0"





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

① ERICSSON – AIR6449 B77D
N.T.S.



TWIN DIPLEXER- CBC78T-DS-43	
DIMENSIONS (HxWxD)	6.37"x6.92"x4.76"
WEIGHT	10.36 lbs.

② TWIN DIPLEXER- CBC78T-DS-43
N.T.S.



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

③ KENWOOD
T1500KT60A DETAIL
N.T.S.



RAYCAP DC9-48-60-24-8C-EV	
DIMENSIONS (HxØ)	31.4"x10.24"
WEIGHT	26.2 lbs.

④ RAYCAP – DC9-48-60-24-8C-EV
N.T.S.



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

⑤ RRU BRACKET
RR-FA2
N.T.S.

PREPARED BY:
nexus
NEXIUS SOLUTIONS, INC.
2595 NORTH DALLAS PARKWAY
SUITE 300
FRISCO, TX 75034

CLIENT:

930 NATIONAL PARKWAY
SCHAUMBURG, IL 60173

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SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
EQ-1

GENERAL CONSTRUCTION

1. 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.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, ORDINANCES, AND ISSUE ALL APPROPRIATE NOTICES.
4. 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.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. 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.
8. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
9. 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.
10. 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 OF CONSTRUCTION.
16. 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 EMBANKMENT.
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.
32. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST GROUNDING STANDARD.
33. 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

1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
2. 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.
3. 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.
4. 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.
6. 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

1. 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.

COAXIAL CABLE NOTES

1. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY 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.
3. 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.
6. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0".
7. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
8. ALL OUTDOOR RF CONNECTIONS SHALL BE WEATHERPROOFED USING COLD SHRINK OR HEAT SHRINK ON ALL ANTENNA AND RADIO CONNECTIONS,

GENERAL CABLE AND EQUIPMENT NOTES

1. PRIOR TO INSTALLATION CONTRACTOR SHALL VERIFY MAKE AND MODEL OF ANTENNA, DIPLEXERS, AND COAX CONFIGURATION.
2. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. 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".

PREPARED BY:




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

CLIENT:



930 NATIONAL PARKWAY
SCHAUMBURG, IL 60173

FOR CONSTRUCTION



DocuSigned by:
Jack Phipps

PE RENEWAL 7/31/22 DATE SIGNED: 07/28/21

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

NEXIUS SOLUTIONS, INC. IS REGISTERED IN WI

FOR CONSTRUCTION

SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	07/28/21	CD FOR REVIEW	LM
0	07/29/21	FINAL CD	LM

SITE INFORMATION:

SITE NAME:
AWE - MILWAUKEE FIRE DEPARTMENT

SITE NUMBER:
WIL01206

SITE ADDRESS:
**8814 WEST LISBON
MILWAUKEE, WI 53222**

SITE COORDINATES:
43.083412' / -88.022484'

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-1