DANE COUNTY DEPT. OF PUBLIC WORKS, HIGHWAY & TRANSPORTATION

1919 Alliant Energy Center Way
Madison, Wisconsin 53713
Office: 608/266-4018 ◊ Fax: 608/267-1533
Public Works Engineering Division

ADDENDUM

NOVEMBER 12, 2021

ATTENTION ALL REQUEST FOR BIDS (RFB) HOLDERS

RFB NO. 322017 - ADDENDUM NO. 3

NEW RADIO TOWER

BIDS DUE: TUESDAY, NOVEMBER 17, 2021, 2:00 PM. DUE DATE AND TIME **ARE** CHANGED BY THIS ADDENDUM.

This Addendum is issued to modify, explain or clarify the original Request for Bid (RFB) and is hereby made a part of the RFB. Please attach this Addendum to the RFB.

PLEASE MAKE THE FOLLOWING CHANGES:

1. **Section 00 01 01 - Project Manual Cover Page**
   Change: " Due Date / Time: **TUESDAY, NOVEMBER 16, 2021 / 2:00 P.M.** ",
   to: " Due Date / Time: **WEDNESDAY, NOVEMBER 17, 2021 / 2:00 P.M.** ".

2. **Section 00 01 10 - Table of Contents**
   Page 1: After the last item in the **DRAWINGS** sub-section, insert the following:

   " **ATTACHMENTS**
   Fiberglass Omnidirectional Antennas - FG8063
   Fiberglass Omnidirectional Antennas, UHF - FRX450
   Fiberglass Omnidirectional Antennas - 154-174, 2.1dBi, N Female
   Tower Loading Summary Sheet "

3. **Section 00 11 16 - Invitation to Bid**
   Change: " **2:00 P.M., TUESDAY, NOV. 16, 2021**",
   to: " **2:00 P.M., WEDNESDAY, NOV. 17, 2021**",

4. **Section 01 74 19 - Construction Waste Management, Disposal & Recycling**
   After this Section, insert the **Attachments** Section, issued with this Addendum.

5. Sheet A-1

Modify current Sheet A-1 as follows: on the left side below the existing Notes, add the following:

NOTE:
THE GENERAL CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE (FURNISH AND INSTALL) ALL OF THE ANTENNAS, MOUNTS, COAX AND NECESSARY CONNECTORS. ALSO, THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR BRINGING THE COAX INTO THE BUILDING AND TERMINATING THEM 4' INSIDE OF THE RADIO EQUIPMENT ROOM FROM A GROUNDING / TERMINATION BAR SUSPENDED FROM THE CEILING.

THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR GROUNDING THE NEW TERMINATION POINT BACK TO THE EXTERIOR GROUND RING.

REFER TO THE PRODUCT DATA IN THE PROJECT MANUAL (ATTACHMENTS), ISSUED WITH ADDENDUM NO. 3 AND THE LOCATIONS AND HEIGHTS ON THIS DRAWING, A-1.

If any additional information about this Addendum is needed, please contact Scott Carlson at 608/266-4179, carlson.scott@countyofdane.com.

Sincerely,

Scott Carlson

Project Manager

Enclosures:
Attachments Section (7 pages)

H:\Shared\ENGINEERING DIVISION\Scott Carlson\321017 - EM Radio Tower Construction\04 - Addenda\Addm3\321017-Add'm3.docx

ATTACHMENTS

Laird™

Smart Technology. Delivered.™

FIBERGLASS OMNIDIRECTIONAL ANTENNAS

FG8063

FIBERGLASS BASE STATION ANTENNAS FEATURE INDUSTRY-LEADING DESIGN COMPONENTS THAT PERFORM IN EXTREME CONDITIONS

Laird fiberglass base station antennas are collinear designs enclosed in a high density fiberglass, which is covered with a protective ultraviolet inhibiting coating.

The radiating elements are made from high efficiency copper and are carefully phased to provide maximum gain in the horizontal plane. The mounting sleeves are tuned to eliminate RF currents from the transmission line, resulting in a "cold" sleeve allowing great freedom in mounting. This high quality and well-focused beam provides the highest gain and best efficiency.

FEATURES AND BENEFITS:

- Every FG fiberglass base antenna is tested on a network analyzer to assure the best performance.
- Special UV Treated - stands up to the sun.
- Durable gold anodized sleeve and cap with N Female connector.
- Custom tuning available.
- FedEx / UPS Shippable.

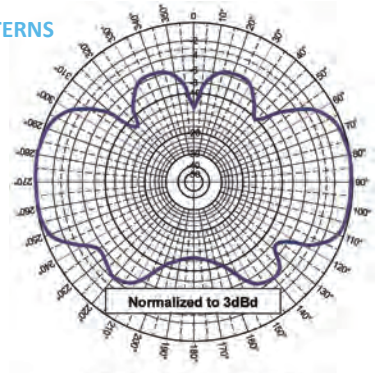
APPLICATIONS:

- Omnidirectional (circular) outdoor antenna applications used by private organizations and government agencies around the globe.
- Typical applications include land based and marine radio and data transmissions for public safety agencies, commercial organizations, and the military.

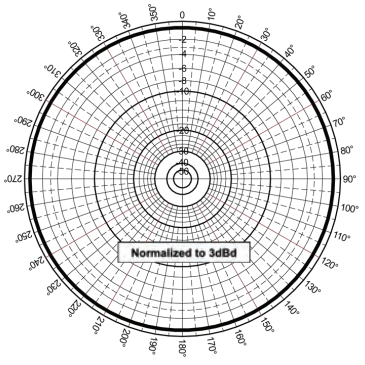
Electrical	
Frequency Range	806 – 866 MHz
VSWR	< 2:1 Max
Nominal Gain	3 dBd
Maximum Power	200 W
Nominal Impedance	50 Ω
Polarization	Vertical
Pattern	Omnidirectional
Half-Power Beamwidth (Elevation° x Azimuth°)	70° x 360°
Coaxial Cable Length & Type	None
Termination	N Female connector
Lightning Protection	Lightning Arrestor LABH350NN (Sold separately)

Mechanical	
Height	23-3/8"
Diameter	1.310"
Weight	< 1 lbs
Rated Wind Velocity	125 mph (210 kph)
Rated Wind Velocity (with 0.5" radial ice)	85 mph (137 kph)
Lateral Thrust @ 125mph wind velocity	57 lbs (26 kg)
Wind Resistance	0.2104 sq. ft.
Mounting Information	FM2 Mounting Kit (Sold separately)

RADIATION PATTERNS



Elevation Pattern (Y, Z, or H-plane)



Azimuthal Pattern (Y, Z, or E-plane)

ANT-DS-FG8063 0616

Item # FRX450, UHF Fiberglass Omnidirectional Antenna

UHF Fiberglass Omnidirectional Antenna

FR Series Fiberglass Omnis

Stock Locator

Laird Technologies' UHF fiberglass series is best suited to base station and talkarround applications. The versatility in frequency and gain selection combined with a highly reliable solid brass radiator provide exceptional value for superior RF performance. The quality design of the integrated pigtail and N-female connector are excellent weather-proofing features. Mounting hardware is included facilitating installation.

SPECIFICATIONS

Band	UHF
Series	FR
Frequency	450 to 470 MHz
Gain	5 dBi
Bandwidth	20 MHz
3dB Beamwidth, E Plane	24 °
Height	42.25 in 114.94 cm
Weight	1.14 lbs 0.51 kg
Wind Surface Area	0.212 m^2 0.020 ft^2
VSWR	1.5:1
Polarization	Vertical
Impedance	50 ohms
Pigtail	12 in (30.5 cm) UltraLink
RF Connector	N (Female)
Wind Survival	125 mph 200 kph

Enclosure Material	Fiberglass
Power	150 watts
Mounting Style	Tube end

PRODUCT DATASHEET

BA1012-2

RADIO FREQUENCY SYSTEMS
The Clear Choice®

Omnidirectional Fiberglass Antenna, 154-174, 2.1dBi, N Female

These antennas feature a very broad frequency band, rugged construction and small size. Radiating elements are constructed of copper alloy, encased in a weather resistant low loss fiberglass radome. BA1012 "Light Weight" models terminate in a 1 inch-14 threaded ferrule which attaches directly to the N275F mounting hardware. Due to their wide bandwidth, they are ideal for use as emergency backup antennas. Their size and mounting fixtures allow for easy storage and fast installation. Alternative mounting hardware is available for most applications.

FEATURES / BENEFITS

- Broadband - reduces backup inventory and the need for multiple antennas.
- Fiberglass radome protects radiating elements in hostile environments.
- Copper elements maximize system performance while minimizing the possibility of intermod.

BA1012 Series

Technical Features

ELECTRICAL SPECIFICATIONS		
Horizontal Pattern		OmniDirectional
Frequency Range	MHz	154 - 174
Horizontal Beamwidth	deg	N/A
Electrical Downtilt	deg	0.0
Gain	dBi (dBd)	2.1 (0)
Vertical Beamwidth	deg	80.0
Polarization		Vertical
VSWR		< 1.5:1
Impedance	Ohms	50.0
Maximum Power Input	W	100.0
Lightning Protection		Direct Ground
GENERAL SPECIFICATIONS		
Antenna Type		Fiberglass Omni
MECHANICAL SPECIFICATIONS		
Connector Type		N Female
Connector Location		Bottom
Weight w/o Mtg Hardware	kg (lb)	1 (1.3)
Mount Type		Fixed
Mounting Hardware		N275F
Rated Wind Speed	km/h (mph)	200 (125)
Flexible Extensions		None
Overall Length	m (ft)	1.13 (3.7)
Element Housing Length	m (ft)	1.25 (4.1)
Mounting Pipe Diameter	m (in)	0.03 (1.2)
Support Pipe Length	m (ft)	0.12 (0.4)
Radiating Element Material		Brass
Element Housing Material		Fiberglass
Radome Color		White RAL9010
Support Pipe Material		Black Anodized Aluminum
Max Wind Loading Area	m^2 (ft^2)	0.021 (0.23)
Bend Mom @ Rated Wind 1" Below Top of Mt Pipe Comment		N/A
Wind Load - Side @ Rated Wind	N (lbf)	46 (10.34)
PACKAGING INFORMATION		
Shipping Weight	kg (lb)	0.9 (1.98)
Shipping Dimensions of Accessory - HxWxD	m (ft)	0.12 x 0.09 x 0.15 (0.4 x 0.3 x 0.5)

RADIO FREQUENCY SYSTEMS
The Clear Choice®

Omnidirectional Fiberglass Antenna, 154-174, 2.1dBi, N Female

External Document Links	Notes

RFQ Information Sheet

Site Name	Dane County Emergency Management Building	**Latitude**	43.016889	**Company Name**	W-T Group
Address	5415 King James Way	**Longitude**	(89.474833)	**Contact Person**	Kevin Cunnie
City, State, ZIP	Fibchburg, WI 53719			**Address**	2675 Pratum Ave.
County	Dane County			**City State zip**	Hoffman Estates, IL 60192
Quote Request Date	10-26--21			**Email**	kcunnie@wtgroup.com
Structure Type:	Monopole			**Structure Height**	70'-0"

Complete List of Loading to be Considered on Design

	Elevation	Qty.	Antenna / Dish Model # or EPA to be considered (Provide Azimuths for dishes)	Mounting Method	Quantity of lines	line size	Additional Notes if Applicable
1	70'-0"	1	Lightning Rod				
2	68'-0"	1	4-Sector Collar Mount				
3		2	24" Stand Off Arms				
4		2	FRX450 Antennas		2	1/2 Coax	
5	63'-0"	1	3-Sector Collar Mount				
6		3	24" Stand Off Arms				
7		3	FRX450 Antennas		3	1/2 Coax	
8	58'-0"	1	4-Sector Collar Mount				
9		4	24" Stand Off Arms				
10		4	FRX450 Antennas		4	1/2 Coax	
11	53'-0"	1	3-Sector Collar Mount				
12		1	3 Sided Low Profile platform with 6 antenna masts				
13		6	BA1012-2 Antennas		6	1/2 Coax	
14	48'-0"	1	4-Sector Collar Mount				
15		4	24" Stand Off Arms				
16		4	FG8063 Antennas		4	1/2 Coax	
17	43'-0"	1	3-Sector Collar Mount				
18		1	3 Sided Low Profile platform with 6 antenna masts				
19		6	FG8063 Antennas		6	1/2 Coax	
20							

Additional Notes/Requirements Type Here: