



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by: EA Date: 2-11-22
General Manager

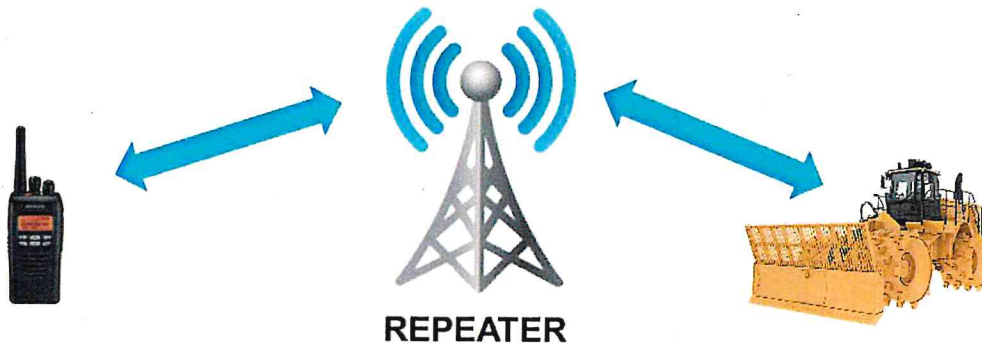
DATE: February 11, 2022
TO: General Manager
FROM: Senior Engineer
SUBJECT: Board Consideration of a \$95,000 contract with Silke Communications of Springfield, OR for Site Communication System Upgrade and Replacement

RECOMMENDATION: That the Board authorize the General Manager to execute a contract with Silke Communications of Springfield, OR for Site Communication System Upgrade and Replacement in the amount not to exceed of \$95,000.

BACKGROUND

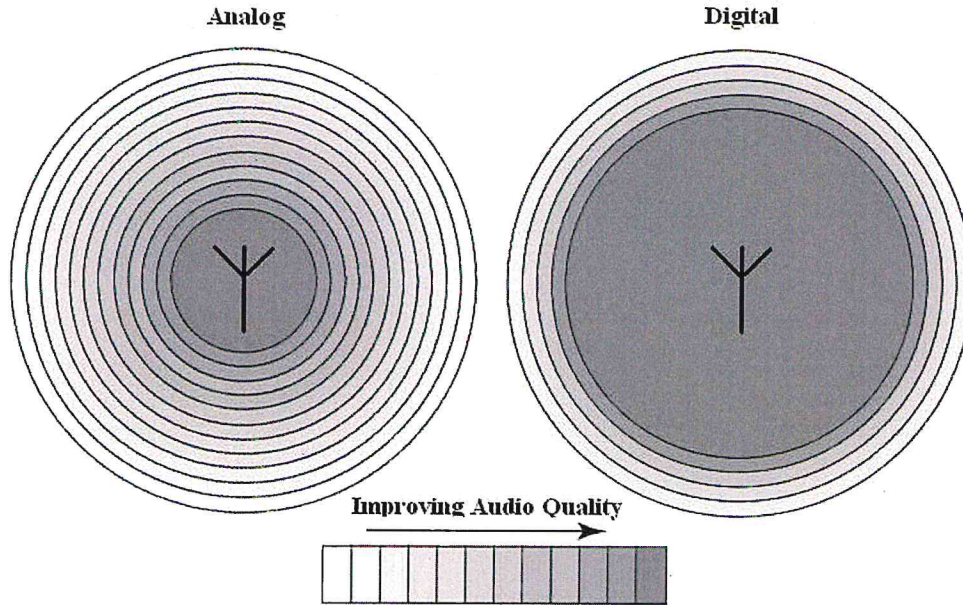
MRWMD's two-way radio communications system operates on two registered Federal Communication Commission (FCC) radio frequencies called "channels". The main channel currently operates on the existing two-way radio infrastructure which includes a repeater station, fixed base units (desk), mobile equipment units (vehicles) and handheld units (persons). The existing infrastructure transmits and receives information using analog technology. Current challenges with the existing infrastructure are:

- Loss of signal strength as distance from repeater increases. This puts staff working at remote locations on the 470-acre site at risk of not being able to communicate with others on site.
- Analog system transmits all site communications. This means that landfill operators can hear all communications from the MRF and vice versa. This interferes with staff's radio communications. In an emergency, communication is critical and staff in other work areas may be unaware that they are blocking the communication lines of other staff.
- Power outages take the repeater station out of operation and requires staff to switch to the backup channel which communicates from unit to unit.



DISCUSSION

The proposed two-way radio communication system replacement includes replacing all old analog system components with new digital equipment. The switch to digital technology improves or eliminates many of the challenges that the District staff has had with the analog system. Instead of the linear drop off of the signal strength as distance increases with an analog system, the digital system signal stays strong the entire time until the outer limits of the coverage area are reached. At which point the signal drops off. Below is an image representing the signal strength drop off of the two technologies.



The digital system also allows for multiple “talk groups” to be set up over a single FCC channel. These “talk groups” can be set up to for each department. Meaning, staff within a department can communicate with each other without needing to hear or transmit to outside departments. This clears the lines of communications and will reduce the chatter on the radios. In addition, the system also allows for a universal “talk group” that can communicate with all staff. This feature would be used for emergency situations or for very specific information that must be shared with the entire site.

Lastly, the new digital system upgrade proposal includes a backup power system that would provide backup power for the radio repeater system in the event of a power outage. This will enable staff to continue to communicate with each other for approximately 3-4 days without power. A portable generator could then be used to provide power to the system if the power outage lasted longer than the backup power capacity.

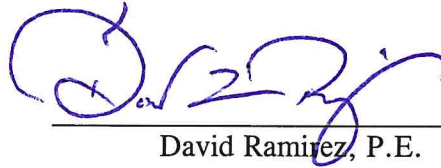
The deployment of the new digital communication system would occur over the next few months and would be subject to supply chain limitations on delivery of parts and materials. The proposed radio equipment appears to be available currently in sufficient quantities to make a purchase however, the outlook on future availability is uncertain according to the proposed contractor. The Salinas branch of Silke Communications has worked with MRWMD for over 10 years, providing both radio hardware and support for the two-way radio systems. They would supply the equipment and perform the installation of the new digital repeater, programming of the radios, and perform the installation of the hard-wired mobile equipment radios. The proposal also includes a one-year maintenance warranty contract for service of the new radios or fine tuning of the features and talk groups that may be needed by the District.

FINANCIAL IMPACT

The proposal provided by Silke Communications for the Site Communication System Upgrade and Replacement is not to exceed \$95,000. This expenditure was not included in the 2020/21 expense budget. However, expenses are tracking on the order of \$300,000 under budget and net income is tracking above budget and prior YTD amounts. Staff proposes that these improvement costs be incorporated as part of the expense budget and, should the approved expense budget be exceeded at the fiscal year's end, then paid for from the surplus revenues already collected for FY 2021/22.

CONCLUSION

The new digital Site Communication System Upgrade and Replacement will have multiple benefits to the District's operations staff. This involves greater safety and efficiency brought by better communication tools. Staff therefore recommends that the Board authorize the General Manager to execute a contract with Silke Communications of Springfield, OR for Site Communication System Upgrade and Replacement in the amount not to exceed of \$95,000.



David Ramirez, P.E.

Attachments:

Silke Communications Quote



Sales Quotation

Acct Rep: **FERNANDO IGLESIAS**
www.silkecom.com

Quotation #: 94587

SILKE COMMUNICATIONS SOLUTIONS
 919 International Way
 Springfield, OR 97477

Date: 1/27/2022
Quote Valid For : 30 Days

Telephone: **541-687-1611**

To: **MRWMD**
 MGT. DIST OF MTRY. REG. WASTE
 P.O. BOX 1670
 MARINA, CA 93933
 Tel: **(831) 384-5313**
 Fax:
 Contact: **TIM BROWNELL/ DAVID RAMIR**

Qty	Description	Unit Price	Total
ADVANCE DIGITAL REPEATER			
1.00	MISC DMR VHF 136-174 50W RPTR	\$3,150.00	\$3,150.00
REPLACEMENT SYSTEM DISCOUNT			
1.00	*SALES DISCOUNT SALES DISCOUNT 20%	(\$630.00)	(\$630.00)
RADIOS INCLUDE			
BATTERY, BELT CLIP, ANTENNA AND RAPID RATE SINGLE UNIT CHARGER - 3 RADIOS FOR THE SCALE HOUSE THE BALANCE DISTRIBUTED			
36.00	HYT-HP602I-V1 VHF DMR & ANALOG PORT	\$489.00	\$17,604.00
REPLACEMENT SYSTEM DISCOUNT			
36.00	*SALES DISCOUNT SALES DISCOUNT	(\$89.00)	(\$3,204.00)
RADIOS INCLUDE			
BATTERY, BELT CLIP, ANTENNA AND RAPID RATE SINGLE UNIT CHARGER			
10.00	MISC HP-662V1 DMR VHF 136-174 NONGPS	\$650.00	\$6,500.00
REPLACEMENT SYSTEM DISCOUNT			
10.00	*SALES DISCOUNT SALES DISCOUNT	(\$145.60)	(\$1,456.00)
TRANSIT INTERRUPT FOR EMERGENCY CALL FUNCTION			
62.00	SW00052 PRIORITY INTERRUPT HYT	\$50.00	\$3,100.00
47.00	SPM-2200-H8 TROOPER II SPKR MIC HD	\$80.00	\$3,760.00
AUDIO ACCESSORIES SALES DISCOUNT			
47.00	*SALES DISCOUNT SALES DISCOUNT 15%	(\$12.00)	(\$564.00)

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Contact: TIM BROWNELL/ DAVID RAMIR

Telephone: 541-687-1611

Qty	Description	Unit Price	Total
RADIO PACKAGE INCLUDES RADIO, MOUNTING BRACKET AND MICROPHONE - TRANSMIT INTERRUPT FOR EMERGENCY CALL FUNCTION BUILT-INTO THE RADIO			
31.00	MISC HM782-V1 136-174MHZ 5-50 WATTS, DMR	\$800.00	\$24,800.00
REPLACEMENT SYSTEM DISCOUNT			
31.00	*SALES DISCOUNT SALES DISCOUNT 25%	(\$215.00)	(\$6,665.00)
30.00	RFB-1106-2ST BNC MALE CRIMP FOR RG58	\$7.47	\$224.10
FOR SCALE HOUSE BASE STATION			
1.00	SEC1223BBM 120V POWER SUPPLY/BCK UP	\$250.00	\$250.00
FOR SCALE HOUSE BASE STATION			
1.00	FG1520 156-162 UNITY GAIN FBR OM	\$167.61	\$167.61
FOR SCALE HOUSE BASE STATION - STANDARD COAX (NOT PLENUM RATED)			
50.00	LMR400 LMR-400 COAX CBL FOOT	\$1.75	\$87.50
FOR SCALE HOUSE BASE STATION			
1.00	JPK JUMPER KIT	\$40.00	\$40.00
1.00	FM2 2 PC ALUM BASE ANT MT BRC	\$33.96	\$33.96
1.00	5M 160505PHS 5' MAST SECTION	\$34.00	\$34.00
ENGINEERING / DESIGNING THE CHANNEL LIST FOR EMERGENCY CALL AND UNIT ID (1) FOR MD622, PD602, PD622 AND THE BASE STATION FOR SCALE HOUSE			
12.00	*LABOR-DATFILE CREATE DAT FILE	\$186.00	\$2,232.00
1.00	BA1012-1 144-162 MHZ ODB OMNI FIBE	\$430.23	\$430.23
1.00	SEC1223R1 PWR SUPPLY 23 AMP 110	\$197.45	\$197.45

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Qty	Description	Unit Price	Total
1.00	636-6A-5 RFS 150-160 MHZ CMT DUPLX	\$472.74	\$472.74
75.00	LMR-400-LLPX LOW LOSS PLENUM COAX	\$7.10	\$532.50
2.00	EZ400NF N-FML 50 OHM CRIMP 9913	\$14.00	\$28.00
2.00	FM2 2 PC ALUM BASE ANT MT BRC	\$33.96	\$67.92
CABLES TO THE DUPLEXER AND REDUCER FOR ANTENNA CABLE (WHITE LOW LOSS CABLE)			
3.00	JPK JUMPER KIT	\$40.00	\$120.00
1.00	5M 160505PHS 5' MAST SECTION	\$34.00	\$34.00
PER YEAR ANNUAL FIELD SERVICE CONTRACT ON ONLY THE NEW RADIOS FOR 1 YEAR - SEE CONTRACT FOR BREAKDOWN			
1.00	*MAINTENANCE MAINTENANCE CONTRACT	\$6,498.00	\$6,498.00
BENCH TECH TO INSTALL THE LICENSE FOR THE TRANSMIT INTERRUPT			
22.50	*LABOR-CA CA BENCH/SHOP TECHNICIAN	\$188.40	\$4,239.00
REPEATER AND DUPLEXER			
3.00	*PROGRAM TUNE & PROGRAM RADIO/HOUR	\$156.00	\$468.00
ASSEMBLE REPEATER/ DUPLXER AND POWER SUPPLY			
2.00	*LABOR-CA CA BENCH/SHOP TECHNICIAN	\$188.40	\$376.80
MOUNT REPEATER, DUPLEXER AND POWER SUPPLY IN CUSTOMER PROVIDED RACK/ ROUTE CABLE TO THE ROOF FEED THROUGH CUSTOMER PROVIDED EXIT PORT AND MOUNT NEW VHF ANTENNA ON FACADE ON ADMIN OFFICE.			
6.00	*FIELDTECH CA CA FIELDTECH	\$205.20	\$1,231.20

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Qty	Description	Unit Price	Total
INSTALL BASE STATION AND ANTENNA AT SCALE HOUSE			
4.00	*FIELDTECH CA CA FIELDTECH	\$205.20	\$820.80
RADIO ASSEMBLY, UNIT ID LABELING, CHANNEL AND ACTIVATE TRANSMIT INTERRUPT FUNCTION			
93.00	*PROGRAMMING RADIO PROGRAMMING	\$60.00	\$5,580.00
FIELD INSTALLATION OF RADIO MOUNT AND POWER CABLE, PREVENTIVE CHECKING ANTENNAS AND FEEDLINES & REMOVING THE ANALOG RADIOS			
30.00	*INSTALL-CA CA DASHMOUNT INSTALL	\$341.88	\$10,256.40
1.00	*FCC LICENSE - FCC LICENSE MODIFICATION	\$370.00	\$370.00
3 TECHNICIANS FOR 6 DAYS TO COMPLETE THE INSTALLATION OF THE VEHICLE RADIOS, BASE STATION AND THE REPEATER SYSTEM			
18.00	*TRAVELTIME TRAVEL TIME PER HOUR	\$112.00	\$2,016.00
STATE ADMINISTRATING PREVAILING WAGE PROGRAM			
1.00	*ADMIN FEE ADMINISTRATION FEE	\$3,500.00	\$3,500.00
REPEATER HOUSING TO BE MOUNTED BY THE MURF ENTRANCE			
1.00	MISC SCE-36EL3608LP OUTDOOR CAB 36X36X8	\$750.00	\$750.00
MOUNTING CABINET TO THE WALL AND INSTALLING EQMT. ELECTRICAL WORK WE WILL NEED MRWMD TO PROVIDE OUTLET IN THE BOX			
8.00	*FIELDTECH CA CA FIELDTECH	\$205.20	\$1,641.60

Equipment: PD6xx & MD782
 Installation: ON-SITE

Terms: NET 30

Quote Notes: RADIOS EQUIPPED WITH TRANSMIT INTERRUPT AND AN EMERGENCY OPERATIONS CHANNEL

Subtotal:	\$89,094.81
Shipping & Handling:	\$900.00
Estimated Sales Tax:	\$3,932.12
Quotation Total:	\$93,926.93

Quote Terms and Conditions

1. Quotes are exclusive of all installation and programming charges (unless expressly stated) and all applicable taxes.
2. Purchaser will be responsible for shipping costs (unless specifically included), which will be added to the invoice.
3. Title will pass upon shipment, risk of loss will pass upon delivery to purchaser's facility.
4. Ordered equipment may be returned with an authorized RMA for a full refund less a 25% restocking fee.
 Equipment returned must be unused and undamaged in it's original packaging within thirty (30) days after shipment.
5. Unless otherwise stated, prices quoted are valid for thirty (30) days from the date of this quote.
6. Unless otherwise stated, payment will become due upon invoice date. Please allow 4 to 8 weeks for delivery.
7. Manufacturer's standard equipment warranty (furnished upon request) applies to all ordered equipment.
8. Silke Communications Solutions disclaims all other warranties with respect to ordered products, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose.
9. Silke Communications Solutions total liability arising from the ordered products will be limited to the purchase price of the products with respect to which losses or damages are claimed. In no event will Silke Communications Solutions be liable for incidental or consequential damages.
10. These terms will prevail over any inconsistent or additional terms on any purchase order submitted by the purchaser.
11. Late Payment fees will apply with contractual transaction rate or 24% APR (1.8% monthly compounded) which-ever is higher.

Accepted By: Print: _____ Signed: _____

Customer P/O: _____ Date: _____ Title: _____