



**SAFETY AND HEALTH RULES FOR CONTRACTORS
WRIGHT STATE UNIVERSITY (Dayton Area)
MARCH 2005 (REVISED)**

The following safety and health rules are to be complied with by all contractor working at all Wright State University locations in the Dayton area. These are general rules which do not necessarily address any specific federal, state, or local environmental or occupational safety and health code, regulation, and/or standard. It is the contractor's sole responsibility to be knowledgeable of applicable rules and regulations, whether federal, state, local or Wright State's, and to ensure compliance while conducting contractual work for Wright State University. These rules are applicable to all operating locations of Wright State University, except Lake Campus.

PRE-WORK MEETING

The university representative or project manager overseeing the contractor's work will hold a pre-work meeting with the contractor to review the following rules and to complete the written acknowledgement form (page 10). A representative of Environmental Health and Safety is to attend all pre-work meetings held by Physical Plant and Planning, Engineering and Construction. Environmental Health and Safety will attend the pre-work meetings of other departments, upon request (provided advance notice of the meeting is given). The project manager and Environmental Health and Safety are required to inform the contractor of any conditions or hazards in the area(s) in which they are to perform work. The project manager is also required to identify shelter areas to be used by contractor personnel in the event of severe weather.

TELEPHONE NUMBERS FOR REQUIRED NOTIFICATIONS AS STATED IN THIS DOCUMENT ARE LISTED ON PAGE 9.

CONTRACTORS:

PARKING

1. Will not park in roadways or pathways designated as "Access Routes" and "Fire Lanes". Most fire lanes are posted. Access routes and fire lane locations can be obtained from the Department of Planning, Engineering and Construction. Short term parking for loading and unloading of equipment and materials only is

permitted. The university department managing the project/work may approve parking in a fire lane for loading and unloading purposes. Contractor vehicles left in designated fire lanes will be subject to ticketing from either university Police or Parking & Transportation. Any questions concerning the location of fire lanes should be directed to Environmental Health and Safety or Planning, Engineering and Construction Management. The contractor must purchase parking permits for each vehicle or pay the fee in the visitor's parking lot or use metered parking slots. Parking & Transportation is located in E138 Student Union. Contractors are advised to contact Parking & Transportation regarding requirements for parking permits. Contractor vehicles left unattended in a designated fire lane will be subject to ticketing. When working on the Dayton (Main) Campus, the contractor must purchase a parking permit for each vehicle or pay the fee in the visitor's parking lot.

2. Will not park heavy vehicles or equipment directly over the main campus tunnel system. Will not cross tunnels with equipment or vehicles that exceed the weight limits posted by the university. Do not park heavy vehicles or equipment directly over curb boxes or underground storage tanks.
3. All contractor employees operating motor vehicles must possess a valid drivers license and wear seat belts while driving on university property.

(Axle Load Approximations for Tunnels on page 11)

(Axle Load for Tunnels: Drawing on page 12)

FIRE SAFETY

THE CONTRACTOR IS REFERRED TO PAGE 10 OF THIS DOCUMENT "WRITTEN ACKNOWLEDGEMENT" AS TO ASSUMED LIABILITY WITH REGARDS TO FIRE SAFETY.

1. Will egress university buildings upon hearing the fire alarm or receiving similar instructions over the public address system. The university department managing the project/work is responsible for identifying evacuation routes to contractor personnel and for notifying contractor personnel to egress the building when they are working in an area where the building fire alarm or public address system cannot be heard.
2. Will not use any internal combustion engines on the interior of any university building without the express approval of Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor.
3. Will not store gasoline or other flammable liquids in any university building unless stored in an approved flammable storage cabinet or container. The contractor should provide the project manager with a listing of chemicals and their quantities to be utilized on the project. Any questions regarding interior storage should be directed to Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor.

4. Will not use gasoline for prepping or clean up purposes inside of any university building. Other prepping or cleaning agents which are flammable must be approved by Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor before being used.
5. Will utilize electric heat gun for all heat shrink and terminations of electrical wiring when accomplished inside a building. Open torches will not be utilized for this purpose.
6. Will provide fire extinguishers where appropriate. The contractor will ensure that all their personnel are trained in the use of fire extinguishers.
7. Will place propane tanks on the outside of university buildings whenever possible. If not possible, then a regulator must be attached directly to the valve on the tank and protected from damage by a collar or other safeguard (OSHA requirement). Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor must approve any placement of propane tanks inside a university building.
8. Will not block open "fire doors" without the prior approval of Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor, who will in turn notify University Police. Any fire doors, for which approval has been granted to block open, must be closed during non-working hours or when left unattended for any length of time.
9. Will report all fires. On main campus, notify WSU Police Dept. Communications Center by dialing 2111, 911, or by use of designated emergency telephones located throughout the campus. At off-campus locations, notify the local fire department.
10. Will not place tools, equipment, or materials such as to block fire doors, fire alarms, exterior egress doors, fire hose connections, fire pumps, etc.
11. Will ensure that employees do not smoke in any interior location of a university building. This includes buildings occupied totally or in part by the contractor regardless of the work done, location of the work, or duration of the work. Aside from being a violation of university policy, it is unlawful in the State of Ohio to smoke on the interior of any state-owned or leased building.
12. The use of open flame heaters is prohibited in enclosed buildings at all times. The use of open flame heaters in opened structures is subject to the approval of Environmental Health & Safety, Physical Plant's Casualty Prevention Supervisor and/or the Fairborn Fire Department.

OCCUPATIONAL SAFETY AND HEALTH

All projects shall comply with Occupational Safety & Health Standard of Construction Industry (29 CFR Part 1926) latest edition. These regulations apply during construction and use. Some regulations will also apply to maintenance activities by the owner which include OSHA General Industry Provisions, fall protection and other features.

1. Must identify any chemical(s) to be used on campus, during the life of the project, to the university project manager prior to the start of work. This is to include paints, other surface coatings and finishes with the exception of latex paints. The project manager will review this listing with Environmental Health and Safety to establish controls (if needed) and to determine whether a Material Safety Data Sheet (MSDS) is needed.
2. Will inform the University Safety Officer [(937-775-2169)] and the project manager of any intent of bringing onto university property radioactive materials or radiation-generating equipment, including generally-licensed devices or equipment used for non-destructive testing. Notification must be made at least seven days in advance of the scheduled usage of said materials/equipment on university property. The materials or devices must comply with all relevant Ohio Department of Health rules, including licensure or registration, exposure control monitoring, security, and training. The contractor will supply any document requested by the Radiation Safety Officer demonstrating regulatory compliance, usage plans, and control measures.
3. Will inform the University Radiation Safety Officer [(937-775-2169)] and the project manager of any intent of bringing onto university property a Class IIIb or IV laser. Notification must be made at least seven days in advance of the scheduled usage of said equipment on university property. The laser system and its usage must fulfill the latest specification of American National Standard Institute Z136.1 and 29 CFR 1926.54.
4. Will implement lockout/tagout procedures where required. The university project manager overseeing the contractor's work will always be notified, in advance, of any lockout of electrical circuits or other sources of energy. The project manager must, in turn, notify the Physical Plant Supervisor of the maintenance zone where the work is to be conducted.
5. Will not shut down any electrical system or other utilities without the approval of Physical Plant and Planning, Engineering, and Construction Management. Notification of intent to shut-down a utility will be made by the contractor in writing to the university project manager. It is the responsibility of the project manager to notify and get the approval of appropriate Physical Plant and/or Planning, Engineering, and Construction Management personnel. Under normal work conditions, notification is required at least 2 workdays in advance for small

and limited outages and at least 5 working days for major outages. Under field and/or emergency conditions, immediate notification must be made. Any accidental interruption of a utility must be reported immediately to the university project manager.

6. Electrical rooms/vaults and breaker panels will be secured when unattended. Electrical rooms and vaults will not be used for storage purposes during the life of the project.
7. Will utilize Ground Fault Circuit Interrupters (GFCI) where required by the National Electric Code or where prudent practice would deem their use appropriate.
8. Will not utilize any powder (.22 or other caliber blank cartridge) actuated tools without approval from the university project manager.
9. Will possess welding permits, where applicable. For all work other than the construction of new buildings, it is required that Environmental Health and Safety be notified of all locations where welding is to take place. An observer with an appropriate fire extinguisher is required for all welding operations. The observer will not leave the area until there is no longer a risk of a fire.
10. Will contact WSU Physical Plant and Planning, Engineering and Construction Management at least 48 hours in advance of any digging, excavation, trenching, drilling, driving posts, or any other type of earth disruption. Each contractor is also required to call the Ohio Utilities Protection Service at 1-800-362-2764 to clear all other privately owned utilities. In some cases, the City of Fairborn will have to be notified to clear their utilities in the area.
11. Will cordon off and post all work areas, as necessary, to protect contractor personnel and the general public. The university department overseeing the project/work or Environmental Health and Safety may, at their discretion, require an area to be cordon and posted. Posting will meet the requirement of OSHA. Contractor will notify the university project manager of problems with the public ignoring notices of restrictive entry into the construction or work area. Only employees of the contractor(s), authorized university personnel, and local, state and federal regulatory inspectors will be permitted within the work area and only when wearing appropriate protective equipment
12. Will provide fall protection meeting OSHA requirements whenever employees are working at elevated levels requiring fall protection. Toe boards will be installed on all elevated work, where appropriate. Utilization of the fall protection systems installed on the Nutter Center corporate boxes and merchandise booths, ring roof of the Nutter Center, the water tower access ladder is mandatory whenever employees are working on these platforms.

In the design of new projects, consideration should be given to the permanent installment of anchorage devices or other means, which meet the intent of the current OSHA

safety requirements. Of particular interest is Subpart M – Fall Protection. Requirements may apply to construction or maintenance of roof, wall, walkway, windows and other work areas where free fall distance is six (6) feet or more.

13. Will ensure that workers do not participate in horseplay or other unsafe acts (running, fighting, throwing items, etc.).
14. Will report all personal workplace injuries or illnesses to the project manager who, in turn, must report the incident to Environmental Health and Safety. Assistance for serious injuries or injuries can be obtained by calling WSU Police Dept. Communications Center at 775-2111, 911 or use of the main campus emergency telephones.
15. Will ensure that their workers do not possess or use any intoxicating liquors or drugs while working under contract with the university. Firearms or other weapons are prohibited on campus.
16. Will ensure all vehicle operators utilize seat belts while driving on campus.
17. Must provide all required equipment, tools, and protective equipment and clothing needed to accomplish the work. Contractors will not be permitted to utilize university equipment and tools. Exception to this rule may be allowed in emergency or other special situations with the approval of the university department managing the work. Approval for use of university lifts, forklifts, scaffolding, cranes, etc. may be given by the project manager provided that Environmental Health and Safety are permitted to review the contractor's qualifications. Only qualified trained employees will be authorized to operate equipment. Contractor must provide proof of employee training when requested by Environmental Health & Safety or the department managing the work.
18. Will ensure that all forklift operators have met the training requirement of the revised OSHA powered industrial truck standard (29 CFR 1910.178) and that they operate said equipment in a safe and responsible manner at all times. Gasoline powered forklift are prohibited from use in any university building or the tunnel system. Approval may be given for propane operated units following Environmental Health and Safety's review of the intended use.
19. Will not enter or conduct any activity in a permit required confined-space without prior approval of Environmental Health and Safety. Contractor personnel must have documentation of complete compliance with OSHA Standard 29 CFR 1910.146 prior to being contracted with to do work in a permit required confined space. When required, the contractor will furnish qualified rescue personnel and equipment either on-site or having timely response capabilities meeting the intent of the regulation. The following areas are considered permit required confine-space at all university locations.

All components of the sanitary sewer system.
All underground storm drainage systems.
All vessels, storage tanks, etc. which have the capability for entry.
All valve pits, sump pump pits, acid neutralization pits and brine pits.
All other areas so identified.

ENVIRONMENTAL QUALITY

1. Must report all chemical, infectious, radiological, and/or other regulated wastes to Environmental Health and Safety. All such waste must be removed from the university properly containerized, labeled, manifested, and disposed of in compliance with applicable environmental regulations. A copy of the waste manifest will be provided to Environmental Health and Safety. Non-regulated waste cannot be disposed of in university waste containers unless such usage is approved in the Statement of Work.

SECURITY

1. Will secure work areas to prevent unauthorized entry during non-working hours.
2. Will report all thefts or damages to equipment as soon as possible to WSU Police Dept. at 775-2111.
3. Will report all accidental damages to Wright State's equipment, piping, wiring, or other property to the project manager in a timely manner.

ASBESTOS

1. Will not initiate work in the buildings or areas listed below in item 2 without an on-site evaluation and the express approval of one of the following university employees.
There will be no exception to this rule.

(primary) Ron Hamilton, Industrial Hygienist 129 Allyn Hall
Environmental Health and Safety 775-3810

(secondary) Terri Dearbaugh, Sr. Industrial Hygienist 129 Allyn Hall
Environmental Health and Safety 775-2797

2. The following university buildings contain asbestos containing materials either in the form of structural spray (fire-proofing), thermal insulation on water and steam

lines, pressure vessels, etc., and other materials (floor tiles, ceiling tiles, wallboards, etc.):

Structural Spray Kettering Center (downtown Dayton) - all floor levels

Thermal Insulation & Biological Sciences I & II Medical Sciences

Other Materials: Brehm Lab Millett Hall

Cox Institute Oelman Hall

Creative Arts Center Physical Education/Univ. Center

Dwyer Hall (Lake Campus) sections of Student Union

Fawcett Hall Rockafield House

Hazardous Storage Service Building (old section)

Hot Water/Chill Water/ Telecommunication

Stream Lines - Tunnel Areas Transportation/Water Treatment

3. If the contractor encounters what he suspects to be asbestos-containing materials, he will immediately stop work in that area and notify the lead contractor and the university project manager. The project manager will contact the Department of Environmental Health & Safety who, in turn, will investigate and if necessary analyze the suspected materials. The Department of Environmental Health & Safety will notify the contractor and project manager of their determination of the material and if it is safe to continue work or what abatement procedures are to be followed.

LABORATORIES

The university has the legal obligation to inform contractors of hazardous conditions in contracted work areas and to remove or control these hazards while the contractor is working in the affected area. Additionally, the university must also protect the academic and research activities on-going within our laboratories and preserve regulatory approval to conduct such activities. AS SUCH, CONTRACTORS WILL NOT BE PERMITTED TO CONDUCT ANY ACTIVITY WITHIN A LABORATORY WITHOUT THE PRIOR COORDINATION OF THE PROJECT MANAGER WITH THE LABORATORY SUPERVISOR. EHS WILL ASSIST, AS NECESSARY.

MEDIA EQUIPMENT AND SYSTEMS

Most campus learning spaces (classrooms, lecture halls, etc.) have various types of media equipment, portable and installed within the room. Equipment also may be located in meeting and conference rooms, gyms, the arena, or any other public gathering space. Media equipment can be easily damaged by dust and debris of any type of construction work. **All contractors are required to contact the Center for Teaching and Learning (023 Dunbar Library, extension**

3162) at least three working days before beginning any type of work in area containing media equipment. The contractor is required, under the direction of the Center for Teaching and Learning, for providing and installing protective covering for any and all permanently installed media equipment in a construction area. The Center for Teaching and Learning will also locate and identify audio and video cables within walls and above ceiling at the request of the contractor.

TELECOMMUNICATIONS CLOSETS

Computing and Telecom Services (CaTS) has a number of Telecommunication Closets in each building on campus. These rooms **will not** be accessed by any contractor for any reason without an employee of CaTS present. In the event of an emergency after hours, the contractor must contact Public Safety, who will in turn contact CaTS. If a contractor enters a telecommunication closet **without** prior approval from CaTS, they will be responsible for any damage or time lost to the networking community. While working in these facilities, the contractor will be **responsible** for protection of all equipment contained in these environments and for returning the closet and equipment to its prior condition. All work performed must meet all current national, state, local and university codes and requirements. Storage of construction materials, tools or trash within these facilities even for a short duration will be prohibited. Any materials found will be immediately removed at the contractor’s expense.

If access is required into a closet, call **775-4200**, at least one working day prior to the day that access is required to obtain permission for access.

TELEPHONE NUMBERS

- POLICE DEPT / WSU (OR USE EMERGENCY TELEPHONES).....775-2111, 911**
- FACILITIES PLANNING AND MANAGEMENT775-2587**
- ENVIRONMENTAL HEALTH AND SAFETY.....775-2215**
- FACILITIES PLANNING, ENGINEERING AND CONSTRUCTION
MANAGEMENT.....775-4140**
- PHYSICAL PLANT ADMINISTRATION.....775-4145**
- PHYSICAL PLANT CUSTOMER SERVICE CENTER.....775-4444**
- PURCHASING.....775-2411**
- PARKING &TRANSPORTATION.....775-5690**
- OHIO UTILITIES PROTECTION AGENCY.....1-800-362-2764**

FOLLOWING IS A WRITTEN ACKNOWLEDGEMENT THAT THE CONTRACTOR MUST READ AND SIGN. THE PROJECT MANAGER WILL SERVE AS A WITNESS TO THE SIGNING. A COPY OF THE SIGNED ACKNOWLEDGEMENT WILL BE FORWARDED BY THE PROJECT MANAGER TO ENVIRONMENTAL HEALTH AND SAFETY, 129 ALLYN HALL PRIOR TO THE START OF WORK.

ACKNOWLEDGEMENT

I acknowledge that I have read and understand Wright State University's Safety and Health Rules. I further acknowledge that all employees of my firm and of any of my sub-contractors will be briefed on these rules and will be required to comply while working on Wright State University property. The rules obtained within this document are local rules and compliance thereof does not relieve us or our sub-contractors of our responsibility to comply with all federal, state, and other local regulatory requirements.

BY SIGNING THIS ACKNOWLEDGEMENT, YOU ARE INDICATING THAT YOUR COMPANY HAS THE FINANCIAL RESOURCES TO REBUILD THIS FACILITY OR ANY PORTION THEREOF DESTROYED IN A FIRE CAUSED BY SMOKING OR THE MISUSE OF EQUIPMENT ON THE PART OF YOUR EMPLOYEES.

Project Title:

Location of Work:

Starting Date: _____

Name and Address of Firm

Print Name of Company Representative

Signature Date

Witness: _____

Print Name of University Project Manager

Date Signature

PLEASE FORWARD A COPY OF THE COMPLETED ACKNOWLEDGEMENT TO ENVIRONMENTAL HEALTH AND SAFETY AT 129 ALLYN HALL

Axle Load Approximation for Tunnels

All information, calculations, etc. from Paul J. Ford Structural Engineers, Columbus, OH.
February 2003

In order to execute the following calculations, you will need to know two pieces of information about the vehicle in question: the gross vehicle weight (i.e., the weight of the vehicle plus the contents); and, the number of axles.

For vehicles with two axles: Axle load = Gross Vehicle Weight x (0.40)

**For vehicles with more than two axles: Axle Load = Gross Vehicle Weight
(number of axles – 1) x (2)**

This approximation does not apply to vehicles on tracks such as dozers or certain mobile cranes. Those situations must be analyzed for the specific equipment and load.

The Paul J. Ford (PJF) analysis is based on the information provided on the tunnel cross-sections the university provided. PJF assumed a concrete compressive strength of 4,000 psi and a yield strength of 60,000 psi for the reinforcing steel. PJF also assumed that the tunnels lie approximately 12 inches beneath the roadways. Based upon structural analysis of the tunnel cross sections, PJF has concluded that:

- 1.) The tunnels at locations **#1, #2, #3, #4, #5, #6, and #7** can safely support a highway loading of “**HS-20**” as defined by **AASHTO**, with a maximum axle load of **16,000** lbs.
- 2.) The tunnel at location **#8** can safely support a highway load of “**HS-15**” as defined by **AASHTO**, with a maximum axle load of **12,000** lbs.
- 3.) The tunnel at location **#9** is the weakest of all locations. The tunnel can safely support a live load of only **100** pounds per square foot or a maximum axle load of only **3,000** lbs. (*As of Sept. 2003, this area has been posted with signs and blockaded with bumper blocks*)

PJF conclusions are based upon the observation that the tunnels are in good physical condition and the assumption that they were built in accordance with the drawings.

AXLE LOAD APPROXIMATIONS FOR TUNNELS

N.T.S.

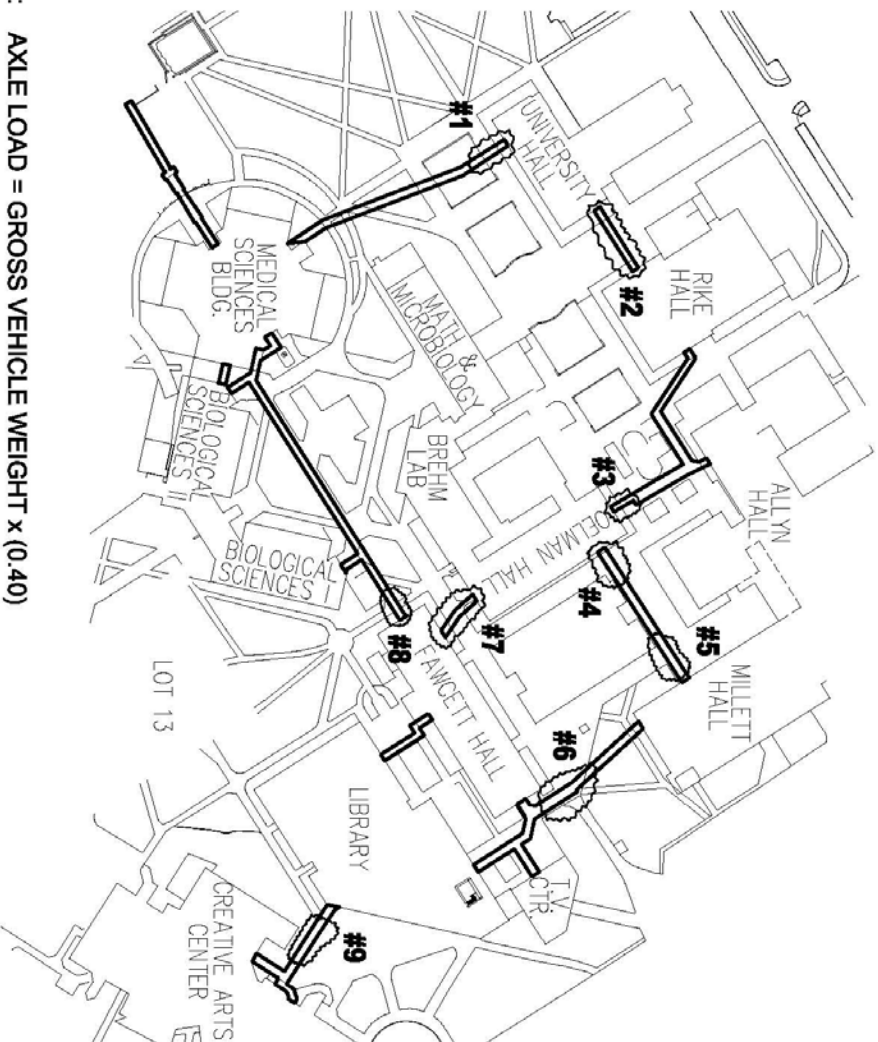
LOCATIONS:

#1, #2, #3, #4,

#5, #6, #7 = 16,000 LBS.

#8 = 12,000 LBS.

#9 = 3,000 LBS.



FOR VEHICLES WITH TWO AXLES: AXLE LOAD = GROSS VEHICLE WEIGHT x (0.40)

FOR VEHICLES WITH MORE THAN TWO AXLES: AXLE LOAD = $\frac{\text{GROSS VEHICLE WEIGHT}}{\text{NUMBER OF AXLES} - 1} \times 2$

FOR VEHICLES WITH TRACKS: CONTACT P.E.C. DEPT. FOR A DETERMINATION OF LOAD.

*SEE ALSO, "AXLE LOAD APPROXIMATION FOR TUNNELS" DOCUMENT.