

**SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Concealed Work photographs.
  - 3. Periodic construction photographs.
  - 4. Final completion construction photographs.
- B. Related Requirements:
  - 1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
  - 2. Section 024116 "Structure Demolition" for photographic documentation before building demolition operations commence.
  - 3. Section 311000 "Site Clearing" for photographic documentation before site clearing operations commence.

1.2 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three days of taking photographs.
  - 1. Submit photos by uploading to web-based Project management software site. Include copy of key plan indicating each photograph's location and direction.
  - 2. Identification: Provide the following information with each image description in web-based Project management software site:
    - a. Name of Project.
    - b. Name of Redeveloper.
    - c. Date photograph was taken.
    - d. Description of location, vantage point, and direction.
    - e. Unique sequential identifier keyed to accompanying key plan.

1.3 QUALITY ASSURANCE

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.4 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified photographer to take construction photographs.
- B. General: Take photographs with maximum depth of field and in focus.

- C. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties.
- D. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work.
- E. Periodic Construction Photographs: Take photographs coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- F. Final Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as Project Record Documents.
- G. Construction Site Video Monitoring
  - 1. The Contractor is to provide site camera system featuring two (2) 18.0 megapixel digital SLR camera and a dependable Linux computer system. The cameras are to be all-weather cameras which automatically capture snapshots on a schedule and installed to provide opposing views. A cellular modem (Verizon, Sprint, AT&T, or Global/SIM card) is to be built into the camera system to transmit (via FTP) live images from the jobsite over the internet to your computer.
  - 2. The Contractor shall provide a High Definition Megapixel Web Camera which shall provide a full view of the work area on the construction jobsite. The Web Camera shall allow users to remotely view the project on a secure connection via a network connection.
  - 3. Basis of Design: Work Zone Cam 877-966-3101  
[WWW.WORKZONECAM.COM](http://WWW.WORKZONECAM.COM) or equal.
  - 4. The Web Camera shall meet or exceed the following requirements:
    - a. Thermostatically controlled enclosure with heater and blower
    - b. Powder coated aluminum housing with stainless steel fittings for padlocks
    - c. Canon digital SLR camera with 18 Megapixel images (5184 x 3456 pixels), APS-C imager
    - d. Angle of view: wide 63° horizontal – 44° vertical, full zoom 22° horizontal - 15° vertical
    - e. Auto Features: ISO speed, metering mode, white balance, and focus
    - f. EF-S 18mm-55mm f/3.5-5.6 Image Stabilization STM lens
    - g. Professional photo grade lens window
    - h. Omni-directional power indicator lamp will illuminate green
    - i. Two UL rated compression glands, gas spring lid, adjustable camera sled
    - j. Compression: JPEG/RAW
    - k. 4GB onboard storage
    - l. 12VDC Solar Power
    - m. Communications 10base-T/100base-TX Ethernet, IP Addressing: Dynamic or Static
    - n. Wireless cellular modem EVDO REV.A full duplex transceiver with GPS and exterior outdoor antenna

5. Online Web Interface: The Web Camera will function via a web-based interface to allow the viewing of all High Definition still images captured and stored from any location with internet access.

The Online Web Interface shall include:

- a. Company logo and project name
- b. Multiple tabs option for accessing multiple cameras from one page
- c. Digital Pan, Tilt, and Zoom capability within a High Definition image
- d. Easy navigation with intuitive image calendar control
- e. Automated image geotagging with camera location
- f. Downloadable up-to-date high quality time-lapse movies with embed code for adding the time-lapse to websites
- g. Image Comparison Tool for overlaying two images from different dates and times for comparison
- h. Share Image Tool for saving and emailing
- i. Local weather data
- j. Map integration of GPS data showing camera location
- k. Multiple website themes with option to personalize background
- l. Administrative controls for the client, allowing them to customize public access page, including project name, camera name configuration and username management with three levels of password protection.

6. The system shall capture and upload images every 30 minutes, 24 hours per day.

7. The System Vendor will maintain images on their servers for reference available to the Authority, CM and Bridging Architect, at all times during the life of the project. All images will be protected on secure fully redundant servers at multiple locations owned and operated by the System Vendor.

8. The System Vendor shall provide an embed code or web interface link with Design Builder's project details for unlimited public or private access.

9. The Contractor shall secure a nearby structure for camera mounting or provide a fixed pole (40 feet/12 meters height recommended and 3 inches/8centimeters minimum diameter) as per System Vendor's instruction. The Contractor shall supply all equipment required for safe and secure access to the camera location, including building access, bucket truck and/or lift, for technicians performing installation and maintenance services.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233