

SECTION 01 32 33 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. See Division 01 Specification Sections.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.
4. Preconstruction video recordings.
5. Periodic construction video recordings.
6. Final completion construction video recordings.
7. Owner designated software

1.3 INFORMATIONAL SUBMITTALS

- A. Digital Photographs: Submit image files in the quantities and at the intervals described in paragraph 3.1 of this section.

1. Digital Camera: Minimum sensor resolution of 10 megapixels.
2. Format: Unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

- B. Construction Photographs: The project requires comprehensive documentation of construction progress and post inspection milestones. Submit prints of each photographic view in the quantities and at the intervals described in paragraph 3.1 of this Section.

1. Format: 8-by-10-inch (203-by-254-mm) on photographic paper to allow a 1-inch- (25-mm-) wide margin and enclosed back to back in clear plastic sleeves that are punched for standard three-ring binder.
2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Name of Project.

- b. Name and contact information for photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.
3. "Progression" photo sets are to be performed at pre-determined intervals throughout the duration of construction, as applicable to the scope and as follows:
- a. Site survey (Pre-construction): A one-time shot that provides coverage of site and immediate and immediate surroundings.
 - b. Exterior progression shots: Taken from key perspectives along site perimeter and 360 degrees around building envelope, to be performed at monthly intervals.
 - c. Interior progression shots: Broadly track the improvements from logical perspectives, to be performed at monthly intervals and coordinated with pace of erection.
 - d. Pre-slab/Pre-Chase/Interior record shots: Underground or concealed utilities will be documented post inspection/pre-insulation and prior to pouring slabs, backfilling or closing chases/walls/ceilings.
- C. Video Recordings: Submit video recordings in accordance with paragraph 3.2 of this Section.
- 1. Submit video recordings in digital video disc format.
 - 2. Identification: With each submittal, provide the following information:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date video recording was recorded.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Weather conditions at time of recording.

1.4 QUALITY ASSURANCE

- A. Photographer Qualifications: An individual who has basic skills necessary to record digital photographs and video recordings with the exception of the final construction photos. The final construction photos and videos shall be taken by a professional photographer and videographer. Proof of experience may be requested for approval.
- B. Photos and videos can not be used by the construction contractor or design team for publications or other media without expressed approval by Caltech in writing. Requests shall be made to the Design and Construction Senior Contracts Manager for approval.

1.5 COORDINATION

- A. Auxiliary Services: Provide auxiliary services necessary, including temporary lighting required to produce clear, well-lit photographs.

1.6 USAGE RIGHTS

- A. Contractor will transfer copyright usage rights to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 10 megapixels.
- B. Digital Video Recordings: Provide high-resolution, digital video disc.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
 - 2. Taking photographs or video recordings with students and schools staff included on the photograph is strictly prohibited.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.
- C. Preconstruction Photographs: Before starting demolition or construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, or as directed by Architect.
 - 1. Take a minimum of 10 photographs to show existing conditions adjacent to property before starting the Work.
 - 2. Take a minimum of 10 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
- D. Periodic Construction Photographs: Take a minimum of 10 photographs monthly and submit with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken. For renovation projects: The location and type of items to be photographed will be determined by the Architect and/or PM based on the specific project conditions not to exceed the number of progress photographs required above.
- E. Final Completion Construction Photographs: Take a minimum of 20 color photographs after date of Substantial Completion by a professional photographer for submission as project

record documents. Architect will inform photographer of desired vantage points.

1. Do not include date stamp on Final Completion Construction Photographs.

3.2 CONSTRUCTION VIDEO RECORDINGS

- A. Preconstruction Video Recording: Before starting demolition or construction, record video of Project site and surrounding properties from different vantage points, as directed by Architect.
 1. Show existing conditions adjacent to Project site before starting the Work.
 2. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of demolition or construction].
 3. Show protection efforts by Contractor.
 4. Narrate all noted conditions on the video.
 5. On renovation projects with crawlspace work, record video of these areas before, during and after work is completed.
- B. Periodic Construction Video Recordings: Record video monthly and submit with each Application for Payment. Select vantage points to show status of construction and progress since last video recordings were recorded. Minimum recording time shall be 15 minutes and shall include narration of actual conditions and progress made since last recording.
- C. Final Construction Video Recordings: Provide a video of the project done by a professional videographer in a format usable by Caltech. Video shall be high resolution with professional lighting and other aspects such as audio enhancements.
- D. Owner's Training: Record video during the manufacturer's training session at substantial completion. Minimum recording time shall be 30 minutes per session. Deliver the recordings with the O&M Manual.
- E. Submit videos in DVD format.

END OF SECTION 01 32 33