



# CONTRACTOR

## SAFETY & HEALTH RULES

October 2011



## **Introduction**

Wright State University (WSU) recognizes that many hazards are inherent in construction and other contract work. Compliance with safety and environmental regulations can prevent most serious injuries and provide pollution prevention. This document serves as notification of campus safety and environmental requirements to contractors who perform work at WSU and any other facilities operated by the University. While on-site, contractors are required to follow applicable federal, state, and local environmental safety and health regulations, as well as additional WSU requirements.

The regulatory citations included in this document are intended only as a guide or reference for contractors and are NOT inclusive of all the regulations that might affect those sections. WSU reserves the right to require a contractor to discontinue operations at any time it determines that these requirements or regulations are NOT being met or in cases determined to be immediately dangerous to life and health.

## **Emergency Information**

Contractors must follow all university procedures regarding alarms and evacuations. Any alarm triggered by the contractor must be reported immediately and a representative must be available to address the incident. In the event of an emergency, the contractor should report the incident to the WSU Police Dept. at **937-775-2111**.

### **TELEPHONE NUMBERS**

**WSU POLICE DEPT (OR USE  
EMERGENCY TELEPHONES)  
937-775-2111 (from cell phone) or  
911 (from campus phone)**

**ENGINEERING & CONSTRUCTION  
937-775-2587**

**ENVIRONMENTAL HEALTH &  
SAFETY (EHS) 937-775-2215**

**PHYSICAL PLANT  
ADMINISTRATION 937-775-4145**

**PHYSICAL PLANT CUSTOMER  
SERVICE CENTER & CASUALTY  
PREVENTION 937-775-4444**

**LAKE CAMPUS BUILDING  
& GROUNDS MANAGER  
419-586-0365**

**PARKING & TRANSPORTATION  
937-775-5690**

**OHIO UTILITIES PROTECTION  
SERVICE 1-800-362-2764**

## **Reporting Injuries**

Workplace injuries or illnesses sustained by employees of a general contractor or its subcontractor shall be immediately reported to the project manager. Also, the incident must be reported, along with any accident/incident reports, to EHS. Assistance for serious injuries can be obtained by calling WSU Police Dept. dispatch at **937-775-2111** (from cell phone) or **911** (from campus phone) or use of the main campus emergency telephones.

## **General Information**

Projects involving offending odors, excessive noise, etc. that may adversely affect the campus community may require work during off hours.

Contractor must maintain all applicable permits and licenses for the project. These permits and licenses must be available at the job site for inspection.

### **Contractor Employee Conduct**

Contractors shall ensure their employees and subcontract employees conduct themselves in a professional manner while working at the university. Any actions considered derogatory, such as gestures, remarks, catcalls, etc. will not be tolerated.

Possession or use of intoxicating liquors or drugs is prohibited while working under contract with the university. Firearms or other weapons are prohibited on campus.

### **Emergency Evacuations**

Upon hearing any alarms or receiving similar instructions over the public address system, the contractor shall stop work and evacuate the building or seek shelter as instructed immediately. In the event of a tornado, all personnel shall evacuate to the nearest shelter area. The project manager is responsible for identifying evacuation routes and shelter locations close to work areas to contract personnel and for notification in areas of a building where the fire alarm or public address system cannot be heard.

### **Fire Alarms**

Fire alarms shall remain operational at construction sites where the building remains occupied. In the event the system must be deactivated, the contractor shall notify the project manager and Physical Plant Casualty Prevention or Customer Service, at **937-775-4444** (if at Lake Campus, also contact the Building & Grounds Manager), in advance of the deactivation.

### **Housekeeping**

The work areas shall be kept clean and free from construction debris and trash that may cause a slip or trip hazard. The contractor shall provide proper containers for such disposal. All tools and materials shall be stored and organized when not in use.

### **Material Safety Data Sheets**

Contractors shall submit a chemical inventory and Material Safety Data Sheets (MSDS) of materials 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, but not limited to, other surface coatings, and finishes.

Use of chemicals such as lead, mercury, formaldehyde, etc., as well as asbestos containing materials, shall not be used without prior approval from EHS.

The contractor will be responsible for having all chemical containers labeled with the chemical identity and its specific hazards. Also, while working with hazardous substances, the contractor shall use safe procedures, provide the training on the hazards of the chemical products, and provide the proper personal protective equipment (PPE).

### **Laboratories**

The university is obligated 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 SHALL 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.

### **Environmental Quality**

Contractors shall report all chemical, infectious, radiological, and/or other regulated wastes generated from their contracted operations to EHS. All such waste shall 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 EHS. Non-regulated waste cannot be disposed of in university waste containers unless such usage is approved in the Statement of Work.

Waste materials (including, but not limited to, waste water, system fluids, and other liquids, gases, and solids) shall not be discharged to any storm drain and/or sanitary sewer system without prior approval from EHS. Any spill or accidental release must be immediately reported to EHS. Failure to make proper notifications could result in EPA fines.

### **Radioactive Materials/Equipment/Lasers**

Contractors shall inform the University Radiation Safety Officer (RSO) (**937-775-2623**) 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 RSO demonstrating regulatory compliance, usage plans, and control measures.

Contractors shall inform the RSO and the project manager of any intent of bringing a Class IIIb or IV laser onto the university. The laser system and its usage must fulfill the latest specification of American National Standard Institute Z136.1 and 29 CFR 1926.54.

## **Parking/Driving**

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Contractors shall not park in roadways or pathways designated as "Access Routes" and "Fire Lanes". Access routes and fire lane locations can be obtained from 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 being fined and/or towed from either WSU Police or Parking & Transportation. Any questions concerning the location of fire lanes should be directed to EHS or Engineering & Construction, or, when working at Lake Campus, the Building & Grounds Manager.

When working on the Dayton (Main) Campus, the contractor must purchase a parking permit and park in designated areas or lots. Parking & Transportation is located in E138 Student Union (**937-775-5690**) and can be contacted regarding specific requirements for parking permits.

Prior approval shall be obtained from Planning, Engineering and Construction before driving on campus areas (main roadways excluded). This is to help avoid damage to walking surfaces, foundation supports, structures, utilities, and the tunnel system.

Parking heavy vehicles or equipment directly over the main campus tunnel system is not permitted. Prior approval must be obtained before setting up heavy vehicles in any grass areas. Equipment or vehicles exceeding weight limits posted by the university will not cross tunnels. Do not park heavy vehicles or equipment directly over curb boxes or underground storage tanks.

## **Smoking**

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It is unlawful in the State of Ohio to smoke in the interior of any state-owned or leased 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.

## **Stairway and Corridor Egress**

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Exit corridors of all areas are to be kept clear at all times. Tools, ladders, materials, etc. must be removed from stairways and corridors when not in use. When a project involves construction in a corridor, the remaining part of that corridor must remain clear. Prior approval from the project manager must be obtained before an entire corridor or exit is blocked off for a project.

## **Media Equipment & 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 (CTL) (023 Dunbar Library, 937-775-3162) 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 CTL, for providing and installing protective covering for any and all permanently installed media equipment in a construction area. **The contractor will be responsible for any damage to media equipment and systems while working in CTL areas.** The CTL 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 WSU Police, 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 shall 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, is prohibited. Any materials found will be immediately removed at the contractor's expense. If access is required into a closet, call **937-775-4200, at least one working day prior** to the day that access is required to obtain permission for access.

## **CONSTRUCTION SAFETY**

### **Asbestos/Lead**

Asbestos and lead may be present in buildings where the contractor may be working. Contractors must consult with project manager and EHS to determine if work may involve the disturbance of asbestos and/or lead.

If the contractor encounters what they suspect to be asbestos or lead containing materials not previously identified, they shall immediately stop work in that area and notify the lead contractor and the university project manager. The project manager will contact EHS who, in turn, will

investigate and, if necessary, sample the suspect materials. EHS 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 will be required.

Only licensed personnel shall perform sampling and subsequent removal of asbestos or lead containing material. Prior to any hazardous material abatement, the contractor must coordinate with Physical Plant (at Lake Campus, the Building & Grounds Manager) to shut down the air handler servicing that area.

The contractor performing the removal shall provide all necessary notifications and obtain any permits prior to beginning any work requiring such notifications or permits.

### **Barricades & Public Safety**

Barricades and warning signs shall be in place at all construction areas before the beginning of a project. This includes providing protection for areas such excavations, holes, floor openings, at heights work, and overhead work. The area must be of sufficient size to compensate for the usage of large equipment such as bobcats, aerial lifts and cranes without infringing on the public's safety. **NOTE:** Caution/Danger tape shall not constitute a barricade. Only physical barriers, such as guardrails, fencing, or saw horses, are acceptable.

### **Confined Space Entry**

Permit required confined-space shall not be entered without prior approval of EHS. Contractor 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 shall furnish qualified rescue personnel and equipment either on-site or having timely response capabilities meeting the intent of the regulation.

### **Lockout-Tagout**

Lockout/tagout procedures shall be used where required. The university project manager overseeing the contractor's work shall 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 (at Lake Campus, the Building & Grounds Manager) where the work is to be conducted.

### **Electrical**

Shut down of any electrical system or other utilities shall be approved by Physical Plant (or the Lake Campus Building & Grounds Manager) and Engineering & Construction. Notification of intent to shut-down a utility shall 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 (at Lake Campus, the Building & Grounds Manager) and/or Engineering & Construction 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 project manager.

Electrical rooms/vaults and breaker panels shall be secured when unattended. Electrical rooms and vaults shall not be used for storage purposes during the span of the project.

Ground Fault Circuit Interrupters (GFCI) shall be used where required by the National Electric Code or where prudent practice would deem their use appropriate.

Any work that involves high voltage or a potential arc flash situation shall follow all NEC/NFPA requirements. PPE shall be worn at all times.

### **Excavation Safety**

The contractor shall contact WSU Physical Plant (or the Lake Campus Building & Grounds Manager) or Engineering & Construction to obtain a dig permit **at least 48 hours prior** to the start 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 (or, if working at the Lake Campus, the City of Celina will need to be notified).

Excavation and trenching shall comply with all applicable regulations. The contractor is responsible for providing a competent person at every excavation site.

### **Fall Protection**

Fall protection meeting OSHA requirements shall be provided where employees are working at elevated heights six feet or more and/or where guardrails are not in use. This includes being tied off from any elevated devices such as, but not limited to, scissors lifts or articulating boom lifts. Toe boards shall be installed on all elevated work.

Any work on a roof without guardrails requires a 6' minimum distance from the roof edge. A warning line with stanchions is required.

Utilization of the fall protection systems installed on the Nutter Center corporate boxes and merchandise booths, ring roof of the Nutter Center, or the water tower access ladder is mandatory whenever employees are working at these areas.

Individuals issued a fall safety harness shall be instructed by a qualified person on proper wear of the device.

### **Scaffolding**

All scaffolding shall be erected and maintained in compliance with 29 CFR 1926, Subpart L, Scaffolds and the manufacturer's requirements. Contractors shall ensure inspections of scaffolding are performed by a competent person prior to use.



## **Welding/Burning**

Prior to starting welding or burning operations, or any other activity that has the potential for creating sparks, high heat, or potential for fire, the contractor shall notify the project manager (also, at Lake Campus, the Building & Grounds Manager) and obtain a "Hot Work" permit from Physical Plant Casualty Prevention (**775-4444**). Contractors shall ensure an observer with an appropriate fire extinguisher is present for all welding operations. The observer shall leave only when there is no longer a risk of fire.

Internal combustion engines are not allowed in buildings. If all other power sources are not feasible, and a combustion engine can be used **safely**, a short-term, hot work permit may be issued on an emergency basis.

## **Personal Protection**

The contractor shall provide all required personal protective equipment (PPE) and clothing. All PPE and clothing shall meet OSHA and/or ANSI standards. PPE is required to be worn at all times while on the jobsite.

## **Tools and Equipment**

The contractor shall provide all tools and equipment. Use of university owned tools or equipment is prohibited with the exception of an emergency or other consideration as deemed necessary by the project manager.

Power tools shall be maintained in safe working condition. Designed safety features such as guards and interlocks shall not be removed or disabled. Any damaged tools or equipment shall be removed from service immediately.

## **Vehicle Operation & Training**

Only qualified contracted personnel shall operate equipment such as personnel lifts and forklifts. The contractor shall provide proof of training if requested by EHS or the project manager.

## **Cranes & Rigging**

Only properly trained and qualified operators/riggers may operate and/or inspect a crane, as well as perform rigging functions. Proof of qualification shall be provided upon request.

Proper authorization shall be obtained before any crane is brought on campus. The lift shall be properly planned before arrival. When demarcating the area for the crane, consideration shall be given for the swing radius of the boom and counterweight. All personnel working within the vicinity of the crane shall wear hardhats and other PPE as required. If left at the jobsite for any significant time, the crane shall be properly secured and **not** used as a means for suspended storage.

**THE 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 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.

**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

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

**PLEASE FORWARD A COPY OF THE COMPLETED ACKNOWLEDGEMENT TO  
ENVIRONMENTAL HEALTH & SAFETY  
(047 Biological Sciences 2, or fax; 937-775-3761)**

## **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 =  $\frac{\text{Gross Vehicle Weight}}{(\text{number of axles} - 1) \times (2)}$**

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.

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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

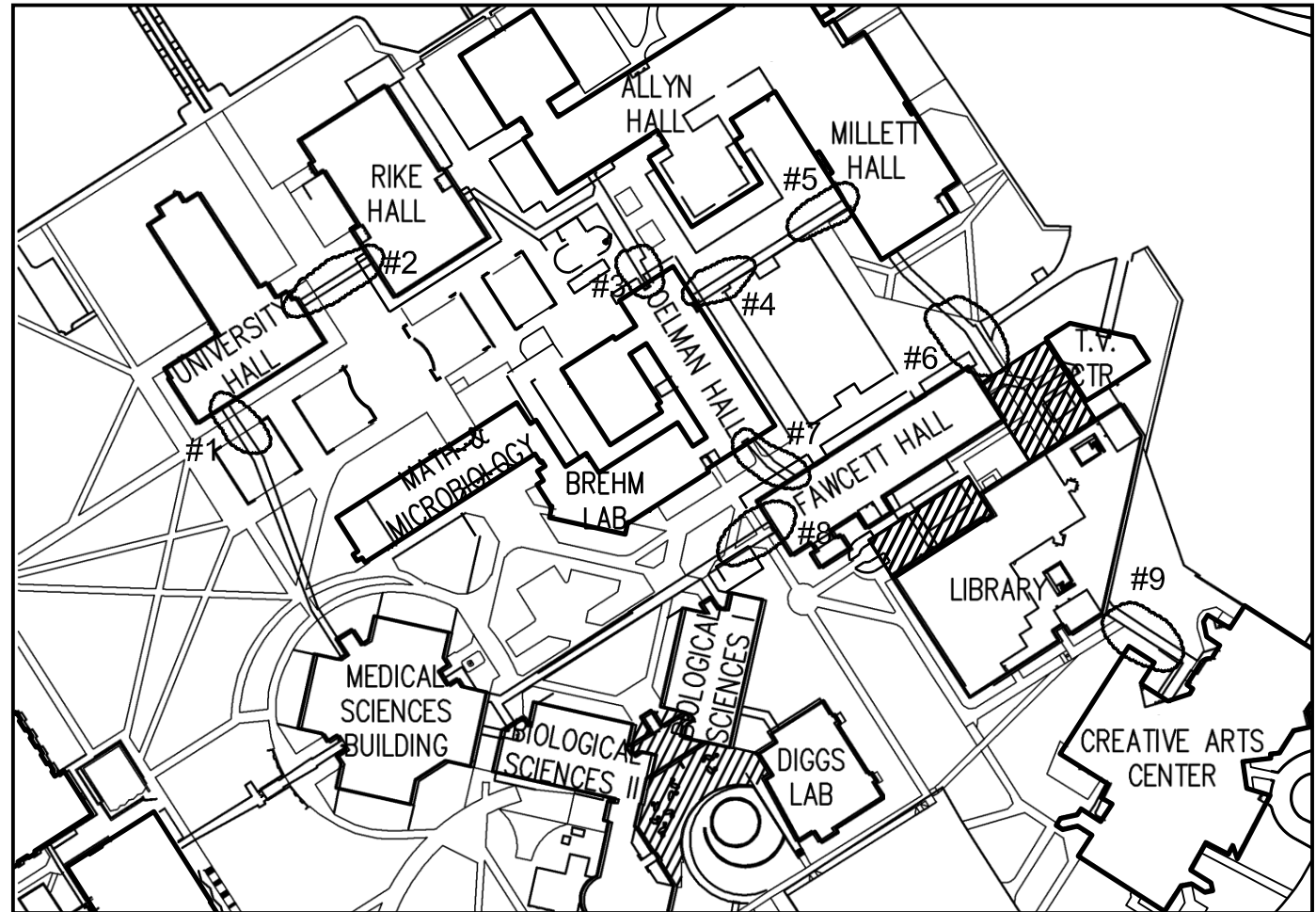
## LOCATIONS:

**#1,#2,#3,#4,  
#5,#6,#7 = 16,000LBS**

**#8 = 12,000LBS**

**#9 = 3,000LBS**

 **= SUPPORTED  
SLAB, VEHICLE  
TRAFFIC  
PROHIBITED**



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 ENGINEERING AND CONSTRUCTION DEPT. FOR A DETERMINATION OF LOAD.

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

DATE: 11/1/2010 M:\Drawings\WSU# Project Drawings\3000\3900\3920\3924.dwg