

SECTION 01530

TEMPORARY BARRIERS AND CONTROLS

PART 1 - GENERAL

1.1 Summary

A. This Section includes General Requirements for:

1. Safety and protection of Work.
2. Safety and protection of existing property.
3. Barriers.
4. Environmental controls.
5. Traffic control and use of roadways.

B. Related Work Specified Elsewhere

Temporary Utilities and FacilitiesSection 01560
Traffic Control..... Section 02560

PART 2 - PRODUCTS – Not Applicable

PART 3 - EXECUTION

3.1 Safety and Protection of Work and Property

A. General

1. Provide for the safety and protection of the Work as set forth in GENERAL CONDITIONS. Provide protection at all times against rain, wind, storms, frost, freezing, condensation, or heat, so as to maintain all Work, Equipment, and Materials free from damage. At the end of each day, all new Work likely to be damaged shall be appropriately protected.

2. Notify Engineer immediately, at any time operations are stopped, due to conditions which make it impossible to continue operations safely, or to obtain proper results.
3. Construct and maintain all necessary temporary drainage and do all pumping necessary to keep excavations, floors, pits, trenches, manholes, and ducts free of water.
4. Protect floors from damage by proper covering and care when handling heavy equipment, painting, or handling mortar or other such materials. Use proper cribbing and shoring to prevent overloading of floors while moving heavy equipment. Provide metal pans under machines and clean such pans daily, keeping oil off floors. Restore floors to former condition where damaged or stained.
5. Concrete floors less than 28 days old shall not be loaded without written permission from Engineer.
6. Restrict access to roofs except as required by the Work. Where access is required, provide protection with plywood, boards, or other suitable materials.
7. Any equipment or materials left in the Right-of-Way over night shall be properly barricaded, including a minimum of two lighted barricades.

B. Property Other than Owner's

1. Provide for the safety and protection of property as set forth in the GENERAL CONDITIONS. Report immediately to the owners thereof and promptly repair damage to existing facilities resulting from construction operations.
2. Names and telephone numbers of representatives of agencies and utilities having jurisdiction over streets and utilities in the Work area can be obtained from Engineer for the agencies listed below. Concerned agencies or utilities shall be contacted a minimum of 24 hours prior to performing Work, closing streets and other traffic areas, or excavating near underground utilities or pole lines.
 - a. Water.

- b.** Gas.
 - c.** Sanitary sewers.
 - d.** Storm drains.
 - e.** Pipeline companies.
 - f.** Telephone.
 - g.** Electric.
 - h.** Municipal streets.
 - i.** State highways.
 - j.** City engineer.
 - k.** Fire.
 - l.** Police.
- 3.** Operation of valves or other appurtenances on existing utilities, when required, shall be by or under the direct supervision of the owning utility, unless otherwise directed by Engineer
 - 4.** Where fences are to be breached on private property, the owners thereof shall be contacted and arrangements made to ensure proper protection of any animals or other property thus exposed.
 - 5.** The applicable requirements specified for protection of the Work shall also apply to the protection of existing property of others.
 - 6.** Before acceptance of the Work by Engineer, restore all property affected by Contractor's operations to the original or better condition.

3.2 Barriers

A. General

1. Furnish, install, and maintain suitable barriers as required to prevent public entry, protect the public, and to protect the Work, existing facilities, trees, and plants from construction operations. Remove when no longer needed or at completion of Work.
2. Materials shall meet all MUTCD standards, new or used, suitable for the intended purpose, but shall not violate requirements of applicable codes and standards or regulatory agencies.
3. Barriers shall be of a neat and reasonable uniform appearance, structurally adequate for the required purposes.
4. Maintain barriers in good repair and clean condition for adequate visibility. Relocate barriers as required by progress of Work.
5. Repair any damage caused by installation and restore area to original or better condition. Clean the work area.

B. Tree and Plant Protection

1. Preserve and protect existing trees and plants.
2. Provide temporary barriers around each, or around each group of trees and plants. Construct to a height of 6 feet around trees, and to a height to adequately protect plants.
3. Employ qualified tree surgeon to remove and to treat cuts.
4. Protect root zones of trees and plants as follows:
 - a. Do not allow vehicular traffic or parking.
 - b. Do not store materials or products.

- c. Prevent dumping of refuse or chemically injurious materials or liquids.
 - d. Prevent piddling or continuous running water.
- 5. Carefully supervise excavating, grading and filling, and subsequent construction operations to prevent damage.
- 6. Remove and replace similar size & type (or agreed upon by tree owner), or suitably repair, trees and plants which are damaged or destroyed due to construction operations, and which were designated to remain.

3.3 Environmental Conditions

A. Dust Control

- 1. Provide proactive positive methods and apply dust control materials to minimize the raising of dust from construction operations; and to prevent airborne dust from dispersing into the atmosphere throughout the duration of the project day and night. ADEQ "Air Quality Permit Requirements" & AZNPDES (Arizona National Pollution Discharge Elimination System). shall be adhered to. Fines may result if out of compliance with permit requirements.
- 2. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.
- 3. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

B. Water and Erosion Control

- 1. Provide methods to control surface water to prevent damage to the Project, the Site, or adjoining properties.
- 2. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow

pit and waste disposal areas, to prevent erosion and sedimentation.

- a.** Hold the areas of bare soil exposed at one time to a minimum.
 - b.** Provide temporary control measures such as berms, dikes, and drains.
- 3.** Control fill, grading, and ditching to direct surface drainage away from excavations, pits, tunnels, and other construction areas; and to direct drainage to proper runoff.
- 4.** Provide, operate, and maintain hydraulic equipment of adequate capacity to control surface and groundwater.
- 5.** Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Site or to adjoining areas.
- 6.** Provide temporary drainage where the roofing or similar waterproof deck construction is completed prior to the connection and operation of the permanent drainage piping system.

C. Debris Control and Clean-Up

- 1.** Keep the premises free at all times from accumulations of debris, waste materials, and rubbish caused by construction operations and employees. Responsibilities shall include:
 - a.** Adequate trash receptacles about the Site, emptied promptly when filled.
 - b.** Periodic cleanup to avoid hazards or interference with operations at the Site and to maintain the Site in a reasonably neat condition.
 - c.** The keeping of construction materials such as forms and scaffolding neatly stacked.
 - d.** Immediate cleanup to protect the Work by removing splattered concrete, asphalt, oil, paint, corrosive

liquids, and cleaning solutions from walls, floors, and metal surfaces before surfaces are marred.

2. Prohibit overloading of trucks to prevent spillages on access and haul routes. Provide periodic inspection of traffic areas to enforce requirements.
3. Final cleanup is specified in Section 01780 - CONTRACT CLOSEOUT.

D. Pollution Control

1. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by the discharge of hazardous or toxic substances from construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spillages, and remove contaminated soils or liquids. Excavate and dispose of any contaminated earth off-Site in approved locations, and replace with suitable compacted fill and topsoil.
3. Take special measures to prevent harmful substances from entering public waters, sanitary, or storm sewers.

3.4 Traffic Control and Use of Roadways

A. Traffic Control:

Refer to Section 2650

B. Maintenance of Roadways

1. Repair roads, walkways, and other traffic areas damaged by operations. **Keep traffic areas as free as possible of excavated materials and maintain in a manner to eliminate dust, mud, and hazardous conditions.**
2. All operations and repairs shall meet the approval of owners or agencies having jurisdiction.

3. The CONTRACTOR will provide dust control, be required to grade, smooth-out, fill holes, and generally maintain the streets where the pavement has been removed. This maintenance will be done daily, if necessary, to allow local traffic to travel through the area on an acceptable surface.

PART 4 - MEASUREMENT AND PAYMENT - Not Applicable.

**** END OF SECTION 01530 ****