

Summary of the Washington State Department of Labor and Industries Safety Standards for Construction Work

(Chapter 296-155 WAC)

By Students of The Evergreen State College 2008 Justice At Work Program:

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Table of Contents

Part A: General Safety and Health Provisions	2
Part B1: Occupational Health and Environmental Control	2
Part B2: Hazard Communication	3
Part C: Personal Protective and Life Saving Equipment	3
Part D: Fire Protection and Prevention	4
Part E: Signaling and Flaggers	5
Part F: Material Handling, Storage, Use and Disposal	5
Part G: Tools-Hand and Power	6
Part H: Welding and Cutting	7
Part I: Electrical	8
Part J: Stairways	8
Part J-1: Elevating Work Platforms	8
Part K: Floor Openings, Wall Openings and Stairways	9
Part M: Motor Vehicles, Mechanized Equipment and Marine Operations	9
Part N: Excavation, Trenching, and Shoring	10
Part O: Concrete, Concrete Forms, Shoring, and Masonry Construction	10
Part P: Steel Erection	11
Part Q: Underground Construction	11
Part R: Miscellaneous Construction Requirements	12
Part S: Demolition	12

*The full document (which includes additional sections) on The Washington State Department of Labor and Industries Safety Standards for Construction Work can be found at: <http://www.lni.wa.gov/wisha/rules/construction/default.htm>

Parts A-C

296-155-001 through 296-155-24525

General Safety and Health Provisions, Occupational Health and Environmental Control, Hazard Communication, Personal Protective and Life Saving Equipment

A. General Safety and Health Provisions

“**Hazard**” means that condition, potential or inherent, which is likely to cause injury, death, or occupational disease.

“**Hazardous substance**” means a substance which, by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful, is likely to cause death or injury.

EMPLOYERS RESPONSIBILITIES:

- (1) It shall be the responsibility of management to establish, supervise, and enforce, in a manner which is effective in practice:
 - (a) A safe and healthful working environment.
 - (b) An accident prevention program as required by these standards.
 - (c) Training programs to improve the skill and competency of all employees in the field of occupational safety and health.
 - (d) The employer shall ensure that work assignments place no employee in a position or location not within ordinary calling distance of another employee able to render assistance in case of emergency.
 - (e) A drug and alcohol free workplace. Employees/Employers under the influence of intoxicants or drugs shall not be allowed in or around worksite.

B. Occupational Health and Environmental Control

DRINKING WATER

An adequate supply of potable drinking water shall be provided in all places of employment.

WASH WATER: Access to clean, warm water between 70-100 degrees Fahrenheit shall be provided at all construction sites.

TOILETS: Access to toilets will be provided at all construction sites. The table below shows the minimum number of toilets to Employees ratio.

Number of Employees	Toilets Required
1-10	1
1-25	2

Number of Employees	Toilets Required
26-40	3
41-60	4
61-80	5
80+	1 additional toilet for every additional 20 employees.

B. Hazard Communication

HAZARDOUS SUBSTANCES:

If the any of the following hazardous substances are present at a worksite, strict safety policies must be followed:

METHYLENEDIANILINE (MDA)

CADMIUM

LEAD

Employers must provide warning signs identifying the present of a hazardous substance as well as warning labels with information explaining the dangers of the hazardous substances.

When lead is present respiratory protection must be provided by the employer.

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

The employer shall develop and maintain a chemical hazard communication program as required by WAC 296-800-170, which will provide information to all employees relative to hazardous chemicals or substances to which they are exposed, or may become exposed, in the course of their employment.

C. Personal Protective and Life Saving Equipment

Requirements for Personal Protective Equipment (PPE):

Personal protective equipment (PPE) must be used wherever physical contact, absorption, or inhalation of a hazard could cause any injury or impairment to the function of any part of the body. These hazards include:

- Hazardous processes;
- Environmental hazards;
- Chemical hazards;
- Radiological hazards;
- Mechanical irritants.

PPE includes:

- Protective equipment for eyes, face, head, hearing, and extremities;
- Protective clothing;
- Respiratory devices;
- Protective shields and barriers.

WAC 296-155-205 Head protection.

All employees on any construction site shall be provided an individual hard hat. Employers shall provide individual hard hats at no cost to the employees.

WAC 296-155-212 Foot protection.

Substantial footwear, made of leather or other equally firm material, shall be worn by employees in any occupation in which there is a danger of injury to the feet through falling or moving objects, or from burning, scalding, cutting, penetration, or like hazard.

WAC 296-155-215 Eye and face protection.

Employees shall use eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

WAC 296-155-235 Working over or adjacent to water.

When an employee is employed under conditions which expose them to a risk of drowning, they shall wear a U.S. Coast Guard approved life saving device, unless it can be shown that conditions, such as shallow water, are such that flotation would not be achieved.

Parts D-F

296-155-250 through 296-155-34920

Fire Protection and Prevention, Signaling and Flaggers, Material Handling, Storage, Use and Disposal

D. Fire Protection and Prevention

“Combustible liquid” means any liquid having a flashpoint at or above 100°F (37.8°C).

Portable Fire Equipment

A fire extinguisher shall be provided for each 3,000 square feet of a combustible building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed a horizontal distance of 100 feet.

Safety

- Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: “No smoking or open flame.”
- There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids. Conspicuous and legible signs prohibiting smoking shall be posted.
- Gasoline shall not be used as a solvent or a cleaning agent.
- The motor of any equipment being fueled shall be shut off during the fueling operation.

E. Signaling and Flaggers

Flagger means a person who provides temporary traffic control. Job site workers with specific traffic control responsibilities must be trained in traffic control techniques, device usage, and placement.

When to use flaggers.

(a) If signs, signals, and barricades do not provide necessary protection from traffic at work zones and construction sites on or adjacent to a highway or street, then you must use flaggers or other appropriate traffic controls.

(b) Flaggers are to be used only when other reasonable traffic control methods will not adequately control traffic in the work zone.

Advance warning sign requirements for flaggers.

Employers must provide the following on all flagging operations:

- A three sign advance warning sequence on all roadways with a speed limit below 45 mph.
- A four sign advance warning sequence on all roadways with a 45 mph or higher speed limit.

Requirements for flaggers.

- Each flagger must have a valid Washington State traffic control flagger card.
- While flagging during daylight hours, a flagger must at least wear as an outer garment, a high visibility safety jacket or vest with fluorescent orange, red, yellow or green coloring and a high visibility hard hat.
- Flaggers receive a rest period of at least ten minutes, on the employer's time, for each four hour of working time. Rest periods must be scheduled as near as possible to the midpoint of the work period. A flagger must not be allowed to work more than three hours without a rest period.

F. General Requirements for Material Storage.

All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees.

Bricks. Brick stacks shall not be more than 7 feet in height. When a loose brick stack reaches a height of 4 feet, it shall be tapered back 2 inches in every foot of height above the 4-foot level. Brick shall never be stacked, for storage purposes, on scaffolds or runways.

When delivering brick on scaffolds inside the wall lines in wheelbarrows, they shall be dumped toward the inside of the building and not toward the wall.

Blocks shall always be stacked and not thrown in a loose pile. When blocks are stacked inside a building, the piles shall be so distributed as not to overload the floor on which they stand

Lumber. Used lumber shall have all nails withdrawn before stacking and be stacked on level and solidly supported sills. Lumber shall be stacked to be stable and self-supporting and shall not exceed 20 feet in height. All stored lumber shall be stacked on timber sills to keep it off the ground. Sills shall be placed level on solid supports.

PPE: Persons handling cement and lime bags shall wear eye protection, which prevents contact between the substance and the worker's eyes (such as goggles or other sealed eye protection) and shall wear long sleeve shirts with close fitting collar and cuffs.

A hand cream or Vaseline and eye wash shall be provided and kept ready for use to prevent burns.

Disposal of Waste Materials

- Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be used.
- All scrap lumber, waste material, and rubbish shall be removed from the immediate work area as the work progresses.
- All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from the worksite.

Parts G-I

296-155-350 through 296-155-462

Tools-Hand Power, Welding and Cutting, Electrical

G. Tools-Hand Power

Requirements. Each tool shall be supplied with the operator's instruction and service manual; power load chart; tool inspection record; and service tools and accessories. Tools must be in good working order with proper safety shields.

WAC 296-155-36313 Operation

- Only qualified operators shall operate tools.
- Tools shall be operated in strict accordance with the manufacture's instructions.
- Eye or face protection, or both, shall be worn by operators, assistants, and adjacent personnel when tool is in use.
- Hearing protection shall be used when necessary.
- Each day prior to use, the operator shall inspect the tool to determine that it is in proper working condition. Any tool found to not be in proper working condition shall be immediately removed from service and tagged "defective"; it shall not be used until it has been properly repaired in accordance with the manufacture's instructions.
- The proper shield, fixture, adapter, or accessory, suited for the application, as recommended and supplied by the manufacture, shall be used.
- A sign, at least 20 x 25 cm (8 x 10 in), using boldface type no less than 2.5 cm (1 in) in height, shall be posted in plain sight on all construction projects where tools

are used. The sign should be worded similar to the following: "power actuated tool in use."

WAC 296-155-36317 Maintenance and storage.

- (1) *Use of tools.* The tool shall be serviced and inspected for worn or damaged parts at regular intervals as recommended by the tool manufacturer. Prior to the tool being put back into use, all worn or damaged parts shall be replaced by a qualified person using only parts supplied by the tool manufacturer. A record of this inspection shall be noted and dated on the tool inspection record.
- (2) *Instruction manuals.* Instruction manuals, maintenance tools, and accessories supplied with the tool shall be stored in the tool container when not in use.
- (3) *Security.* Powder actuated tools and power loads shall be locked in a container and stored in a safe place when not in use and shall be accessible only to authorized personnel.

H. WAC 296-155-370 Woodworking tools

- (1) *Speeds.* No saw shall be operated in excess of the manufacturers recommended speed.
- (2) *Guarding.* All portable, hand held power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.
- (3) *Hand-fed table saws.*
 - Each circular hand-fed table saw shall be provided with a hood-type guard that will cover the blade at all times when the blade is not in use.
 - When the blade is in use, the hood-type guard shall enclose that portion of the blade above the material.
 - A push stick shall be used on short or narrow stock when there is a possibility of the hand contacting the cutting tool.
 - Each hand-fed circular ripsaw shall be provided with anti-kick back devices so located as to oppose the thrust or tendency of the saw blade to pick up the material or throw it back toward the operator. These devices shall be designed to provide holding power for all the thicknesses of material being cut.

WAC 296-155-407 Protective clothing.

General requirements. Employees exposed to the hazards created by welding, cutting, or brazing operations shall be protected by personal protective equipment in accordance with the requirements of chapter 296-800 WAC, and chapter 296-24 WAC, Part I. Appropriate protective clothing required for any welding operation will vary with the size, nature and location of the work to be performed.

I. Electrical

WAC 296-155-428

General requirements. No employer shall permit an employee to work in such proximity to any part of an electric power circuit that the employee could contact the electric power circuit in the course of work, unless the employee is protected against electric shock.

Before work is begun the employer shall make sure by inquiry or direct observation that the worksite is safe for employees'. The employer shall post and maintain proper warning signs where such a circuit exists. The employer shall advise employees of the location of such lines, the hazards involved, and the protective measures to be taken.

Environmental deterioration of equipment.

Unless identified for use in the operating environment, no equipment shall be located:

- In damp or wet locations;
- Where exposed to gases, fumes, vapors, liquids, or other agents having a deteriorating effect on the conductors or equipment; or
- Where exposed to excessive temperatures.

Control equipment, utilization equipment, and bus ways approved for use in dry locations only shall be protected against damage from the weather during building construction.

Protection against corrosion. Metal raceways, cable armor, boxes, cable sheathing, cabinets, elbows, couplings, fittings, supports, and support hardware shall be of materials appropriate for the environment in which they are to be installed.

Parts J-K

296-155-475 through 296-155-570

Stairways, Elevating Work Platforms, Floor Openings, Wall Openings and Stairways

J. STAIRWAYS

A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.

Stairways, ramps or ladders shall be provided at all points where a break in elevation of eighteen inches or more occurs in a frequently traveled passageway, entry or exit

Wood frame buildings. The stairway to a second or higher floor shall be completed before studs are raised to support the next higher floor.

All parts of stairways shall be free of hazardous projections, such as protruding nails.

There must be at least one handrail and one stair rail system along each unprotected edge of all stairways.

J-1. Elevating Work Platforms.

- The platform width shall not be less than eighteen inches and shall be provided with a surface to minimize slipping. The guardrail system shall be designed and

constructed to withstand a load of twenty-five pounds per linear foot applied in a horizontal direction to the top rail or mid rail.

- Emergency lowering means. Any work platform equipped with a powered elevating assembly shall be supplied with clearly marked emergency lowering means readily accessible from ground or floor level.
- Rated load display. The rated work load shall be clearly displayed at each entrance to the work platform
- Before the work platform is used, the operator shall survey the area for hazards such as:

Un-tamped earth fills.

Ditches.

Drop offs or holes.

Bumps and floor obstructions.

Debris.

Overhead obstructions and high-voltage conductors.

- All stepping, standing, and working surfaces shall be skid resistant.
- Attachment points shall be provided for a body belt and lanyard for each person occupying the platform
- Emergency stop: All work platforms shall be equipped with an emergency stop device, readily accessible to the operator, which will effectively de-energize all powered systems in case of a malfunction.

K. FLOOR OPENINGS, WALL OPENINGS AND STAIRWAYS

- Wherever there is danger of falling through a skylight opening, and the skylight itself is not capable of sustaining the weight of a two hundred pound person standard guardrails shall be provided on all exposed sides or the skylight shall be covered in accordance with (g) of this subsection.
- All floor opening or hole covers shall be capable of supporting the maximum potential load but never less than two hundred pounds.

Parts M, N, O

296-155-600 through 296-155-699

Motor Vehicles, Mechanized Equipment, and Marine Operations, Excavation, Trenching, and Shoring, Concrete, Concrete Forms, Shoring, and Masonry Construction

M. Motor Vehicles, Mechanized Equipment, and Marine Operations

General requirements for earthmoving equipment: Scrapers, Loaders, Crawler or wheel tractors, Bulldozers, Off-highway trucks Graders, Agricultural and industrial tractors. Earthmoving equipment must have brakes capable of stopping and holding the equipment fully loaded.

Hazardous conditions. Where excessive dust conditions are created, such areas must be sprinkled with water or an environmentally safe solution to keep dust at a minimum.

Site clearing. The word “clearing” means the removal of trees, stumps, logs, brush, debris and rubbish from the surface of the ground in preparation of a site for construction work of any kind.

- Fallers shall give warning to brushing crews, buckers and other persons in the vicinity where a tree is being felled; taking notice that such persons are not only out of the reach of tree, but also out of danger of possible sidewinders, snags or other trees which may be knocked over by the tree being felled. Trees must not be felled toward and within range of a traveled road or operational railroad unless a flagger is used to stop all approaching persons, vehicles, or railroad equipment.
- The employer shall assume the responsibility of work assignment so that no worker shall be required to work in a position or location so isolated as to not be within ordinary calling distance of another person who can render assistance in case of emergency.
- In any operation where cutting, felling trees, loading, or a combination of these duties is carried on, there shall be a minimum crew of two persons who shall work as a team and shall be in visual or voice contact with one another.

N. Excavation, Trenching, and Shoring Excavation

Requirements for protective systems.

Protection of employees in excavations. Each employee in an excavation shall be protected from cave-ins by an adequate protective device. Materials and equipment used for protective systems shall be free from damage or defects that might impair their proper function.

Sloping and benching systems. Employees shall not be permitted to work on the faces of sloped or benched excavations at levels above other employees except when employees at the lower levels are adequately protected from the hazard of falling or rolling debris.

O. Concrete, Concrete Forms, Shoring, and Masonry Construction

Requirements for equipment and tools.

Bulk cement storage. Bulk storage bins, containers, and silos shall be equipped with the following:

Conical or tapered bottoms; and

Mechanical or pneumatic means of starting the flow of material.

Concrete mixers. Concrete mixers with one cubic yard or larger loading skips shall be equipped with the following: A mechanical device to clear the skip of materials; and guardrails installed on each side of the skip.

Parts P-R

296-155-701 through 296-155-770

Steel Erection, Underground Construction, Miscellaneous Construction Requirements

P. Steel Erection

Fall hazard training. The employer must provide a training program for all employees exposed to fall hazards.

Q. Underground Construction

Safety instruction. All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities including, where appropriate, the following subjects:

- Air monitoring;
- Ventilation;
- Confined space entry procedures;
- Permit-required confined space entry procedures;
- Illumination;
- Communications;
- Flood control;
- Mechanical equipment;
- Personal protective equipment;
- Explosives;
- Fire prevention and protection; and
- Emergency procedures, including evacuation plans and check-in/check-out systems

Rescue teams. On jobsites where 25 or more employees work underground at one time, the employer shall provide (or make arrangements in advance with locally available rescue services to provide) at least two 5-person rescue teams, one on the jobsite or within one-half hour travel time from the entry point, and the other within 2 hours travel

Air quality and monitoring. The employer shall assign a competent person who shall perform all air monitoring required by this section. The atmosphere in all underground work areas shall be tested as often as necessary to assure that the atmosphere at normal atmospheric pressure contains at least 19.5 percent oxygen and no more than 22 percent oxygen. The atmosphere in all underground work areas shall be tested quantitatively for carbon monoxide, nitrogen dioxide, hydrogen sulfide, and other toxic gases, dust, vapors, mists, and fumes as often as necessary to ensure that the permissible exposure limits are not exceeded. All air quality monitoring and tests shall be recorded and available upon request to all employees.

Ventilation. Fresh air shall be supplied to all underground work areas in sufficient quantities to prevent dangerous or harmful accumulation of dust, fumes, mists, vapors, or gases.

R. Miscellaneous Construction Standards

Roofing, insulating and waterproofing. Workers shall not stand under load when material or hot asphalt is being hoisted. Hot asphalt shall be kept at a safe level in buckets for carrying and hoisting. There shall be means to smother fires at fired tar pots. Flame heated tar pots shall be prohibited on roofs of structures. Tar pots shall have an attendant at all times while in operation.

Part S

296-155-775

S. Demolition

Preparatory operations. Prior to permitting employees to start demolition operations, an engineering survey shall be made, by a competent person, of the structure to determine structural integrity and the possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed shall also be similarly checked. The employer shall have in writing, evidence that such a survey has been performed.

Removal of walls, masonry sections, and chimneys. Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors

Manual removal of floors. Before demolishing any floor arch, debris and other material shall be removed from such arch and other adjacent floor area. Planks not less than 2 inches by 10 inches in cross section shall be provided for, and shall be used by employees to stand on while breaking down floor arches between beams. Safe walkways, not less than 18 inches wide, formed of planks not less than 2 inches thick if wood, or of equivalent strength if metal, shall be provided and used by workers when necessary to enable them to reach any point without walking upon exposed beams. Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.