Town of Washington
Town Hall
8 Summit Hill Road
Washington, Massachusetts 01223

Planning Board Contact: Don Gagnon, Chair. djgagnon99@gmail.com

APPLICATION FOR SPECIAL PERMIT

APPLICANT: Todd Alleger/Willistown Conservation Trust/Northeast Motus Collaboration

Address: 925 Providence Rd, Newtown Square, PA 19073

Phone: 610-248-8125 Email: tsa@wctrust.org

PROPERTY OWNER: Commonwealth of Massachusetts/ Massachusetts Department of Conservation & Recreation

Address: 100 Cambridge St, Boston, MA 02204

Phone: _____ Email: _____

Location of Property Affected (Address): 0 Washington Mountain Rd

Map #001 Lot #409-017-00 Book 1285 Page 492

Was project/issue discussed with the Building Inspector? ____ Yes (Date: ___) _X_ No

Subject matter of petition (Please attach additional pages as needed): _____

Installation of a Motus Wildlife Tracking System receiver station in Mass DCR-owned field near corner of Washington Mountain and West Branch roads (coordinates: 42°21'53.08"N, 73° 8'39.63"W). See additional narrative.

Applicable to this section of Washington Zoning Bylaws 4.2.9

I hereby request a hearing before the Planning Board in reference to the above application.

The Applicant shall pay a fee of $100. Please make check payable to "Town of Washington". (See instructions regarding additional fees associated with public hearing.)

APPLICANT SIGNATURE: _____ DATE: 7-11-2023

OWNER SIGNATURE: Priscilla Geigis DATE: 7/18/23

Application and Fee received by: _____
(Washington Town Clerk)

October Mountain Motus Receiving Station

Project Narrative

Project Description

Todd Alleger, on behalf of the Northeast Motus Collaboration and the Audubon Society of New New Hampshire, seeks a special permit under ordinance 4.2.9 (*"Special permits may be issued for accessory he use to a by-right use, whether or not this on the same parcel, that is necessary in connection with scientific research or development or related production, provided that the Planning Board finds that the proposed accessory he use does not substantially derogate from the public good."*) to install a Motus receiving station (for radio-tracking birds, bats, and large insects to which small radio transmitters have been attached). The proposed installation site is at 42.364744°, -73.144342° in an open field in October Mountain State Forest, owned by the Commonwealth of Massachusetts and managed by the Massachusetts Department of Conservation & Recreation (DCR). The parcel in question is located south of the intersection of Washington Mountain Road and West Branch Road (Figure 1).

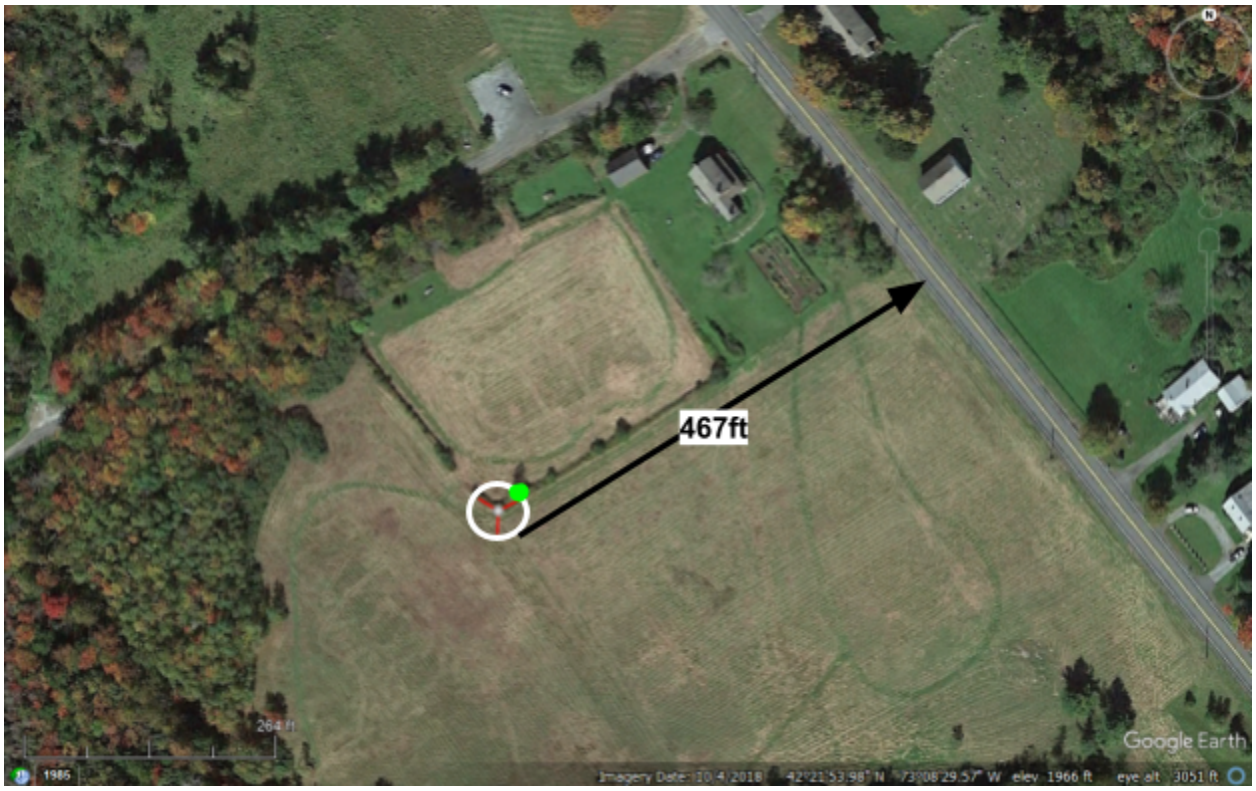


Figure 1. Site of proposed October Mountain Motus receiving station off Washington Mountain Road in Washington, MA. Shown are: Steel guyline anchored 23ft from tower base (red lines), tower area (white circle),

and adjacent tree (green mark; shown in Figures 6 & 7). Distance to Washington Mountain road is approximately 467ft.

RECEIVING STATION DETAILS

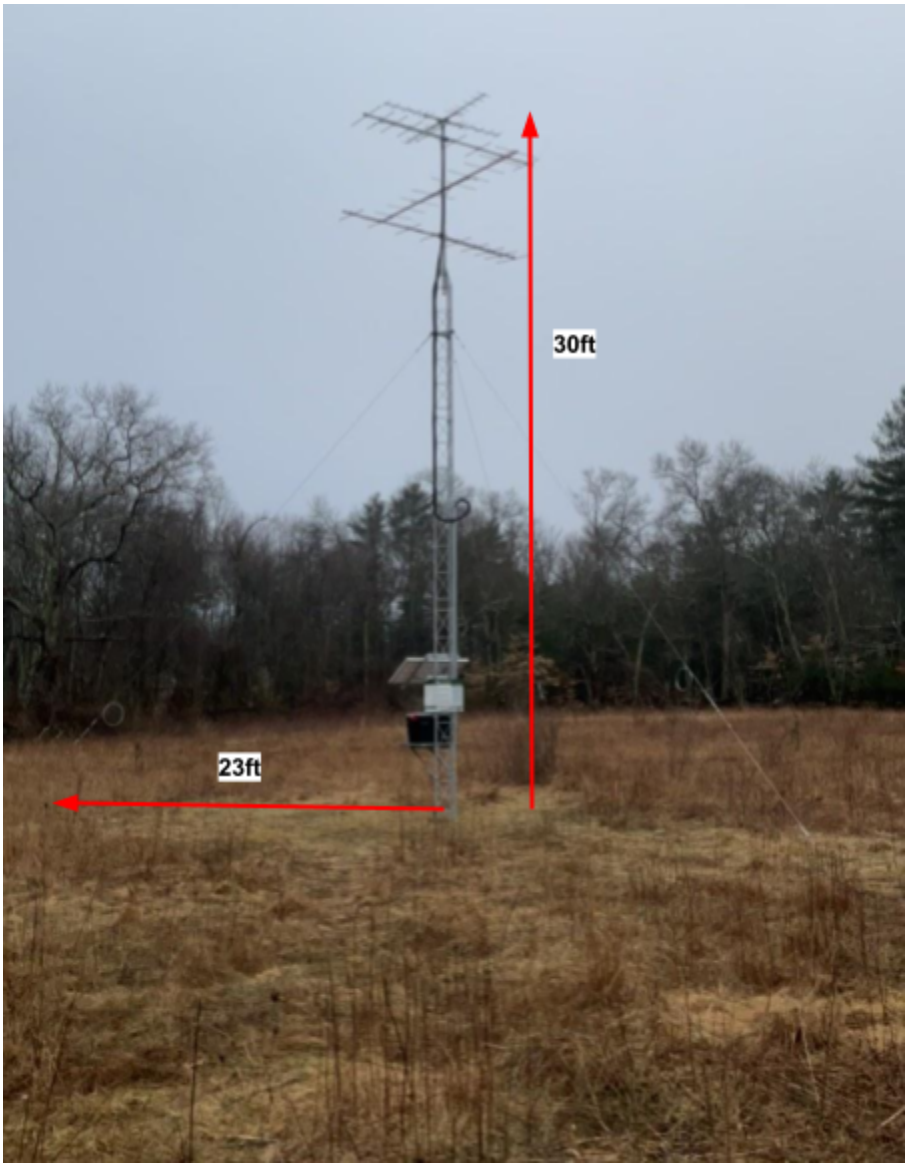


Figure 2. Motus receiving station similar to that proposed for October Mountain.

The proposed receiving station (Figure 2) will consist of a three-sided steel lattice tower (Rohn 25G; 3-sections) 30 ft. in height. The tower will be stabilized by 3 guy lines (3/16" galvanized steel) anchored at a radius of 23ft. from the base. The guy lines are secured to drive-in ground anchors (Duckbill 88) that are angled into the soil to a depth of 3 ft and tensioned with turnbuckles (½" x 6"; galvanized steel). The lower 6-8 ft of each guy line will be marked for year-round visibility. Anti-climb panels will be secured to the lower 10' section of the tower

(Figure 3). The anchors are the only parts that go below the ground; all other components of the receiving station are above the surface, no excavation or earth moving is required. All equipment is removable.

Figure 3: Anti-climb panels and marked guy line on Motus receiver station similar to proposed installation.

Eight antennas will be attached to the tower mast at heights of 26 to 30 ft. above ground, visually consistent with Figure 2. Antennas will include:

- 2 x Maple Leaf Communications 9ENF166 @ 166.380 mHz
- 2 x Maple Leaf Communications 5ENF166 @ 166.380 mHz
- 4 x Maple Leaf Communications 7ENF434 @ 434.00 mHz

The station will be powered by a single 100w solar panel (Renogy 100D-SS) and 12v battery (Universal Power 12v 100AH). Battery, receiver unit, and all connections will be mounted in a

locked, weatherproof case secured at the base of the station (Figure 4). Refer to Appendix A for specifications of individual components.

Data upload will be via local cellular network and will be monitored remotely for data flow and function. All detection data will be publicly available on www.Motus.org. The station will be marked with informational signage explaining the purpose of the equipment and directing the public to available detection data and more information.

Figure 4: Ground-level features of proposed receiving station including locked equipment enclosure and informational signage.

LOCATION & PLACEMENT

The receiving station is proposed to be positioned at the north-central corner of the field (coordinates: 42.364744°, -73.144342°) off the southern corner of the abutting property (Figure 5). This location provides the best balance of site characteristics (elevation, flat topography, clear viewshed) and aesthetic considerations (distance from roadway, positioning behind vegetation) to achieve maximum research benefit with minimum visual disturbance (Figures 6 &

7). Figure 8 illustrates visibility of a similar receiving station from a distance of approximately 200 ft.

Figure 5. Current conditions and tower/guy line placement at proposed site for October Mountain Motus receiving station off Washington Mountain Road in Washington. Shown are: Steel guy line anchored 23ft from tower base (red lines), tower area (white circle), and an adjacent tree (green mark) depicted in Figures 6 & 7.

Figure 6: Proposed location of receiving station as seen from Washington Mountain Road (red arrow).

Figure 7: Proposed location of receiving station indicated by flagged pole to left of nestbox. Station will be positioned to minimize visibility from Washington Mountain Road and the abutting property.

Figure 8: View of similar receiving station across open field from a distance of approximately 200ft.

INSTALLATION & MAINTENANCE PLAN

If the special use permit is granted, 2-4 technicians will install the receiving station over the course of one day. Project personnel will monitor the receiving station remotely for data flow

and function and will schedule and perform in-person maintenance visits twice a year. Maintenance visits involve assessment of station function, structural integrity, safety, and security. Additional visits will be scheduled if repairs are needed. All maintenance visits are conducted by Northeast Motus Collaboration members or trained collaborators.

Vegetation maintenance of the area within the station will be managed by DCR on a schedule determined by DCR staff. A research permit and agreement with DCR provides for the station to remain in place for five years, with an option for renewal.

Project Background

The Motus Wildlife Tracking System is a global network of automated telemetry receiving stations coordinated by Bird Studies Canada. Stations detect unique, Morse code-like signals from tiny radio tags that all transmit on the same frequency and can be deployed on birds, bats, and even large insects. This new technology makes it possible to identify migration routes, stopover areas, and wintering locations for small animals whose travels were previously impossible to study at a landscape scale.

The Northeast Motus Collaboration was formed in 2017 in Pennsylvania to create a telemetry network throughout the northeastern United States for tracking migratory animals and support a landscape-scale approach to conservation. The original partners included the Ned Smith Center for Nature and Art, Powdermill Nature Reserve, Project Owlnet, and Willistown Conservation Trust. This team secured a Competitive State Wildlife Grant (C-SWG) from the U.S. Fish and Wildlife Service to the Pennsylvania Game Commission in 2018 to install 45 Motus receiving stations throughout the mid-Atlantic States (Delaware, Maryland, New Jersey, Pennsylvania, New York).

Following the successful mid-Atlantic C-SWG proposal, collaborators in New England submitted a partner application in 2019 for funding to support installation of 50 Motus receiving stations throughout the New England states. The NH Fish and Game Department is the lead agency for this project, which officially began on July 1, 2020. Partner agencies include Maine Department of Inland Fisheries and Wildlife, Massachusetts Fish and Game Department, and Pennsylvania Game Commission. Collaborating organizations include Carnegie Museum of Natural History, Maine Audubon, Massachusetts Audubon, New Hampshire Audubon, and Willistown Conservation Trust.

As of June 30, 2023, 10 of the 11 planned sites in the state of Massachusetts have been installed. These receiving stations have made a total of 1,446 detections of 78 species, supporting 34 separate research projects in the past year (July 1, 2022 - June 30 2023).

Collaboration and data accessibility is a major component of the Motus Wildlife Tracking System, and all detection data is publicly available at www.motus.org/explore. Site specific detection data may be accessed directly via a simple web link to an automatically updating webpage displaying species detected and animated flight paths in nearly real-time (Jug End State Reservation detections; Figure 9).

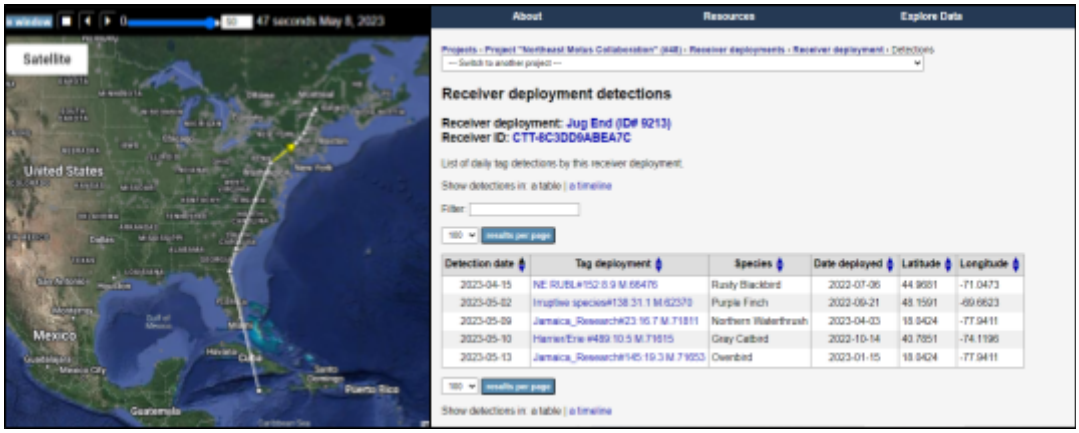


Figure 9: Examples of publicly accessible tag detection data and animated flight path from a receiving station at the Jug End State Reservation in South Egremont, MA.

Project Justification

Characteristics of an ideal receiving station site include:

- Open area, higher than surrounding landscape, with clear line-of-sight for multiple directions. Priority is given to east-west orientations;
- Minimum interference on target frequencies (166.380 and 434.00);
- Easy access for installation and maintenance;
- Access to AC power source or southern exposure for solar panels;
- Low potential for vandalism.

Potential receiving station sites are first assessed remotely for topography and potential detection area, land use and ownership, nearby natural or conservation lands, potential access, and position within larger state or regional Motus array.

Site visits to October Mountain with landowners and abutters occurred on May 16, 2022 and June 28, 2023 to discuss feasibility and logistics of a receiving station as well as to determine preferred placement in the field. The proposed location on the southwestern side of existing trees maintains the topographical benefits and east-west sightlines of the station and minimizes visual disturbance to the abutter and travelers on Washington Mountain Road. Tests for radio noise and cellular connectivity using a SensorStation receiver identified no issues.

The proposed location satisfies the criteria for an ideal site and is on land owned by a state agency with a mandate for conservation of natural resources, which benefits the long-term viability of the station. The proposed receiving station would partially fill a current coverage gap in the Berkshire Mountains of western Massachusetts (Figure 10), contributing to understanding of migratory patterns in the region. In addition to providing data to multiple research projects in the Americas and the Caribbean, this station would support a local, long-term research study on the migratory behavior of Dark-eyed Juncos, a species that has experienced a 30% population decline since 1970.

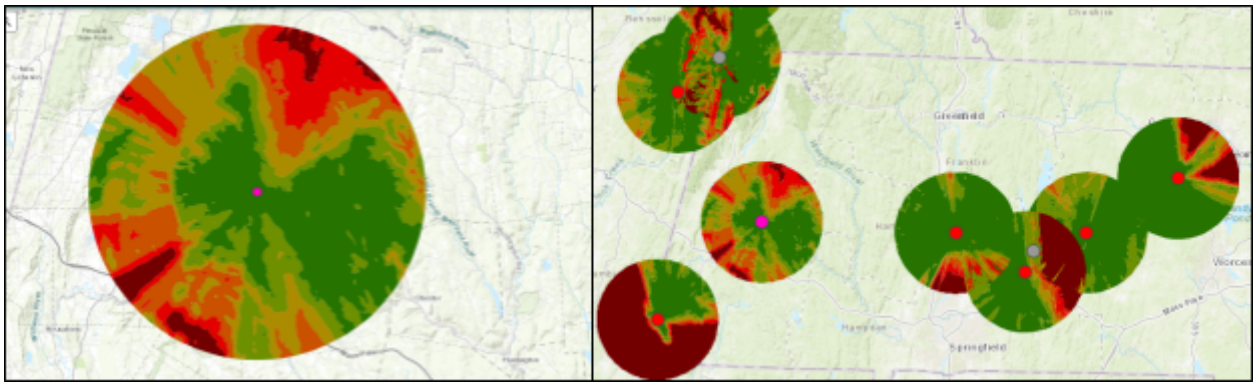


Figure 10: Left - Potential detection area ("viewshed") at proposed site. Colors indicate the height above ground level at which tagged individuals can be detected by a receiving station: Dark green = <100m, Dark red = >500m). Right - proposed Washington site (pink dot) within existing regional Motus array.

We believe that this project meets the intent of Town Ordinance 4.2.9 and constitutes an accessory use that is necessary in connection with scientific research that does not derogate substantially from the public good, and that the resulting benefits to conservation research on local, regional, and hemispheric scales and the opportunity for the Town to support a global, cutting-edge, collaborative, and publicly available wildlife research effort are a net benefit to the public good of the community.

Contacts:

Northeast Motus Collaboration - Todd Alleger - tsa@wctrust.org
Massachusetts Department of Conservation & Recreation - Kris Massini - kris.massini@mass.gov

APPENDIX A: PERMITS & INSURANCE

Client#: 527266 AUDUBSOC

ACORD **CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY): 6/26/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Brenda Buck CPCU, CIC, CPIW	
USI Insurance Services LLC 3 Executive Park Drive, Suite 300 Bedford, NH 03110 855 874-0123	PHONE (A/C, No, Ext): 855 874-0123	FAX (A/C, No):
	E-MAIL ADDRESS: brenda.buck@usi.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Philadelphia Indemnity Insurance Co.	18058
INSURED Audubon Society Of N. H. dba NH Audubon 84 Silk Farm Road Concord, NH 03301-8200	INSURER B : Acadia Insurance Company	31325
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			PHPK2534536	04/01/2023	04/01/2024	EACH OCCURRENCE	$1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$1,000,000
							MED EXP (Any one person)	$20,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY			PHPK2534534	04/01/2023	04/01/2024	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR			PHUB856901	04/01/2023	04/01/2024	EACH OCCURRENCE	$3,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$3,000,000
	DED X RETENTION $10000							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N			WCA000535942	04/01/2023	04/01/2024	X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$500,000
							E.L. DISEASE - POLICY LIMIT	$500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Evidence of Insurance

CERTIFICATE HOLDER	CANCELLATION
Massachusetts Department of Conservation and Recreation 10 Park Plaza, Suite 6620 Boston, MA 02116	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

AGPZP

APPENDIX A: PERMITS & INSURANCE

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

RECEIVED
OCT 17 2022
MASS. HIST. COMM
RC.72251

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: October Mountain Motus Receiving Station

Location / Address: Off Washington Mountain Road, at 42.364627 -73.144485

City / Town: ~~Lee~~ Washington

Project Proponent

Name: Massachusetts Division of Fisheries and Wildlife

Address: Field Headquarters, 1 Rabbit Hill Road

City/Town/Zip/Telephone: Westboro, MA 01581 508-389-6387

After review of the MHC's files and the materials you submitted, the MHC has determined that the proposed project will have "no adverse effect" on significant historic or archaeological properties.

Brona Simon 11/17/22

Brona Simon Date
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
Massachusetts Division of Fisheries and Wildlife	State
U.S. Fish and Wildlife Service, Division of Federal Aid	C-SWG

Project Description (narrative):

The project includes installation of a three-sided steel lattice tower (Rohn 25G; 1ft per side) 35 ft. in height , stabilized by 6 to 12 guy lines anchored at a radius of 21-28 ft. from the base. Eight antennas will be attached to the mast at heights of 26 to 32 ft. above ground.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

The project does not include any building demolition.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

The project does not include any building rehabilitation. .

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

The project includes installation of a three-sided steel lattice tower (Rohn 25G; 1ft per side) 35 ft. in height , stabilized by 6 to 12 guy lines anchored at a radius of 21-28 ft. from the base. Eight antennas will be attached to the mast at heights of 26 to 32 ft. above ground.

APPENDIX B: EQUIPMENT SPECIFICATIONS

Maple Leaf Communications

UHF Directional Yagi Antenna

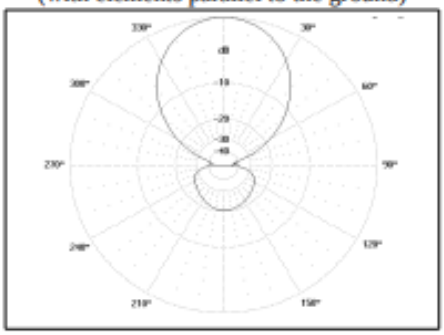
Model: 7E434-NF

Optimised for MOTUS applications

Frequency Range:	430 – 438MHz
Gain(free space):	12.1dBi (10.0dBd)
Impedance:	50 Ohms
1.5:1 VSWR Bandwidth (typ.):	>8MHz
Polarization:	Horizontal or Vertical
Pattern:	Directional
-3dB Beamwidth(free space):	43° x 49° (E x H)
Front-to-Back Ratio	>18dB
Power Rating:	150 Watts
Input Connector:	N-female on short coax pigtail
Length:	42" (107cm) (split boom for easier shipping)
Windload (no ice):	0.3sq. ft (0.03sq. m)
Mounting:	End Mount {fits up to 1.75"(4.44cm) od support mast}
Weight:	1 lb 14 oz (0.85 kg) (including mounting bracket)
Construction:	Aluminum and Stainless steel (V-bolts & hardware)
Shipping (single Yagi):	Supplied in 14" x 24" x 4.5" (36 x 61 x 12cm) box {3.5lb (1.6kg)}
Shipping (3 Yagis):	Supplied in 14" x 24" x 9" (36 x 61 x 23cm) box {8.6lb (3.6kg)}

- **Elements are Pre-Assembled**
- **2-Piece Boom for Quick Assembly**
- **No Tuning required**
- **Waterproof Feed System**
- **Shipped Single or 3 Yagis per Box**

Horizontal Radiation Pattern (E)
(with elements parallel to the ground)



Maple Leaf Communications
Box 1471 R.R. # 1
Everett, Ontario
L0M 1J0 Canada

Tel: (705) 435-2819
Fax: (705) 435-2996
http://www.mapleleafcom.com

Rev.222

APPENDIX B: EQUIPMENT SPECIFICATIONS

Maple Leaf Communications

Optimised for MOTUS applications

164 - 170MHz Directional Yagi Antenna

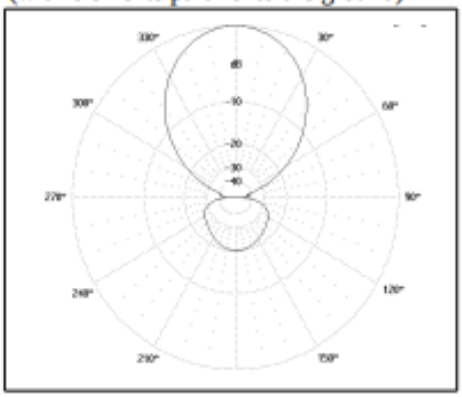
Model: 5E166-*

- - - - - Preliminary - - - - -

Frequency Range:	164 – 170MHz
Gain(free space):	10.0dBi (7.9dBd)
Impedance:	50 Ohms
1.5:1 VSWR Bandwidth (typ.):	>6MHz
Polarization:	Horizontal or Vertical
Pattern:	Directional
-3dB Beamwidth(free space):	56° x 73° (E x H)
Front-to-Back Ratio	>18dB
Power Rating:	250 Watts
Input Connector:	* see chart below - supplied on 12" (30cm) coax pigtail
Length::	63.5" (161.3cm) (3-piece boom for easier shipping)
Windload (no ice):	0.66sq. ft (0.061sq. m)
Mounting:	End Mount or Centre Mount (fits up to 2.38" od support mast)
Weight:	4 lb 3 oz (1.89.0kg) (including mounting bracket)
Construction:	Aluminum and Stainless steel (V-bolts stainless steel)
Shipping:	Supplied in 3" x 3" x 49" (7.6 x 7.6 x 125cm) box

-* Connector options:
N-Male – 9E166-NM
N-Female – 9E166-NF
UHF Male – 9E166-UM
UHF Female – 9E166-UF
SMA-Male – 9E166-SM
BNC Female – 9E166-BF
BNC Male – 9E166-BM

Horizontal Radiation Pattern
(with elements parallel to the ground)



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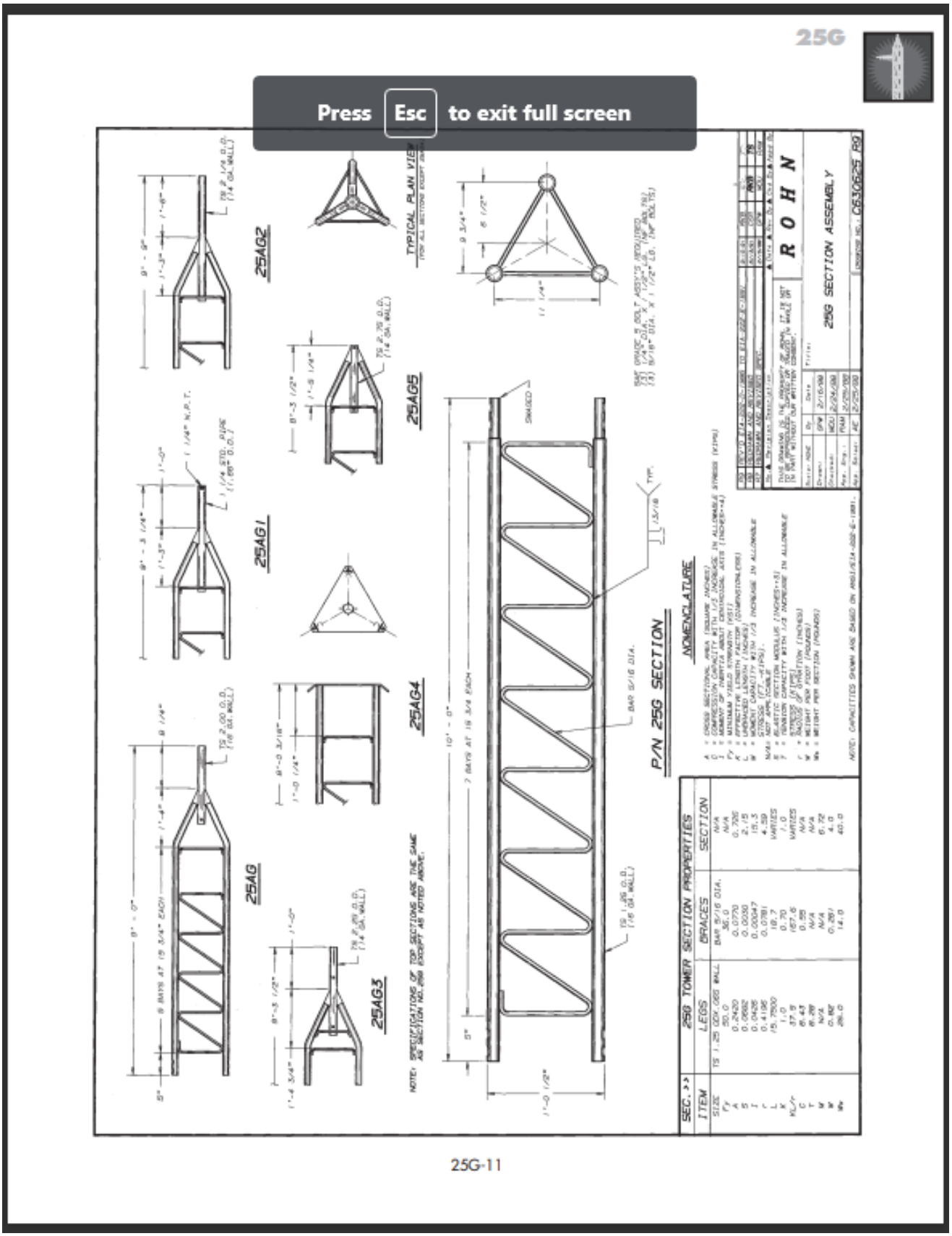
Fax: (705) 435-2996
http://www.mapleleafcom.com

Rev.120

APPENDIX B: EQUIPMENT SPECIFICATIONS



APPENDIX B: EQUIPMENT SPECIFICATIONS

RNG-100D-SS

100W Monocrystalline Solar Panel

Electrical Data

Maximum Power at STC*	100 W
Open Circuit Voltage (V_{oc})	24.3 V
Short Circuit Current (I_{sc})	5.21 A
Optimum Operating Voltage (V_{mp})	20.4 V
Optimum Operating Current (I_{mp})	4.91 A
Module Efficiency	17.8%
Maximum System Voltage	600 V DC
Maximum Series Fuse Rating	15 A

Mechanical Data

Solar Cell Type	Monocrystalline (6.5 x 3.3 in)
Number of Cells	36 (3 x 12)
Dimensions	41.8 x 20.9 x 1.4 in (1062 x 530 x 35 mm)
Weight	14.1 lb (6.4 kg)
Front Glass	Tempered Glass 0.13 in (3.2 mm)
Frame	Anodized Aluminium Alloy
Connectors	Solar Connectors
Fire Rating	Class C

Thermal Characteristics

Operating Module Temperature	-40°F to 176°F
Nominal Operating Cell Temerature (NOCT)	47±2°C
Temperature Coefficient of Pmax	-0.37%/°C
Temperature Coefficient of Voc	-0.28%/°C
Temperature Coefficient of Isc	0.05%/°C

Solar Connectors

Rated Current	30A
Maximum Voltage	1000 VDC
Maximum AWG Size Range	10 AWG
Temperature Range	-40°F to 194°F
IP Rating	IP 67

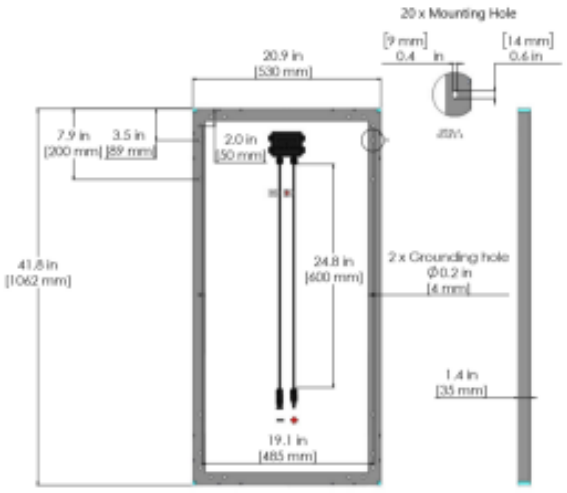
Junction Box

IP Rating	IP 65
Diode Type	HY 10SQ050
Number of Diodes	2 Diode(s)
Output Cables	14 AWG (1.96 ft)

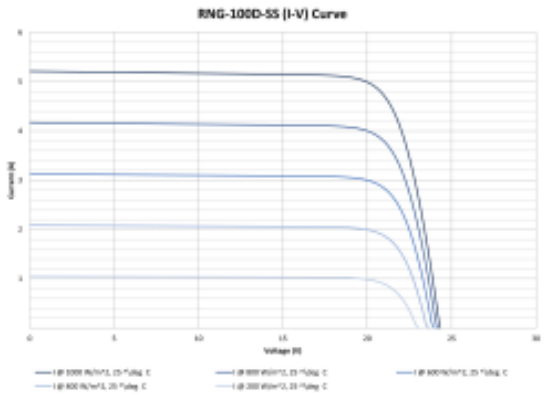
Certifications

CE ISO 9001

Module Diagram



IV-Curve



*All specifications and data described in this data sheet are tested under Standard Test Conditions (STC - Irradiance: 1000W/m², Temperature: 25°C, Air Mass: 1.5) and may deviate marginally from actual values. Renogy and any of its affiliates has reserved the right to make any modifications to the information on this data sheet without notice. It is our goal to supply our customers with the most recent information regarding our products. These data sheets can be found in the downloads section of our website, www.renogy.com

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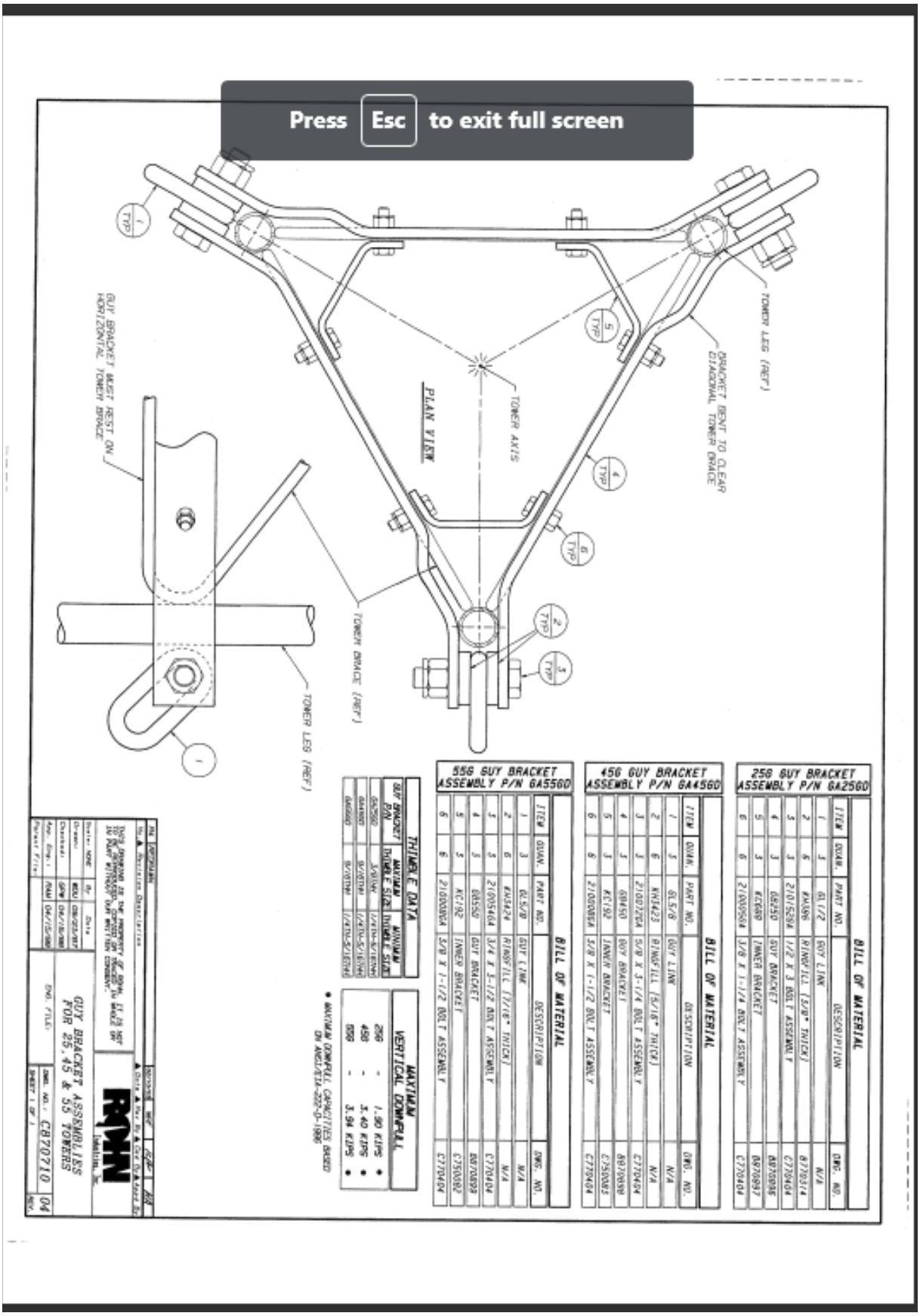

APPENDIX C: LETTERS OF SUPPORT

MCLA

MASSACHUSETTS COLLEGE OF LIBERAL ARTS

23 June 2023

To: Todd Alleger, Northeast Motus Collaboration

Dear Todd,

I am writing to provide details about my ongoing research in Berkshire County, MA related to studying bird migration through use of the Motus network. I greatly appreciate your organization's efforts, plus the efforts of numerous other collaborators to install and maintain receiving stations that collectively make up the Motus network. My research would not be possible without you and dozens of other collaborators who support the infrastructure to make the research possible. In particular, the proposed October Mountain State Forest Motus receiving station location, in the highest elevation possible along Washington Mountain Road would be extremely valuable toward to helping elucidate migratory behaviors of birds that use Berkshire County as breeding, migratory and overwintering habitats, especially the Dark-eyed Junco *(Junco hyemalis hyemalis).*

Since 2017, I have been studying the Dark-eyed Juncos in Berkshire County, MA. While still considered a common songbird, this species has experienced >30% population declines since 1970; understanding all parts of its annual cycle is an important step in halting these declines. One very important goal of my research is to describe the migratory behavior of juncos in this area. Berkshire County lies in the portion of this species' range where individuals can be found year-round. Yet, we do not know the degree to which these individuals are the same or different throughout the year. Do we have different populations of juncos in the summer vs. spring migration vs. fall migration vs. winter? Or, to what degree are these the same individuals in Berkshire County throughout the year?

With permission from MA DCR, I have been using October Mountain State Forest as a banding site for breeding juncos (May-August) since 2020. A nearby private residence (~ 1 mi east of the proposed October Mt. Motus receiving station) has been an important banding site for juncos during fall migration, winter, and spring migration. As you know, tagging birds within proximity to a receiving station greatly adds to the value of the data from the radio-tagged birds. This Motus station in October Mountain SF, especially at the highest elevation possible, would be a tremendous asset to answering my research questions. Given the number of juncos I have banded in Washington, MA within in the detection radius of the proposed Motus tower site, I fully expect this to be one of my most important sites for tagging juncos for several years into the future, if this receiving station is installed.

I want to emphasize that this Motus tagging work on juncos in Berkshire County is not just hypothetical. I tagged 20 juncos in March 2023 in Berkshire County and am deploying additional tags on juncos this summer. Despite being a common bird, migration behavior in juncos remains understudied. However, with help from the Motus network, my students and I are starting to gather this valuable information.

I also want to emphasize that this proposed October Mountain SF station, combined with the Jug End and Hopkins Forest stations, can serve as an excellent teaching tools in my classes at MCLA, as well.

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