



Clark County Department of Building & Fire Prevention

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Permit Type: 105.7.6
Control Number: A.0
Effective Date: 11/15/11

TITLE: FIRE PUMPS

SCOPE: Clark County Department of Building & Fire Prevention requirements for the submittal and approval of fire pumps required to comply with NFPA 20.

Other fire protection equipment and systems such as fire pumps not required to comply with NFPA 20, fire standpipe systems, water tanks, fire sprinkler systems and other fire extinguishing systems shall have separate permits.

For new work in existing buildings, see the "New Work in Existing Buildings" guideline.

PURPOSE: To standardize plan/permit requirements of the Fire Department in accordance with the Clark County Fire Code. Permits are valid through the duration of construction. Work must commence within 180 days, and remain active with no period of inactivity exceeding 180 days, or the permit becomes invalid.

DEFINITIONS:

Assessor's Parcel Number (APN): A unique number assigned to each property by the Clark County Assessor's office.

NFPA: National Fire Protection Association is a nationally recognized code-developing organization.

NICET: National Institute for Certification in Engineering Technologies is a nationally recognized engineer technician certification organization

PERMIT FEES:

Permit fees shall be assessed in accordance with the Permit Fee Schedule as adopted in the Clark County Fire Code. For applications that are expedited, additional fees shall apply.

SPECIFICATIONS AND REQUIREMENTS:

An application must be completed for each submittal. A minimum of three sets of plans shall be submitted with the permit application. Plans shall show compliance in accordance with the Clark County Fire Code and NFPA 20, as adopted and amended.

All submittals must be legible and readable or the plan shall be issued a correction letter for cause.

Submittals shall contain the following:

1. Name of owner and occupant.
2. Location, including street address and APN number.
3. Name, address, phone number, and contractor's license number of installing contractor.
4. Signature and NICET number, or engineer's seal, of the designer.
5. General notes as required by the AHJ.
6. Point of compass.
7. A graphic representation of the scale used on all plans.
8. Plan view of fire pump room showing fire pump, jockey pump, floor drain, relief valve, flow meter, controller for fire pump and jockey pump, fuel tank for diesel, test header, FDC, battery system, floor drain, access door, and all associated piping (diameter and cut length noted), appurtenances, etc.
9. Show a view of the eccentric reducer with the eccentric reducer, installed in accordance with the code, with flat side on top.
10. Show a view of check valves, butterfly valves, OS & Y valves, sensing line and controllers. Indicate if valves are normally opened or closed.
11. Section views showing all required components with enough section views provided from different angles and locations to provide a full understanding of the design.
12. Manufacturer's specifications for the fire pump and all components.
13. The factory fire pump test curve data sheets.
14. A site plan indicating location of fire pump room and showing that the fire pump access door is an exterior access door and detailing water supply to fire pump. Include underground pipe size, length, location with respect to the building, class of piping, material, and point of connection to city main; type of valves, meters, and valve pits; and depth at which the top of the pipe is laid below grade.
15. A copy of the approved civil utility and fire access sheets.
16. Provide flow test information. For fire pumps supplied by city mains, location and size of city main in street, and location, size, and type of domestic line, including length to city connection, and water meter location and size. Static and residual hydrants that were used in flow tests shall be shown. Water flow tests shall be witnessed by the fire code official and are valid for a period not to exceed six months.
17. The following information must be provided in Fire Pump Notes:
 - a. Manufacturer of fire pump and jockey pump, fire pump controller b. Pipe manufacturer and pipe schedule.
 - c. Rating and type of Fire Pump (electric, diesel, vertical, horizontal, etc)
 - d. Indicate signals received remotely from pump
 - e. Number and size of hose valves on test header
 - f. Provide a note indicating that the fire pump room is separated from the building protected with 2-hour separation

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- g. Provide a note indicating that permanent lighting is provided h. Indicate that venting is provided, if a diesel fire pump
 - i. Provide notes indicating minimum and maximum room temperatures (minimum 40⁰ F in all cases), maximum 120⁰ F for engine driven pumps. Also address temperature requirements for controllers and other equipment.
18. Fire pumps shall be sized so system demands do not exceed 110% of the rating of the fire pump.
 19. Minimum pipe sizing, test header, etc. must comply with the Summary of Fire Pump Data, Table 5.25 of NFPA 20.
 20. Pressure gauges must be a minimum of 3 ½ inches in diameter and must be liquid filled.
 21. Pressure gauges must be able to indicate pressure to at least twice the working pressure of the fire pump. Readings must be in PSI.
 22. If a separate fire pump house is provided, the minimum separation from the protected building must be 50 feet, unless the pump house has a 2-hour rating.
 23. The distance between the suction flange and elbows and tees must be greater than 10 times the diameter of the pipe.
 24. Provide foundation for fire pump in accordance with NFPA 20.

PERMIT REVISIONS AND RESUBMITTALS:

Revisions to approved plans are required to be submitted and approved. Revisions will be assessed additional plan review fees. A copy of the previously approved plan shall accompany the revised submittal to facilitate the review. Clearly indicate all changes to the revised plans by clouding the change with a delta number to signify the date of plan change. When several changes have been made, a detailed list of changes is required.

Re-submittals to address a Letter of Correction will require a full submittal. These plans require a copy of the red lined plan from the previous submittal to facilitate the review. Clearly indicate all changes by clouding the change with the delta number to signify the date of plan change.

PLANS CHECK STATUS INSTRUCTIONS:

The status of the review can be checked by logging on to:
www.clarkcountynv.gov/building/fire-prevention

INSPECTIONS THAT MAY BE REQUIRED AND SCHEDULING INSTRUCTIONS:

If approved, an inspection will need to be scheduled. To schedule an inspection, go to:
www.clarkcountynv.gov/building/fire-prevention
A fire inspector will review your site in accordance with the approved plans and this guideline.

The Fire Prevention (FP) may witness and accept inspection, testing and maintenance of fire and life safety systems conducted by approved individuals as required by and within the scope and authority of the Clark County Fire Code.

This Guideline does not take the place of the Fire Code and does not take precedence over any Fire Code requirement or position taken by the Fire Chief. When a conflict exists between the requirements of this Guideline and the Fire Code or the opinion of the Fire Chief, the Fire Code or opinion of the Fire Chief prevails.

Technical Assistance, when required by the Fire Chief, will require a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.

Acceptance of Alternative Materials and Methods requires a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.