

REQUEST FOR BIDS

SEWER CAMERA



Department of Public Services

1015 S Lincoln Avenue

Three Rivers, MI 49093

(269) 273-1845

January 29, 2016

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Bidding Information

Performance Bids

The City of Three Rivers is committed to the concept of performance bids. All vendors are encouraged to submit bids which conform to the stated specifications, as well as, suggest deviations from the specifications, which in the vendor's opinion would be beneficial to the City in terms of price and performance. The City reserves the right to accept or reject any bid under these terms.

I. Instructions

- A. Bids must be typewritten or clearly printed in ink and signed by a duly-authorized representative of the firm submitting the quote.
- B. Bids must be submitted in sealed envelopes, clearly marked on the outside, "**Bids for Sewer Camera**".
- C. Bids will be received by the Office of the City Clerk, City Hall, 333 West Michigan Avenue, Three Rivers, Michigan, 49093, until **2:00 p.m. local time, Thursday, February 18, 2016**. All bids will be date stamped and time marked when received.
- D. Faxed or emailed bids shall not be accepted.
- E. If you received this document from our website, please fax your contact information to 269-273-1042 so we can place you on the bidders list for addenda.

II. Conditions Applicable to Bids

- A. **Applicable Laws:** The Ordinances and Charter of the City and laws of the State of Michigan concerning competitive bidding, contracts and purchases will be employed.
- B. **Taxes:** The City of Three Rivers is generally exempt from Federal Excise and Michigan State Sales Tax. Prices should not include tax.
- C. If the bidder elects to deviate from the specifications stated, all exceptions or other changes must be clearly noted.
- D. The City reserves the right to reject any and all bids, waive informalities or defects in bids, or accept such bids as it shall deem to be in the best interest of the City of Three Rivers.
- E. The City does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.
- F. The Bidder shall provide a completed W-9 form with this bid
- G. The City plans to award the equipment purchase at the **March 1, 2016** Commission meeting.
- H. A guarantee delivery date for the shipper shall be noted on the bid on the space provided.
- I. If you have any further questions, please contact Amy Roth, at 269-273-1845 or e-mail inquiries to aroth@threeriversmi.org.

Bid Form

The undersigned having familiarized (himself/themselves) with the local conditions affecting the cost of the work and the Contract Documents hereby proposes to perform everything required to be performed and to provide and furnish all labor, materials, necessary tools, equipment, utility and transportation services necessary to perform and complete in a workmanlike manner all work required in accordance with the specifications as prepared by the Department of Public Services, City of Three Rivers, Michigan, for, including Addenda No. ____ issued thereto, the following unit prices:

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

SIGNATURE _____ TITLE _____

TELEPHONE _____ DATE _____

BID PRICING:

MAKE: _____

MODEL: _____

BASE PRICE: _____

ADDITIONAL OPTIONS:

LARGE CENTERING BALL 4.5" DIAMETER: _____

RIDGID SR-20 LOCATOR (P/N 21893): _____

RIDGID ST-305 TRANSMITTER (P/N 21898): _____

RIDGID INDUCTION CLAMP (P/N 20973): _____

Specifications for Sewer Camera

General

It is the intent of these specifications to describe a push-type sewer camera.

The below listed specifications and instructions are in no way intended to eliminate any company, vendor, bidder or product from the bid process. It is the sole intent of these specifications and instructions to describe a push-type sewer camera that will be the best product available to the City of Three Rivers and its residents.

The specification has been written around the **Cues MPlus+** or equal.

Bidders must respond to each section of the specification with a “yes” or “no” for each section. If “yes” is checked, bidder is expected to supply exactly what is described. If “no” is checked, a detailed explanation of the deviation must be provided, on this form or on a separate piece of paper included in the bid, no matter how minor it may be. Failure to respond to either “yes” or “no”, the bid will be rejected for non-compliance.

General Provisions:

1. Must have stainless steel frame. Steel frames with Powder Coat subject to corrosion over time will be deemed not acceptable. **Comply: Yes** _____ **No** _____
2. LCD assembly and Keyboard must be mounted in waterproof box that can be operated remotely from the reel. **Comply: Yes** _____ **No** _____
3. The unit shall be equipped with a built-in lithium ion battery power supply with a minimum of four-hour battery life and an accompanying battery charger. **Comply: Yes** _____ **No** _____
4. The complete unit and all of its components shall include a minimum complete one-year warranty. The warranty shall include a free loaner camera head for the first two years, to be provided within 1-2 business days following receipt of the camera head in for repair. **Comply: Yes** _____ **No** _____
5. The unit shall be capable of televising pipelines 2” in diameter and larger. **Comply: Yes** _____ **No** _____
6. The unit shall be equipped with alphanumeric video titling for on-screen footage display and comments. The unit will include pre-programmed observation codes. **Comply: Yes** _____ **No** _____
7. All pricing should include shipping/delivery to Three Rivers. There will be no additional shipping costs on the base system or any of the options. **Comply: Yes** _____ **No** _____

Camera:

1. The unit shall be equipped with a color camera head no more than 1.5” in diameter to be able to operate in 2” pipe. **Comply: Yes** _____ **No** _____
2. The camera head shall be high resolution - 450+ lines; high sensitivity - 0.3 lux. **Comply: Yes** _____ **No** _____
3. The camera head shall be self-leveling, or auto-upright. **Comply: Yes** _____ **No** _____
4. The camera body, including the light ring enclosure, shall be constructed of stainless steel to prevent damage on the job. **Comply: Yes** _____ **No** _____
5. The camera head shall have a built-in 512 Hz transmitter capable of operating with any constant tone locator/receiver. Adjustable power to the transmitter and the video shall not show any interference at any time from the transmitter being active. **Comply: Yes** _____ **No** _____

6. The camera head shall be equipped with an LED light head with light intensity control. The light intensity control shall also be capable of controlling the built-in transmitter.
Comply: Yes____ **No**____

Cable & Reel:

1. The reel assembly shall be outfitted with 200' of push cable. **Comply: Yes**____ **No**____
2. The reel assembly shall include a footage counter on the basket hub with no cable contact required for use. **Comply: Yes**____ **No**____
3. The reel shall be constructed of heavy 18 gauge and corrosion resistance Stainless Steel.
Comply: Yes____ **No**____

Recording Device:

1. The unit shall be equipped with a Digital Video Recorder built directly into the monitor/power supply to digitally record the video inspection and audio to an SD card.
Comply: Yes____ **No**____
2. The Recorder shall include a 16 GB SD card and USB adapter. **Comply: Yes**____
No____
3. The Recorder shall be capable of taking photo snapshots in the field.
Comply: Yes____ **No**____
4. The Recorder shall be capable of playing back video files in the field, from the device.
Comply: Yes____ **No**____

Component List

1 CONTROL UNIT WITH TEXT WRITING, OBSERVATION CODING, DIGITAL RECORDING AND

INDUSTRIAL GRADE MONITOR IN AN INJECTION MOLDED ENCLOSURE TO INCLUDE:

- 1 8.4" industrial grade, optically bonded, sunlight viewable, monitor with anti-reflective properties and LED backlighting
- 1 Operator Interface with controls for all camera functions
- 1 Video titling to include multiple predefined and customizable screens
- 1 Digital video recording features video recording and playback and records screenshot picture images
- 1 A USB port for transferring digital video and still images directly from the Control Unit to a PC
- 1 Control Unit quick bracket mount for attaching to the coiler with hands free locking
- 1 System Interface connector features Video, Audio, distance counter quadrature and 12VDC outputs and a Video input
- 1 Built-in Li-Ion Battery with advanced charging technology for 4 hours of continuous use
- 1 Universal AC power input 85-264 volt AC, 50/60 Hz, or 12 Volt DC Power Source

Comply Yes____ No____

1 STAINLESS STEEL COILER TO INCLUDE:

- 1 Heavy 18 gauge and corrosion resistance Stainless Steel construction
- 1 Adjustable height handle for portability with cam locks and button stops
- 1 Large 10" durable wheels for portability and a balanced footprint for stability
- 1 Quick-Connect allows Control Unit mounting with 3 axes adjustability
- 1 Adjustable coiler brake
- 1 Integral distance sensor

Comply Yes____ No____

1 ACCESSORY KIT TO INCLUDE:

- 1 Sunshield for enhanced sunlight viewability
- 1 10 ft interconnect cable for connecting the coiler to the control unit
- 1 AC power cord for 85-264 volt AC, 50/60 Hz, operation
- 1 An SD to USB card reader for convenient PC connectivity
- 1 A USB A to B cable for DVR to PC connectivity
- 1 Accessory bag for storage

Comply Yes____ No____

1 200' MINI SYSTEM PUSH CABLE ASSEMBLY

- 1 Push Cable with Durable Hytrel Jacket and Advanced Fiberglass Rod

Comply Yes____ No____

1 SELF-LEVELING COLOR CAMERA WITH BUILT-IN SONDE, NTSC TO INCLUDE:

- 1 1 1/2" Stainless Steel Camera head designed for 2" to 12" Pipe
- 1 512 Hz integral sonde
- 1 12 high intensity LED's

Comply Yes____ No____

Detailed Specifications

Portable Lateral Inspection System

A portable push system shall be provided for inspecting service laterals and/or pipelines 2" through 12" in diameter.

The system shall be lightweight and easily transportable. It shall be modular in design enabling easy operation in an All-In-One configuration and additionally allowing the removal of the control unit to be used separately or to accommodate compact storage.

Systems that do not have a modular design will be deemed unacceptable.

It shall be specifically designed to inspect up to 200' into the lateral service or pipeline by utilizing

the following equipment (minimum): Coiler, Control Unit with high-resolution high-viewability LCD

Monitor, On-Screen text writing and on-screen observation documentation, Small Diameter Pipe

Self-Leveling Camera with integrated Sonde and 200' of .197" Diameter Fiberglass Rod Push Cable. Optional equipment will include the following (minimum): Line Trace post, 100, 300, and

350 ft optional cable configurations, Centering Ball Skids, Mainline Interface cable and digital Wireless Transmitter.

Control Unit

- Shall include a built-in 8.4" (minimum) industrial grade LCD monitor with an optically bonded glass for viewability and durability and have LED backlighting.
 - Shall feature an optional removable sunshade.
- Shall include a Li-Ion 12volt battery, integral in the Control Unit, to operate the specified small diameter color camera up to 4 hours.
- Built-in battery charging shall also be equipped with Intellicharge Technology for safety and reliability.
- The battery shall recharge with mains power without the unit being powered on.
- Housing shall be injection molded of a Polypropylene resin and feature a Neoprene perimeter O-ring design for a waterproof IP67 rating.
- A permanent mounting bracket shall be included for mounting Control Unit to Coiler.
 - Control Unit shall be modular and allow use up to 10 ft from coiler.
 - Shall include mains power receptacle on the outside of the control unit for convenient recharge of the battery.
- Shall include the interconnect coiler cable on the outside of the control unit for transport of the system without disconnecting the control unit from the coiler.
- A system LED indicator shall be incorporated into the front of the control unit and shall indicate System On, Battery Fully Charged, Battery Charging, and Battery Fault. Battery Charging status LED's shall operate when system is turned off.
- Connections including USB, Video out, Video in, audio out, distance counter quadrature out, auxiliary 12VDC out, and auxiliary microphone jack shall be located inside a closed Control Unit for protection.
- Built-in microphone and speaker shall be located on the front of the control unit and sealed from the environment.
- Microphone and speaker functionality shall be located on the user interface keypad

and be clearly marked.

- User interface keypad shall be of a silicon rubber molded design to resist water and other contaminants.
- Main system functionality including light intensity, distance counter controls, digital video recording, text writing, observation coding and system menu shall be integrated into one user interface keypad for ease of operation.
- Separated system control buttons will be deemed unacceptable.
- Digital Video Recording including the DVR control buttons shall be fully integrated into the Control Unit. External DVR recording devices will be deemed unacceptable.
- All DVR functionality and menu operations shall be displayed on-screen for operator viewing.
- DVR recording shall incorporate SD memory card slot and a USB port for the transfer of videos and images to a PC.
- Shall operate from an 85 volt to 264 volt AC 50/60 Hz, or optional 12 volt DC power source.
 - Electronics shall be weather-resistant to withstand operating conditions and extended outside storage.

On-Screen Tiltler, Data and System Information

- A combination on-screen titler, data and user information system shall be provided. The on-screen titler shall be designed for standalone push system applications, but shall be fully compatible with external observation software or other asset management systems.
- A built-in combination on-screen titler, data and user information system shall be provided. System shall feature 4 display modes including "LIVE MODE", predefined text screens, "OBSERVATION CODES" and "ARROW MODE".

LIVE MODE:

- LIVE MODE shall feature clear screen with no titling and shall offer the default OSD features including:
 - Distance Counter - in the selected position or off
 - Battery Status Indicator if selected and Low Battery Indication. Time/Date - in the selected position or off.
 - Microphone/Speaker indicator
 - Predefined text screens
 - Predefined text screens shall feature a minimum of 4 predefined screens including:
 - CLIENT PAGE, CONTRACTOR PAGE, FREEFORM PAGE 1 AND FREEFORM PAGE 2.

OBSERVATION CODES

- Observation Codes feature shall be provided for observational data input. ARROW MODE
- Arrow Mode feature shall be provided for observation identification.
- All user functionality shall be programmable with the use of a System menu and shall be navigated using system arrows for ease of use.
- System menu shall include Coiler Configuration options
- System menu shall include Time and Date configuration options and on-screen

position options.

- System menu shall include Distance Counter settings including on-screen position, preset distance and master reset options.
- System menu shall include Battery Setting options including battery gauge indication
- System menu shall include distance unit selection including imperial (ft) and metric (m).
 - System menu shall include video format selection including NTSC and PAL
 - System menu shall include camera head selection
- System menu shall include wireless transmitter settings including On/Off functionality

Comply Yes_____ No_____

Coiler

- Shall be constructed of 18 gauge stainless steel coiler frame with a lightweight, open wire frame basket design. Painted frames and baskets will be deemed unacceptable. Shall be able to adequately store up to 350' of .197" fiberglass rod push cable with Hytrel jacket.
- Shall include a footage sensor with minimum 500CPR located on the coiler basket. Mechanical counters shall be deemed unacceptable.
- Shall be equipped with minimum 10" wheels for easy portability. Shall feature an adjustable height handle for portability?
- Shall feature a Quick-Connect feature for mounting of the Control Unit and shall be equipped with a no-handed locking mechanism for secure mounting.
 - Control Unit mounting shall have the ability to tilt, swivel and rotate for best viewing angle Coiler shall incorporate 4 non-marring rubber feet for standard vertical operation and an additional 3 non-marring rubber feet for operation in a horizontal operation

Comply Yes_____ No_____

Small Diameter Pipe Color Inspection Lateral Camera

The small diameter pipe color television camera shall be specifically designed to operate in 2" to 12" pipe and negotiate multiple bends while maintaining an upright camera position. CAMERAS THAT ARE UNABLE TO PASS THROUGH A SHORT 90-DEGREE TURN OR A SINGLE TEE CONNECTION IN 4" PIPE WITH THE END CONNECTOR AND CABLE IN PLACE WILL BE DEEMED UNACCEPTABLE.

Camera

- Shall be manufactured with solid state circuitry to withstand shocks and vibrations. Shall include fixed focus, fixed iris, and auto speed shutter.
- Shall include a lighthouse containing a minimum of 12 light emitting diodes equaling 78 foot candella.
- Shall not exceed 1.5" in diameter and 2.75" in length without the connector assembly.
- Shall have the ability to maintain an upright camera position.

Built-in Sonde

- Shall be designed to emit continuous magnetic pulses/signals with a working distance of 19' (minimum) air.
- Shall operate with any constant tone, 512 Hz receiver. Internal antenna and driver

Electrical Specifications & Camera Requirements:

- Image Sensor: CCD, solid state 1/4" diagonal with DSP
- Minimum Illumination: 2 lux
- Resolution: 380 TV lines horizontal
- System Standard: NTSC, Color
- Video Output: 1 V, S/N 46dB or greater
- Lens: 2.8mm, F/2.2
- Field of View: 98° diagonal, 79° (H) wide, 59° (V) high
- Electronic Shutter: 1/60 s to 1/96,000 s
- White Balance: Auto track
- Integrated Lights: 12 White LEDs - Intensity @ 12" 78 foot-candles 430 candela or 40 lumens
- Light Power: 12VDC to 25VDC, 80mA. 1.92W
- Input Camera Voltage: 14VDC to 21VDC, 80mA.
- Working Pressure: 50 PSI (minimum)
- Operating Temperature: 0° to 45°C
- Storage Temperature (Non-Operating): -20° to 65°C
- Self-Upright Method: Ball bearing and weighted
- Connector: CX1 Connector
Dimensions: Body Tube Diameter: 1.5" / Overall Length, 3.0" (2.75" without CX1 Connection)
- Camera Housing: Made from Stainless Steel

Camera Lighting:

The camera shall include a built-in lighting containing 12 solid state light emitting diodes (LED's).

Lighting

- Shall be sealed to prevent water entry.

- Shall include variable light intensity to provide adequate lighting in 2 inch to 10 inch pipe sizes.
- The LED's shall be recessed and o-ring sealed within the lighting to prevent damage from obstacles in the pipe.
- SYSTEMS WITH EXPOSED BULBS SUBJECT TO BREAKAGE WILL NOT BE ACCEPTABLE.
- The total light output of the 12 LED's shall equal 78 foot candella.
- Shall include a unique over-voltage protection circuit to prevent burnout of the LED's.
- LED's shall be individually serviceable and replaceable at the service facility.
- LED'S THAT CANNOT BE REPLACED INDIVIDUALLY AND/OR LIGHTHEADS THAT HAVE TO BE COMPLETELY REPLACED FOR SERVICING SHALL BE DEEMED UNACCEPTABLE.

Camera Protective Housing:

The camera electronics shall be housed in a damage resistant, rugged enclosure.

Camera Housing

- Shall be designed to allow the camera to negotiate multiple tight 90-degree bends or a single tee connection in a 4 inch pipe.
- Shall be manufactured from stainless steel.
- Shall be no greater than 1.5" in diameter and 2.75" long without the connector assembly.
- The front of the housing shall have a viewport of impact resistant, distortion free optical Sapphire.
- The front of the housing will include the lighting with 12 machined and polished openings where the LED's are mounted.
- The rear of the housing shall be equipped with a sealed connector. Shall be fully sealed at the factory to prevent damage or leakage.

Comply Yes_____ No_____

Delivery

Guaranteed delivery date _____

Camera shall be furnished fully serviced and assembled.

Distributor or representative shall provide the closest location to the City of Three Rivers for a parts and service facility.

Indicate location of service/parts facility

The distributor facility must have adequate stock of parts and mechanics trained to work on their cameras.

No contract or sub-let maintenance and or warranty service shall be acceptable. **NO EXCEPTIONS**