



Division 21 Fire Suppression

21 00 00 Fire Suppression

For campus projects that require either a UTILITY SHUTDOWN (electrical, plumbing, steam, DDC etc.) or a shutdown of a LIFE SAFETY SYSTEM (water-based fire protection, fire alarm, alternative fire suppression system, etc.) the GC shall work with the PM to obtain and submit proper notifications as outlined within the UTILITY SHUTDOWN FORM AND LIFE SAFETY SYSTEM IMPAIRMENT ONLINE REQUEST FORM.

21 05 00 Common Work Results for Fire Suppression

21 05 05 General Requirements for Fire Suppression

1. The fire suppression system design for all UW Madison facilities shall comply with all of the provisions of the latest version of the Division of Facilities Development (DFD) Plumbing and Fire Protection Design Guidelines, which is available from the DFD website.
2. References within the DFD Guidelines regarding the DFD Project Manager shall apply to the UW-Madison Project Manager on UW-Madison Managed Projects.
3. Project Specifications shall use as their basis all appropriate sections of the latest edition of the DFD Master Specifications.
4. Deviations from DFD's Minimum Design Guidelines or the DFD Master Specification sections shall be made only upon approval from the UW Project Manager.
5. The Guidelines for Planning and Design at UW-Madison shall take precedence over DFD Guidelines, but the A/E shall discuss all conflicts within the guidelines and specifications with the UW-Madison Project Manager.
6. It shall be specified that the Operation and Maintenance manuals contain calculations and flow test specifications for fire pump and sprinkler systems and include user acceptance testing forms.
7. Owner training shall be included for all equipment and systems and training shall be scheduled and take place. Provide a copy of the original acceptance testing form to the UW-Madison Shops.
8. As-built record drawings shall be kept up to date on the job site and turned over to the A/E prior to final pay requests. The drawings must be prepared by the A/E in a clear AutoCAD format and turned over to the UW-Madison Project Manager at Close Out.
9. Make all pre-action systems double interlock type, with one action being electric and the other action being pneumatic.
10. Determine with the architect if center-of-tile head placement shall be a requirement. If yes, specify and note on the fire protection drawings (in addition to notes on RCP's).
11. Whenever possible, a fire hose standpipe valve shall be installed on the roof of new buildings on the top of each fire hose standpipe, with a drain valve and isolation valve below the roof. The drain riser should be connected to this drain valve. This fire hose



valve is used for NFPA acceptance testing and for NFPA required standpipe flow testing. Drain valve shall be connected to auxiliary drain.

12. Assurances shall be made that drain receivers accepting discharge from fire system main drain valves and inspector's test stations can handle high flow discharge of fire systems with fire pumps running. Alternatively, the discharge can be piped to grade where this will not create a nuisance.
13. Coordination of the test drain locations to grade shall occur with the A/E to minimize rust staining on building facades and flatwork.
14. All requests for inspections, acceptance tests, review, or consultation shall include UW-Madison Departments and Divisions as requested. All inspections, tests, and inquiries involving any personnel from the Madison Fire Department shall be witnessed and attended by EH&S Fire & Life Safety.

21 10 00 Water Based Fire Suppression Systems

1. Tee-drilling of water supply piping in building shall not be allowed.
2. Building water services shall terminate in building with a threaded flange on the ductile iron service pipe, bolt on or quick flanges shall not be allowed.
3. Buildings with dual water services for domestic and fire supply shall have additional valve installed on the water main between the dual services, so either service can supply the building sprinkler system in event of an interruption of water supply.
4. UW-Madison may consider adding valves to the water main on each side of the water service of smaller buildings, if the building requires non-interruptible water supply.
5. All drum drips in areas subject to freezing shall include a tee, 90, and plug just after the upper valve for the addition of antifreeze.
6. The University prefers Viking air maintenance devices on all dry pre-action systems.
7. The University prefers all fire pump circulation valves to be Cla-Val.
8. Ball valves 3" and smaller should be bronze body with stainless steel ball and stem.
9. Fire pump shall be horizontal split case that is 1800 RPMs or slower.
10. All system checks shall have a removable cover.
11. Fire pump and fire pump controllers shall be placed within a rated room. The room shall only be used to house fire pump and controller. The room shall also be in a climate-controlled room that will meet the requirements set forth by the manufacture.

21 12 50 Fire Suppression in Parking Structures

1. All stairwells shall have at least one 1 ½ inch fire hose bib (coupling) and one floor drain-independent from #2 & #3 requirement listed below.
2. A 1 ½ inch hose bib (coupling) will be located every 50 feet around the exterior walls, inside of the facility.



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3. Grading and inlets shall be designed according to a stormwater drainage plan and system that adequately evacuates all water from the floor of the structure or lot during heavy rainfall.
 4. A sanitary sewer inlet shall be in a convenient location near a source of water to accommodate the emptying and refilling of mobile floor washing equipment.
 5. The first operation of the wash down for each floor shall be completed by the primary contractor with the owner's selected representatives present for training.
 6. Sprinkler system inside parking structure shall follow NFPA standards for water-based fire protection systems.
 7. For structures built below the water table, drains shall have sump-pumps with an alarm system that will alert UW-Madison Physical Plant when the pump is malfunctioning.



Shutdown/Impairment Form

See the following attachment



UTILITY SHUTDOWNS & LIFE SAFETY SYSTEM IMPAIRMENTS

UTILITY SHUTDOWN

For utility shutdowns (outages) affecting campus buildings, the Contractor shall fill out the Utility Shutdown Form on the following page. Coordination with UW Plumbing, Electrical, Steamfitter, and/or Digital Controls group is necessary to ensure an outage is scheduled and all necessary precautions are taken to ensure research and building operations remain operational. GC or Subcontractor shall provide all the necessary information approximately two (2) weeks in advance of a planned utility outage.

LIFE SAFETY SYSTEM IMPAIRMENT

Impairment of a life safety system shall require the GC or Subcontractor to electronically submit their impairment request online. Impairment form links can be found on the UW EHS website at www.ehs.wisc.edu under the fire and life safety section. Links to the forms are also provided below. Submittal of a planned impairment shall be submitted no more than 48 hours in advance of the planned impairment. Project Contacts for the online form are found on page 3 of this form.

IMPAIRMENT LINKS

Fire Protection Impairment Form

<https://ehs.wisc.edu/fire-life-safety/fire-protection-uw-impairment-form/>

Fire Protection Impairment Fire Watch

<https://ehs.wisc.edu/fire-life-safety/fire-protection-uw-impairment-fire-watch-form/>

Fire Protection Impairment FAQ

<https://ehs.wisc.edu/wp-content/uploads/sites/1408/2020/09/Fire-Protection-Impairment-FAQ-update-10-29-2020.pdf>

Hot Work Schedule Form

<https://ehs.wisc.edu/hot-work-permit-scheduling-form/>

Hot Work Fire Watch

<https://ehs.wisc.edu/fire-life-safety/hot-work-fire-watch-form/>

EH&S Points of Contact:

John Rindfleisch (608) 598-0052 john.rindfleisch@wisc.edu

Jeff Schiller (608) 225-7693 jeff.schiller@wisc.edu



UTILITY SHUTDOWN FORM

PROJECT NAME

PROJECT NUMBER

The contractor performing an outage shall complete all fields below and send to the appropriate contacts on the following page. Description of work and disruption/impact should be complete and inclusive of all significant aspects of the work.

Notice Date:

[Click or tap here to enter text.](#)

Contractor performing outage:

[Click or tap here to enter text.](#)

Foreman's Name & Phone Number:

[Click or tap here to enter text.](#)

Foreman's Email:

[Click or tap here to enter text.](#)

Room Number(s) and/or Locations:

[Click or tap here to enter text.](#)

Crew Size:

[Click or tap here to enter text.](#)

Dates/Times of Work:

[Click or tap here to enter text.](#)

Description of Work: (add attachments as needed for detailed description, plan images, or photos)

[Click or tap here to enter text.](#)

Disruption / Impact to Building Operations:

[Click or tap here to enter text.](#)



UTILITY SHUTDOWN CONTACTS

The contractor performing an outage shall send this outage form to all Project Contacts and appropriate Physical Plant contacts.

PROJECT CONTACTS

UW Project Manager

[Click or tap here to enter text.](#)

UW Construction Field Representative

[Click or tap here to enter text.](#)

DFD Project Manager (when applicable)

[Click or tap here to enter text.](#)

DFD Field Rep (when applicable)

[Click or tap here to enter text.](#)

Facility Manager

[Click or tap here to enter text.](#)

PHYSICAL PLANT CONTACTS

UW PLUMBING SHOP

Pete Dahl

pete.dahl@wisc.edu

Chad Hellenbrand

chad.hellenbrand@wisc.edu

UW ELECTRIC SHOP

Jeff Folk

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DIGITAL CONTROLS GROUP

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