

SECTION 02114

EXPLOSIVES

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. The work of this section encompasses all phases of work under this Contract which relate to explosives including, but not necessarily limited to, receiving, handling, transporting, storing, distributing, priming, loading, and firing and disposal. The Contractor shall exercise the utmost care, at all times, not to endanger life or property.

1.02 LEGAL REQUIREMENTS

- A. The Contractor shall comply with all applicable Federal, State, and local laws and regulations pertaining to the use, storage, and handling of explosives. It is the intent of these specifications to comply with such laws and regulations. In the event of inconsistencies between these specifications and the laws and regulations, the laws and regulations shall take precedence.

1.03 PERSONNEL

- A. One competent, experienced person shall be specifically designated in charge of explosives at all times. The designated person must present certification to the Engineer that he has successfully completed a course in the handling and use of explosives given by an accredited institution such as the U.S. Bureau of Mines, U.S. Forest Service, DuPont, or other explosive manufacturing company. He shall exercise careful supervision of all work related to the use, storage and handling of explosives. Only an absolute minimum number of competent, experienced men, consistent with efficient operation, shall be permitted to handle explosives. Any one demonstrating carelessness, incompetence or inexperience shall be immediately excluded from further handling of explosives.

PART 2: MATERIALS

As Required.

PART 3: EXECUTION

3.01 PROTECTION OF SITE:

- A. The Contractor shall make proper use of blasting mats and other protective devices and shall adopt whatever additional precautions are deemed necessary to prevent damage to trees, shrubs and other landscape features as well as to buildings, utilities, monuments and other structures. Every reasonable effort shall be made to prevent damage to the natural and the constructed surroundings. However, in the event that damage does occur, the Contractor shall make restoration as required by and to the satisfaction of the Engineer.

3.02 GENERAL REQUIREMENTS

- A. The Contractor shall at all times be bound by the following codes: (1) U.S. Forest Service, Health and Safety Code, FSH 6109.13 (latest edition); (2) National Fire Protection Association Code No. 495, Code for the Manufacture, Transportation, Storage, and Use of Explosives and Blasting Agents (latest edition), except when these codes are in conflict with existing Federal, State, or local laws and regulations. If there is no conflict between the codes and the laws and regulations, the most stringent requirement among them shall take precedence over the others. The Engineer shall decide all questions of interpretation, precedence or conflict and his determination shall be final. Safety rules, safeguards and recommendations contained in the Manual of Accident Prevention in Construction (latest edition) of the Associated General Contractors of America shall supplement the above codes and existing laws and regulations. The Contractor shall give special attention to the following specific rules:
 - B. Magazines shall be bulletproof, fireproof, burglarproof, weather-resistant, and constructed with adequate screened ventilation and dry wooden floors. All nails exposed to the interior of magazines shall be well countersunk.
 - C. Detonators shall not be stored with other explosives but in separate magazines.
 - D. Magazines shall not be provided with artificial heat or lights.
 - E. Magazines shall be kept securely locked.
 - F. Magazines and roads to them shall be clearly marked with appropriate caution and danger signs arranged to minimize the possibility of a bullet hitting the magazine when shot at signs.
 - G. The blast area shall be cleared of all unnecessary personnel and equipment before delivery

of any explosives to the site.

- H. No more than one day's supply of explosives may be kept at or near the work site and shall be kept in approved portable magazines in locations approved by the Engineer.
- I. Wooden tamping bars only shall be used for charging explosives into drill holes.
- J. Electricity from light or power circuits shall not be used for firing shots unless the electrical connection to the circuit is made within an enclosed switch box which shall be kept securely locked with switch in open position.
- K. A positive warning system shall be provided to give adequate warning in every direction immediately prior to firing explosives. All access points to the blast area shall be guarded by responsible Contractor's employees stationed to halt personnel and vehicles a safe distance from the blast. Intercommunication between guards and the person firing the blast shall be maintained to determine that the danger area is definitely clear prior to firing.
- L. The Contractor shall also provide special signs or signals at all access points. Signs shall include a warning to turn off radio transmitters whenever electric detonators are used.

END OF SECTION