

## SUDAS Revision Submittal Form

<b>Status Date:</b> <u>As of 5/20/2020</u>	<b>Topic:</b> <u>Fire hydrants</u>
<b>Manual:</b> <u>Specifications</u>	<b>Manual Location:</b> <u>Section 5020, 3.03</u>
<u>Design</u>	<u>Section 4C-1, E</u>

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### Requested Revision:

#### From Spec Section 5020

#### 3.03 FIRE HYDRANT

- A. Install according to Figure 5020.201. **Ensure a 3 foot clear space around the circumference of the fire hydrant.**
- B. If the fire hydrant valve is positioned adjacent to the water main, attach it to an anchor tee.
- C. If the fire hydrant valve is positioned away from the water main, restrain all joints between the valve and water main.
- D. Fire Hydrant Depth Setting:
  1. Use adjacent finished grade to determine setting depth.
  2. Set bottom of breakaway flange between 2 and 5 inches above finished grade.
  3. If finished grade is not to be completed during the current project, consult with the Engineer for proper setting depth.
- E. Coordinate installation with tracer wire installation.
- F. **Orient fire hydrant nozzles parallel with or at right angles to the curb, with the pumper nozzle facing the curb. Set hydrants having two hose nozzles 90 degrees apart with each nozzle facing the curb at an angle of 45 degrees or** as directed by the Engineer.

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#### From Design Section 4C-1

#### E. Fire Hydrants

1. Hydrants should comply with AWWA C502. The connecting pipe between the supply main and the hydrants should be a minimum of 6 inches in diameter and be independently valved. Fire hydrants should not be installed on water mains that do not provide a minimum pressure.
2. Hydrant drains should not be connected to or located within 10 feet of sanitary sewers.
3. Locations of fire hydrants are governed by the rules and regulations of the Iowa DNR and the local Jurisdiction and by the following principles. Satisfy each principle in the order they are listed. See Figures 4C-1.02 through 4C-1.03 for typical hydrant locations.
  - a. Locate fire hydrants within 25 feet of each street intersection, measured from an end of a street paving return.

Locate fire hydrants outside street paving returns. Avoid conflicts with storm sewers, intakes, and sidewalks. Whenever possible, locate fire hydrants at the high point of the intersection.

- b. Locate fire hydrants between street intersections to provide spacings of no more than 450 feet in single family residential districts and no more than 300 feet in all other districts. Coverage radii for structures as noted below should be checked when determining hydrant placement.

Vary spacings slightly to place fire hydrants on extensions of property lines. When hydrants are required between intersections, they should be located at the high point of the main for air release or at a significant low point for flushing on the downhill side of an in-line valve.

When street curvature or grid patterns places a proposed protected structure at an unusual distance from the fire hydrant, the coverage radius should not exceed 300 feet in single family residential districts and 150 feet in all other districts. The Jurisdiction's fire marshall may have additional private fire protection requirements.

- c. On cul-de-sac streets, hydrants should be located at the intersection of the cul-de-sac street and cross-street and the end of the cul-de-sac.
  - 1) For cul-de-sacs between 300 feet and 500 feet in length, an additional hydrant should be located at the mid-block.
  - 2) For cul-de-sacs greater than 500 feet in length, hydrants should be placed at near equal spacings, but not exceeding the spacings described above.
- d. Hydrants must be located to provide the required fire flows. ISO evaluates fire hydrant locations within 1,000 feet of the test location, measured along the streets as fire hose can be laid, to evaluate the availability of water for fire protection. Hydrant capacity is credited as shown in the following table:

Hydrant Location	Credited Capacity
Within 300' of location	1,000 gpm
Within 301' to 600' of location	670 gpm
Within 601' to 1,000' of location	250 gpm

- e. Locate fire hydrants to maintain a 3 foot clear space around the circumference of the fire hydrant to create unobstructed access for the fire department.

**Reason for Revision:** Clarified fire hydrant placement, clear space, and orientation.

**Comments:** None.

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**District:**       1     2     3     4     5     6      **2/27/2020 Webinar**

**Comments:** None.

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<b>District:</b>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
<b>Initial Comments:</b>	None.					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
<b>District:</b>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
<b>Initial Comments:</b>	Face the hydrant towards the major road.					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
<b>District:</b>	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
<b>Initial Comments:</b>	Clarify that the 5 feet is a radius. Questioned if this is a spec issue or a design issue. Reference the fire code? Does the fire code define clear space? Could use language to say WHY you want the 5' of clear space (to connect the fire hose)? "Ensure 5 feet of clear space away from obstructions or as approved by the Engineer."					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
<b>District:</b>	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
<b>Initial Comments:</b>	Deferred this item in light of new International Fire Code.					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
<b>District:</b>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6
<b>Initial Comments:</b>	None.					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
<b>District:</b>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
<b>Initial Comments:</b>	Would prefer the language stay on the figure and then be included in the Design Manual.					
<b>Final Comments:</b>	None.					
<b>Action:</b>	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	

**Final District Action Summary:** All 6 districts approved; see comments above.

**Board of Directors Action:** Approved.