

**RESOLUTION NO. 2023-64**

**RESOLUTION AUTHORIZING THE VILLAGE OF  
CALEDONIA TO CONTRACT WITH BAYCOM, INC. TO INSTALL  
EXISTING RADIO EQUIPMENT ON THE 7 MILE WATER TOWER**

**WHEREAS**, the Village of Caledonia is constructing a new Public Safety Facility, which will result in the vacation of the current Station 12 on Highway 32 and 5 Mile, and it is the intent of the Village to sell this property in the future; and

**WHEREAS**, existing radio infrastructure that serves the antenna equipment at the current Station 12, which hosts radio communication for Police and Fire on the east of the Village, has substantially degraded and is obsolete, and we are unable to replace it in its current format; and

**WHEREAS**, the Water tower at 7 Mile was built to accommodate antennas for these purposes, and the long-term plan and intent of the Village was to have antennas on this tower for Police & Fire radio communications; and

**WHEREAS**, Baycom, Inc. is the authorized Motorola representative in this area, and they are familiar with the Radio communications of the Village, Racine County, and surrounding municipalities, making them the most qualified firm to perform this work; and

**WHEREAS**, as part of this Resolution a budget modification is necessary to transfer \$87,900 from the Unassigned General Fund Balance to Capital Fund Balance account to offset the costs of the equipment installation, as shown in the attached Fiscal Note; and

**NOW, THEREFORE, BE IT RESOLVED** that the Village Board of the Village of Caledonia, Racine County, Wisconsin, do hereby authorize the Village staff to enter into a sole source contract with Baycom, Inc. as outlined in Exhibit "A".

Adopted by the Village Board of the Village of Caledonia, Racine County, Wisconsin, on this 13 day of June 2023.

By:   
Thomas R. Weatherston, President

Attest:   
Joslyn Hoeffert, Clerk

VILLAGE OF CALEDONIA

FISCAL NOTE: AUTHORIZING THE VILLAGE OF CALEDONIA TO CONTRACT WITH BAYCOM, INC. TO INSTALL RADIO EQUIPMENT ON THE 7 MILE WATER TOWER

FISCAL YEAR: 2023

ACCOUNT NAME	ACCOUNT NUMBER	CURRENT BUDGET	YEAR TO DATE EXPENDITURES	CURRENT BALANCE	BUDGET MODIFICATION	BUDGET AFTER MODIFICATION	REMAINING BUDGET BALANCE
<b>DEPARTMENT: POLICE DEPARTMENT</b>							
General Fund: Fund Balance							
Unassigned	100-34300-000	\$ (4,487,448)	\$ -	\$ (4,487,448)	\$ 87,900	\$ (4,399,548)	\$ (4,399,548)
General Fund: Transfer to							
Capital Projects	100-00-66300	\$ -	\$ -	\$ -	\$ (87,900)	\$ (87,900)	\$ (87,900)
Capital Projects Fund: Fund							
Balance Applied	400-00-49300	\$ (189,865)	\$ -	\$ (189,865)	\$ (87,900)	\$ (277,765)	\$ (277,765)
Capital Projects Fund:							
Equipment	400-30-65030	\$ 69,500	\$ 18,939	\$ 50,561	\$ 87,900	\$ 157,400	\$ 138,461
		<u>\$ (4,607,813)</u>	<u>\$ 18,939</u>	<u>\$ (4,626,751)</u>	<u>\$ -</u>	<u>\$ (4,607,813)</u>	<u>\$ (4,626,751)</u>

The budgeted modification is transferring \$87,000 from Fund Balance to cover the installation costs of the existing radio equipment which will be relocated to the 7 Mile Water Tower.

# BAYCOM

A Lifeline in the Moments that Matter

Quotation For	Vendor
Village of Caledonia	BAYCOM, INC.
Police and Fire	Attn: Dave Feiler
Attn: Chief Botsch	W239 N2890 Pewaukee Road
Attn: Chief Henningfeld	Pewaukee, WI 53072
	414-546-7625

**REVISED**

Quote #: Caledonia PD/FD Satellite Receiver Project / 05262023

Date 5/26/2023

Quote valid until 7/25/2023

ITEM ID	QTY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
	1	DB222A / Fixed Station Antenna	\$754.00	\$754.00
	2	L4TNM-PS / Type N Male Connectors 1/2"	\$45.00	\$90.00
	150	L4DF-45A / 1/2" Foam Heliac TX Line	\$4.75	\$712.50
	1	IS-B50HN-C2-MA / Polyphaser Lightning Suppression NM/NF	\$165.00	\$165.00
	1	Misc. Parts / Customer Jumper NM to NM	\$195.00	\$195.00
	1	BCDSRMC06-08AD / VHF 8 Channel Multicoupler	\$3,700.00	\$3,700.00
	3	Misc. Parts / Custom Jumper NM to NM for Multicoupler	\$585.00	\$1,755.00
	1	60" Cabinet for 7 Mile Tank	\$1,455.00	\$1,455.00
	1	Reprogramming of existing MTR2000 Stations / RX Only	\$435.00	\$435.00
	1	Technical Services: Install Rack, MultiCoupler and 3 MTR2000 Stations. Commission Microwave Links and Network to Existing RX Comparators at Summit and Existing (old) PD. <b>Assumption:</b> All MTR Stations are in good working order.	\$6,480.00	\$6,480.00
	1	Cambium 11 GHz Licensed PTP (Point to Point) Microwave <b>Includes:</b> One (1) 11 GHz Microwave link with 3 ft. dishes 10 MHz, 72 Mbps @ 99.999% reliability, 51 Mbps @ 100%. Three Analog Audio to IP Convertors, Link from 7 Mile Tank to Summit Water Tank, FCC Coordination and Licensing, Tower Infrastructure Installation, Professional Commissioning and Optimization. <b>Assumptions:</b> IP Connectivity will be provided by customer, through the Racine County network, for any links required outside what is being installed. No tower studies or tower (tank) engineering or tower modifications are provided in this proposal.	\$58,134.90	\$58,134.90
Redundancy	1	Back-Up / Cambium and Network Infrastructure <b>Includes:</b> One (1) Spare Modem, Two (2) Spare Lightning Protection Units, One (1) Spare High Frequency Range Radio, One (1) Low Frequency Range Radio and One (1) Analog Audio to IP Converter.	\$13,443.74	\$13,443.74

**Scope of Work to Follow**

Approved By  
PO #

Total : \$87,320.14  
Shipping: \$579.86  
Total: \$87,900.00

Terms and Conditions can be found at <https://www.baycominc.com/baycom-operating-terms-conditions/>  
We impose a surcharge of 2% on credit card purchases over \$1,000, which is not greater than our cost of acceptance  
Billing Terms: 50% down payment; remaining balance due at completion / acceptance  
All of the information listed on this proposal is confidential and proprietary information.  
Your Signature Is An Agreement To Purchase And An Acceptance Of The Above Terms

**VILLAGE OF CALEDONIA POLICE DEPARTMENT**

6900 Nicholson Road  
Caledonia, WI 53108  
Administration/Public Records  
262-835-4423  
Non-Emergency/Police Services  
262-886-2300



**Chief of Police**  
Christopher Botsch

**Decommission the Radio Equipment at Station 12 and  
Transferring it to the Water Tower at 7 Mile Road**

The current Fire Station 12 on Douglas Avenue has a mini-tower that holds equipment that is used to receive police radio transmissions generated from mobile and portable radios occurring on the east end of the Village. The equipment on this tower facilitates the transfer of the radio transmissions via an underground T1 telephone line to the main receiver/transmitter on the tower at Nicholson Road located at the Police/Fire Department. The transmissions are then disseminated from the Nicholson Road tower to the main radio system.

The current equipment at Fire Station 12 was designed to improve police radio communications for Channel MCS 9 and MCS 10 on the east end of the Village. MCS 9 is a channel shared by Mount Pleasant, Caledonia, and Sturtevant Police Departments (MCS), and it is the primary radio channel for all three Departments. MCS 10 is a backup channel.

The functionality of MCS 10 degraded several years ago, and the mini-tower no longer receives/transmits mobile and portable radio transmissions. This means that mobile and portable radio transmissions from MCS 10 are not assisted by the mini-tower at Station 12. Due to the distance, elevation, and obstructions until transmissions hit the next tower, transmissions on MCS 10 are poor when coming from the east end of the Village. Transmissions made from the northeast area of the Village are extremely poor and may not go through at all in some cases.

MCS 9 has recently begun to degrade. Due to problems with the T1 telephone line, in the early part of this year, we had to take the MCS 9 equipment at the mini-tower off line because it was creating background noise on the channel. This background noise was interfering with radio transmissions.

While MCS 9 was offline, radio transmissions from the east end of the Village were poor. Transmissions made from the northeast area of the Village were extremely poor and did not go through at all in some cases. This obviously presents a significant safety issue for officers engaged in activity in these areas.

A technician was able to examine the MCS 9 connection between Station 12 and the tower on Nicholson Road. The technician advised the T1 communication line is failing. The technician believed the background noise was caused by water in the underground T1 line.

After a few weeks, we brought the MCS 9 equipment at the mini-tower back online to test. The equipment was again working without the background noise. However, the technician advised the line is not stable and is prone to failure. In addition, they indicate T1 lines are obsolete. It is likely that a new fiber line would need to be explored. Given that we will be decommissioning Station 12 in the near future, this is not recommended.

Even with the MCS 9 equipment at the mini-tower functioning properly, MCS 9 has limitations, particularly in the northeast corner of the Village. Radio transmissions generated from the northeast corner of the Village are "scratchy" and lack clarity.

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**Chief of Police**  
Christopher Botsch

This is not only an issue with Police radio communications. The Fire Department's mobile and portable radio transmissions on their primary channel from the east end of the Village are also affected due to poor tower coverage in that area.

With the degradation of function of the mini-tower at Station 12, and with the upcoming decommissioning of Station 12, it was necessary to explore options to improve radio coverage on the east end of the Village. Fire Chief Henningfeld and I met with our contracted radio vendor, Baycom Inc, and requested solutions to the above-described problem. Our Baycom representatives evaluated our current equipment, analyzed our current system, and developed a solution to improve police and fire radio coverage on the east end of the Village.

Attached is a quote from Baycom Inc. to transition our radio tower equipment from the mini-tower at Fire Station 12 to the water tower at 7 Mile Rd. The water tower is much taller than the mini-tower at Station 12 and should give us greater coverage. While some of the radio equipment will transfer from Station 12, we will also need to purchase additional equipment. The cost for the equipment and installation is \$87,900.

While per Village policy, (3) bids/estimates are required for items that cost over \$3,000.00, our radio equipment is purchased using contract pricing previously negotiated for Motorola products through the Wisconsin Counties Association (WCA Service Inc.). Baycom is the SE region representative for Motorola, and purchases of public safety equipment are directed to our area representative. In addition, Baycom is the vendor who is most familiar with our system, as they are tasked with the ongoing maintenance and support of Caledonia Police and Fire radio equipment and services.

It is important to note that Racine County is exploring an upgrade to the entire radio system throughout the County; however, they are in the early stages of this project. There are many unknowns as to how the system will be configured and on what system (VHF or 700/800 mhz) it will function. However, the microwave system proposed under this project to transport radio signals to Racine County's main infrastructure will likely work with a system upgrade. Most importantly, it appears it will be at least 2+ years before a new county-wide radio upgrade occurs, and we must have a more immediate resolution to our radio concerns.

The purchase of new equipment and the relocation from Station 12 to the water tower will improve the ability of Police and Fire Personnel to transmit from the east end of the Village. This will improve the safety of our officers and firefighters who must have reliable radio coverage to ensure critical communication can occur.

Respectfully,

A handwritten signature in black ink, appearing to read 'C. Botsch', written over a horizontal line.

Christopher Botsch  
Chief of Police