DISH WIRELESS SITE ID:

NYNYC01445B

DISH WIRELESS SITE ADDRESS:

50 EAST 8TH ST
NEW YORK, NY 10003

THIS APPLICATION IS IN COMPLIANCE WITH BC3108 OF THE 2014 NYC BUILDING CODE.

NO STRUCTURAL DETAILS ARE PROPOSED UNDER THIS APPLICATION AS DEFINED BY BC1704.3.2

NO STRUCTURAL WELDING PROPOSED UNDER THIS APPLICATION AS DEFINED BY BC1704.3.1.

NO HIGH STRENGTH BOLTING PROPOSED UNDER THIS APPLICATION AS DEFINED BY BC1704.3.3 GRADED HARDWARE IS NOT REQUIRED FOR PROPOSED CONNECTIONS.

NOTE:

EXISTING STRUCTURE HAS BEEN ANALYZED PER BC3108 AND CHAPTER 16 OF THE 2014 NYC BUILDING CODE AND CAN ADEQUATELY SUPPORT ALL LOADS BY PROPOSED ANTENNA INSTALLATION INCLUDING DEAD LOAD, SNOW LOAD, AND WIND LOAD.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

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

SHEET INDEX

GENERAL NOTES

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

FIRE CODE COMPLIANCE NOTE:
EXISTING BUILDING IS NOT COMPLIANT WITHIN THE REQUIREMENTS OF THE NEW YORK CITY FIRE CODE SECTION FC504. WAIVER REQUIRED.

FLOOD ZONE COMPLIANCE:
THIS PROPERTY IS NOT LOCATED WITHIN A SFHA.

LANDMARK PRESERVATION COMMISSION:
THIS PROPERTY IS NOT A LANDMARK PRESERVATION COMMISSION DESIGNATED BUILDING.

STRUCTURAL NOTE:
EXISTING STRUCTURE HAS BEEN ANALYZED PER BC 3108 AND THE 2014 NYC BUILDING CODE AND CAN ADEQUATELY SUPPORT LOADS FROM PROPOSED ANTENNA INSTALLATION INCLUDING DEAD LOAD, SNOW LOAD, AND WIND LOAD.

NEW YORK CODE COMPLIANCE

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

APPLICABLE BUILDING CODES AND STANDARDS (AS ADOPTED BY NEW YORK):

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST APPROVED OF THE FOLLOWING STANDARDS:

- BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC), NYC BUILDING CODE 2014 & BC3108
- ELECTRICAL CODE: NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2014, NATIONAL ELECTRICAL CODE
- MECHANICAL CODE: INTERNATIONAL MECHANICAL CODE (IMC), NYC MECHANICAL CODE 2014
- PLUMBING CODE: NATIONAL STANDARD PLUMBING CODE, NYC PLUMBING CODE 2014
- LIGHTNING PROTECTION CODE: NFPA 780 - 2006, NYC LIGHTNING PROTECTION CODE 2014
- FUEL GAS CODE: INTERNATIONAL FUEL GAS CODE (IFGC)
- ENERGY CODE: INTERNATIONAL ENERGY CONSERVATION CODE
- AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, THIRTEENTH EDITION, AISC 360, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
- TIA-222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES, TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101 (2015), LIFE SAFETY CODE, NFPA 37 (2002), STATIONARY COMBUSTION ENGINES AND GAS TURBINES, NFPA 853 (2003), STANDARD FOR THE INSTALLATION OF STATIONARY FUEL POWER PLANTS
- AMERICAN WELDING SOCIETY (AWS) D1.1 (2004), STRUCTURAL WELDING CODE - STEEL
- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE (NESC) 2012
- TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS
- ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

TR-1 SPECIAL AND PROGRESS INSPECTIONS:

ALL WORK SHOWN ON DRAWINGS IS SUBJECT TO THE REQUIREMENTS OF THE BUILDING CODE OF THE CITY OF NEW YORK AND DIR. 14 PERMITS AND INSPECTIONS. THE ITEMS SUBJECT TO SPECIAL AND PROGRESS INSPECTIONS ARE:

BUILDING CODE SECTION	PERMIT / INSPECTION	FREQUENCY
BC 1704.32	POST-INSTALLED ANCHORS	ONCE AT ANCHOR INSTALLATION
BC 1704.27	FIRE-RESISTANT PENETRATIONS AND JOINTS	ONCE AT FINAL
BC 110.3.5	ENERGY CODE COMPLIANCE INSPECTIONS	ONCE AT FINAL
28-116.2.4.2 AND BC 110.5 AND DIRECTIVE 14 OF 1975 & 1 RCNY §101-10	FINAL INSPECTION	N/A

TR-8 PROGRESS INSPECTIONS:

BUILDING CODE SECTION	PERMIT / INSPECTION	FREQUENCY
BC § 5000-01 (h) (IA6) & (IIA6)	AIR SEALING AND INSULATION - VISUAL	ONCE AT FINAL

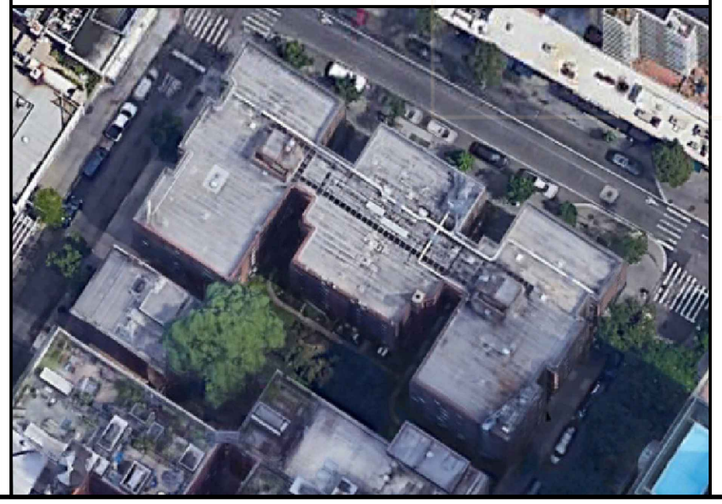
TPPN #5/98 COMPLIANCE NOTES:

1. ANTENNAS ARE ATTACHED TO THE BUILDING OR OTHER STRUCTURE THAT HAS A USE INDEPENDENT OF SUPPORTING THE ANTENNAS.
2. ANTENNAS DO NOT EXTEND HIGHER THAN SIX FEET (6'-0") ABOVE THE HEIGHT OF THE ROOF, PARAPET, OR MOUNTING STRUCTURE.
3. ANTENNAS DO NOT EXCEED 8.45 SQUARE FEET IN FACE AREA OR ONE METER IN DIAMETER.
4. OPEN SPACE EQUIPMENT AREA DOES NOT EXCEED 440 SQUARE FEET, AND INTERIOR SQUARE FOOTAGE DOES NOT EXCEED 5% OF BUILDING FLOOR AREA.
5. EXISTING BUILDING FLOOR AREA: TBD SQ.FT. (5% OF FLOOR AREA): TBD SQ.FT.
6. EQUIPMENT SQUARE FOOTAGES:
   NO EXISTING TELECOM CARRIERS IN OPEN SPACE
   EXISTING EQUIPMENT AREA = 0 SQ. FT.
   PROPOSED EQUIPMENT AREA = 6.66 SQ. FT.
   TOTAL DISH EQUIPMENT AREA = 6.66 SQ. FT.
7. THE PROPOSED INSTALLATION WILL HAVE NO EFFECT ON THE STRUCTURAL STABILITY OF THE EXISTING BUILDING.

SPECIAL INSPECTION NOTES:

1. CONTRACTOR SHALL COORDINATE WITH CONTRACT PROVIDER, OWNER, AND ENGINEER FOR ALL PROGRESS AND/OR SPECIAL INSPECTIONS.
2. CONTRACTOR SHALL ALLOW 48 HOURS (2 BUSINESS DAYS) ADVANCE NOTICE FOR ALL INSPECTIONS.
3. CONTRACTOR SHALL PHOTOGRAPH ALL ITEMS TO BE CONCEALED FOR RECORD PURPOSES AND ISSUE TO CONTRACT PROVIDER AND ENGINEER.

SITE PHOTO



SITE INFORMATION

PROPERTY OWNER:	50/8 REALTY INC
ADDRESS:	TBD TBD
COUNTY:	NEW YORK COUNTY
SITE TYPE:	ROOF TOP
SITE CO SITE ID:	NYNYC01445B
LATITUDE (NAD 83):	40° 43' 51.3" N 40.730921 N
LONGITUDE (NAD 83):	73° 59' 37.8" W 73.993842 W
ZONING JURISDICTION:	NEW YORK
ZONING DISTRICT:	TBD
PARCEL NUMBER:	BLOCK: TBD LOT: TBD
POWER COMPANY:	CON ED (FDR STATION)
TELEPHONE COMPANY:	VERIZON

PROJECT DIRECTORY

APPLICANT:	DISH WIRELESS 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
SITE DESIGNER:	
SITE ACQUISITION:	AUSTIN BARTH (267) 907-2994
CONSTRUCTION MANAGER:	MIKE OAKES (908) 670-0732
RF ENGINEER:	AZAD KARIM (201) 755-2410

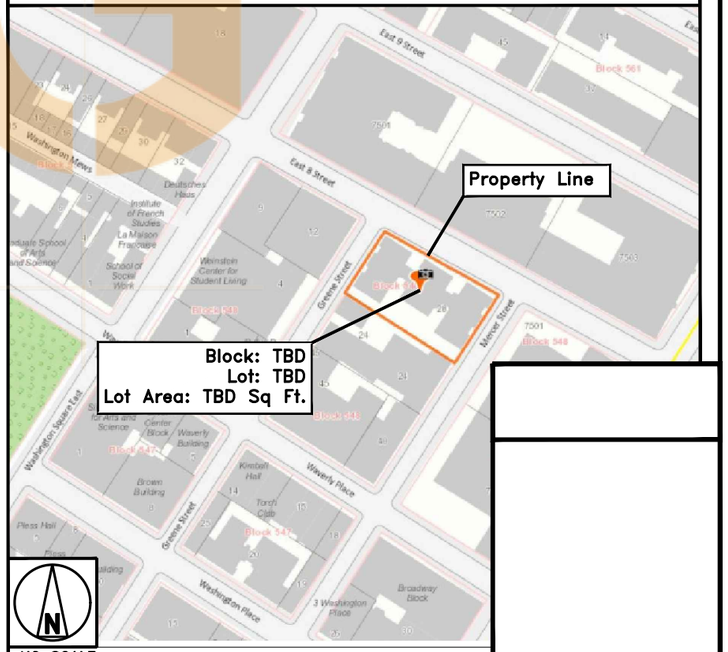
SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

SECTOR SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (6) PROPOSED ANTENNA MOUNTS (2 PER SECTOR)
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (3) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP) (1 PER SECTOR)
- INSTALL (3) PROPOSED DISCREET CABLES
- INSTALL PROPOSED CABLE TRAY AND CABLE MOUNTS

ROOFTOP SCOPE OF WORK:
- INSTALL (1) PROPOSED WALL MOUNTED EQUIPMENT
- INSTALL (1) PROPOSED CABLE TRAY
- INSTALL (1) PROPOSED BBU IN CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED NEMA 3 TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT

VICINITY MAP



NO SCALE

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

DRAFT
NOT FOR CONSTRUCTION
DRAWING CONTENTS ARE CONCEPTUAL AND ARE SUBJECT TO FINAL ENGINEER'S APPROVAL (INCLUDING BUT NOT LIMITED TO QUANTITIES AND SIZES

COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

DRAWN BY:	CHECKED BY:	APPROVED BY:
SA	VB	XX

RFDS REV #: TBD

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW

A&E PROJECT NUMBER

21DCC047

DISH WIRELESS PROJECT INFORMATION

NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. CONTRACTOR TO VERIFY WITH DISH WIRELESS C.M. THE LOCATION OF THE POWER AND FIBER SOURCE PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO VERIFY CABLE LENGTHS IN FIELD PRIOR TO ORDERING MATERIALS.
5. CONTRACTOR TO COORDINATE WITH RF ENGINEER FOR FINAL LOCATION OF GPS UNITS.

ANTENNA AZIMUTH	
ALPHA	55°
BETA	210°
GAMMA	310°

EAST 8TH STREET

1 A-3

GREEN STREET

MERCER STREET

2 A-3.1

1 A-3.1

EXISTING VENT HOOD (TYP)

EXISTING VENT BOX (TYP)

EXISTING BULKHEAD STEPS

EXISTING ELEVATOR BULKHEAD

EXISTING SCUPPER (TYP)

EXISTING STEPOVER (TYP)

DISH TO REMOVE ALL EXISTING EQUIPMENT CABINETS FROM PLATFORM

PROPOSED DISH EQUIPMENT AREA (15'-11" X 10'-8")

EXISTING ANTENNA TO BE REMOVED

PROPOSED DISH CABLE TRAY (TYP)

EXISTING ANTENNA AND ANTENNA MOUNTS TO BE REMOVED (TYP)

EXISTING WIFI TO BE RELOCATED

SEE ANTENNA PLAN (SHEET A-2)

GAMMA SECTOR

8'-0"

SEE ANTENNA PLAN (SHEET A-2)

15'-10" CABLE LENGTH

9'-0"

BETA SECTOR

77'-0" CABLE LENGTH

20'-3" CABLE LENGTH

20'-8" CABLE LENGTH

49'-8" CABLE LENGTH

ALPHA SECTOR

10'-0"

SEE ANTENNA PLAN (SHEET A-2.1)

REMOVE PORTION OF EXISTING CABLE TRAY AS REQUIRED (TYP)

EXISTING ANTENNA AND ANTENNA MOUNT TO BE REMOVED

EXISTING FIRE ESCAPE (TYP)

EXISTING HVAC CONDUIT

EXISTING HVAC EQUIPMENT

EXISTING HVAC PLATFORM

EXISTING RAILING (TYP)

EXISTING VENT PIPE (TYP)

EXISTING EQUIPMENT (TYP)

EXISTING FIRE ESCAPE (TYP)

EXISTING HVAC VENT HOOD

EXISTING CHIMNEY

DISH TO REUSE EXISTING CONDUIT RISER

ROOF ACCESS

EXISTING ELEVATOR BULKHEAD

EXISTING WIRE

EXISTING HVAC EQUIPMENT PLATFORM

EXISTING HVAC EQUIPMENT (TYP)

N

ENLARGED BUILDING PLAN

8' 4' 0 8' 16'

1/8"=1'-0"

1

dish wireless.

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COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

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ENLARGED BUILDING PLAN

SHEET NUMBER

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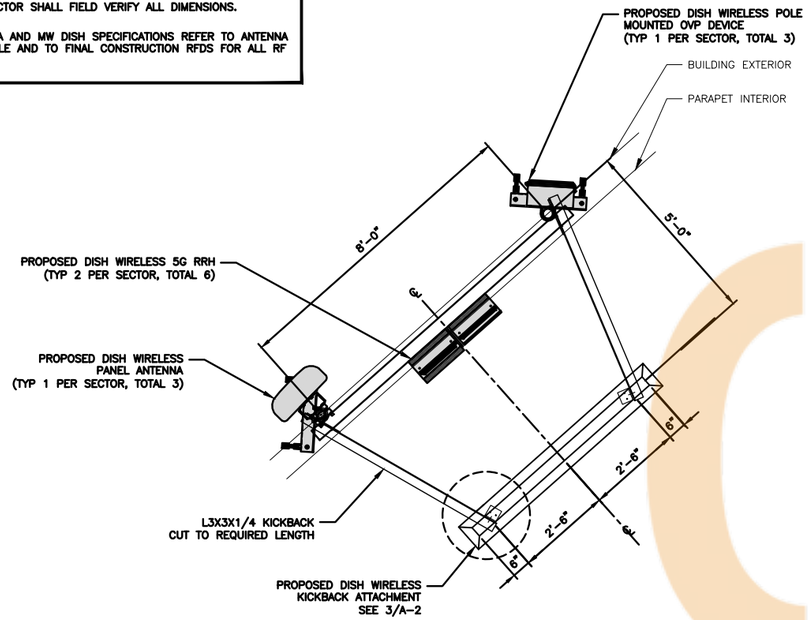
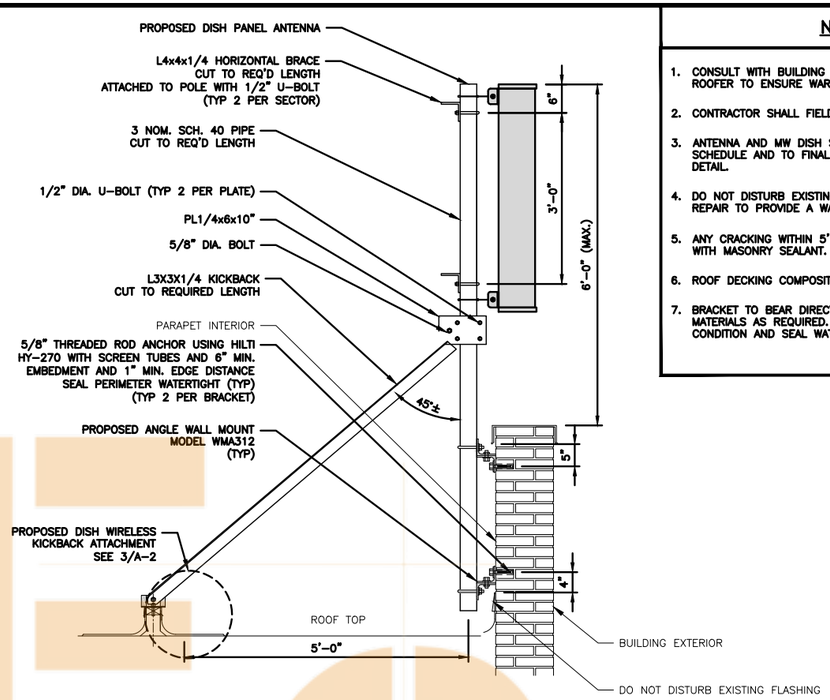
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAIL.



BETA AND GAMMA ANTENNA SECTOR MOUNT PLAN

12" 6" 0 1' 2' 3' 4' 5'
1/2"=1'-0"

1



BETA AND GAMMA ANTENNA SECTOR ELEVATION

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

NOTES

1. CONSULT WITH BUILDING MANAGEMENT TO UTILIZE BUILDING ROOFER TO ENSURE WARRANTY.
2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
3. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAIL.
4. DO NOT DISTURB EXISTING FLASHING. IF DAMAGE OCCURS REPAIR TO PROVIDE A WATERTIGHT SEAL.
5. ANY CRACKING WITHIN 5'-0" OF CONNECTION TO BE SEALED WITH MASONRY SEALANT.
6. ROOF DECKING COMPOSITION TO BE VERIFIED.
7. BRACKET TO BEAR DIRECTLY TO MASONRY. REMOVE ANY MATERIALS AS REQUIRED. REPAIR BACK TO ORIGINAL CONDITION AND SEAL WATERTIGHT.

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NY PROFESSIONAL ENGINEER # 087018

NOTE:

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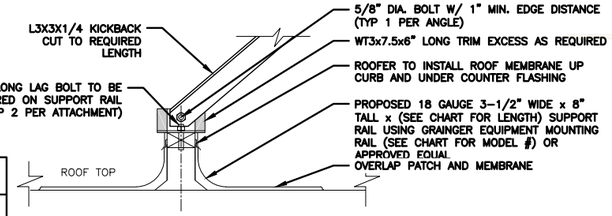


SECTOR	CURB SIZE	PART #
BETA	4'-0"	30F450
GAMMA	4'-0"	30F450

ROOF COMPOSITION NOTES

WOOD:
#10 DECK SCREWS AT 8" O.C. MAX,

CONCRETE:
1/4" DIA. TAP CONCRETE SCREWS AT 8" O.C MAX,

CORRUGATED METAL ROOFING:
#10 SELF DRILLING SCREWS AT 8" O.C. MAX,

NOTES

1. PRIOR TO LAG BOLT INSTALLATION, DRILL PILOT HOLE AND FILL WITH SEALANT.
2. PROVIDE BED OF SEALANT BENEATH CLIP ANGLES PRIOR TO SETTING ANGLE.
3. ONCE LAG BOLT IS INSTALLED, SEAL WITH SEALANT.

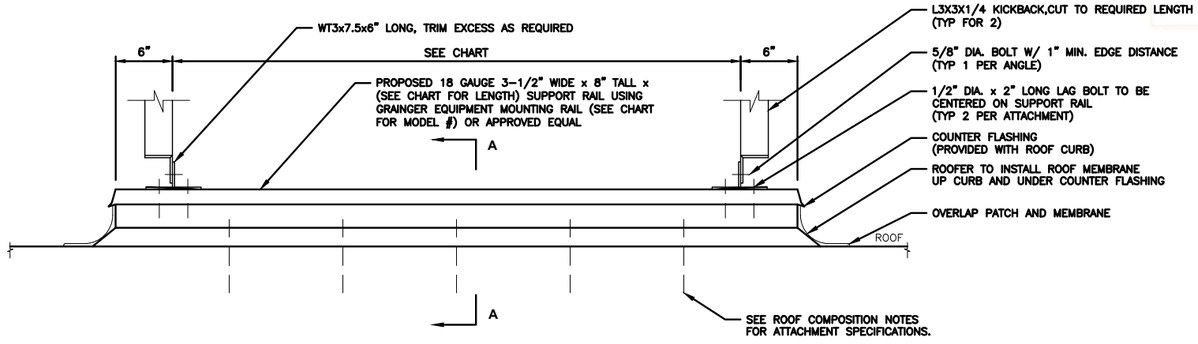
SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA – MX08FRO465-20	5G	48.0" x 20.0"	55°	79'-2"	DISCREET CABLE PER SECTOR (65'-0" LONG)
BETA	B1	PROPOSED	JMA – MX08FRO465-20	5G	48.0" x 20.0"	210°	68'-9"	DISCREET CABLE PER SECTOR (145'-0" LONG)
GAMMA	C1	PROPOSED	JMA – MX08FRO465-20	5G	48.0" x 20.0"	310°	68'-9"	DISCREET CABLE PER SECTOR (152'-0" LONG)
GPS	P1	PROPOSED	PCTEL – GPSGL-TMG-SPI-40NCB	NA	3.2" DIA x 7.25" H	NA	NA	CABLE LENGTH TBD LONG)

SECTOR	RRH	
	MANUFACTURER – MODEL NUMBER	BAND
ALPHA	FUJITSU – TA08025-B604	N66/N70
	FUJITSU – TA08025-B605	N71
BETA	FUJITSU – TA08025-B604	N66/N70
	FUJITSU – TA08025-B605	N71
GAMMA	FUJITSU – TA08025-B604	N66/N70
	FUJITSU – TA08025-B605	N71

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

.\CABLE CHART.PNG



KICKBACK CURB DETAILS

12" 9" 6" 3" 0 1'
1 1/2"=1'-0"

3

ANTENNA SCHEDULE

NO SCALE

4

DRAWN BY:	CHECKED BY:	APPROVED BY:
SA	VB	XX

RFDS REV #: TBD

PRELIMINARY DOCUMENTS

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SHEET TITLE
ANTENNA PLAN, DETAILS AND SCHEDULE

SHEET NUMBER
A-2

NOTES

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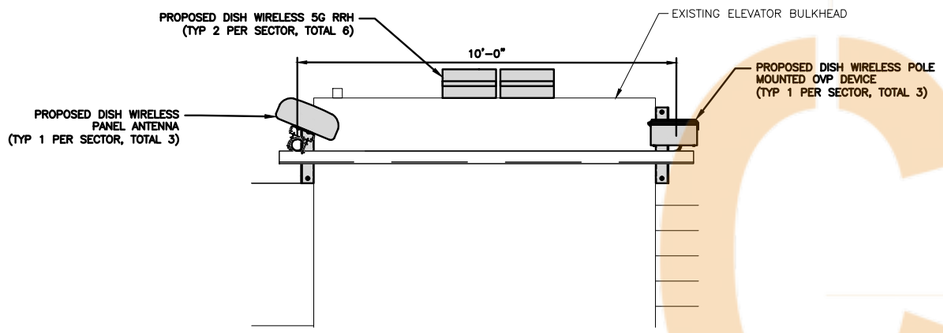
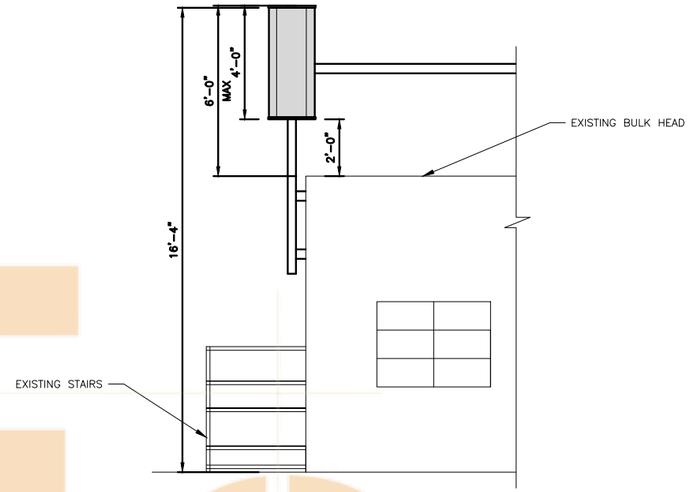


ALPHA ANTENNA SECTOR MOUNT PLAN

12" 6" 0 1' 2' 3' 4' 5'
1/2"=1'-0"

1



ALPHA ANTENNA SECTOR ELEVATION

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA – MX08FRO465-20	5G	48.0" x 20.0"	55°	79'-2"	DISCREET CABLE PER SECTOR (65'-0" LONG)
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	FUJITSU – TA08025-B605	N71
GAMMA	FUJITSU – TA08025-B604	N66/N70
	FUJITSU – TA08025-B605	N71

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.\CABLE CHART.PNG

ANTENNA SCHEDULE

NO SCALE

4

NOT USED

3

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

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COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

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ANTENNA PLAN, DETAILS AND SCHEDULE

SHEET NUMBER

A-2.1

NOTES

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2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.

EAST 8TH STREET ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1

dish wireless.

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SUBMITTALS

REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW

A&E PROJECT NUMBER

21DCC047

DISH WIRELESS
PROJECT INFORMATION

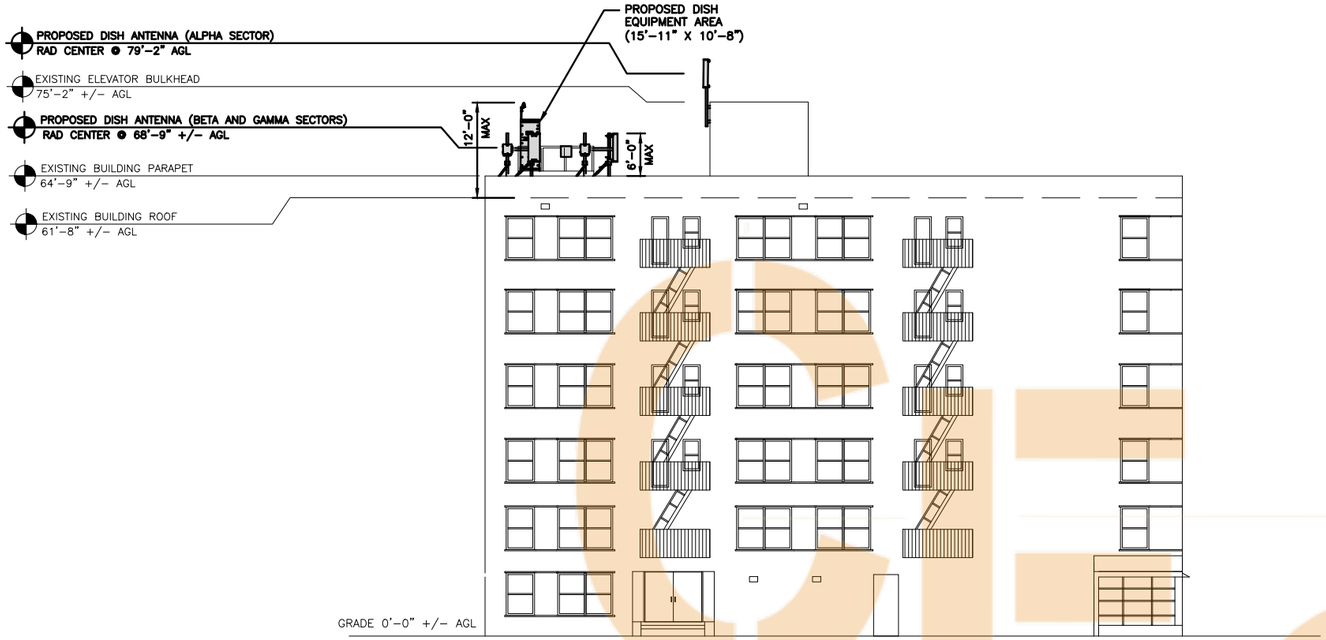
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

ELEVATION

SHEET NUMBER

A-3



MERCER STREET ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.

GREENE STREET ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

2

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.

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COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

DRAWN BY:	CHECKED BY:	APPROVED BY:
SA	VB	XX

RFDS REV #: TBD

PRELIMINARY DOCUMENTS

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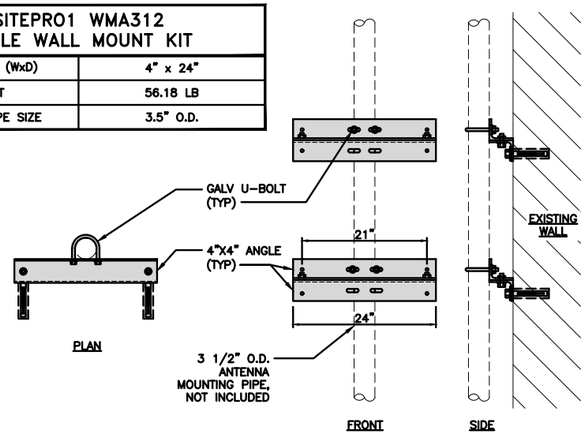
SHEET TITLE

ELEVATION

SHEET NUMBER

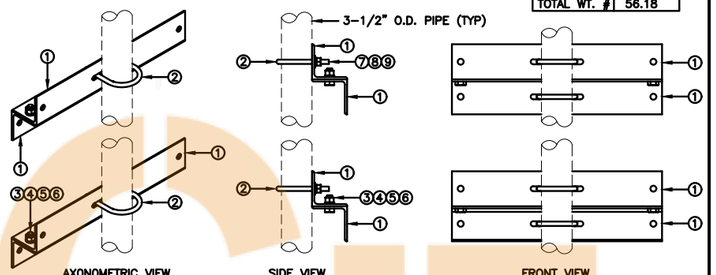
A-3.1

SITEPRO1 WMA312 ANGLE WALL MOUNT KIT	
DIMENSIONS (WxD)	4" x 24"
WEIGHT	56.18 LB
ANTENNA PIPE SIZE	3.5" O.D.

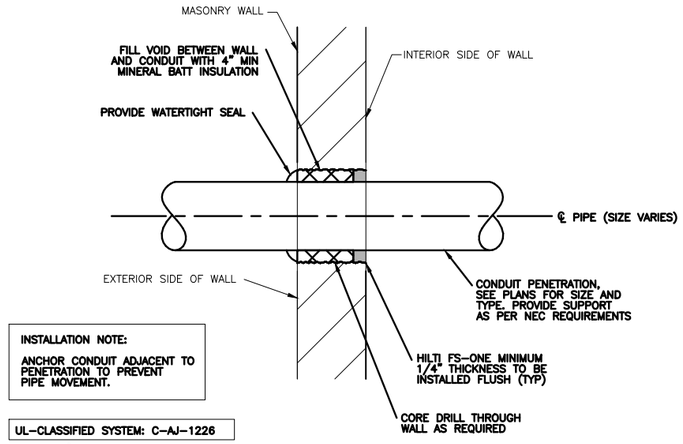


4" ANGLE WALL MOUNT DETAIL | NO SCALE | 1

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	ANG414-24F	WALL MOUNT ANGLE	24 IN.	13.07	52.26
2	2	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.77	1.54
3	4	G58112	5/8" X 1-1/2" BOLT (HDG.)	1-1/2 IN.	0.25	0.99
4	4	G58FW	5/8" HDG USS FLATWASHER		0.07	0.28
5	4	G58LW	5/8" HDG LOCKWASHER		0.03	0.10
6	4	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.52
7	4	G12FW	1/2" HDG FLATWASHER		0.03	0.14
8	4	G12LW	1/2" HDG LOCKWASHER		0.01	0.06
9	4	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.29
				TOTAL WT. #		56.18



4" ANGLE WALL MOUNT ASSEMBLY | NO SCALE | 2

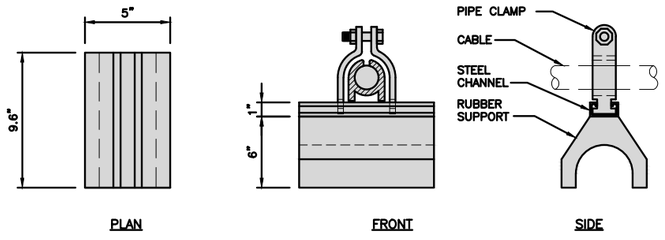


INSTALLATION NOTE:
ANCHOR CONDUIT ADJACENT TO PENETRATION TO PREVENT PIPE MOVEMENT.

UL-CLASSIFIED SYSTEM: C-AJ-1226

CONDUIT EXTERIOR PENETRATION DETAIL | NO SCALE | 3

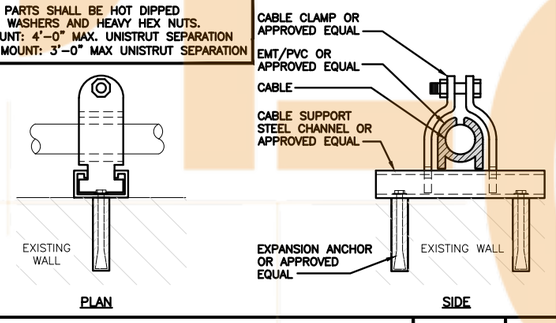
DURA-BLOK DB10 ROOFTOP CABLE SUPPORT	
DIMENSIONS (HxWxL)	5"x6"x9.6"
WEIGHT/ VOLUME	5.28 LBS
ULTIMATE LOAD CAPACITY	500 LBS
NOTE: NON-PENETRATING	



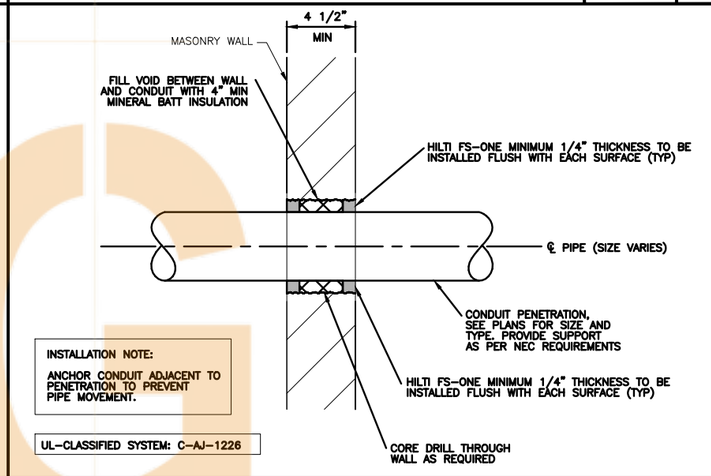
ROOFTOP CABLE SUPPORT DETAIL | NO SCALE | 4

CABLE WALL MOUNT SUPPORT	
UNISTRUT TYPE	GRAINGER P1000T
UNISTRUT DIMENSIONS (HxWxL)	1 5/8"x 1 5/8"x 12"
WEIGHT/ VOLUME	1.85 LB PER FOOT
ULTIMATE LOAD CAPACITY	718.5 LB

NOTES:
1. ALL HARDWARE AND PARTS SHALL BE HOT DIPPED GALVANIZED WITH LOCK WASHERS AND HEAVY HEX NUTS.
2. VERTICAL CABLE MOUNT: 4'-0" MAX. UNISTRUT SEPARATION
3. HORIZONTAL CABLE MOUNT: 3'-0" MAX UNISTRUT SEPARATION



CABLE WALL MOUNT SUPPORT DETAIL | NO SCALE | 5

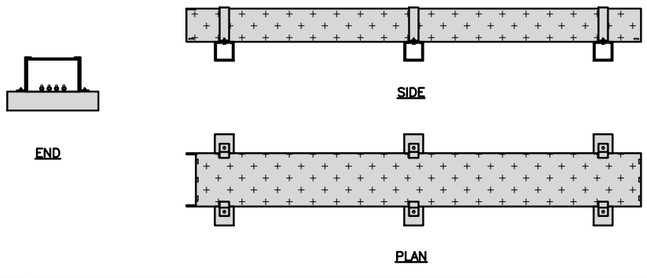


INSTALLATION NOTE:
ANCHOR CONDUIT ADJACENT TO PENETRATION TO PREVENT PIPE MOVEMENT.

UL-CLASSIFIED SYSTEM: C-AJ-1226

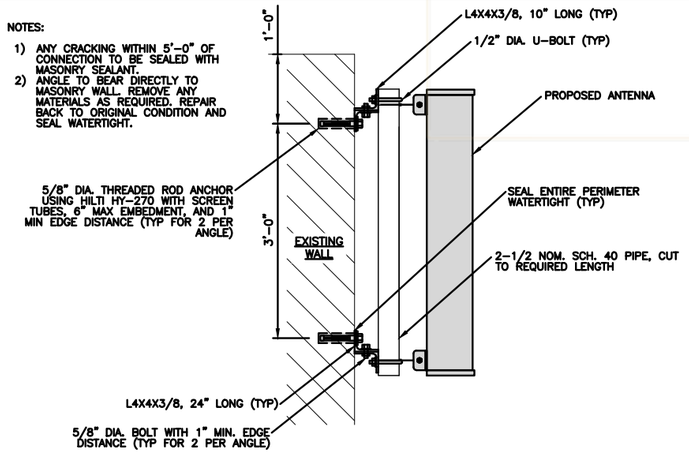
CONDUIT FIRESTOP DETAIL | NO SCALE | 6

COMMSCOPE RT-CB4D ROOFTOP COVER KIT		MOUNTING	NON-PENETRATING
DIMENSIONS (HxWxL)	7"x 11.25"x 96"	INCLUDED PRODUCTS:	RTCB4D.01 CHANNEL (1)
WEIGHT/ VOLUME	85.98 LBS		MT-F1598 SLEEPERS (3)
CABLE RUN (QTY)	4		RTCUH HARDWARE
			RTHC.01 HOLD-DOWN CLAMPS (6)



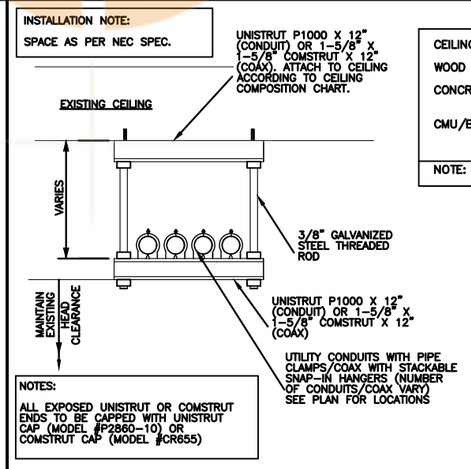
ROOFTOP CABLE TRAY DETAIL | NO SCALE | 7

NOTES:
1) ANY CRACKING WITHIN 5'-0" OF CONNECTION TO BE SEALED WITH MASONRY SEALANT.
2) ANGLE TO BEAR DIRECTLY TO MASONRY WALL. REMOVE ANY MATERIALS AS REQUIRED. REPAIR BACK TO ORIGINAL CONDITION AND SEAL WATERTIGHT.



ANTENNA ATTACHMENT DETAIL | NO SCALE | 8

INSTALLATION NOTE:
SPACE AS PER NEC SPEC.



NOTES:
ALL EXPOSED UNISTRUT OR COMSTRUT ENDS TO BE CAPPED WITH UNISTRUT CAP (MODEL #P2860-10) OR COMSTRUT CAP (MODEL #CR655)

CEILING COMPOSITION CHART:
WOOD = 3/8"X2-1/2" LAG BOLTS
CONCRETE = 3/8" DIA THREADED ROD ANCHOR W/ HILTI HY-200
CMU/BRICK = 3/8" DIA THREADED ROD ANCHOR W/ HILTI HY-270 AND SCREEN TUBES
NOTE: CEILING COMPOSITION TO BE VERIFIED

HANGING CONDUIT SUPPORT | NO SCALE | 9

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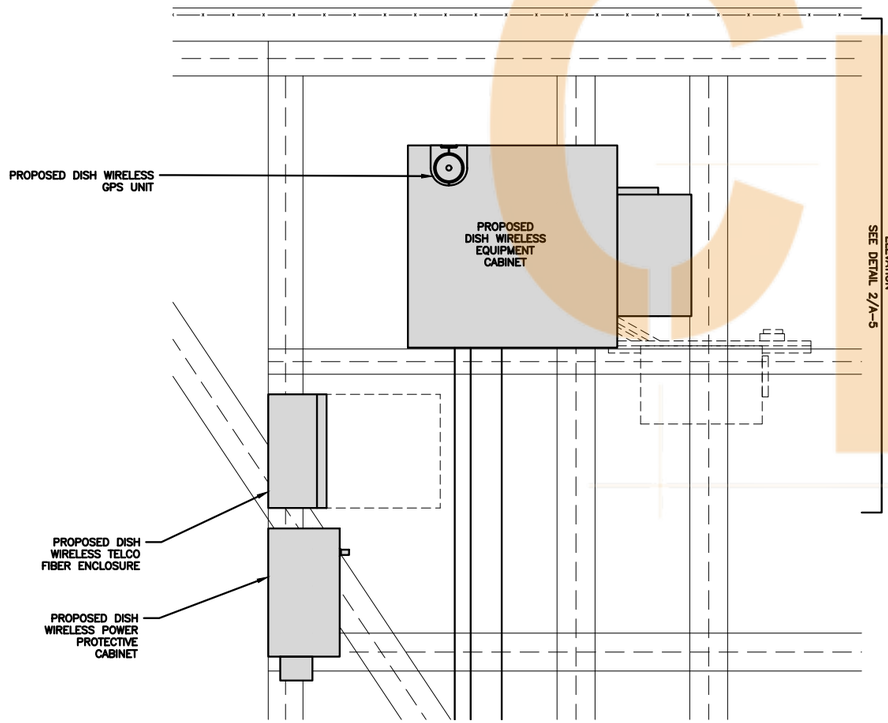
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

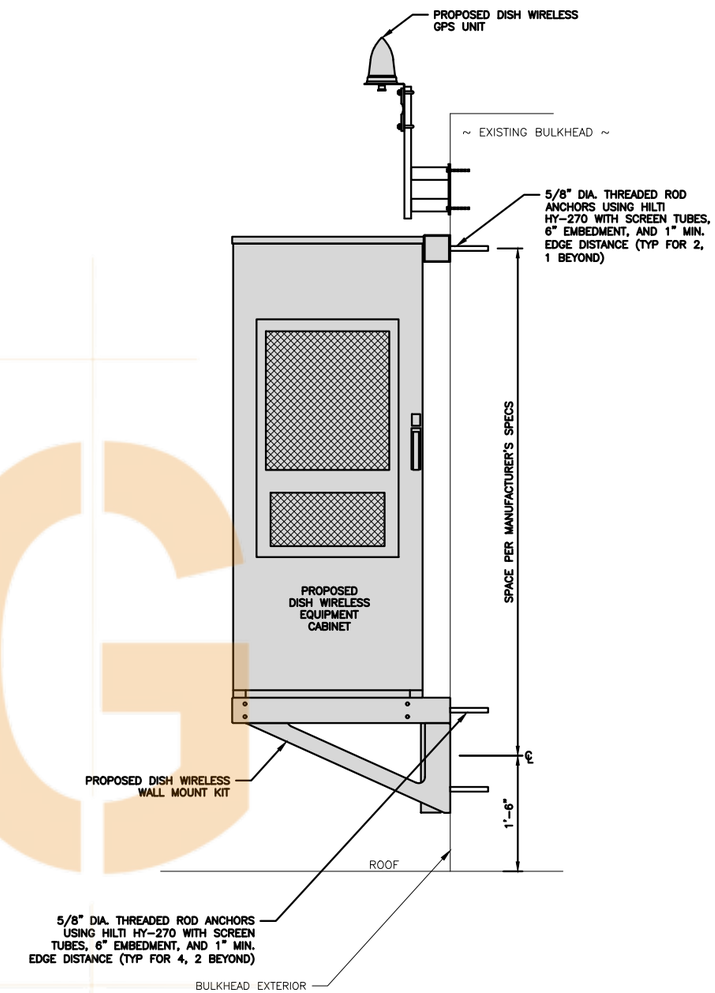
STRUCTURAL DESIGN SPECIFICATIONS	
WIND LOAD DESIGN DATA	
BASIC DESIGN WIND SPEED:	98 MPH
WIND IMPORTANCE FACTOR, $(I)_w$:	1.00
RISK CATEGORY:	II
WIND EXPOSURE CATEGORY:	B
INTERNAL PRESSURE COEFFICIENT $(C)_{pi}$	N/A
EXT. COMPONENT DESIGN WIND PRESSURE:	N/A



EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2"
1"=1'-0"

1



CABINET ELEVATION

12" 9" 6" 3" 0 1' 2"
1"=1'-0"

2

NOTES:

1. ANY CRACKING WITHIN 5'-0" OF CONNECTION TO BE SEALED WITH MASONRY SEALANT.
2. ATTACHMENTS TO BEAR DIRECTLY TO MASONRY. REMOVE ANY MATERIALS AS REQUIRED. REPAIR BACK TO ITS ORIGINAL CONDITION AND SEAL WATERTIGHT.

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NEW YORK, NY 10003

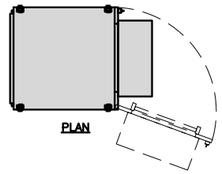
SHEET TITLE

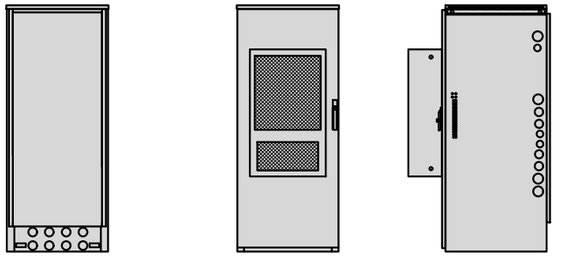
EQUIPMENT AREA ENLARGED PLAN AND DETAILS

SHEET NUMBER

A-5

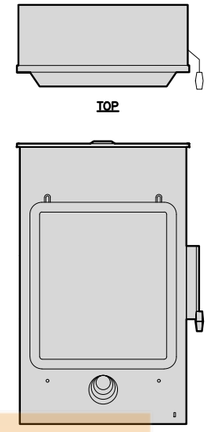
ENERSYS HEX CABINET 2000005996	
DIMENSIONS (HxWxD):	73"x30"x32"
WEIGHT EMPTY:	376 lbs
HEATER	800W
POWER SYSTEM	-48V ALPHA/600A





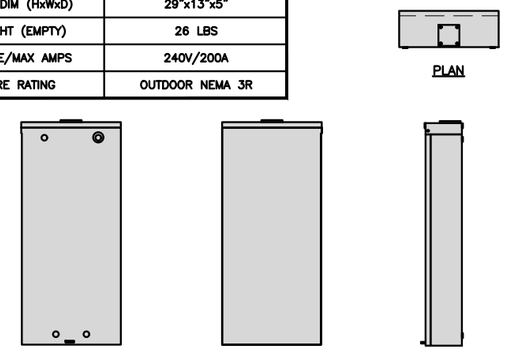
CABINET DETAIL | NO SCALE | 1

SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E-2875



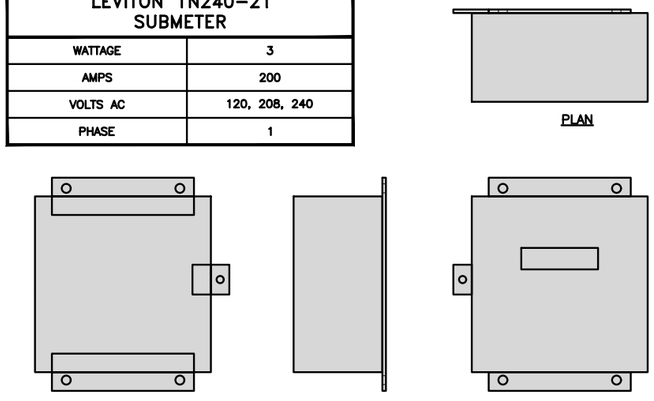
SAFETY SWITCH DETAIL | NO SCALE | 2

GE BREAKER PANEL TLM1220RCUP	
ENCLOSURE DIM (HxWxD)	29"x13"x5"
TOTAL WEIGHT (EMPTY)	26 LBS
MAX VOLTAGE/MAX AMPS	240V/200A
ENCLOSURE RATING	OUTDOOR NEMA 3R



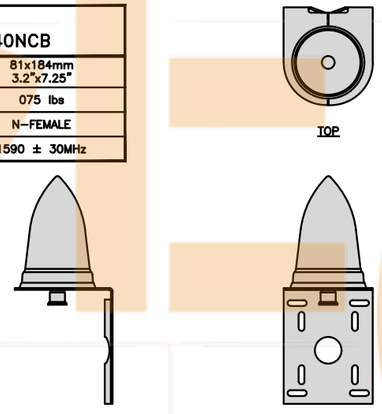
BREAKER PANEL DETAIL | NO SCALE | 3

LEVITON 1N240-21 SUBMETER	
WATTAGE	3
AMPS	200
VOLTS AC	120, 208, 240
PHASE	1

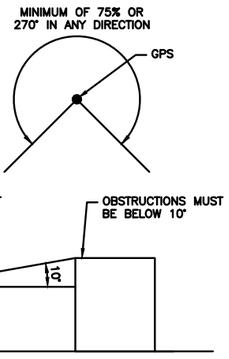


E-MON D-MON DETAIL | NO SCALE | 4

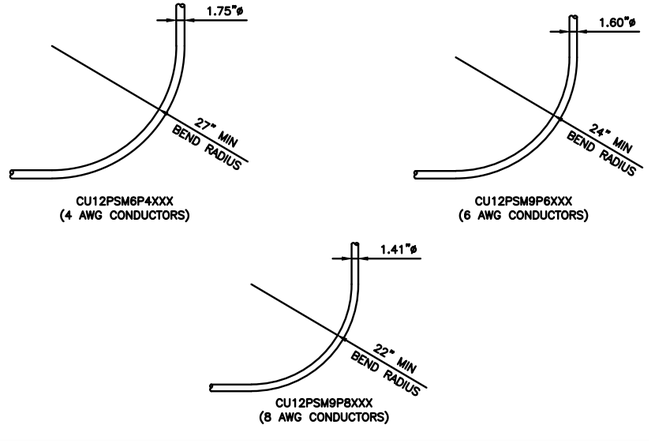
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL | NO SCALE | 5

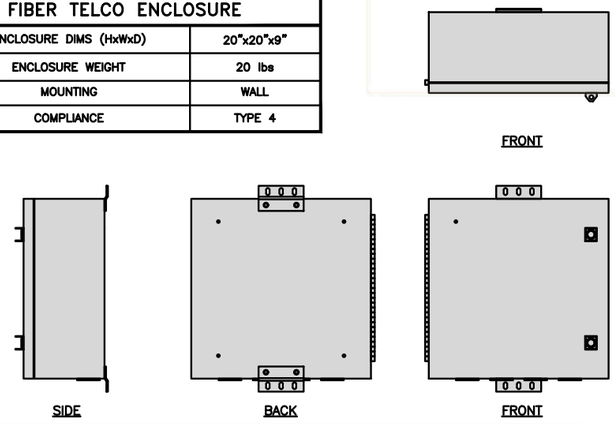


GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 6



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES | NO SCALE | 7

CHARLES CFIT-PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 8

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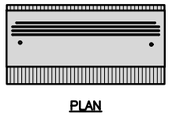
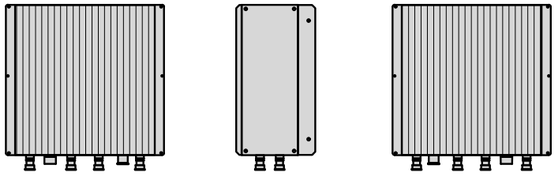
EQUIPMENT DETAILS

SHEET NUMBER
A-6

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



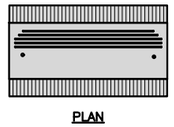
PLAN



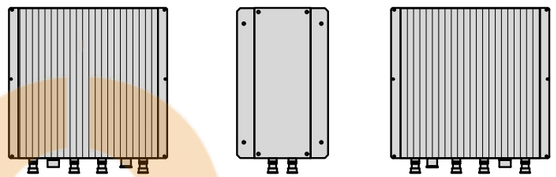
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



PLAN

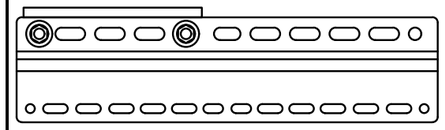


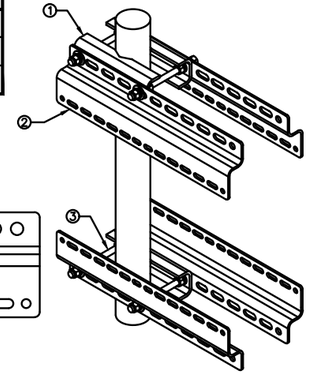
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"

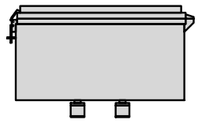




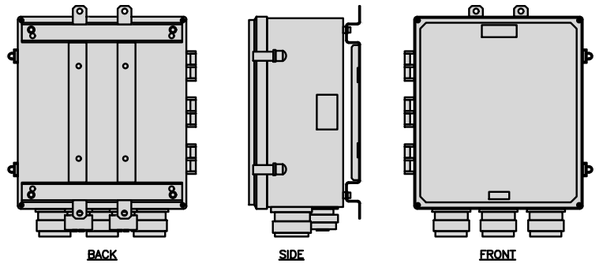
NOTE:
OR DISH WIRELESS APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

RAYCAP RDIDC-3045-PF-48 SURGE PROTECTION DEVICE (OVP)	
DIMENSIONS (HxWxD)	19"x16.21"x9.64"
WEIGHT	21 lbs



PLAN

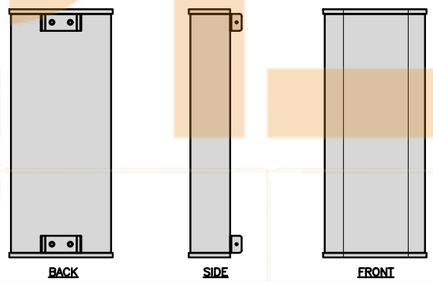


BACK SIDE FRONT

SURGE PROTECTION DEVICE (OVP) DETAIL | NO SCALE | 4

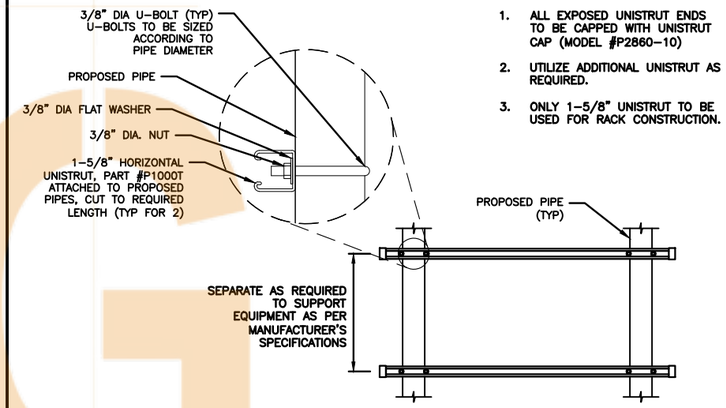
JMA WIRELESS MX08FRO465-20 ANTENNA	
DIMENSIONS (HxWxD)	48.0"x20.0"x8.0"
TOTAL WEIGHT	51.3 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE

PLAN



BACK SIDE FRONT

ANTENNA DETAIL | NO SCALE | 5



NOTES:

1. ALL EXPOSED UNISTRUT ENDS TO BE CAPPED WITH UNISTRUT CAP (MODEL #P2860-10)
2. UTILIZE ADDITIONAL UNISTRUT AS REQUIRED.
3. ONLY 1-5/8" UNISTRUT TO BE USED FOR RACK CONSTRUCTION.

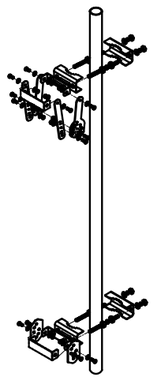
UNISTRUT TO PIPE DETAIL | NO SCALE | 6

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

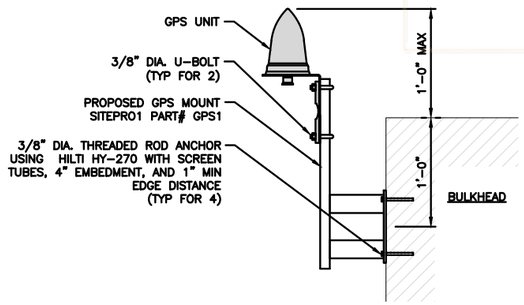
ANTENNA BRACKET NOT PART OF KIT

AN 18 DEGREE MECHANICAL TILTING BRACKET IS REQUIRED



NOTE:
OR DISH WIRELESS APPROVED EQUIVALENT

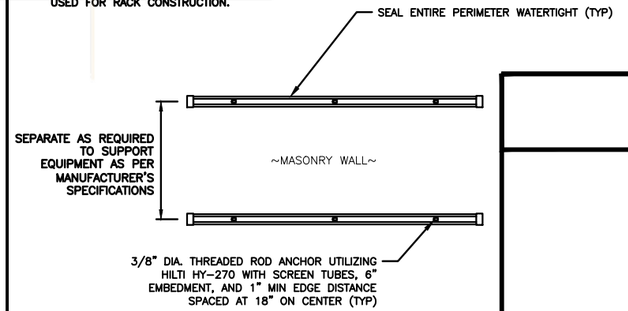
ANTENNA BRACKET DETAIL | NO SCALE | 7



GPS MOUNTING DETAIL | NO SCALE | 8

NOTES:

1. ALL EXPOSED UNISTRUT ENDS TO BE CAPPED WITH UNISTRUT CAP (MODEL #P2860-10)
2. UTILIZE ADDITIONAL UNISTRUT AS REQUIRED.
3. ONLY 1-5/8" UNISTRUT TO BE USED FOR RACK CONSTRUCTION.



UNISTRUT MASONRY DETAIL | NO SCALE | 9

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COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

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RFDS REV #: TBD

PRELIMINARY DOCUMENTS

SUBMITTALS

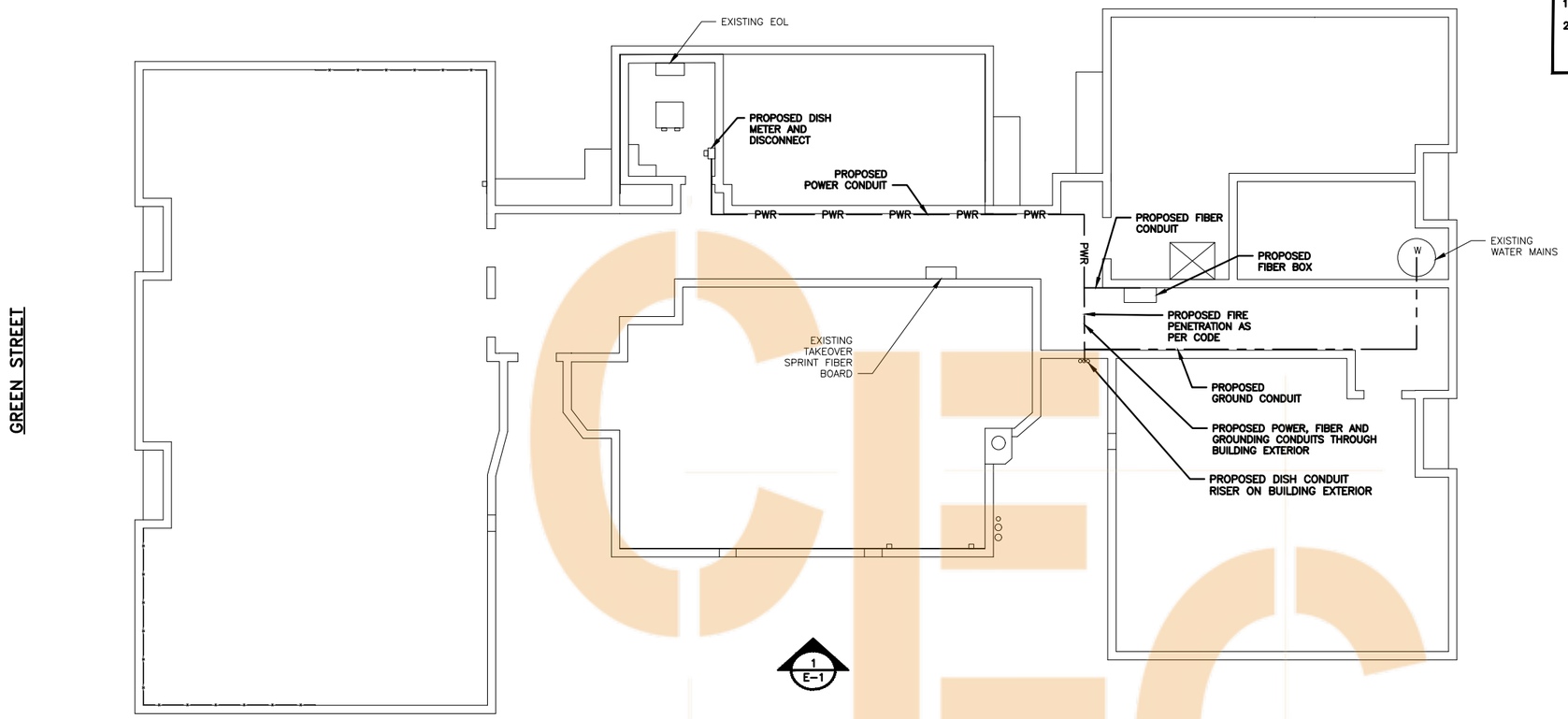
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW

A&E PROJECT NUMBER
21DCC047

DISH WIRELESS PROJECT INFORMATION
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE
EQUIPMENT DETAILS

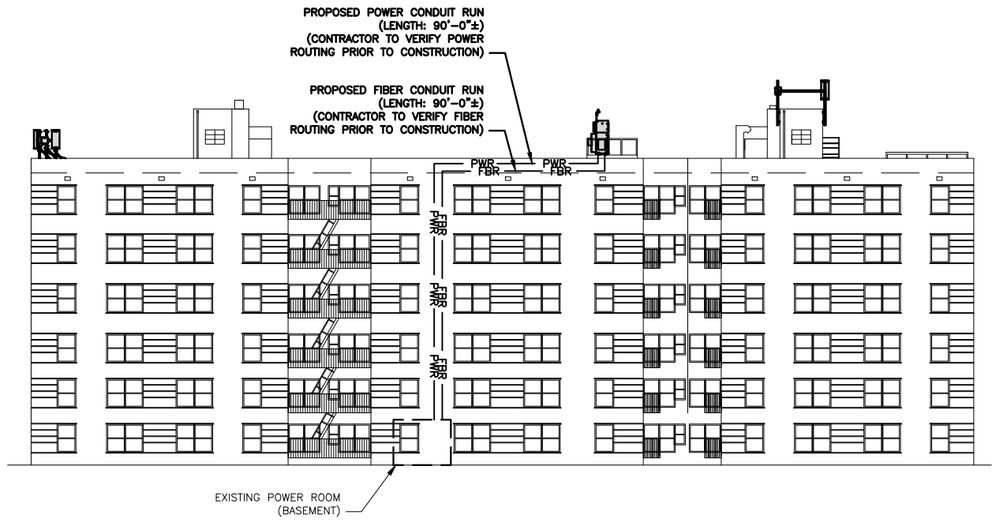
SHEET NUMBER
A-7



BASEMENT – UTILITY ROUTE PLAN

12' 8' 4' 0 10' 20'
3/32"=1'-0"

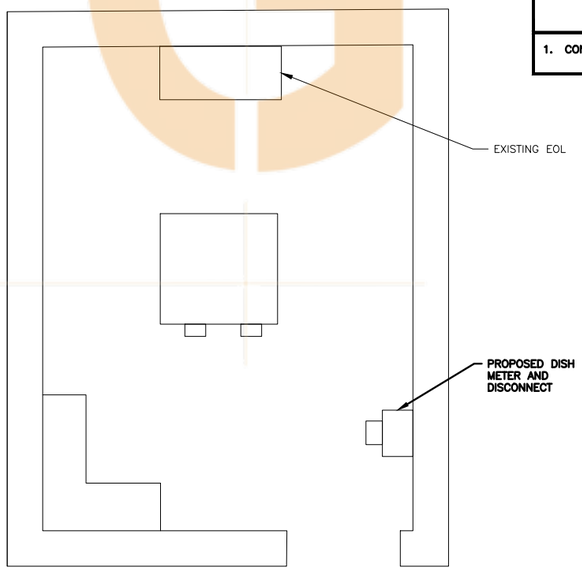
1



UTILITY ROUTE – PARTIAL ELEVATION

16' 12' 8' 4' 0 16' 32'
1/16"=1'-0"

2



POWER UTILITY ROOM PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

3

NOTE

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. FINAL UTILITY LOCATIONS PENDING APPROVAL. CONTRACTOR TO COORDINATE WITH CONSTRUCTION MANAGER.

NOTE

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

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NEW YORK, NY 10003

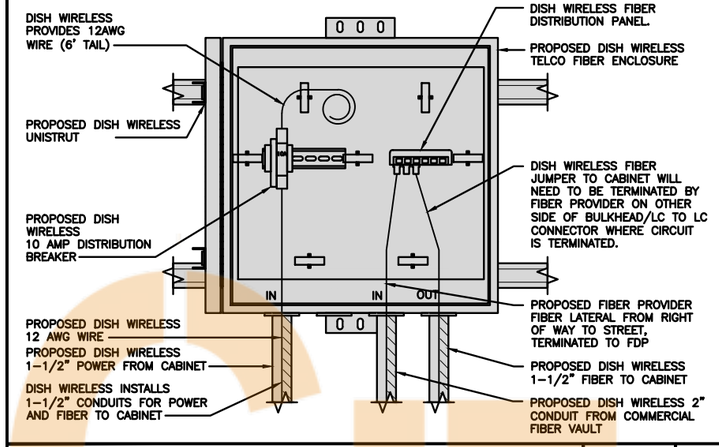
SHEET TITLE
UTILITY ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

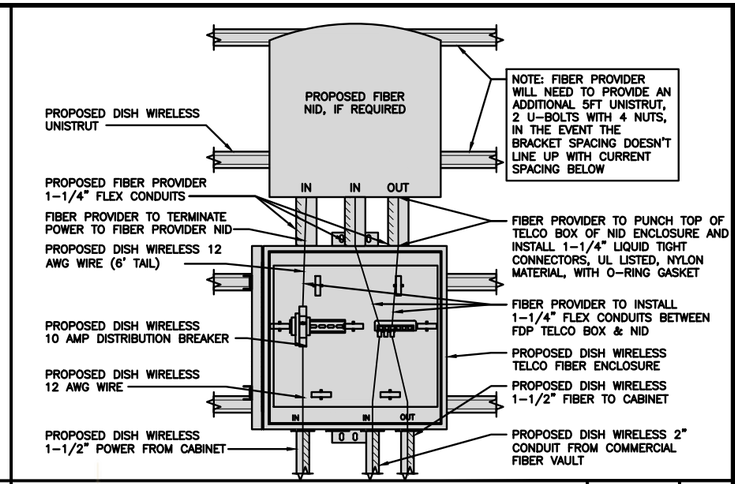
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.

ELECTRICAL NOTES | NO SCALE | 1



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 2



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

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NY PROFESSIONAL ENGINEER # 087018

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DISH WIRELESS PROJECT INFORMATION

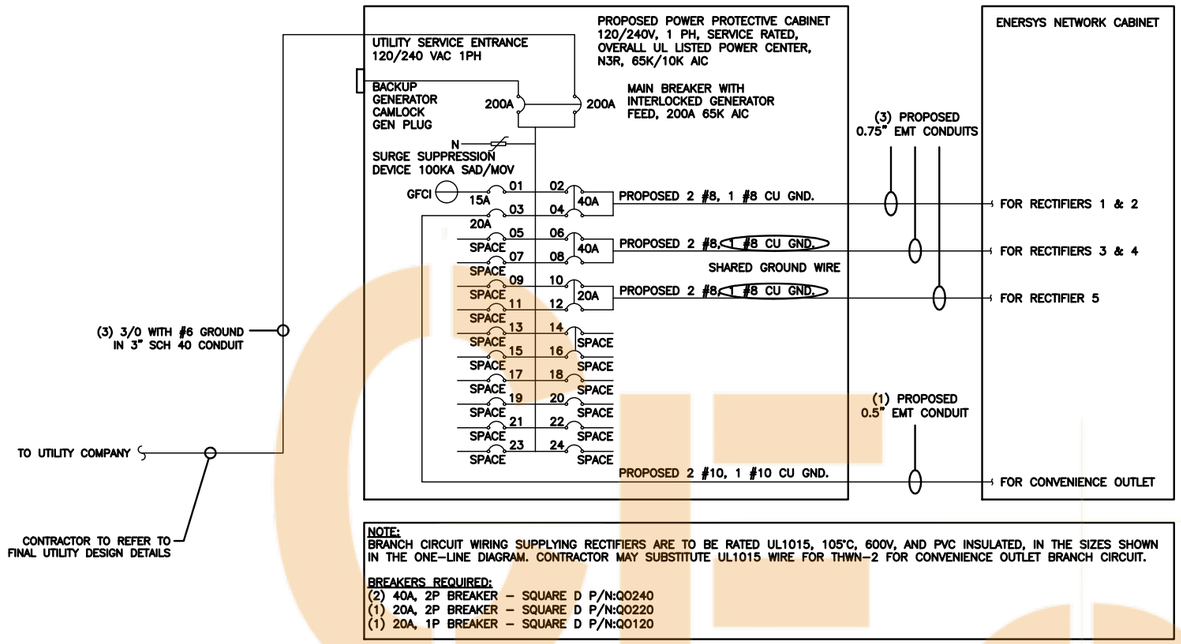
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

ELECTRICAL DETAILS AND NOTES

SHEET NUMBER

E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(2) 40A, 2P BREAKER - SQUARE D P/N:QO240
(1) 20A, 2P BREAKER - SQUARE D P/N:QO220
(1) 20A, 1P BREAKER - SQUARE D P/N:QO120

PPC ONE-LINE DIAGRAM

NO SCALE | 1

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (3 CONDUITS): USING UL1015, CU.

#8 - 0.0552 SQ. IN X 2 = 0.1103 SQ. IN
#8 - 0.0131 SQ. IN X 1 = 0.0131 SQ. IN <BARE GROUND
TOTAL = 0.1234 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PROPOSED ENERSYS PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	40A	3840		ENERSYS ALPHA CORDEX
ENERSYS GFCI OUTLET		180	20A	3	B	4			3840	RECTIFIERS 1 & 2
-SPACE-				5	A	6	40A	3840		ENERSYS ALPHA CORDEX
-SPACE-				7	B	8			3840	RECTIFIER 3 & 4
-SPACE-				9	A	10	20A	1920		ENERSYS ALPHA CORDEX
-SPACE-				11	B	12			1920	RECTIFIER 5
-SPACE-				13	A	14				-SPACE-
-SPACE-				15	B	16				-SPACE-
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						9500	9500	
200A MCB, 1Φ, 24 SPACE, 120/240V			L1		L2					
MB RATING: 65,000 AIC			9680		9680		VOLTAGE AMPS			
			81		81		AMPS			
			81				MAX AMPS			
			102				MAX 125%			

PANEL SCHEDULE

NO SCALE | 2

FAULT CURRENT VALUES BASED ON POINT-TO-POINT METHOD OF CALCULATION

F1 (SINGLE PHASE)

LOCATION:	TRANSFORMER	
TRANSFORMER SIZE =	100.0	kVA
SECONDARY VOLTAGE (L-L) =	240	V
SECONDARY VOLTAGE (L-N) =	120	V
ISC =	40,000	A

F2 (SINGLE PHASE)

LOCATION:	METER	
TYPE OF CONDUIT:	PVC	
CONDUCTOR SIZE AND TYPE:	3/0	COPPER
SETS OF CONDUCTORS =	1	
LENGTH OF CONDUCTORS =	80	FEET
"C" VALUE =	13923	
f(L-L) =	1.9153	
M(L-L) =	0.3430	
f(L-N) =	5.7459	
M(L-N) =	0.1482	
ISC (L-L) =	13,721	A
ISC (L-N) =	8,894	A

F3 (SINGLE PHASE)

LOCATION:	DISCONNECT	
TYPE OF CONDUIT:	PVC	
CONDUCTOR SIZE AND TYPE:	3/0	COPPER
SETS OF CONDUCTORS =	1	
LENGTH OF CONDUCTORS =	10	FEET
"C" VALUE =	13923	
f(L-L) =	0.0821	
M(L-L) =	0.9241	
f(L-N) =	0.1065	
M(L-N) =	0.9038	
ISC (L-L) =	12,679	A
ISC (L-N) =	8,038	A

F4 (SINGLE PHASE)

LOCATION:	200A PPC	
TYPE OF CONDUIT:	PVC	
CONDUCTOR SIZE AND TYPE:	3/0	COPPER
SETS OF CONDUCTORS =	1	
LENGTH OF CONDUCTORS =	30	FEET
"C" VALUE =	13923	
f(L-L) =	0.2277	
M(L-L) =	0.8146	
f(L-N) =	0.2887	
M(L-N) =	0.7760	
ISC (L-L) =	10,328	A
ISC (L-N) =	6,238	A

FAULT CALCULATIONS

NO SCALE | 3

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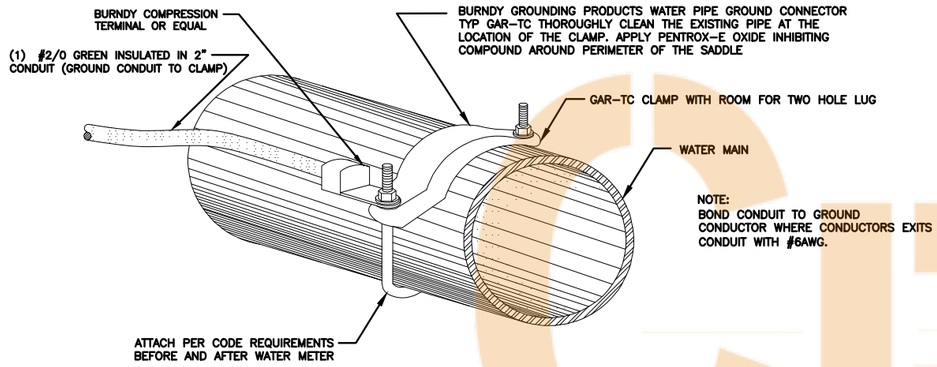
DISH WIRELESS PROJECT INFORMATION
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

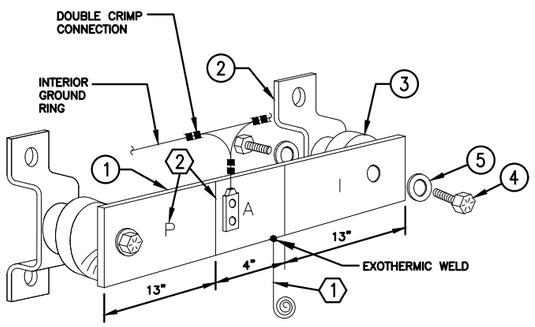
SHEET NUMBER
E-3



WATER MAIN GROUNDING DETAIL

NO SCALE | 1

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C. OR APPROVED EQUAL			
NO.	REQ.	PART NO.	DESCRIPTION
①	1	1/4"x4"x30"	GALV. SOLID GND. BAR
②	2	A-6056	WALL MTG. BRKT.
③	2	3061-4	INSULATORS
④	4	3012-1	5/8"-11x1" H.H.C.S.
⑤	4	3015-8	5/8 LOCKWASHER



GROUNDING BAR DETAIL

NO SCALE | 2

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PROTECTORS
CABLE ENTRY PORTS (HATCH PLATES) (2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (2 AWG)
TELCO GROUND BAR (2 AWG)
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (2 AWG)
+24V POWER SUPPLY RETURN BAR (2 AWG)
-48V POWER SUPPLY RETURN BAR (2 AWG)
RECTIFIER FRAMES.
COAX SUPPRESSION

SECTION "A" – SURGE ABSORBERS
INTERIOR GROUND RING (2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING)
(2 AWG) METALLIC COLD WATER PIPE (IF AVAILABLE)
(2 AWG) BUILDING STEEL (IF AVAILABLE) (2 AWG)

SECTION "I" – ISOLATED GROUND ZONE
ALL COMMUNICATIONS EQUIPMENT FRAMES.
ISOLATED GROUND BAR – IGB (2 AWG)

DETAIL NOTES:
1. EXOTHERMICALLY WELD 2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "I") WITH 1" HIGH LETTERS.

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- GROUND BUS BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- #6 AWG STRANDED & INSULATED
- #2 AWG SOLID COPPER TINNED
- BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH WIRELESS GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.
4. NO EXOTHERMIC WELDING ON ROOFTOP

GROUNDING ROOFTOP KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) ROOFTOP GROUND SYSTEM: THE GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING OR ROOM.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR (CRGB): POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO COMMON BUILDING GROUND SYSTEM WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE COMMON BUILDING GROUND SYSTEM WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE ROOM. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH MECHANICAL CONNECTIONS.

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES SHALL BE BONDED TO THE COMMON BUILDING GROUND SYSTEM WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE COMMON BUILDING GROUND SYSTEM. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) ROOFTOP COLLECTOR BUS BAR IS TO BE MECHANICALLY BONDED TO COMMON BUILDING GROUND SYSTEM. REFER TO DISH WIRELESS GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

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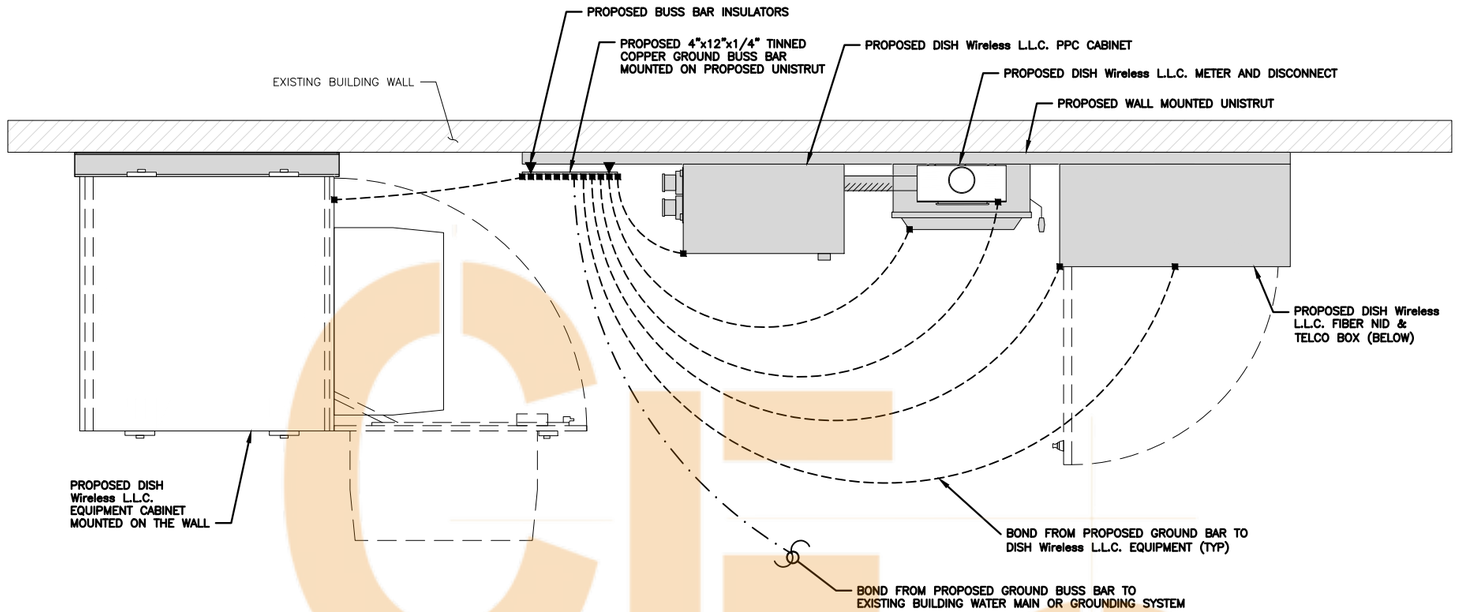
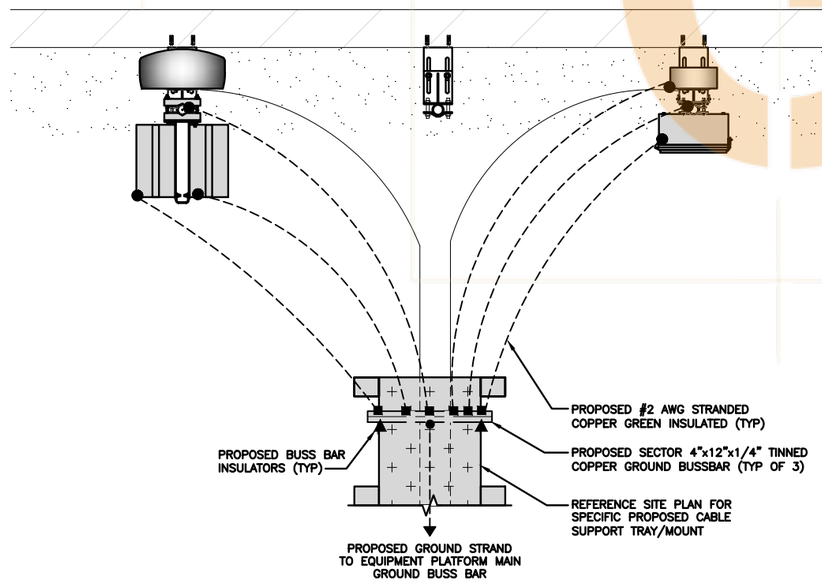
SHEET TITLE
GROUNDING PLANS AND NOTES

SHEET NUMBER
G-1



TYPICAL EQUIPMENT GROUNDING PLAN | NO SCALE | 1



TYPICAL ROOFTOP ANTENNA GROUNDING PLAN | NO SCALE | 2

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COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

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SA	VB	XX

RFDS REV #: TBD

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW

A&E PROJECT NUMBER

21DCC047

DISH WIRELESS PROJECT INFORMATION

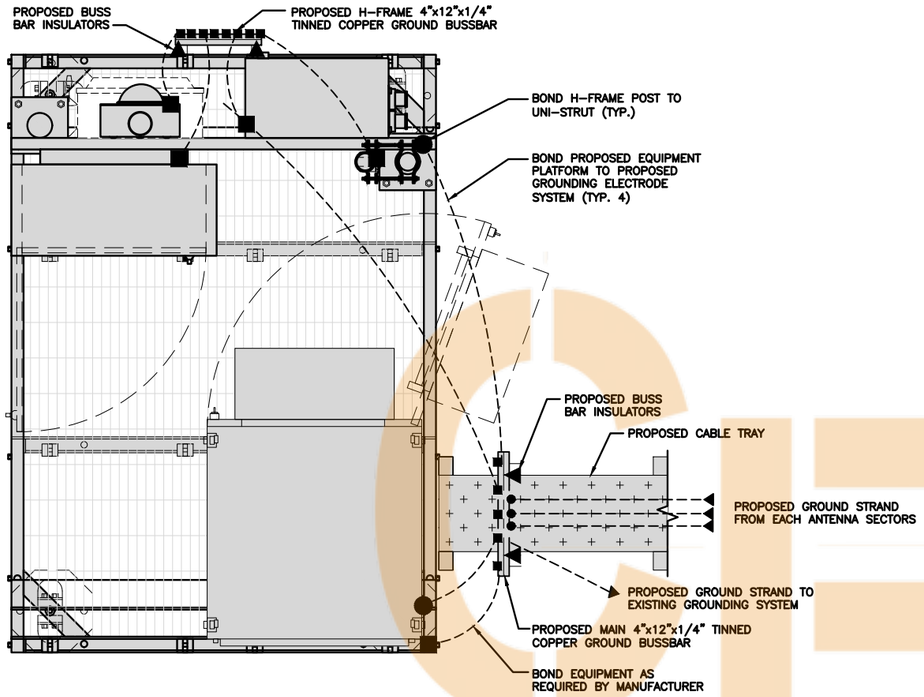
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

G-2

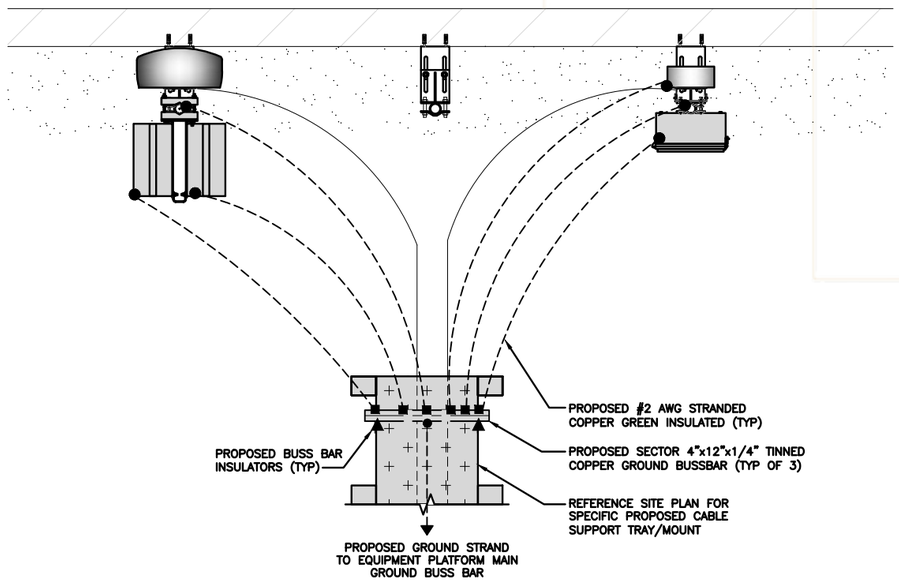


NOTE:

TYPICAL EQUIPMENT GROUNDING SHOWN, FOLLOW SAME GROUNDING PLAN FOR WALL MOUNT CABINET CONFIGURATION.

TYPICAL ROOFTOP EQUIPMENT GROUNDING PLAN

NO SCALE | 1

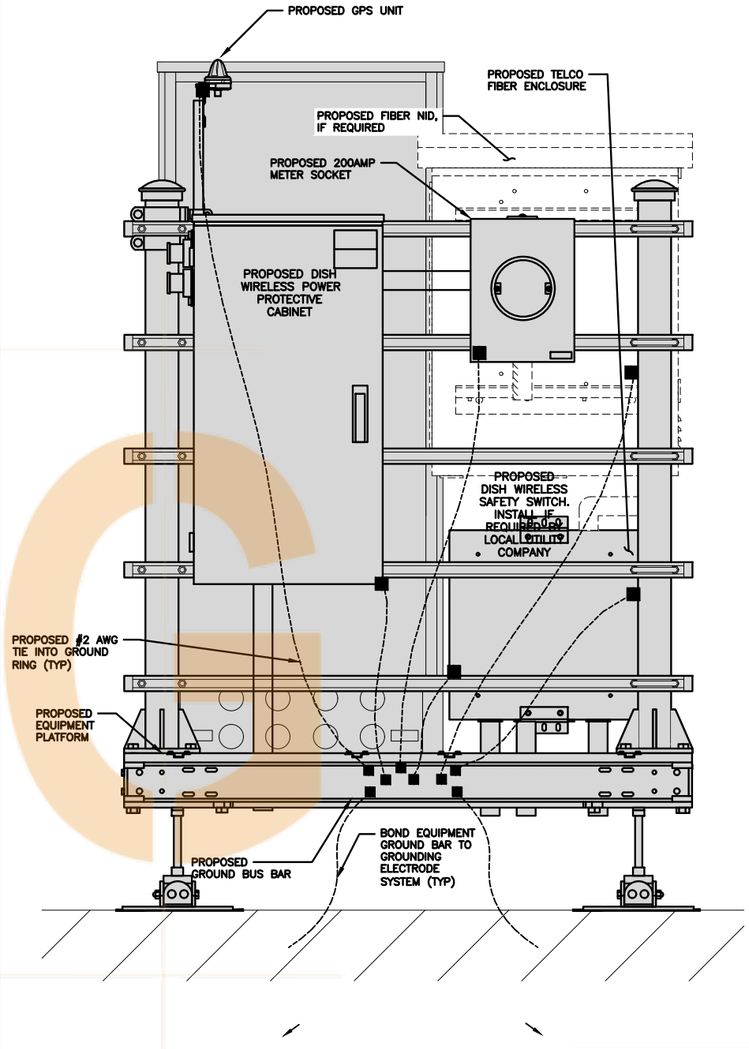


TYPICAL ROOFTOP ANTENNA GROUNDING PLAN

NO SCALE | 2

NOTE

EQUIPMENT CABINET OMITTED FOR CLARITY



NOTE:

TYPICAL EQUIPMENT GROUNDING SHOWN, FOLLOW SAME GROUNDING PLAN FOR WALL MOUNT CABINET CONFIGURATION.

H-FRAME GROUNDING DETAIL

NO SCALE | 3

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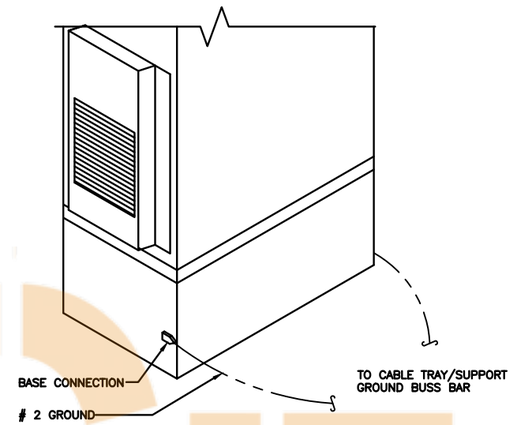
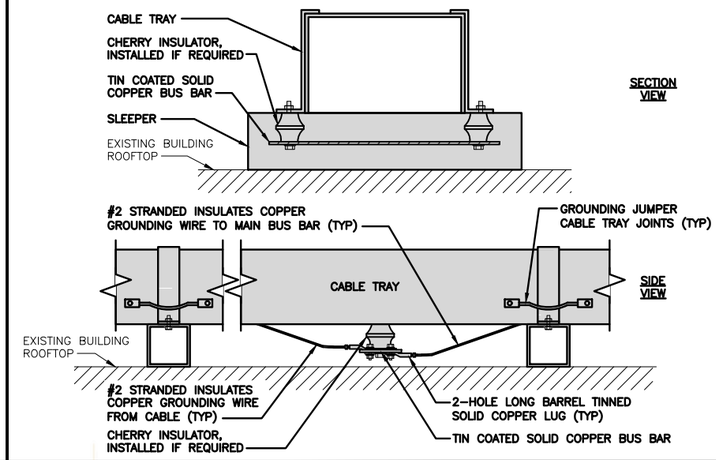
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18–8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI–OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI–OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

TYPICAL GROUNDING NOTES | NO SCALE | 1

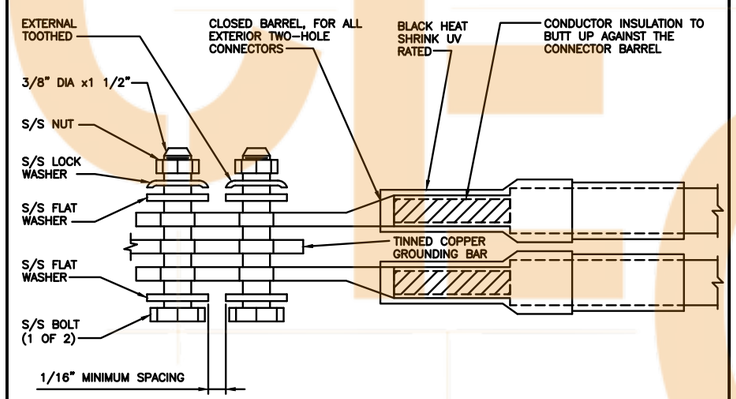


OUTDOOR CABINET GROUNDING | NO SCALE | 2

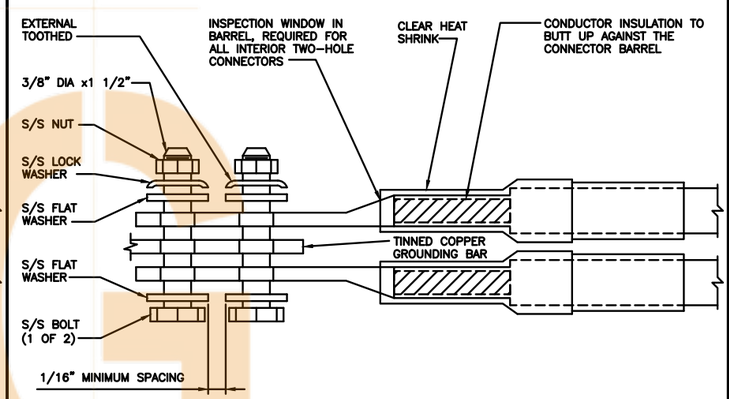


TYPICAL CABLE TRAY GROUND BUSS BAR | NO SCALE | 3

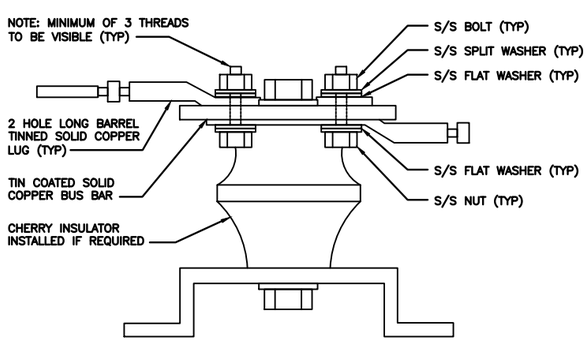
NOT USED | NO SCALE | 4



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 5



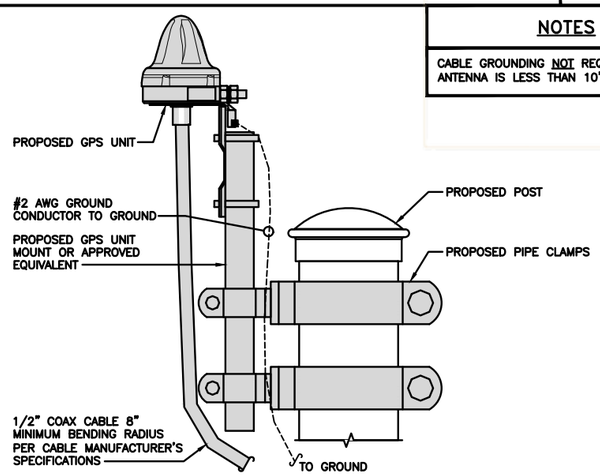
TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 6



LUG DETAIL | NO SCALE | 7

NOTES

CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



TYPICAL GPS UNIT GROUNDING | NO SCALE | 8

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NY PROFESSIONAL ENGINEER # 087018

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NEW YORK, NY 10003

SHEET TITLE
GROUNDING DETAILS

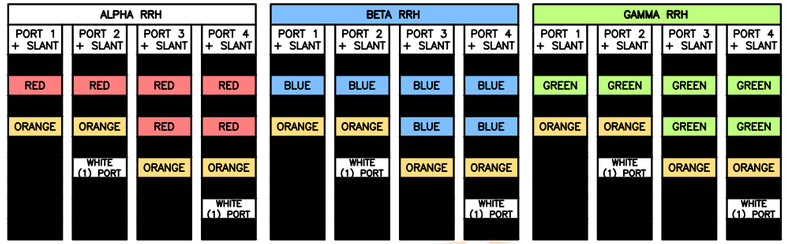
SHEET NUMBER
G-3

RF JUMPER COLOR CODING

3/4" TAPE WIDTHS WITH 3/4" SPACING

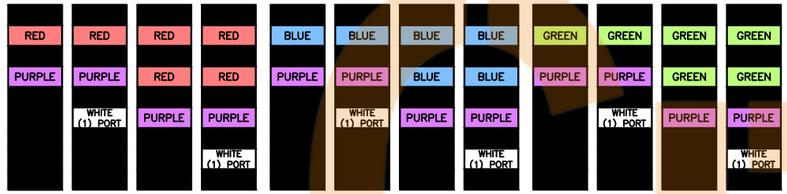
LOW–BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



MID–BAND RRH –
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)

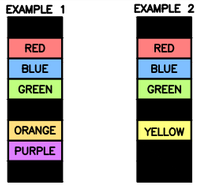


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED AM LONG WITH FREQUENCY BANDS

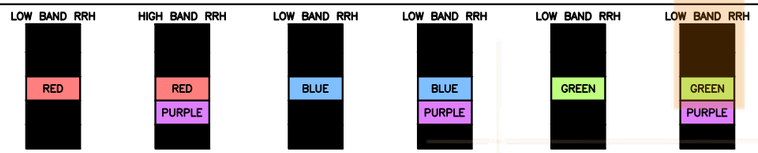
EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW–BANDS AND MID–BANDS

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS



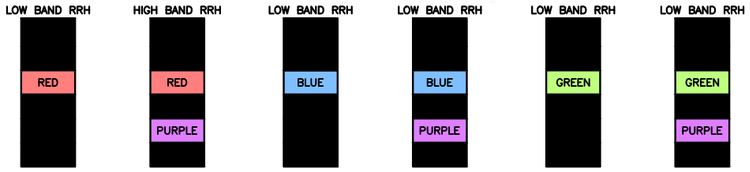
HYBRID/DISCREET CABLES

LOW–BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

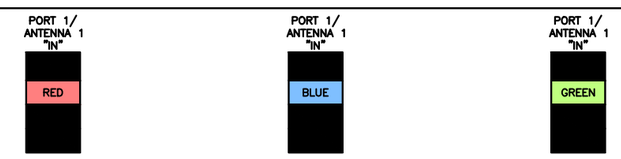


POWER CABLES TO RRHs

LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



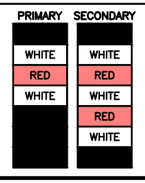
RET MOTORS AT ANTENNAS



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5–2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE. ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABINETS WILL REQUIRE P–TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID'S.



RF CABLE COLOR CODES | NO SCALE | 1

LOW BANDS (N71–N28)
OPTIONAL – (N29)
ORANGE

AWS
(N65+N70+H–BLOCK)
PURPLE

CBRS TECH
(3 GHz)
YELLOW

NEGATIVE SLANT PORT
ON ANTRRH
WHITE

ALPHA SECTOR
RED

BETA SECTOR
BLUE

GAMMA SECTOR
GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED

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DISH WIRELESS PROJECT INFORMATION
NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE
RF
CABLE COLOR CODE

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE
(2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

SECTION REFERENCE

DETAIL REFERENCE

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

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DISH WIRELESS PROJECT INFORMATION

NYNYC01445B
50 EAST 8TH ST
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SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH WIRELESS AND SITE OWNER NOC & THE DISH WIRELESS AND SITE OWNER CONSTRUCTION MANAGER.
2. "LOOK UP" – DISH WIRELESS AND SITE OWNER SAFETY CLIMB REQUIREMENT:

   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. SITE MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH WIRELESS AND DISH WIRELESS AND SITE OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH WIRELESS AND SITE OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH DISH WIRELESS AND SITE OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH WIRELESS AND SITE OWNER SITE SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH WIRELESS AND SITE OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. 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 WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH WIRELESS AND SITE OWNER, AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND SITE AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE SITE, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. 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 OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

   CARRIER: DISH WIRELESS

   SITE OWNER: SITE OWNER
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND SITE OWNER.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND SITE OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. 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 DISH WIRELESS AND SITE OWNER
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

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NY PROFESSIONAL ENGINEER # 087018

DRAWN BY:	CHECKED BY:	APPROVED BY:
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PRELIMINARY DOCUMENTS

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21DCC047

DISH WIRELESS PROJECT INFORMATION

NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

   #4 BARS AND SMALLER 40 ksi

   #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER:
   - #6 BARS AND LARGER 2"
   - #5 BARS AND SMALLER 1-1/2"
   - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   - SLAB AND WALLS 3/4"
   - BEAMS AND COLUMNS 1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH WIRELESS AND SITE OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH WIRELESS".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

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DISH WIRELESS PROJECT INFORMATION

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50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE SITE GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, SITES, AND WATER SITES GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

GENERAL NOTES:

1. THE NOTES CONTAINED HEREIN ARE NOT PROJECT SPECIFIC. THE CONTRACTOR SHALL UTILIZE ALL THE NOTES WHICH PERTAIN TO THE WORK DEPICTED IN THIS PLAN SET.
2. THE CONTRACTOR SHALL CONTACT SDG TO VERIFY THAT THEY HAVE BEEN ISSUED THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS PRIOR TO THE START OF CONSTRUCTION.
3. ALL DIMENSIONS AND INFORMATION SHOWN IN THE DRAWINGS ARE DERIVED FROM LIMITED FIELD OBSERVATIONS MADE FOR THIS PROJECT. DETAILED INFORMATION WAS COLLECTED FOR SPECIFIC WORK AREAS. THIS INFORMATION IS TO BE USED FOR THE WORK SHOWN ON THESE PLANS ONLY.
4. UNLESS SPECIFICALLY REQUESTED BY THE CLIENT OR REQUIRED TO PROCEED WITH THE CREATION OF THE CONSTRUCTION DOCUMENTS, STRUCTURAL PROBES HAVE NOT BEEN PERFORMED. BUILDING COMPONENT CONFIGURATION AND CONDITION NOT OTHERWISE VISIBLE BENEATH SURFACE FINISHES, MAY VARY AND SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES, WHETHER IN CONFIGURATION OR CONDITION SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS & FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. THE CONSEQUENCES OF PROCEEDING WITH CONSTRUCTION AFTER DISCOVERING A FIELD CONDITION DISCREPANCY AND WITHOUT THE APPROVAL OR RECOMMENDATIONS OF THE ENGINEER, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL ADHERE TO ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES.
7. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY PERMITS AND INSPECTIONS TO COMPLETE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, PLUMBING, FIRE PROTECTION AND STRUCTURAL.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE ENGINEER OF CONSTRUCTION STAGES WHICH REQUIRE SPECIAL OR CONTROLLED INSPECTIONS WITH A MINIMUM OF 48 HOURS (2 BUSINESS DAYS) NOTICE. THESE INSPECTIONS INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE REINFORCEMENT, CONCRETE POURING, STRUCTURAL STEEL ERECTION/BOLTING, WELDING AND THE INSTALLATION OF EPOXY ANCHORS. FAILURE TO COORDINATE THESE INSPECTIONS WITH THE ENGINEER MAY PROHIBIT SIGNOFF WITH THE AUTHORITY HAVING JURISDICTION.
9. CONTRACTOR SHALL PROVIDE ENGINEER WITH PHOTOGRAPHS FOR EACH STAGE OF CONSTRUCTION. THE PHOTOGRAPHS SHALL INCLUDE, BUT ARE NOT LIMITED TO, BEAM POCKETS & PEDESTAL CONNECTIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY DURING CONSTRUCTION. THE ENGINEER HAS NO RESPONSIBILITY FOR OR CONTROL OVER SAFETY AT ANY TIME.
11. THE ENGINEER HAS NOT PERFORMED AN INSPECTION FOR ASBESTOS OR OTHER HAZARDOUS MATERIALS. THESE DRAWINGS ARE NOT MEANT TO DEPICT OR IMPLY THE PRESENCE OR ABSENCE OF SUCH MATERIALS WITHIN THE PROPOSED WORK AREAS.
12. TRUE NORTH SHALL BE DETERMINED. CONTRACTOR IS RESPONSIBLE FOR PROPER AZIMUTH ALIGNMENT.
13. THE CONTRACTOR SHALL CONTACT THE TELECOMMUNICATIONS CARRIER TO ACQUIRE THE LATEST RF DATA SHEET PRIOR TO THE START OF CONSTRUCTION. RF INFORMATION ISSUED BY THE TELECOMMUNICATIONS CARRIER SUPERSEDES INFORMATION CONTAINED HEREIN.
14. ROUTING IS DIAGRAMMATIC AND CONTRACTOR IS TO UTILIZE BEST POSSIBLE ROUTING TO EXPEDITE CONSTRUCTION PROCESS. ROUTING SHALL NOT IMPEDE UPON REQUIRED PASSAGEWAYS OR MEANS OF EGRESS.
15. THE CONTRACTOR SHALL PROVIDE NEW PENETRATIONS FOR ROUTING THROUGH FIRE RATED ASSEMBLIES AND FIRE STOP ALL PENETRATIONS AS PER CODE. THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE THE FIRE RATING OF BUILDING COMPONENTS IF EXISTING PENETRATIONS ARE USED FOR NEW ROUTING.
16. ALL DISTURBED AREAS SHALL BE REPAIRED TO MATCH EXISTING ADJACENT, INCLUDING BUT NOT LIMITED TO FIRE RATED MATERIALS.
17. ANY DISTURBANCE TO ROOFING, FLASHINGS OR ANY EXTERIOR SURFACE SHALL BE REPAIRED/SEALED WATERTIGHT AND IN ACCORDANCE WITH ANY WARRANTIES, AS APPLICABLE. THE GENERAL CONTRACTOR SHALL EMPLOY THE WARRANTY GRANTOR, OR OTHER AUTHORIZED CONTRACTOR, WHERE REQUIRED FOR MAINTENANCE OF THE WARRANTY.
18. THE PERIMETER AND ANCHORS OF ALL STEEL TO CONCRETE OR MASONRY CONNECTIONS SHALL BE SEALED WATERTIGHT USING A PURPOSE FORMULATED MASONRY SEALANT.
19. CONTRACTOR SHALL REMOVE TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

DRAFT
NOT FOR CONSTRUCTION
DRAWING CONTENTS ARE CONCEPTUAL AND ARE SUBJECT TO FINAL ENGINEER'S APPROVAL (INCLUDING BUT NOT LIMITED TO QUANTITIES AND SIZES

COLLEEN CONNOLLY
NY PROFESSIONAL ENGINEER # 087018

DRAWN BY:	CHECKED BY:	APPROVED BY:
SA	VB	XX

RFDS REV #: TBD

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW

A&E PROJECT NUMBER

21DCC047

DISH WIRELESS PROJECT INFORMATION

NYNYC01445B
50 EAST 8TH ST
NEW YORK, NY 10003

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

DATE TAKEN:
XX/XX/21 X:XXAM

ALPHA SECTOR ANTENNA LOCATION | NO SCALE | 1

DATE TAKEN:
XX/XX/21 X:XXAM

BETA SECTOR ANTENNA LOCATION | NO SCALE | 2

DATE TAKEN:
XX/XX/21 X:XXAM

GAMMA SECTOR ANTENNA LOCATION | NO SCALE | 3

DATE TAKEN:
XX/XX/21 X:XXAM

EQUIPMENT AREA LOCATION | NO SCALE | 4

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