

Instructions to Bidders

1. Each bid shall be submitted on the form provided, to the locations specified in these specifications, at or prior to the date and time specified. The form must be completed. If information does not apply state "Not applicable". Mailing and location addresses must be provided.
2. Bid prices submitted shall be considered to have included all local, state and federal taxes, and no additional allowance will be allowed therefore. The City reserves the right to consider the value to it of warranties exceeding the minimum requirements in determining the lowest, responsible, responsive bidder.
3. Exceptions taken to any aspect of the specifications in submitting the bid shall be clearly noted in a written attachment to the Bid Form. The attachment shall identify the aspect of the specifications affected by the exception and the proposal instead of the specification. The City of Sedona reserves the right to consider the value to it of any exceptions or the lack of exceptions in determining the lowest, responsible, responsive bidder. Attachments identifying exceptions shall be signed by the bidder.
4. No Bidder may withdraw his Bid for forty-five (45) days after the time established for receiving Bids or before the successful bidder has returned the Letter of Award signed, unless a period exceeding forty-five (45) calendar days after the time established for receiving Bids has passed. The sending of the Letter of Award by the City of Sedona to one party does not constitute a waiver of this condition.
5. Each bid must be accompanied by either a certified check made payable to the City of Sedona, a cashier's check made payable to the City of Sedona or a bid bond, duly executed by the Bidder as principal and having as surety thereon a surety company licensed to do business in Arizona, in the amount of \$500. The City may retain such checks or bid bonds, of the three (3) apparent lowest Bidders, for a period of forty-five (45) days after the bid opening.
6. In the event the successful Bidder after fails to deliver to the City of Sedona all items, training and services, as bid and awarded, within the time frame specified to the satisfaction of the City the bid deposit or bond for this bid shall be forfeited to the City.
7. Each bidder acknowledges and agrees award of the contract shall require issuance of a Letter of Award by the City to the successful bidder and issuance of a Purchase Order.
8. In evaluating Bids, City will consider the qualifications of Bidders; whether or not the Bids comply with the prescribed requirements; the alternatives, if any; the time or times for completion as stated in the Bid Form; and the lump sum and unit prices, if requested in the Bid Form.
9. City may conduct such investigation as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders. City reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to City's satisfaction.

Modification of a Bid already received will be considered only if the modification is received prior to the time established for receiving Bids. Modifications shall be made in writing, executed, and submitted in the same form and manner as the original Bid. The communication should not reveal the Bid Price, but should provide the addition or subtraction or other modifications so that the final price or terms will not be shown until the sealed Bids are opened.



**REQUEST FOR BIDS
CITY OF SEDONA
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION**

PORTABLE COLOR TV INSPECTION SYSTEM

GENERAL PROVISIONS:

1. Cable Reel must be supplied with minimum 1,000 ft. multi-conductor cable with cable weight no greater than 77 lbs per 1000 ft. and .350" diameter nominal, or, minimum 1,000 ft. single conductor cable reel is also acceptable.
2. The Power Supply / Control Unit shall have a minimum 10" Flat Screen Lightweight Monitor with Sun Screen
3. The Power Supply / Control Unit shall be able to be mounted via heavy duty snap-on hardware or equivalent on top of the reel and be oriented in any direction to facilitate operation away from direct sunlight.
4. The Optical Zoom Pan and Tilt Camera must have light enhancement feature that increases the light sensitivity of the camera when encountering challenging light conditions.
5. The Optical Zoom Pan and Tilt Camera must have built-in field replaceable lighting that provides directional lighting for 6"-24" pipe with no requirement to added external lighting. Cameras that require external non-directional lighting to be added to inspect this pipe size range will be deemed not acceptable.
6. The Optical Zoom Pan and Tilt Camera must have built-in diagnostics that display on-screen and can be brought up on-screen upon command.
7. The Optical Zoom Pan and Tilt Camera, when used with the transporter, must be able to pan and tilt minimum in a 6" diameter pipe.
8. The Optical Zoom Pan and Tilt Camera must have a built-in sonde and locator.
9. The unit must be supplied with a wired and wireless integrated hand held controller for all functions of the reel, transporter, and camera.
10. The power supply shall have a wireless receiver to communicate with a wireless hand held controller for the camera and transporter.
11. The length of the steerable camera / wheeled transporter assembly cannot exceed 22". It must operate in 6" through 24" pipe sizes.
12. The steerable wheeled camera transporter must have high traction steel wheel sets available for 6", 8", and 10" and larger pipe inspection. The steerable wheeled camera transporter must be supplied with rubber tires for 6", 8", and 10" pipe inspection.

13. The steerable wheeled camera transporter for 6"-24" pipe and the pan and tilt optical zoom camera must be controlled via a wireless hand-held pendant controller that integrates the control of all transporter motions to include speed, forward, reverse, and all camera pan and tilt, rotation, auto centering, iris and focus overrides, plus electric camera lift functions and reel functions.
14. The steerable wheeled camera transporter for 6"-24" pipe must have a rear tip-up waterproof bulkhead connector that minimizes the stress / strain on the connections and interface cable during insertion and retrieval.

PORTABLE CAMERA, TRANSPORTER, AND TV SPECIFICATIONS:

Description:

1) P&T ZOOM OZIII M/C, TrakSTAR P&T, or equivalent P&T CAMERA

The Pan, Tilt, and Zoom Camera shall be designed for use in 6" diameter pipe and larger up to 24" diameter pipe. The unit is to be designed to provide close-up views of pipe walls during inspection including minute defects and voids. The unit will be color and shall consist of the following (minimum)

Camera

- Chassis construction shall include 100% solid state circuitry designed to withstand shocks and vibration normally sustained while being pulled through a pipe.
- The camera module shall be an industrial model only.
- Operating temperature ranges of the camera shall be 0 degrees C to 50 degrees C.
- The camera shall develop a true color and transmit a sharp image picture on the video bandwidths only.
- Full color video bandwidths shall be provided with no sacrifice of low frequency response. There shall be no visible streaking of the low frequency test bars when viewing a standard EIA test chart.

Camera Optical & Digital Zoom

- Optical & digital zoom and zoom & focus speeds shall be selectable from the maintenance terminal.
- Remote control of pan, tilt, pan and tilt homing, optical zoom, manual focus, automatic focus, shutter speed, frame integration, manual iris, diagnostics and internal lights shall be provided.
- Optical Zoom Range
- Digital Zoom Range
- Total effective zoom ratio: 40:1
- The lens shall be an automatic iris type with a manual override (controlled from the control console) to control the illumination range.

Camera Housing

- The camera mechanics and electronics shall be housed in a high strength, damage resistant housing, aluminum with a stainless steel tube or equivalent.

Camera Lighting

- Shall be remotely controlled from the control console.
- Shall be integrated into the camera.
- Shall provide adequate lighting in pipe sizes from 6"-24" in diameter.

Internal Diagnostics

- Humidity sensor, temperature, camera voltage, light head voltage, serial number identification, and operating hour meter.

Working Pressure

- 50 PSI (minimum)

Operating Temperature

- 0° to 50°C

2) STEERABLE CAMERA TRANSPORTER, WHEELED

A self-propelled camera transporter shall be provided for inspecting pipe and wastewater pipelines measuring 6" and up to 24" in diameter.

Transporter

- Shall include the following (minimum) equipment: six (6) Driven Wheels, available in various sizes.
- Shall utilize a rear tip-up bulkhead connector to minimize stress and strain on the cable connection. The cable-to-transporter connection shall be secured.
- Shall have sufficient power and traction to inspect a minimum of 1000 feet from the manhole entry point in suitable pipe conditions.
- The motors shall incorporate over-current protection circuitry.
 - Shall be equipped with self-propelled power forward, power reverse, and free wheel capabilities.
- Shall have speed and direction controlled from the control console.
- Shall be retrievable in the free wheel mode by the video cable reel to reduce the normal wear on the drive motor.
- Shall have full, variable speed in power forward or power reverse modes.

Tires

- The Transporter shall include six (6) wheels, available in various sizes, designed to maximize traction in each pipe size.
 - 6" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER INCLUDED
 - 8" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER INCLUDED
 - 10" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER INCLUDED
- Optional Steel Wheels for High Traction in 6", 8", and 10" PVC pipe must be available.

TRANSPORTERS DRIVEN BY BELTS WILL NOT BE ACCEPTABLE.

TRANSPORTERS WITH EXTERNAL DRIVE TRAIN COMPONENTS WILL NOT BE ACCEPTABLE.

3) PCU ASSEMBLY, NTSC

Integrated Power Control Unit

A fully integrated camera, lighting, and crawler control unit, built into a protective portable thermoplastic case or equivalent, shall be provided. The control unit shall include a built-in 10" minimum solid-state color monitor to display video, system configuration and diagnostic conditions.

A built-in alpha/numerical video character generator and display shall be provided. The data generator shall generate footage count, defect information, and/or free-form comments, for display on the video monitor and recording. A standard keyboard shall be provided for generating defect and commentary entry. The format and position of the on-screen data shall be adjustable within the video display to fit pipe conditions or operator requirements. The character generator shall have preprogrammed defect codes and user programmable defect information codes. WRC and PACP code systems shall be stored and be activated upon demand.

The control center shall operate from a 110VAC or 220VAC 50Hz. or 60 Hz. power source. It shall not be necessary to adjust the camera voltage to accommodate different lengths and types of cable (flexible or integrated push/rod type). Other external connections shall include a buffered external video monitor output, a USB port, and audio and video VCR input/output plugs.

Portable Controller

A hand-held portable controller for a pan & tilt type camera, steerable transporter and reel will be provided. The controller will be capable of wired operation, and include a weatherproof panel with indicator lights. Joystick controls will be provided for camera pan and tilt operation and transporter forward, reverse and steerable functions. Camera controls will include focus and iris override, zoom, lights and light intensity, pan and tilt homing, autofocus, and diagnostics. Transporter controls will include cruise control and camera lift operation.

Reel will include retrieve and release mode, and speed controls.

The controller shall be fabricated of a high impact plastic material or equivalent, and housed in a neoprene boot or equivalent for protection.

Combination Video Transmission/Tow Cable, Kevlar Fiber Armored, Multi-Conductor or Single Conductor Option

A combined video and towing cable shall be furnished in a continuous length of a minimum 1,000 feet and shall consist of the following (minimum):

Cable – Multi-conductor option

- The cable shall consist of a coaxial core wrapped with a braided wire shield ground return.
- An additional braided wire shield shall encircle both the coax and ground return and shall act as a Faraday shield.
- A total of eight (8) separately insulated and color-coded 20/24 gage standard copper conductors shall be bundled and twisted in groups of two with four conductors remaining single.
- To prevent cable breakage when placed under load, all wire bundles, wires, and the coax shall twist in a serpentine pattern for the entire length of the cable so that all wires, including the coax, are the same total lengths.
- The cable diameter shall be no greater than .350 inches.
- The cable weight shall not exceed 77 lbs. per 1000 feet.

Cable - Single conductor option

Must have a minimum 0.25" OD with minimum 2000 pounds break strength.

(DVR-SD) RECORDER

A 100% solid state digital recording unit for pipeline inspections. The DVR shall record MPEG 4 digital videos. It shall also takes snapshots and store them in JPEG format. The DVR unit shall allow audio recording and playback via audio line in / out connections. The digital video shall be played back locally or via remote office PC or Laptop using Windows Media Player with the appropriate codec. The equivalent codec software must work in conjunction with the Windows Media Player.

Recording Mode Settings:

The DVR unit shall offer two recording resolutions in accordance with the H.264 digital compression specification:

702 X 480

352 X 240

In addition, three levels of recording quality that are selectable which influence the amount of compression:

-High

-Medium

-Low

The video recording shall allow multiple recordings to the provided 16 GB flash drive.
The video file name shall be created automatically per each recording.
Video Storage
Video Storage durations at High Quality (16 GB Flash drive)

4) **WHEELED DOLLY, 110V TO INCLUDE**

Electric Motor Rewind
Hand Crank
Automatic Levelwind
Electronic Footage Meter
Cable 4' – Control Unit to Dolly
DVR / SD Assembly Kit with Hardware
PCU Enclosure for Dolly to include Mini Keyboard and Power Cable

5) **TIGER TAIL**

A standard 4" diameter Tiger Tail wastewater jet hose guide shall be provided for maximum downhole TV cable protection

6) **MANHOLE TOPROLLER ASSEMBLY** or equivalent

A manhole toproller assembly shall be provided to protect the TV cable entry at the manhole cover ring.

7) **RETRIEVAL / DOWNHOLE POLE ASSEMBLY** or equivalent

The extension poles shall be corrosion resistant and colored to ensure visibility for added safety.

INSTRUCTION AND TESTING

The supplier shall fully instruct and train in the operation of the equipment furnished after delivery. The instruction period shall be of sufficient duration to fully familiarize the operating personnel. The instruction and testing shall be conducted by the supplier's field service technician and shall include component overview, theory of operation, equipment operation, field procedures, techniques of use, troubleshooting, maintenance recording and logging of sewer conditions, and safety procedures.

SERVICES AND WARRANTY

Must have a loaner program while service is being performed on purchased equipment.
Must have free telephone tech support.
Must have two (2) year warranty on both camera and transporter systems.
Must have five (5) year warranty on controllers, reels, and cable.

BID TABULATION:

The General Provisions are provided to describe the type or similar type of portable color TV inspection system desired to be purchased by the City of Sedona for the inspection of sewer lines. Bidders are to provide pricing based on the minimum requirements listed under Section PORTABLE CAMERA, TRANSPORTER, AND TV SPECIFICATIONS. A separate itemized specification sheet MUST be supplied with the bid tabulation supporting that all minimum requirements have been met in each description. As certain portable color TV inspection systems come preferred from the manufacturer with either a multi-conductor or single conductor cable option, it is the intent of the City to evaluate all bids based on either option as long as the specifications meet the minimum criteria for either type of cable. An outline of the loaner program MUST be attached as part of the bid tabulation. The bidder MUST provide documentation that the warranty requirements listed under SERVICES and WARRANTY are met in order to be considered.

| <u>Qty</u> | <u>Description</u> | <u>Price</u> |
|------------|--|--------------|
| 1 | P&T ZOOM OZIII M/C, TrakSTAR P&T, or equivalent P&T CAMERA | \$ |
| 1 | STEERABLE CAMERA TRANSPORTER, WHEELED - 6" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER SUPPLIED - 8" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER SUPPLIED - 10" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER SUPPLIED | \$ |
| 1 | PCU ASSEMBLY, NTSC - INTEGRATED POWER CONTROL UNIT - PORTABLE CONTROLLER - COMBINATION VIDEO TRANSMISSION/TOW CABLE, KEVLAR FIBER ARMORED, -MULTI-CONDUCTOR or SINGLE CONDUCTOR OPTION - (DVR-SD) RECORDER, 1,000 FT MINIMUM | \$ |
| 1 | WHEELED DOLLY, 110V TO INCLUDE - CABLE 4'-CONTROL UNIT TO DOLLY DVR / SD ASSEMBLY KIT WITH HARDWARE - PCU ENCLOSURE | \$ |
| 1 | TIGER TAIL | \$ |
| 1 | MANHOLE TOPROLLER ASSEMBLY or equivalent | \$ |
| 1 | RETRIEVAL/DOWNHOLE POLE ASSEMBLY or equivalent | \$ |
| LS | INSTRUCTION AND TESTING | \$ |
| | | |
| | Subtotal | \$ |
| | Sales Tax (9.3%) | |
| | Freight | |
| | Total | \$ |
| | Estimated delivery Time from Notice of Award | |

Bid prices submitted shall be considered to have included all local, state and federal taxes, and no additional allowance will be allowed therefore.

A \$500 bid guarantee must accompany this bid. It may be a bond or cashier's check.

Complete and attach to Bid Tabulation form.

Company Name _____

Bidder's mailing address

Bidder's Location

Address

Address

City, State, ZIP

City, State, ZIP

Disputes related to this bid and contract shall be considered as within Yavapai County, Arizona and subject to jurisdiction of courts therein. The provisions of Article 3.10.010 of the City Code shall apply to this request for bids as a precedent to proceeding with other actions against the City.