TO: Mayor and City Council

FROM: Dan Howard, Public Works Director

SUBJECT: Funding for an Underground Utility Locator

MEETING DATE: Tuesday, April 19, 2022

BACKGROUND

Public Works would like to purchase a Vivax-Metrotech vLoc3 RTK-Pro to have the ability to create more accurate GIS records of our underground infrastructure. A quote of $11,461 was received from Utility Logic for this underground utility locator.   MnOSHA offers a Safety Grant which is a matching grant. If successful, the City would be responsible for $5,730.50 towards the purchase of the locator.   Public Works would like to move forward with the grant application and if successful, move forward with the purchase.

REQUESTED COUNCIL ACTION

Motion and approval to allow Public Works to move forward with the MnOSHA Safety Grant application and if successful, purchase the locator for $5,730.50 as recommended by the Public Works Commission.

UtilityLogic®

PO Box 783, Rogers, MN 55374
Ph 877-544-2700 Fax 612-930-0930

Quote

Date	Quote #
3/25/22	11848

Name / Address	Ship To
City of Cannon Falls Wes Anway 918 River Rd Cannon Falls, MN 55009 msandeen@cannonfallsmn.gov	City of Cannon Falls Dan Howard 918 River Rd Cannon Falls, MN 55009

Terms	FOB
Net 30	Warehouse

Item	Description	Qty	Price Each	Total
	RTK KIT - vLoc3 RTK Pro Rx, 5 Watt Li-Ion Tx			
1.226.01.00006	Vivax-Metrotech vLoc3 RTK-Pro Rx - Brings GNSS accuracy to a utility locator. Using the RTK-Pro internal cellular module with 4G LTE capabilities, the operator has the ability to connect to NTRIP RTK (Real-Time Kinematic) caster that provides RTCM 3 corrections. By utilizing these corrections, the operator can collect both utility location data along with the geographical location of the utility with survey-grade accuracy.	1	8,400.00	8,400.00
2.219.02.00011	Vivax-Metrotech vLoc3-Transmitter Carry Bag	1	65.00	65.00
1.219.05.00004	Vivax-Metrotech - Loc3-5Tx Li-ion Transmitter - Includes: multiple induction and direct connection frequencies ranging from 98Hz to 200kHz, Li-Ion Rechargeable battery and charger, direct connect leads, grounding stake and manual.	1	1,883.00	1,883.00
1.200.03.00004	5" induction clamp	1	403.00	403.00
	* Voice and Data (minimum 2GB) Plan is required for use with RTK receiver. You may purchase a cellular nano sim card from your AT&T wireless service provider OR optionally purchase the nano sim card and cellular service directly from Utility Logic.			
	Optional pricing is as follows:			
1YRDP	1 Year data plan & IOT sim card	1	245.00	245.00
	or			
2YRDP	2 Year data plan & IOT sim card	1	490.00	490.00
SHIPPING03	Shipping, Insurance & Configuration - RTK & CAM	1	220.00	220.00
	Training and technical support provided for the life of the product with this purchase.			
	Sales Tax Exempt		0.00%	0.00

Thank you for your business. Quote pricing is valid for 30 days.
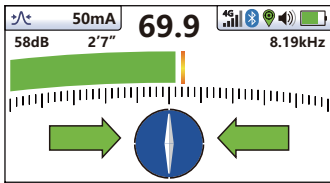
VIVAX METROTECH

RTK-Pro
Utility Locator with Survey-Grade GNSS

- Fully-integrated RTK GNSS
- One-hand locating and mapping
- Cloud-based data management
- Survey-grade GNSS accuracy
- Simplistic locating modes
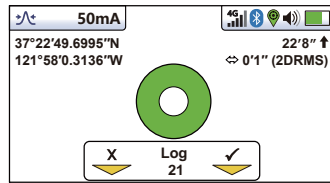- Reduces excess field equipment

The **vLoc3 RTK-Pro receiver** is the first to add RTK GNSS accuracy to a utility locator. Using the RTK-Pro internal cellular module with 4G LTE capabilities, the operator has the ability to connect to NTRIP RTK (Real-Time Kinematic) caster that provides RTCM 3 corrections. By utilizing these corrections, the operator can collect both utility location data along with the geographical location of the utility with survey-grade accuracy.

The RTK-Pro is designed for all operator levels, utilizing user-friendly and intuitive locate screens. Operators simply confirm the utility data with the press of a button and align the electronic spirit level to store the data. All field data is sent to the cloud and retained in the receiver's on board storage for review and exporting to external mapping programs.
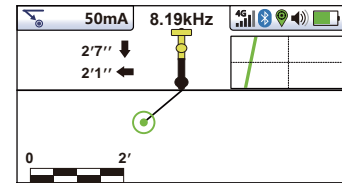
The user-configurable vLoc3 series receivers contain eight passive locate modes, fault find mode, and a range of configurable frequencies from 98Hz to 200 kHz. Visual and mechanical vibration alerts can also be configured by the user providing warnings for shallow depth, overload, overhead cables, and excessive swinging. Optional features include Tx-Link that enables the user to change the frequencies of the transmitter, power output and operate most of the features of the transmitter remotely.

Classic Screen - bar graph indicator with the addition of three colorcoded distortion levels. Peak, Null, Simultaneous Peak with Arrows, Omni Peak locating modes.

All relevant utility data is directly sent to the cloud along with RTK position of the utility.
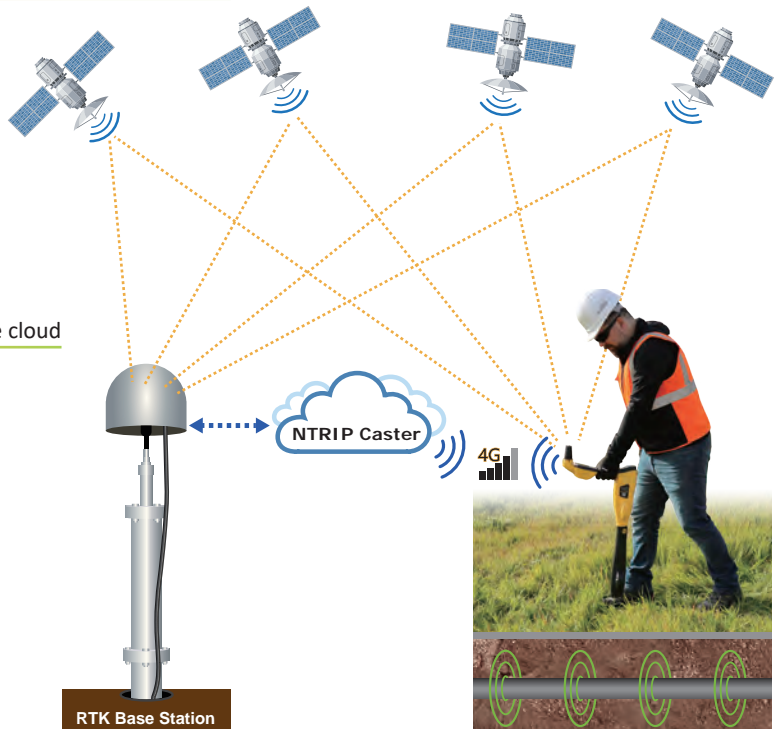
Vector Screen for use when access directly over the utility is not possible. Using two sets of omni directional antennas the utility offset and depth are displayed.

GNSS Satellite Tracking
- GPS, GLONASS, Galileo, BeiDou

Cellular Connection
- Nano SIM tray
- 4G LTE connection
- Direct data storage to the cloud

Log data with press and tilt
- 2DRMS horizontal accuracy displayed in real time

NTRIP Caster

RTK Base Station

	vLoc3 RTK-Pro Receiver Specifications
Display	High-Visibility Color Display 4.3''/10cm with 480 x 272 resolution
Battery life	Lithium-ion – 16 hours of continuous use
Operating frequencies	Configurable frequencies from 98Hz to 200kHz Power - 50Hz and 60Hz Radio - 10kHz - 22.7kHz bandwidth
Receiver Antennas and Locate Modes	- Two sets of Omni Directional antennas - **Classic Screen** with bar graph indicator with Peak, Null, Simultaneous Peak with Arrows, and Omni Peak - **Vector Screen** for when access directly over the utility is not possible, the locator offset and depth are displayed - **Plan View** displays the theoretical line in 2D from above ground in omnidirectional mode - **Transverse Graph** is used to analyze the shape of the fields - **Sonde Screen** guides you directly to the sonde with minimal control adjustment
Data logging and transfer	- Real Time upload connection to VMMAP server via cellular connection - Run analysis from VMMAP web portal to determine best practices - Export data to .csv, shapefile, KML
GNSS Features	- Satellite Tracked: - GPS/QZSS, GLONASS, Galileo, BeiDou - GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C - Position accuracy RTK 0.01 m + 1 ppm CEP - Convergence time RTK < 10 sec - Acquisition: Cold starts = 24s, Reacquisition = 2s - Dependent on atmospheric conditions, baseline length, GNSS antenna, multipath conditions, satellite visibility , and geometry
NTRIP	- Compatible with Casters with RTCM3 output messages - Real time reference station connection status displayed on the receiver - Real time horizontal accuracy in 2DRMS
Cellular Connection	- 4G with 3G fallback - LTE FDD bands 2, 4, 5, 7, 17 - UMTS/HSPA [MHz]850, 900, 1700, 1900, 2100
Weight	- 5.5 lbs. / 2.4kg.
Environmental	- IP65 and NEMA 4
Dimensions	4.96" / 12.6cm 3.38" / 8.5cm 30" / 76cm 15" / 38cm

What's in the Box:
- Custom Li-ion battery with charger
- Alkaline battery pack
- Mini USB lead
- User manual
- Soft shell hard carry case

Local Vivax-Metrotech Distributor:

UtilityLogic®

Joe Rubbelke
612-817-6521 (c)
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utility-logic.com

Paul Teicher
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Please visit our website for full product specifications.