

SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 -- GENERAL

1.1 EXPLOSIVES AND BLASTING

- A. The use of explosives on the Work will generally be permitted. All blasting shall conform to the requirements of Section 02210 – Blasting and Use of Explosives.

1.2 DUST ABATEMENT

- A. The CONTRACTOR shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. The CONTRACTOR shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the CONSTRUCTION MANAGER.
- B. The CONTRACTOR shall apply non-toxic soil stabilizers according to manufacturer's specifications to all inactive construction areas, or water at least twice daily, as needed to maintain adequate dust control.
- C. The CONTRACTOR shall enclose, cover, water (at least twice daily, or more frequently as needed), or apply non-toxic soil binders according to manufacturer's specifications on all exposed piles (i.e. gravel, sand, dirt) with a silt content of five percent (5%) or greater.
- D. The CONTRACTOR shall water active construction sites and unpaved roads at least twice daily, or more frequently as needed.
- E. If the CONTRACTOR cannot maintain effective dust control under windy conditions, the CONTRACTOR shall temporarily suspend all excavating and grading operations.
- F. The CONTRACTOR shall cover or maintain at least two feet of freeboard (minimum vertical distance between the top of the load and the top of the trailer) on all trucks hauling dirt, sand, soil, or other loose materials outside of the construction site.
- G. When there is visible track-out from an unpaved road onto a paved public road, the CONTRACTOR shall, as directed, install wheel washers where the vehicles exit and enter onto the paved roads, wash the undercarriage of trucks and any equipment leaving the Site on each trip, or sweep the paved street at the end of each shift with a Mobil Athey or similar water spray pick-up broom-type street sweeper. The CONSTRUCTION MANAGER shall notify the CONTRACTOR as to which measure to use to remove visible track-out.
- H. If watering of unpaved roads is not sufficient to control dust, the CONTRACTOR shall reduce vehicle speeds to 15 mph or less on unpaved roads.

- I. The CONTRACTOR shall pave or seal construction roads which have traffic volumes for sustained periods of time of more than 50 daily trips by construction equipment, or 150 total daily trips for all vehicles, at least 100 feet onto the site from the main road.

1.3 RUBBISH CONTROL

- A. CONTRACTOR shall prepare a trash abatement program and submit to CONSTRUCTION MANAGER for review and approval. The program shall include placing all litter, trash, and garbage in scavenger-proof, resealable containers. Trash includes, but is not limited to, cigarettes, cigars, gum wrappers, tissue, cans, paper, and bags. During the progress of the Work, keep the Site of the Work and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish. Dispose of all rubbish and waste materials of any nature occurring at the Work Site, and establish regular intervals of collection and disposal of such materials and waste. Construction refuse, including but not limited to, broken parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, boxes, and welding rods, shall be removed from the Site each day or placed into scavenger-proof containers which are emptied when full or weekly, whichever comes first. Keep haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of all rubbish and surplus materials shall be off the Site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.
- B. The CONTRACTOR shall clean up and properly dispose of any oil, fuel, and other equipment leaks at the time of occurrence. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks and spills. CONTRACTOR shall notify CONSTRUCTION MANAGER of any spills or leaks at the time of occurrence.

1.4 SANITATION

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: Establish a regular collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the CONSTRUCTION MANAGER and in accordance with all laws and regulations pertaining thereto.

1.5 CHEMICALS

- A. All chemicals used during project construction or furnished for project operation, whether soil sterilant, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

- B. Herbicides, pesticides, and Safe Drinking Water Act (SDWA) regulated compounds shall not be used unless prior approval is obtained. If CONTRACTOR decides that herbicides are needed, the CONTRACTOR shall submit a written request specifying the type of herbicide to be used to the CONSTRUCTION MANAGER. The AUTHORITY shall obtain written approval to use the herbicide from the U.S. Fish and Wildlife Service, the U.S. Bureau of Reclamation, and the National Park Service. The CONSTRUCTION MANAGER shall notify the CONTRACTOR if approval has been obtained.

1.6 FIRE PREVENTION

- A. Fire Reporting: There shall be readily available telephone service to the Site of the Work. Appropriate telephone numbers shall be conspicuously posted near each telephone. Instructions shall be issued to notify the proper authorities immediately in case of fire.
- B. Access for Fire Fighting: Every building adjacent to the Work shall be accessible to fire department apparatus by way of access roadways.

Access roadways shall not be obstructed in any manner, including parked vehicles. "No Parking" signs or other appropriate notice, or both, prohibiting obstruction may be required.

Access for use of heavy fire fighting equipment shall be provided to the immediate job site at the start of the Contract and maintained until completion.

C. General Fire Prevention Provisions:

1. Smoking. Smoking shall be prohibited at all times in the underground excavations and at or in the vicinity of hazardous operations or combustible/flammable materials. "No Smoking" signs shall be posted in these areas.
2. Refueling. Special care shall be taken to prevent fires when refueling equipment.
3. Oil Filters, Cartridges, and Oily Rags. Used and discarded oil filters, cartridges, and oil rags or waste shall be removed from the Site and disposed of properly.
4. Storage of Flammables. Glass jugs or bottles shall not be used as storage containers for flammable materials. Gasoline, oil, grease, and other highly flammable materials shall be stored either in a separate building, or at a site where all debris is cleared within a radius of 25 feet. Storage buildings or sites shall be a minimum distance of 50 feet from other structures. Storage buildings shall be adequately posted with highly visible signs to warn of the flammables and to prohibit smoking in or around the buildings.
5. Welding. Welding shall be accomplished in service areas when possible. If welding at field locations is required, all flammable materials shall be cleared for a distance of 15 feet around the area.

1.7 CULTURAL RESOURCES

- A. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 and NRS 383.121 which provide for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").
- B. Conform to the applicable requirements of the National Historic Preservation Act of 1966 and NRS 383.121 as they relate to the preservation of cultural resources.
- C. In the event potential cultural resources are discovered during subsurface excavations at the Site of construction, the following procedures shall be instituted:
 - 1. The CONSTRUCTION MANAGER shall issue a Field Order directing the CONTRACTOR to cease all construction operations at the location of such potential cultural resources find. The area shall be marked by the CONTRACTOR in an appropriate manner to ensure that all construction equipment, activities, and personnel remain clear of the area until further notice.
 - 2. The CONSTRUCTION MANAGER shall notify the Environmental Coordinator of the find. The AUTHORITY shall retain a qualified archaeologist to evaluate the find, and, in consultation with the State Historic Preservation Office, determine if any additional mitigation is required. The AUTHORITY shall implement any required study or removal. The CONSTRUCTION MANAGER shall notify the CONTRACTOR when the mitigation is complete and construction in the affected area can resume.

1.8 AIR QUALITY

- A. The CONTRACTOR shall maintain all vehicles and equipment in proper tune.
- B. The CONTRACTOR shall use Best Available Control Technology on construction equipment, including a timing retardation.
- C. The CONTRACTOR shall use natural-gas powered construction equipment where possible.
- D. The CONTRACTOR shall institute a Trip Reduction Plan in accordance with Section 01550 - Site Access and Storage, and shall encourage employee car-pooling.

1.9 NOISE

- A. Noise limits on construction equipment shall comply with the noise limits of the local jurisdiction or land management agency. All construction equipment shall be equipped with manufacturer's standard noise control devices (i.e., mufflers, acoustical lagging, and/or engineer enclosures). The CONTRACTOR shall take special care not to throttle the engine excessively and shall keep engine speed as low as possible. The CONTRACTOR shall not leave the equipment running or idling needlessly, especially when near noise-sensitive land uses. Noise-sensitive land uses include, but are not limited to, quiet recreational areas such as campgrounds and hiking trails.

- B. The CONTRACTOR shall use newer equipment whenever possible. The CONTRACTOR shall inspect all construction equipment at periodic intervals to ensure proper maintenance and the presence of noise control devices (i.e., mufflers and shrouding, etc.)
- C. Heavy, noisier equipment shall not come closer than 100 feet to the property line of any noise sensitive land use for any length of time, and shall avoid coming closer than 200 feet if multiple pieces of equipment are operating simultaneously. If such cases are unavoidable, the CONTRACTOR shall avoid throttling the engine excessively or leaving the equipment running needlessly. Heavy equipment will be operated in a manner to comply with the City of Henderson's noise ordinance and vibration performance standard.
- D. The CONTRACTOR shall locate stationary noisy equipment away from construction boundaries that are near noise-sensitive uses.
- E. Concrete trucks shall perform initial mixing and other activities that require high-revving of the truck engine a minimum of 600 feet from noise-sensitive land uses. Engine revolutions per minute shall be kept as low as possible at closer distances.
- F. Electric hand tools shall be used instead of gas-powered, whenever possible.
- G. If dewatering pumps and generators are required to be operated between the hours of 6 p.m. and 6 a.m. within 600 feet of a noise-sensitive land use, they shall be treated with acoustical noise control measures (e.g., mufflers, shrouding, and/or enclosures) so as not to exceed 56 dba at 50 feet or other appropriate requirements of the local jurisdiction.
- H. If requested by the CONSTRUCTION MANAGER, the CONTRACTOR shall install temporary noise barriers for construction activities, including staging areas, that occur closer than 100 feet from noise-sensitive land uses. Noise barriers can be made of plywood, heavy vinyl curtain material, natural or temporary earth berms, or stockpiles of construction material.

1.10 BIOLOGICAL RESOURCES

- A. The CONTRACTOR shall comply with the instructions provided in the AUTHORITY's Desert Tortoise Education Program, and the stipulations of the Biological Opinion issued by the U.S. Fish and Wildlife Service, which are summarized below.
 - 1. Provide access to all construction areas for biological monitors as requested to inspect for desert tortoises.
 - 2. Report immediately to the biological monitor if a live, injured, sick, or dead desert tortoise is found on the construction site.
 - 3. Briefly halt construction in the location of the desert tortoise to allow the biological monitor to remove the desert tortoise. Desert tortoises shall only be moved by a qualified biologist, and only for the purpose of moving them out of harm's way.

4. Before moving vehicles or equipment, inspect for the presence of tortoises. If a tortoise is found, notify the biological monitor who will remove the tortoise.
5. If a tortoise is noted in trenches or excavations, notify the biological monitor who will remove the tortoise.
6. To prevent tortoise entry in areas not enclosed by tortoise-proof fencing, open sections of pipe shall be temporarily capped or blocked at the end of the work day, and at any time that the work will be stopped and pipes will be left unattended for a period of time in excess of one hour.
7. If blasting is required, coordinate inspection of detonation sites with the biological monitor.
8. If the desert tortoise is encountered after dark or when there is no tortoise monitor present on the Site, or after normal working hours, the CONTRACTOR shall cease all construction activities at the location of the tortoise and notify an AUTHORITY biological monitor at (702)222-8707 (pager). A qualified biologist will arrive to remove the tortoise.

The CONTRACTOR is fully responsible for ensuring that no harm comes to any tortoises found on the Site. Tortoises shall not be intentionally killed, harmed, or taken for private use. The CONTRACTOR shall comply with all measures identified by the tortoise monitor during the tortoise education program.

- B. Temporary tortoise-proof fencing. The CONTRACTOR shall install and maintain approved temporary tortoise-proof fencing around all Work areas designated on the Drawings. The fencing may be installed with the Site security fencing or separately. The fencing may be installed all at one time, or in phases along portions of the entire construction Site to match construction activity, but must encompass the active construction area including staging areas, topsoil stockpiles, and access roads. All fencing must be within the boundaries of the designated and approved Work areas. The fencing shall be installed such that there is no ground disturbance outside of the fence line.

Approved temporary tortoise-proof fence consists of 1x2 inch mesh, 14 gauge galvanized wire fence (not poultry netting or hogwire), 36 inches wide. The top 24-inches of fence, with the two-inch positioned vertically, must extend above ground and be firmly attached to the Site security chain link fence or 12 gauge galvanized smooth wire. Hog rings must be used at intervals of one foot to attach the 1x2 inch mesh to the fence or wire. The bottom 12 inches of fence must be either buried vertically or bent at a right angle towards the outside of the Work area, and covered with three to six inches of dirt, rocks or gravel from the surrounding area. Fence posts must be placed at appropriate intervals (no more than eight to ten feet) and visible so they do not pose a safety hazard to humans. Provide adequate fence grounding for prevention of electrical shock to workers and other project personnel. CONTRACTOR shall be responsible for design and implementation of all temporary fence grounding systems. Drawings of approved temporary tortoise-proof fencing follow this section. If the CONTRACTOR wants to modify any portion of this approved design, the CONTRACTOR shall submit a description and drawing of the proposed modification to the CONSTRUCTION MANAGER. The AUTHORITY will forward the description to the

U.S. Fish and Wildlife Service for approval. U.S. Fish and Wildlife Service may require up to 30 days for review of any proposed modification.

Gates must be installed at appropriate access points with minimum ground clearance (no more than one inch) to deter ingress by desert tortoises. If necessary, a concrete foundation shall be installed under the gate to prevent erosion. In place of, or in addition to, gates, the CONTRACTOR may install temporary tortoise-proof crossings. If the CONTRACTOR elects to use temporary tortoise-proof crossings, he shall submit the proposed design to the CONSTRUCTION MANAGER for review and approval prior to installation. The AUTHORITY will forward the proposed design to the U.S. Fish and Wildlife Service for approval. Design should be based upon two parallel steel I-beams, spaced 8 inches apart. A minimum 8-inch gap will prevent tortoise entry. A trench between the I-beams at a depth of 8 to 12 inches with bedding material will catch any tortoises that fall through the gap. The trench shall be ramped at either end with slopes not steeper than 3:1 (H:V) to direct the tortoises out of the trench and to the outside of the tortoise-proof enclosure. Signs shall be posted warning pedestrians and drivers of the gap.

The CONTRACTOR shall be responsible for maintaining the integrity of the tortoise-proof fence during construction. If the fencing is damaged at any time during Work, the CONTRACTOR shall notify the CONSTRUCTION MANAGER and one of the AUTHORITY's biological monitors immediately. Work in the area of damaged fence shall be stopped until the fencing is repaired to the satisfaction of the CONSTRUCTION MANAGER. If the fencing cannot be immediately repaired, the CONTRACTOR shall secure the services of a biological monitor(s) that meets the required qualifications of the U.S. Fish and Wildlife Service and with the CONSTRUCTION MANAGER's approval. The monitor(s) shall remain at the damaged fence area and prevent tortoises from entering the site during all daylight hours until the fence is repaired to the satisfaction of the CONSTRUCTION MANAGER.

The CONTRACTOR's regular maintenance shall include removal of trash and sediment accumulation, repair of any damage, and restoration of zero clearance between the ground and the bottom of the fence. CONTRACTOR shall open and close gates after each vehicle enters and exits the Site, and ensure that the gate remains closed to prevent tortoise entry. Alternatively, CONTRACTOR may leave the gate open during work if CONTRACTOR provides an individual posted at the gate to watch for tortoise entry; if a tortoise approaches the gate, the individual must temporarily stop traffic and immediately contact AUTHORITY's biological monitor for removal of the tortoise.

1. Prior to conducting any Work or moving any equipment or vehicles onto the Site, the CONTRACTOR shall submit to the CONSTRUCTION MANAGER a temporary tortoise-proof fencing plan for review and approval. The plan shall detail fence design, location, installation procedures, installation schedule, and maintenance plan.
2. Prior to installation of the fencing, the CONTRACTOR shall stake and flag on foot the proposed fence route. The CONTRACTOR shall provide a minimum of five working days notice (not including weekends or holidays) after the route has been flagged to the CONSTRUCTION MANAGER of intent to install the fence, which will allow the AUTHORITY's biological monitor to conduct a desert tortoise clearance survey of the fence route.

3. An AUTHORITY biologist will monitor installation of the fencing in accordance with the approved tortoise-proof fencing plan.
 4. The AUTHORITY's Lead Biologist will inspect and approve completion of the tortoise-proof fencing.
 5. The CONTRACTOR shall allow a minimum of five working days (not including weekends or holidays) after the temporary tortoise-proof fencing has been completely installed, and before any equipment is moved onto the Site, for the AUTHORITY's biological monitor to conduct desert tortoise clearance surveys within the fenced area.
- C. Desert Tortoise Clearance Surveys. For areas not enclosed by tortoise exclusion fencing, after the boundaries of the Site have been staked and flagged but prior to conducting any Work or moving any equipment or vehicles onto the Site, the CONTRACTOR shall provide a minimum of five working days notice (not including weekends or holidays) to the CONSTRUCTION MANAGER of intent to begin work. This notice will allow the AUTHORITY's biological monitors to conduct desert tortoise clearance surveys. Before conducting any initial ground disturbing activities, including but not limited to, clearing and grubbing, blading, grading, or placement of equipment, of any area within the site, the CONTRACTOR shall provide two working day's notice (not including weekends or holidays) for the AUTHORITY's biological monitors to conduct desert tortoise clearance surveys of the area to be disturbed. If the work is not conducted as notified, an additional two day's notice of a new start date is required, since the clearance surveys will have expired.

1.11 CONTROL OF SURFACE WATER

- A. All control of surface water shall conform with the requirements of the SWPPP attached at the end of Section 01450 - Permits.
- B. CONTRACTOR is advised that portions of the Project Site are subject to flooding from surface waters. Many portions of the Site are located directly in washes or drainage ways. Other portions of the Work are located outside major drainage ways, but are still subject to minor channelized flows and overland sheet flow during some rainfall events.
- C. CONTRACTOR shall be fully responsible for protecting the Work and CONTRACTOR's own temporary facilities from damage due to flooding, runoff, surface water flows, and related subsurface flows until final Project closeout. Protection shall be provided for all aspects of the Work whether temporary or permanent. CONTRACTOR shall provide all materials and equipment required to protect the Work. No additional payment will be made by AUTHORITY for providing protective measures or for any damage resulting from said flows. All damage from said flows shall be completely replaced in accordance with the Contract Documents at no additional cost to AUTHORITY.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

PART 4 -- EXHIBITS

Temporary Tortoise - Proof Fence Design Option 1

Temporary Tortoise - Proof Fence Design Option 2

END OF SECTION