

SECTION 01321 – 4K PTZ STREAMING CONSTRUCTION CAMERA SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Construction camera system to include live streaming video, remote-control pan-tilt-zoom (PTZ), archived photos, and time-lapse videos of project site during construction duration.
- B. Products and services supplied by System Vendor and installed under this Section:
 - 1. 4K PTZ Streaming Construction Camera. Includes camera, 4G cellular modem, all-weather enclosure, power supply, and mounting bracket.
 - 2. Hosting Services:
 - a. Ability to view live video stream and control construction camera from Internet-connected devices.
 - b. Automatic capture and storage of job site photos from construction camera, viewable from Internet-connected devices.
 - c. Online time-lapse movies
 - d. Edited project-end time-lapse movie
- C. Products supplied and installed by Contractor:
 - 1. 120v AC power at camera mounting location
 - 2. Poles, foundation systems, and guy systems for camera mounting
- D. Related Sections:
 - 1. Project Management and Coordination Section for administrative requirements for coordination and project meetings.
 - 2. Construction Progress Documentation Section for reports
 - 3. Photographic Documentation Section for project pictures
 - 4. Quality Requirements Section for Special Inspections
 - 5. Temporary Facilities Section for temporary telephone or broadband utilities and security
 - 6. Division 16 Sections for 120v AC power
 - 7. All equipment shall be covered under Owner's and Contractor's project insurance policies

1.02 SUBMITTALS

- A. Reference Submittal Procedures Section to submit the following items:
 - 1. System Vendor shall submit product data for 4K PTZ Streaming Construction Camera and hosting services.
 - 2. Architect shall provide project site plan showing proposed mounting location for camera.

1.03 QUALITY ASSURANCE

- A. Overall Standards:
 - 1. Contractor shall maintain quality control program on all equipment.
- B. System Vendor Qualifications:
 - 1. Experience in producing construction camera systems of the type specified.

1.04 DELIVERY, STORAGE, AND HANDLING

Follow System Vendor's instructions. All freight shall be included in Contract Price.

1.05 WARRANTY

- A. Time Period: System Vendor's lifetime warranty.
- B. Conditions: System Vendor's standard warranty conditions.

1.06 CONTRACTOR'S INSTRUCTIONS

- a. Maintenance and Testing:
 - 1. Clean dome of camera enclosure as required.
- b. Project Closeout:
 - 1. Contractor shall notify System Vendor 14 days prior to the project's completion.
 - 2. Contractor shall remove camera system. Contractor shall carefully package system and ship to destination as directed by Owner (if purchased by Owner) or to System Vendor (if rented).
 - 3. All freight shall be included in Contract Price.

PART 2 - PRODUCTS

2.01 SYSTEM VENDOR

- A. iBEAM Construction Cameras
 - 5318 W Morris Hill Rd
 - Boise, Idaho 83706
 - Tel: (800)403.0688 (208) 344.8002
 - Fax: (208)286.4552
 - E-mail: sales@ibeamsystems.com
 - Web site: <http://www.ibeamsystems.com>
- B. Approved Equal as determined by the Architect.

2.02 PERFORMANCE REQUIREMENTS

- A. 4K PTZ Streaming Construction Camera
 - 1. Remote-controllable web camera
 - a. 3840x2160 (network) or 1920x1080 (cellular) live image stream
 - b. 1/2.3" Progressive Scan CMOS lens
 - c. Auto white balance
 - d. Auto focus
 - e. Auto day/night mode
 - f. Electronic image stabilization
 - g. 256 preset positions
 - h. 20 simultaneous viewers
 - i. Camera shall be remote controllable from an Internet-connected device
 - i. 360° endless pan
 - ii. -90° to +20° tilt
 - iii. 70.7° horizontal field of view
 - iv. 12x optical zoom
 - v. Still image capture
 - 2. K08, IP66- and NEMA 4X-rated metal casing (aluminum), Polycarbonate (PC) clear dome with Sharpdome technology
 - 3. NEMA 4X-rated power/communication enclosure and pole mounting bracket
 - 4. Operating temperature: -4°F to +120°F
- B. Hosting Services
 - 1. Project photos shall be captured daily at 10-minute increments throughout a designated 12-hour time period
 - a. 3840x2160 pixels (8.3 megapixels), 16:9 widescreen aspect ratio
 - b. JPEG format
 - c. Date/time stamp
 - d. Photos shall be captured of multiple views if necessary to adequately document construction
 - 2. Project photos shall be uploaded to and stored on a distributed cloud server
 - 3. Web-based access to archived photos
 - a. Password-protected access
 - b. Photos searchable by date and time
 - c. 500% zoom magnification
 - d. Download, print, and email capability
 - e. Link to live camera
 - 4. Web-based access to live video stream with pan-tilt-zoom control
 - a. Password-protected access
 - 5. Web-based access to time-lapse movies
 - a. Password-protected access
 - b. User can indicate date and time range of time lapse movie
 - c. User can indicate speed of movie
 - d. Downloadable in .mp4 format
 - i. Include timestamps
 - ii. 4K Ultra HD, 1080p HD and 720p HD resolution
 - 6. System Vendor shall provide an edited and post-processed start-to-finish 4K Ultra HD time-lapse movie in .mp4 format at the end of project

7. Cellular data service shall be provided by System Vendor
8. Customer shall retain all copyrights to project photos and time-lapse movies

2.03 COMPONENTS

- A. 4K PTZ Streaming Construction Camera shall be an iBEAM PTZ 4K Construction Camera or approved equal
- B. Hosting Services shall be iBEAM hosting service as developed by iBEAM Construction Cameras or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Contractor shall install 4K PTZ Streaming Construction Camera in accordance with System Vendor's installation instructions.
- B. Position for optimal view of project accounting for terrain, vegetation, and construction phases.
- C. Contractor shall provide all necessary permits, licenses, and inspections.

3.02 FIELD QUALITY CONTROL

- A. Contractor shall test 4K PTZ Streaming Construction Camera in accordance with System Vendor's startup test procedures.
- B. Contractor shall maintain all components in good condition.

3.03 EXAMINATION

- A. Contractor shall periodically examine camera enclosure dome to ensure optical clarity.

3.04 CLEANING

- A. Reference System Vendor's cleaning recommendations.

END OF SECTION 01321