

To: Jeromy Hicks  
Fire Marshal  
Mercer Island, WA  
RE: Hong and Kao Residence and DADU  
Permit #: 2306-124  
Date: 1/16/2024

## **FIRE CODE ALTERNATE REQUEST**

Comments received during our pre-application review:

1. Sprinkler information
  - a. All New Single Family/ADU require a minimum of a NFPA 13D sprinkler system. An exterior bell is required to be installed and must activate upon water flow. Interior smoke detectors or sounders must also be interconnected with the water flow switch.
  - b. DADU requires the installation of a fire sprinkler system and is subject to fire mitigation requirements as a detached structure.
  - c. Additional requirements may be added for fire access, grade, and fire flow.
  - d. **It is likely that at NFPA 13r Fire Sprinkler System will be required as part of deficiency mitigation in the new DADU. CoMI Standards listed below.- We should discuss this further. A NFPA 13r may be excessive for a DADU (willing to consider 13d with other mitigation options)**
- e. Fire Alarm information:
  - a. Fire Alarm (NFPA 72) may be required due to width of the fire access road.
  - b. Due to access, grade and turn-around this may be used as a code alternative.
  - c. Note that is a NFPA 72 "Chapter 29" Fire Alarm System is required to be installed to mitigate deficiencies this DOES take the place of installing a "line voltage" Smoke Detectors. LINE VOLTAGE SYSTEM DO NOT NEED TO BE INSTALLED IF AN APPROVED FIRE ALARM SYSTEM IS INSTALLED. IRC R314.7
2. Hydrant and fire flow information (IFC Appendix A)
  - a. **The fire flow at the home does not meet requirements.**
    - **Hydrant F3-13 1001gpm at 62psi**
  - b. Distance to hydrant from **residence**:
    - F3-13
      - **HY-Rear of House- 465' (300' required)**
      - **HY-Access=268 (250' required)'**
      - **Access-ROH= 287' (150 Required)**
  - c. Distance to hydrant from residence **DADU**:
    - F3-13
      - **HY-Rear of House- 287' (600' required)**
      - **HY-Access=176'**
      - **Access-ROH= 111' (150 Required)**

3. Access road (2018 IFC Appendix D) Turn Around. None provided.
  - a. Width. All access roads over 500 feet in length are required to be 26 feet in width.
    - Roadway length- 759'
    - Width= 12.08
  - b. Fire Access Road distance: 759'
  - c. Slope. 13% (<10 Required)
  - d. Turn-around: None

### **PROPOSED ALTERNATE SYSTEM**

In light of the deficiencies noted above we propose to:

#### **RESIDENCE:**

1. Install NFPA 13d Full Coverage system to include garage, storage areas, closets in exit pathways and covered decks. (NFPA 13r coverage requirements).
2. NFPA 72 Monitored fire alarm system.

#### **DADU:**

1. Install NFPA 13d Fire Sprinkler System with coverage in garage areas.
2. NFPA 72 Monitored Fire Alarm System

Note: All FIRE systems require a separate FIRE permit(s).

3. Install solid core doors through both the residence and the DADU
4. Install 5/8" type 'X' gypsum wall board throughout both the residence and the DADU.

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Dave Buck, architect