



PROJECT: 2.5 EQUIPMENT DEPLOYMENT

SITE NAME: 331 BROADWAY

SITE CASCADE: BS60XC010

MARKET: BOSTON

SITE ADDRESS: 331-333 BROADWAY
SOMERVILLE, MA. 02143

SITE TYPE: ROOFTOP

Sprint
VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
(201) 684-4000

**J LEE
ASSOCIATES, LLC**
753 FOREST STREET
MARLBOROUGH, MA 01752-3047
PHONE: (800) 825-6460
www.guardian-energy.com

**EG ADVANCED
ENGINEERING GROUP, P.C.**
Civil Engineering - Site Development
Surveying - Telecommunications
500 NORTH BROADWAY
EAST PROVIDENCE, RI 02914
PH: 401-354-2403
FAX: 401-633-6354



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS

REV. #	DATE	DESCRIPTION
1	02/05/14	ISSUED FOR ZONING
0	01/29/14	ISSUED FOR REVIEW

PROJECT NO.	DESIGNED BY:	SCALE
	DRAWN BY: REM	
	CHECKED BY: MRC	

PROJECT INFORMATION
**BS60XC010
331 BROADWAY**
331-333 BROADWAY
SOMERVILLE, MA 02143

DRAWING TITLE
TITLE SHEET

DRAWING NUMBER
T-1

SITE INFORMATION

PROPERTY OWNER:
PAONE SR ANTHONY K TRSTEE
A & P DEVELOPMENT TRUST
141 SYLVESTER AVE
WINCHESTER, MA 01890

TOWER OWNER:
N/A (ROOFTOP)

LATITUDE (NAD83):
GOOGLE EARTH 2-C CONFIRMATION
42° 23' 38.00" N
42.39333°

LONGITUDE (NAD83):
GOOGLE EARTH 2-C CONFIRMATION
71° 05' 38.56" W
-71.094044°

COUNTY:
MIDDLESEX

ZONING JURISDICTION:
CITY OF SOMERVILLE

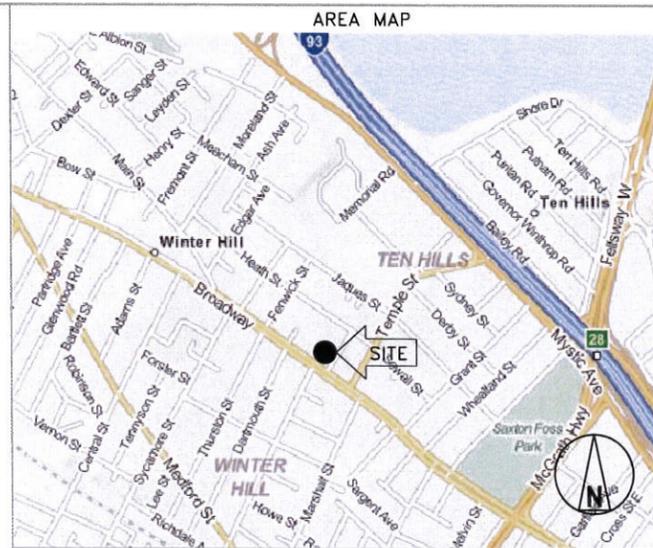
ZONING DISTRICT:
CORRIDOR COMMERCIAL DISTRICT (CCD55)

POWER COMPANY:
MASS ELECTRIC

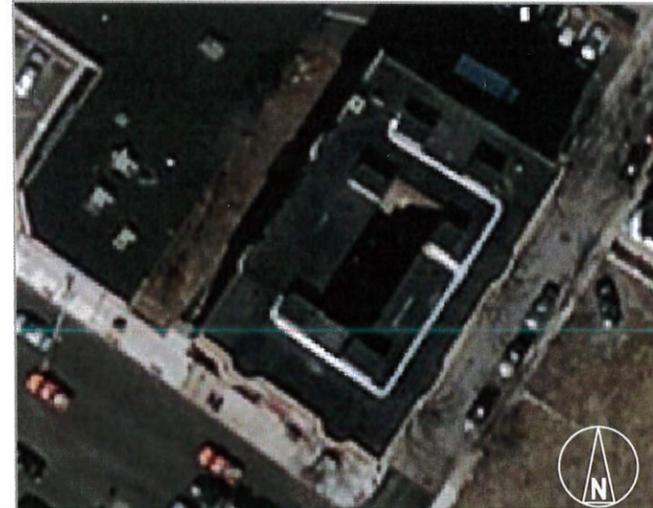
AAV PROVIDER:
COMCAST CABLE
25 INDUSTRIAL DRIVE
CHELMSFORD, MA 01824
PHONE: 1800-COMCAST

SPRINT MARKET MANAGER:
RONALD HIBBARD
PHONE: 774-269-8812
ronald.hibbard@sprint.com

EQUIPMENT SUPPLIER:
ALCATEL-LUCENT
600 MOUNTAIN AVENUE
MURRAY HILL, NJ 07974



LOCATION MAP GOOGLE EARTH 2-C CONFIRMATION



PROJECT DESCRIPTION

SPRINT EQUIPMENT MODIFICATIONS REQUIRED TO SUPPORT MODERNIZATION OF AN EXISTING WIRELESS COMMUNICATIONS FACILITY AND UTILIZATION OF FCC BROADBAND SPECTRUM LICENSE FOR 2.5GHZ FREQUENCY, INCLUDING INSTALLATION OF:

- GROUND-LEVEL RAN EQUIPMENT, CONSISTING OF
 - RETROFIT EXISTING MMBS CABINET WITH 2.5 RADIO ACCESS NETWORK (RAN) EQUIPMENT
 - (1) ADDITIONAL BATTERY STRING(S) INSIDE EXISTING BATTERY BACKUP (BBU) CABINET
 - (1) GROWTH CABINET

- TOWER-TOP EQUIPMENT, INCLUDING INSTALLATION OF:
 - (3) PANEL ANTENNAS
 - (3) REMOTE RADIO HEADS (RRH)
 - (1) FIBER CABLE (AND ASSOCIATED FIBER, DC POWER, COAXIAL CABLE JUMPERS AND ANTENNA REMOTE ELECTRICAL-TILT (RET) CABLE

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY SPRINT REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AND ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, ADMINISTRATIVE REVIEW).

GENERAL NOTES

- THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
- ADA COMPLIANCE NOT REQUIRED.
- POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
- NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
BUILDING CODE: MASSACHUSETTS STATE BUILDING CODE 780 CMR 8TH EDITION
ELECTRICAL CODE: 2005 NATIONAL ELECTRICAL CODE
STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.



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www.cbyd.com

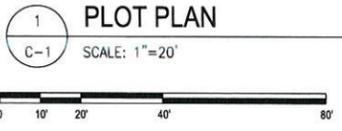
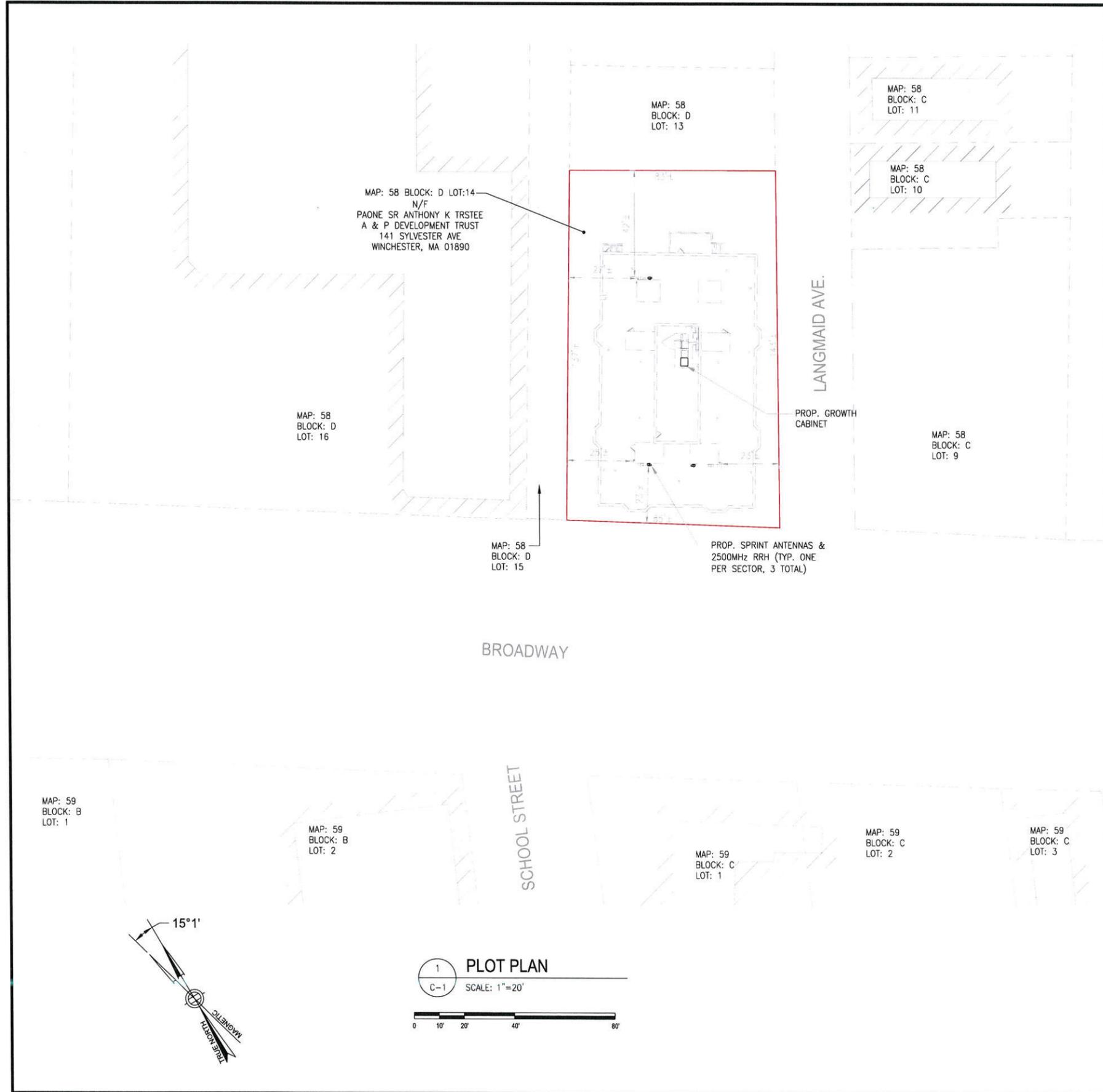
DRAWING INDEX

SHEET NO:	SHEET TITLE	REV	CHK	BY
T-1	TITLE SHEET	1	MRC	BDJ
C-1	PLOT PLAN	1	MRC	BDJ
Z-1	ROOF AND EQUIPMENT PLANS	1	MRC	BDJ
Z-2	ELEVATION AND ANTENNA PLANS	1	MRC	BDJ
Z-3	EQUIPMENT DETAILS	1	MRC	BDJ
Z-4	MOUNTING DETAILS	1	MRC	BDJ

APPROVALS

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

SPRINT:	DATE:
CONSTRUCTION MANAGER:	DATE:
LEASING/SITE ACQUISITION:	DATE:
RF ENGINEER:	DATE:
LANDLORD/TOWER OWNER:	DATE:



GENERAL NOTES:

- FIELD SURVEY DATE: N/A
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
- PROPERTY OWNER: PAONE SR ANTHONY K TRSTEE
A & P DEVELOPMENT TRUST
141 SYLVESTER AVE
WINCHESTER, MA 01890
- APPLICANT: SPRINT
1 INTERNATIONAL BLVD,
SUITE 800
MAHWAH, NJ 07495
- JURISDICTION: CITY OF SOMERVILLE
- TAX MAP & ID MAP:58 BLOCK: D LOT:14
- ZONING JURISDICTION: CITY OF SOMERVILLE
- PROPERTY LINE INFORMATION IS COMPILED FROM SOMERVILLE'S ONLINE GIS SYSTEM AND MASS GIS, AND IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD BOUNDARY SURVEY, AND IS SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. A FULL BOUNDARY SURVEY WAS NOT PERFORMED.
- BEARING SYSTEM OF THIS PLAN IS BASED ON TRUE NORTH. TRUE NORTH WAS ESTABLISHED FROM EXISTING PLAN REFERENCE. IT IS NOT INTENDED TO BE AN EXACT REPRESENTATION OF TRUE NORTH.

LEGEND

- PROPERTY LINE
- ABUTTING PROPERTY LINE
- EXIST. STREET LAYOUT
- ZONING BOUNDARY LINE

ZONING SUMMARY TABLE

ZONING DISTRICT: CORRIDOR COMMERCIAL DISTRICT (CCD55)
ASSESSORS ID: MAP: 58 BLOCK: D LOT: 14
PROPOSED USE: WIRELESS COMMUNICATION FACILITY

DIMENSION:	REQUIRED MINIMUM	PROVIDED
LOT AREA	800 SQ/FT	12,079 ± SQ/FT
LOT FRONTAGE	30'	85± FT
FRONT YARD SETBACK*	7±'	23± FT
SIDE YARD SETBACK*	7±'	23± FT
REAR YARD SETBACK*	7±'	42± FT
MAXIMUM ZONING HEIGHT	7±'	9± FT ABOVE ROOF

*PROPOSED EQUIPMENT TO NEAREST LOT LINE

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PROJECT INFORMATION

BS60XC010
331 BROADWAY

331-333 BROADWAY
SOMERVILLE, MA 02143

DRAWING TITLE

PLOT PLAN

DRAWING NUMBER

C-1

Sprint
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1 INTERNATIONAL BLVD, SUITE 800
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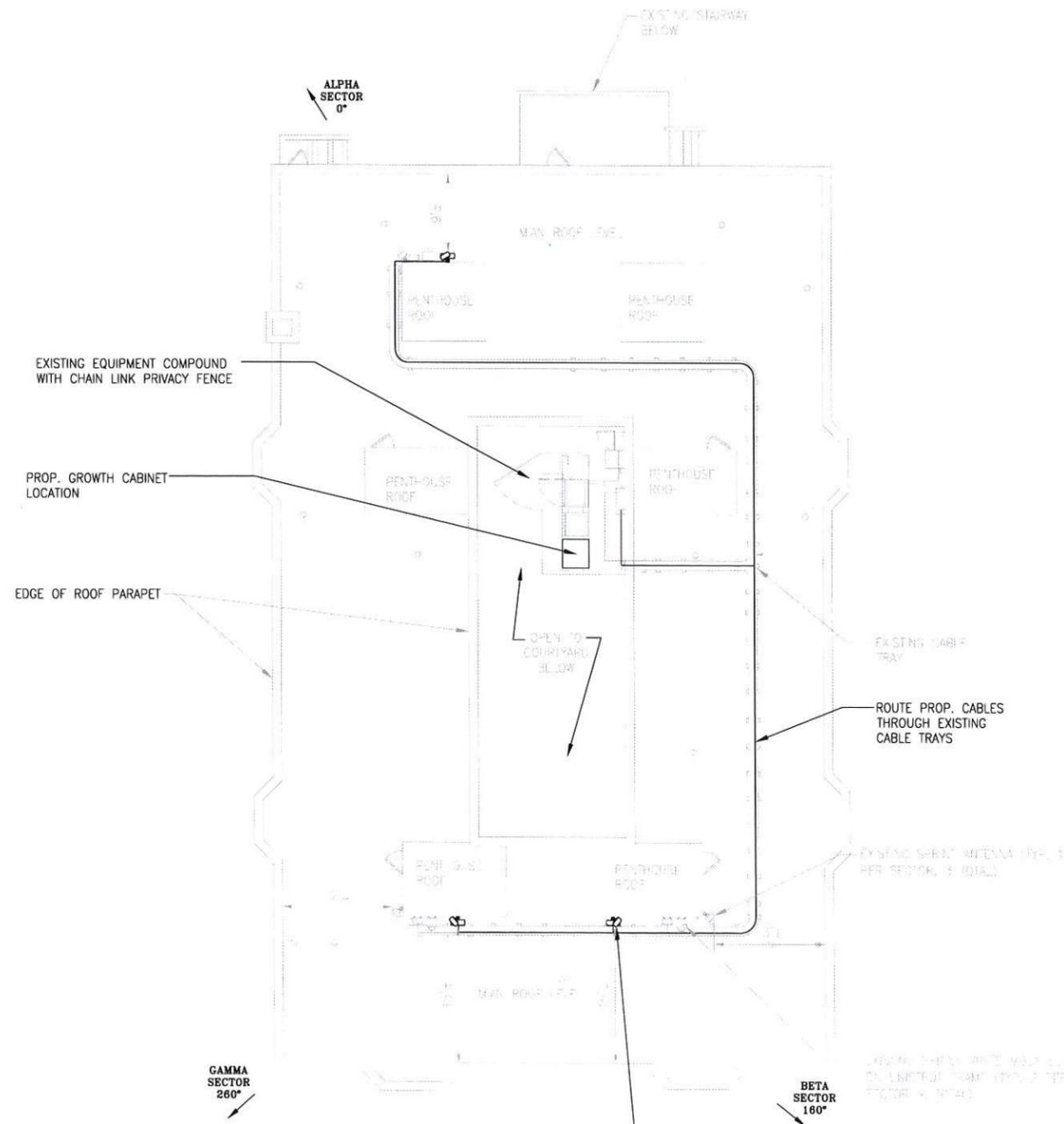
331-333 BROADWAY
SOMERVILLE, MA 02143

DRAWING TITLE

**ROOF AND
EQUIPMENT PLANS**

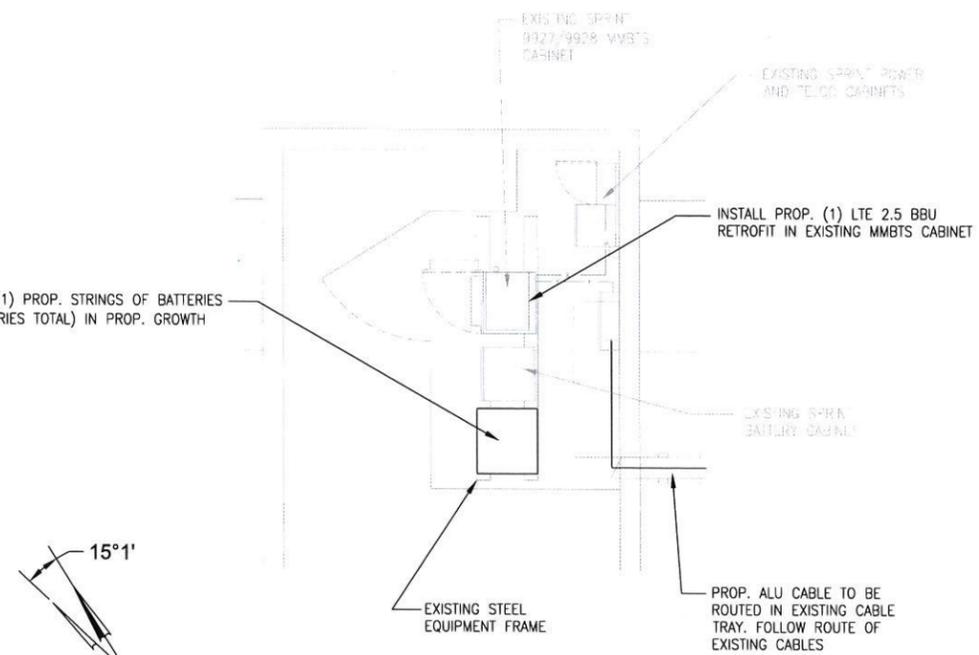
DRAWING NUMBER

Z-1



1
Z-1
ROOF PLAN
SCALE: 1/8"=1'-0"

0 4' 8' 16' 32'



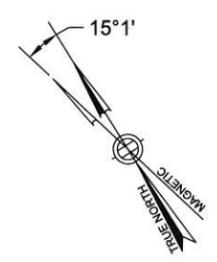
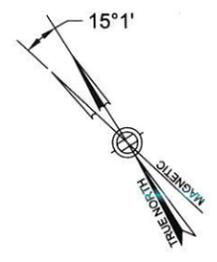
2
Z-1
PROPOSED EQUIPMENT PLAN
SCALE: 1/4"=1'-0"

0 2' 4' 8' 16'



3
Z-1
EQUIPMENT PHOTO DETAIL
SCALE: N.T.S.

EXISTING SPACE FOR SPRINT GROWTH CABINET





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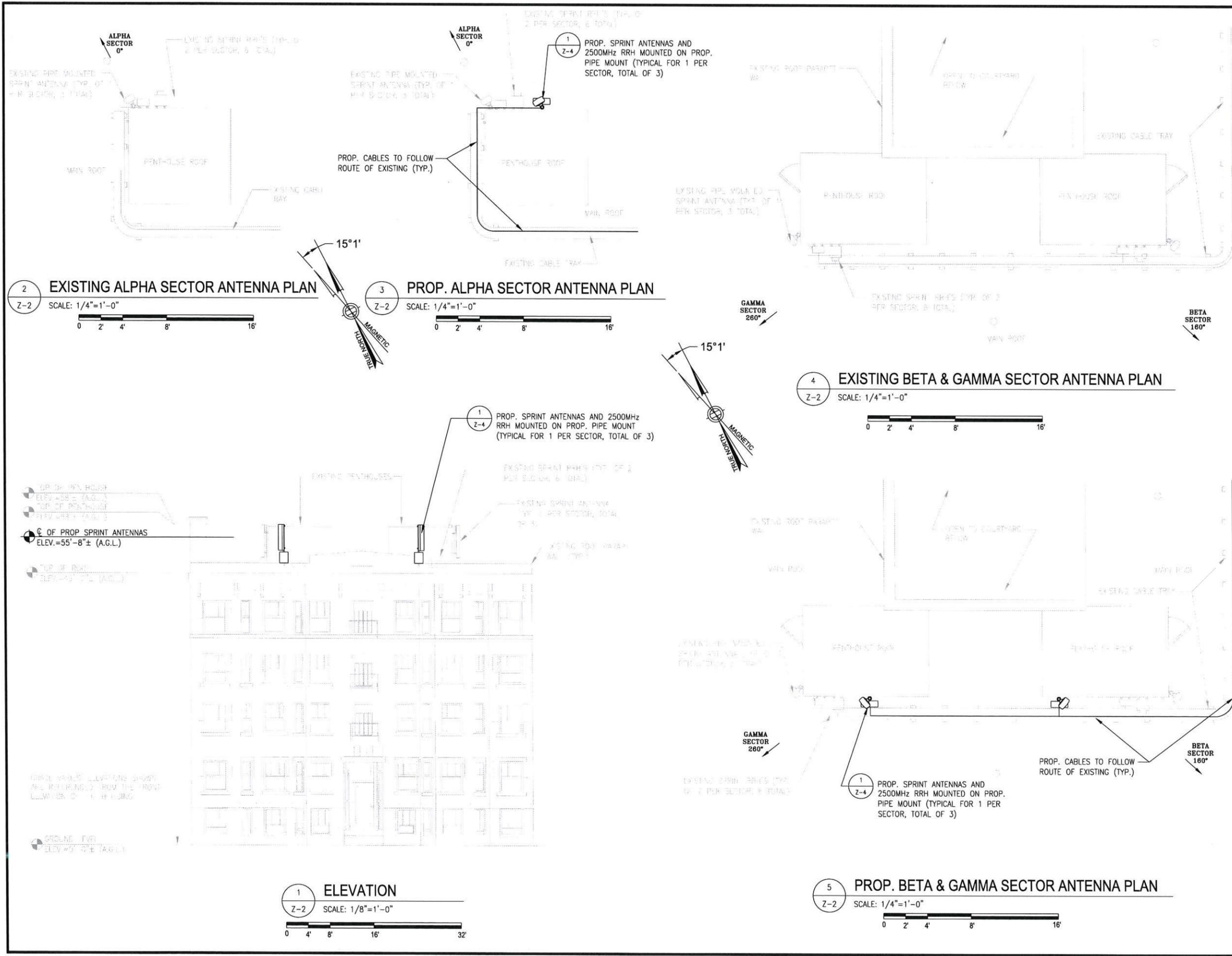
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SOMERVILLE, MA 02143

DRAWING TITLE
**ELEVATION AND
ANTENNA PLANS**

DRAWING NUMBER
Z-2



HYBRID CABLE DC CONDUCTOR SIZE GUIDELINE			
MANUF: RFS			
CABLE	LENGTH	DC CONDUCTOR	CABLE DIAMETER
FIBER ONLY	VARIABLE	USE NV HYBRIFLEX	5/8"
HYBRIFLEX	<200'	8 AWG	1-1/4"
HYBRIFLEX	225-300'	6 AWG	1-1/4"
HYBRIFLEX	325-375'	4 AWG	1-1/4"

RFS HYBRIFLEX RISER CABLE SCHEDULE

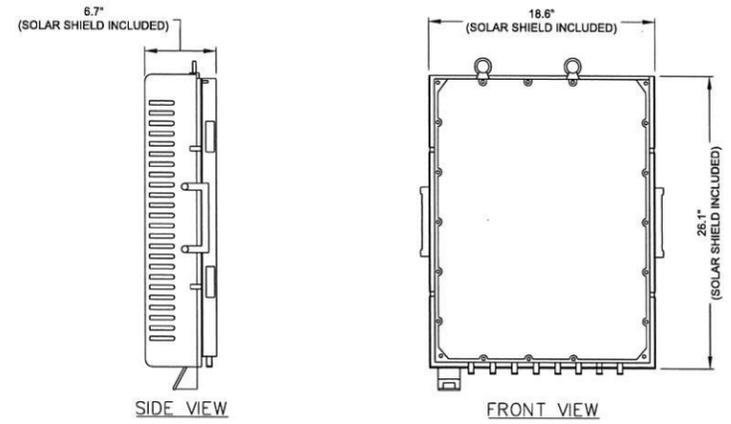
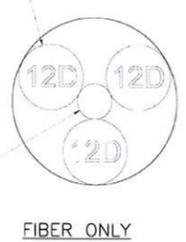
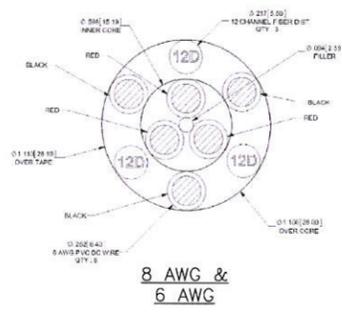
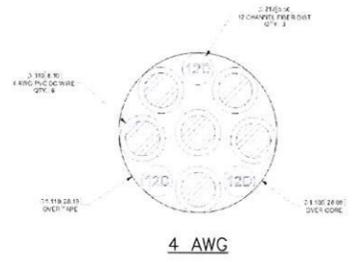
Power	Hybrid cable	Length
Fiber Only (Existing DC Power)	MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
8 AWG Power	MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
6 AWG Power	MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

RFS HYBRIFLEX JUMPER CABLE SCHEDULE

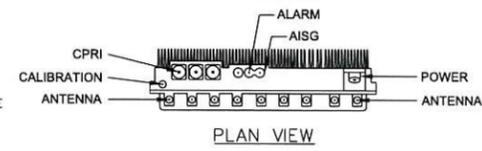
Power	Hybrid Jumper cable	Length
Fiber Only	MN: HBF012-M3-SF1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	MN: HBF058-08U1M3-SF1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	MN: HBF058-13U1M3-SF1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	MN: HBF078-21U1M3-SF1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

* NOTE: SPRINT CM TO CONFIRM HYBRID RISER CABLE AND HYBRID JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.

1 2500MHz HYBRID CABLE X-SECTION & DATA
SCALE: N.T.S.

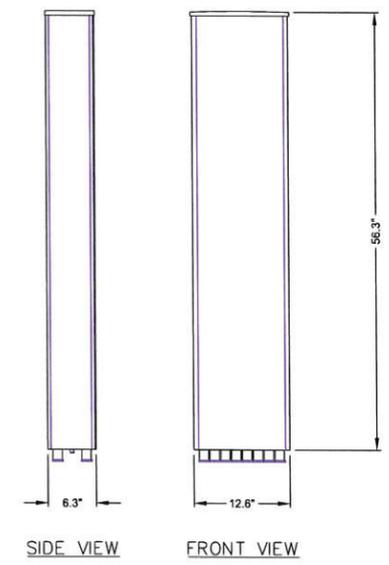
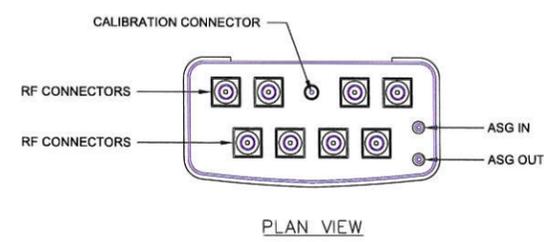


TD-RRHBx20-25 REMOTE RADIO HEAD
DIMENSIONS: 26.1"x18.6"x6.7"
WEIGHT: 60 LBS W/ HARDWARE



2 DETAILS: 2500MHz RRH
SCALE: N.T.S.

MANUF: RFS
MODEL: APXVM14-C-120
LENGTH: 56.3"
WIDTH: 12.6"
DEPTH: 6.3"
WEIGHT: 70 LBS
AREA: 4.9 SF



3 2.5 ANTENNA SPECIFICATIONS
SCALE: N.T.S.

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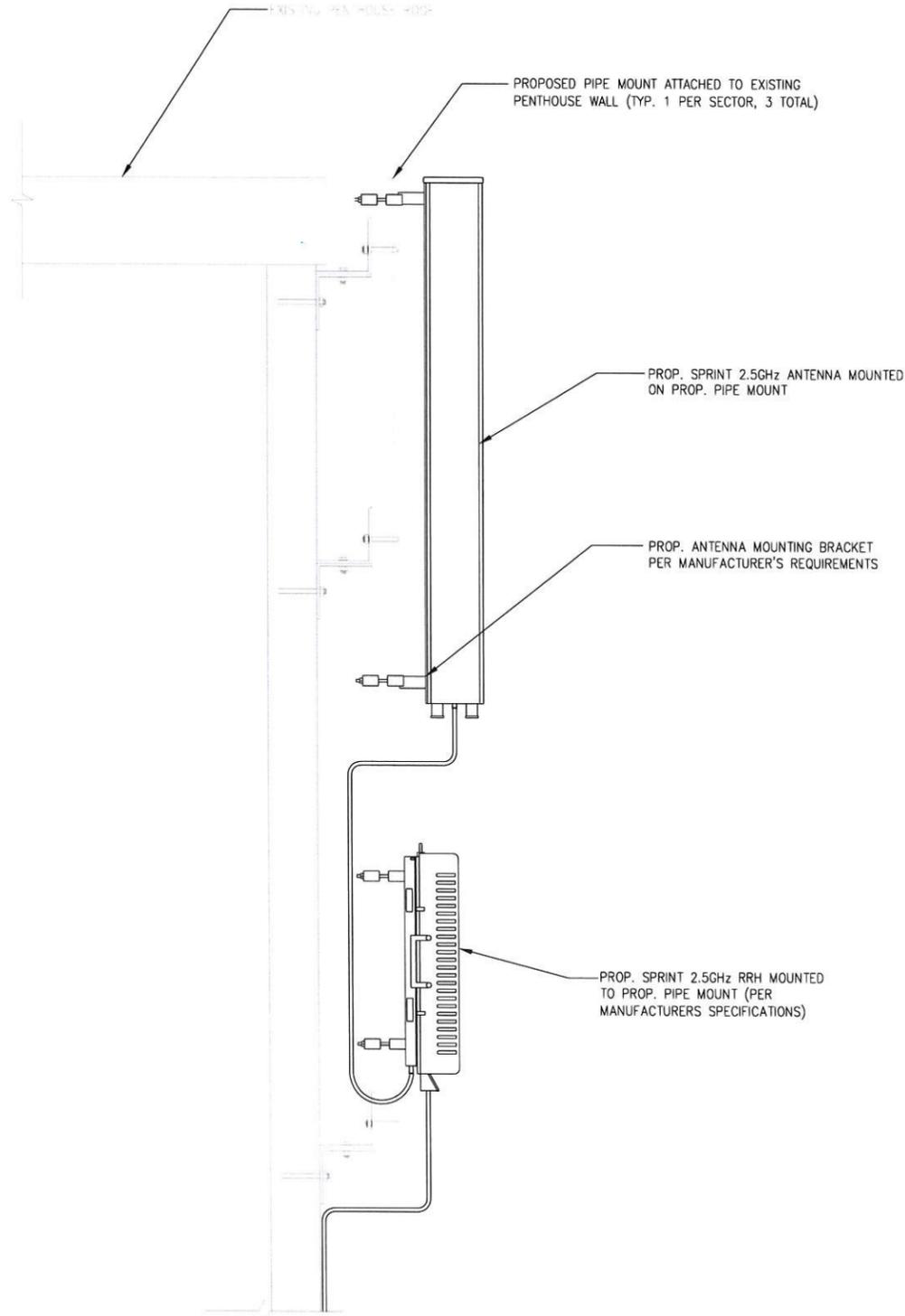
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SOMERVILLE, MA 02143

DRAWING TITLE
EQUIPMENT DETAILS & HYBRID CABLE SPECIFICATIONS

DRAWING NUMBER
Z-3

- INSTALLATION NOTES:**
1. CONTRACTOR TO ENSURE THAT RRH MOUNTING DOES NOT INTERFERE WITH CLIMBING LADDER, CABLE CLIMB, OR COAX PORTS.
 2. CONTRACTOR TO VERIFY IN FIELD SIZE OF EXISTING MOUNTING PIPE TO BE 2½" STD (2.88 O.D.) PIPE MAST (6'-0" LONG), (IF AVAILABLE)
 3. VERIFY EXACT RRH AND ANTENNA MODEL & AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.
 4. ROTATE EXISTING ANTENNA FRAME AS NEEDED TO ACCOMMODATE INSTALL ANTENNAS.
 5. RRH PLACEMENT FOR REFERENCE ONLY. CONTRACTOR SHALL PLACE RRH IN CORRECT ORDER MATCHING INSTALL ANTENNA PLACEMENT AND ENSURE THAT THERE IS ENOUGH CLEARANCE FOR RRHS TO BE PLACED ON THE INSIDE ON THE ANTENNA FRAME/PIPE.
 6. INSTALL EQUIPMENT TO BE MOUNTED PER MANUFACTURERS SPECIFICATIONS.



1 TYPICAL ANTENNA AND RRH MOUNTING DETAIL
Z-4 SCALE: N.T.S.

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VISION

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DRAWING TITLE

**MOUNTING
DETAILS**

DRAWING NUMBER

Z-4