**EarthCam GigapixelCam X10 Model # ECCS38101 A&E Specifications**

**01.32.36 Video Monitoring and Documentation**

1. **CAMERA SPECIFICATIONS**
   1. **Contractor Contact Information**

The Contractor shall provide a Robotic High Definition Megapixel Webcam for users to remotely view the project on a secure connection via a network connection. The camera will provide a full view of the work area on the construction site.

CONTACT SYSTEM VENDOR: EarthCam Inc. / Brian Cury +1 201.488.1111

Email: WWW.EARTHCAM.NET/CONTACTUS

* 1. **Camera System for Highest Precision Monitoring and Documentation**
     + 1. Thermostatically controlled IP66/IP67 rated environmentally sealed black powder coated enclosure with stainless steel hardware
       2. User controlled window wiper
       3. Industrial grade solid state embedded Linux System
       4. 24 Megapixels (6000 x 4000 pixels), Digital SLR camera with a 15.6mm x 23.6mm

DX-Format CMOS Image Sensor

* + - 1. Lens: F/3.5-F/5.6, 18-300mm, 17X Optical Zoom
      2. Professional photo grade glass enclosure window
      3. Nikon optics for superior image quality
      4. Auto Features: ISO, Shutter, White Balance and Focus
      5. Live streaming video preview with 1080i broadcast quality video clip capability
      6. Image sensor cleaning and airflow control system for dust reduction
      7. Anti-aliasing filter (Optical Low Pass Filter) for moiré effect reduction
      8. 39-point wide area autofocus system
      9. Rapid archiving capability with on demand image capture as fast as every 10 seconds for short term events
      10. Ultra-precise, Pan/Tilt robotic base designed to provide consistent imaging in all environments
      11. Pan/Tilt: Pan Range 360° Continuous Pan, Tilt: +45° to -90° non-continuous pan mode.

Motor Type: Stepper

* + - 1. Up to 10 Gigapixel (10000 megapixels) auto-generated 360° panoramas
      2. Communications: 10base-T/100base-TX Ethernet, IP Addressing: Dynamic or Static
      3. 4G cellular modem
      4. Smart diagnostic LED multi-color power indicator lamp
      5. 32GB On-Board Data Backup to provide a minimum of thirty days of on-board image retention
      6. Short term power device to send alerts if camera goes offline
      7. 120VAC, 220-230VAC or 12VDC power
      8. Designed for EarthCam Control Center

1. **SERVICE SPECIFICATIONS**
   1. **Internet Based Online Interface**

The camera will be accessible via an internet based Software as a Service (SaaS) solution. This online interface will be managed and supported by the System Vendor. The service will be available for the term of the project and allow the viewing of live video and High Definition digital still images captured and stored of the project on both mobile and desktop platforms.

The Internet Based Online Interface shall include the following features:

* + 1. Responsive HTML5 design for cross-platform access on desktop and mobile devices
    2. Display project name and logo
    3. Project Dashboard for viewing and accessing multiple cameras
    4. Real-time live video viewing
    5. User-controllable Robotic Pan, Tilt and Zoom
    6. User-controllable settings for creating and editing multiple preset compositions
    7. Automatically generated daily panoramas
    8. Quarterly and on demand Gigapixel panoramas
    9. Onscreen control button for wiper and washer control to allow for remote cleaning of the viewing window
    10. Picture in picture capability for viewing live video and High Definition Megapixel images simultaneously
    11. Digital Pan, Tilt and Zoom capability within a High Definition images
    12. Custom tiling player to easily view High Definition panoramic images
    13. Instant live snapshot capability in addition to preset scheduled archives
    14. HDR (High Dynamic Range) imaging and additional special effects
    15. Timeline navigation system for selecting specific images and times
    16. Multifunction Image Browsing
    17. Time-lapse feature with optional time date overlay for instant time-lapse viewing, downloading and embedding
    18. Full Screen Mode for displaying complete image without any graphical frame
    19. Photo Filters and Graphical Markup Tools for detailing and creating notes with graphical overlays on images, including project title, logo and time date stamp
    20. Image Comparison Tool for comparing two images taken at different times, overlayed on top of each other
    21. Share Image Tool for saving, printing, emailing and posting to Hall of Fame
    22. Marketing Section for posting and sharing camera images with notes
    23. Social Media Integration Tools for sharing project images and notes on Facebook and Twitter
    24. Automatically generated daily/weekly project progress update email with camera image and weather
    25. Graphical Weather applet displaying local weather data with satellite and updating radar imaging
    26. Integration of maps, aerial and satellite imagery
    27. Graphical Data Management Tools showing archived and current system status of solar amperage, battery power remaining, wireless radio connectivity and device location
    28. Automatically generated Progress Reports (in PDF and PowerPoint formats) using daily, or weekly camera images with associated weather data, notes, and client logo
  1. **Security and Management**
     1. Access to account protected by Account Security feature which includes four levels of password protection, IP address block/permission and SSL protection of user login password.
     2. The system shall capture and upload images every 15 minutes, 24 hours per day.
     3. The system shall have M2M – Machine to Machine 24/7 Support with active self-healing technology and automatic software upgrades to maintain the quality, consistency and reliability of all images.
     4. Images will be maintained on the System Vendor’s servers for reference available at all times during the life of the project and for no less than 60 days after completion. All images will be protected on servers owned and operated by the System Vendor and located in a secure area at the System Vendor’s location.

1. **CONTRACTOR REQUIREMENTS** 
   1. **Jobsite Requirements**

The Contractor shall secure a nearby structure for camera mounting or provide a fixed pole (40 foot / 12 meters height recommended) and 3 inch / 8 centimeters minimum diameter as per System Vendor’s instruction. The Contractor shall supply all equipment required for safe and secure access to the camera location for technicians performing installation and maintenance services, including building access, bucket truck and/or lift. The System Vendor will consult on and provide recommendations for optimal camera placement and provide professional installation services as required.

* 1. **Camera Maintenance**

The Contractor shall provide all service and maintenance, including cleaning, of the camera system throughout the life of the project including making appropriate arrangements for camera to remain in operation up to and through finalization of all structural, landscaping and “completed state” condition necessary for beginning-to-end time-lapse record.

1. **DELIVERABLES** 
   1. **Public Website**

The System Vendor shall provide custom public website development. Website shall be separate from the Online Interface, match the look and colors of the project’s website, and be delivered as embed code or standalone web page. Additional features include Facebook and Twitter integration, full screen mode, image comparison, weather, multiple logos, graphical background image and project description.

* 1. **End of Project Time-Lapse Movie**

The System Vendor shall provide time-lapse movie(s) at the end of the project. Time-lapses shall be professionally edited by a video editor using image stabilization software. The movie will start with a graphic, incorporating project title, date and logo. Periods of bad weather or inactivity shall be removed to produce a compelling and consistent movie. A machine edited movie will not be acceptable.