INTRODUCTION

This section has been developed in order to consolidate the Department’s policies, procedures, and information regarding fire hydrants and fire-flow requirements within the City of Fresno.

The basis for the contents of this section is contained in the Fresno Municipal Code and state and nationally recognized standards.

Field inspections of existing hydrants within the City of Fresno will reveal several deviations from the policies and regulations contained in the section. This is due, in part, to the annexation of existing water systems and allowable trade-offs for built-in fire protection systems.

FIRE HYDRANT PROGRAM

The hydrant program is administered as follows:

Hydrant Program Manager

The manager coordinates and manages all aspects of the Department’s hydrant program to include installation, inspection, and maintenance of fire hydrants within Department response areas.

The hydrant program manager works with fire station members, geographical information system (GIS), Fresno Fire Community Risk Reduction Division (CRR), City of Fresno Water Division, and representatives from local water districts within the Department’s response areas to ensure fire hydrants are serviced regularly and maintained properly.

The hydrant program manager verifies that accurate hydrant records exist in Tiburon for all hydrants, public or private.
CRR Division

1. Receives hydrant information from other City departments and water districts.

2. Routes pertinent information to the FireGIS Analyst located at Fire Headquarters.

3. Liaison between Fire Department and other departments and agencies as necessary.

FireGIS Analyst

1. Receives hydrant information only from CRR Division and company officers.

2. Assigns hydrant numbers.

3. Directs the processing of new hydrants through the hydrant program manager.


5. Processes hydrant repair requisitions.

6. Maintains 4-3 response sheet.

All Stations

1. Perform Initial inspection, numbering, painting of new hydrants.

2. Perform hydrant maintenance inspections in assigned fire zones. These assigned hydrant zones shall not change without the approval of the hydrant program manager.

3. Complete Tiburon data entries and hydrant repair requisitions; make required notifications for all hydrants inspected and/or requiring maintenance each day that maintenance is performed.

Hydrant Inspection Documentation

The following instructions will guide you through how to enter in Tiburon:

- In-service hydrant inspections
- In-service hydrant inspections with maintenance required
- Out-of-service hydrant inspections with maintenance required
1. To enter in-service hydrant inspections in Tiburon:

   a. Click on the “Fire Records” icon on the desktop and login as usual.

   b. Click on the “Day View” icon on the left side of the screen.

   c. Make sure the “Day View” calendar is on the correct day (the day for which you did the hydrant inspection(s)).

   d. On the left of the screen, there is a list of times. Right-click on the starting time for the hydrant inspection.

   e. A small window will open and at the bottom is “New Hydrant Maintenance.”

   f. Click on “New Hydrant Maintenance” and a new window titled, “Maintenance for Hydrants,” will open.

      i. Change the start and end time to reflect accurate work periods.

      ii. Enter your unit ID. Such as: T04, or E17.

      iii. Check the “Completed” box.

      iv. Add hydrants by clicking on the “Add” button on the right side of the screen.

      v. Enter the appropriate zone in the “Zone ID” box, and select “Find.”

      vi. In the “Hydrant Explorer” box, highlight the hydrants that maintenance was performed on. Once highlighted, click on the select button.

      vii. Once all of the maintained hydrants are listed in the “Maintenance for Hydrants” window, highlight all the hydrants in the window.

      viii. Click select under the “Activity” window and select the appropriate activity.

      ix. Type in any desired comments.
x. Click on the “Save” icon once all desired fields have been completed.

2. To enter in-service hydrant inspections with maintenance required in Tiburon:

   a. Follow the steps a. – e. above in #1.

   b. Click on “New Hydrant Maintenance” and a new window titled, “Maintenance for Hydrants,” will open.

      i. Change the end time to the appropriate time.

      ii. Enter your unit ID. Such as: T04, or E17.

      iii. Check the “Completed” box.

      iv. Add hydrants by clicking on the “Add” button on the right side of the screen.

      v. Enter the appropriate hydrant number in the “Hydrant ID” box and select “Find.”

      vi. In the “Hydrant Explorer” box, highlight the hydrant(s) that need maintenance. Once highlighted, click on the select button.

      vii. Repeat steps iv.–vi. to add additional hydrants.

   viii. Once all of the hydrants with maintenance required are listed in the “Maintenance for Hydrants” window, highlight each one at a time and follow the steps below.

      1. Click select under the “Activity” window and select the appropriate activity.

      2. Click select under the “Issues” window and select the appropriate issue. (Note: selecting an issue will send a repair requisition via email to firehydrants@fresno.gov)

      3. Type in any desired comments.

      4. Repeat this step for each hydrant.
ix. Click on the "Save" icon once all desired fields have been completed.

3. Out-of-service hydrant inspections with maintenance required:

   a. Follow the steps in #2. above with the additional step of:

      i. Check the "Out of Service" box for each hydrant that is not working.

      ii. By checking the "Out of Service" box the hydrant will be placed on the 4-3 sheet and marked with an "X" on the MDT through an overnight process once a week.

As a final note, paper documentation of hydrant repairs is no longer used. If a hydrant is found to need in-service maintenance/repair or is out-of-service, an appropriate entry shall be made in Tiburon (Fire Records).

Hydrant Inspection List / Documentation Audit

There are three shortcuts under favorites of Tiburon:

   1. “Hydrant Assignments By Station”
   2. “Hydrant Inspections Remaining – Current Period”
   3. “Hydrant Inspections Remaining – Past Period”

You must place an S in front of the station number and single digit station numbers need a 0 as well. For example, station 1 shall be entered as S01.

“Hydrant Assignments By Station” will produce a list of assigned hydrants with hydrant number, address, cross street, hydrant location, gate valve location, and main size. It is highly recommended that every captain use #1 annually, starting in July, to print the list of assigned hydrants for their station and shift. By doing this annually, you can keep a written record of your hydrant maintenance and you will not miss hydrants that may have been added by FireGIS over the previous inspection period.

“Hydrant Inspections Remaining – Current Period” will audit your assigned hydrants and produce a list of hydrants not yet inspected for the current period or fiscal year. It is highly recommended that every captain use #2 monthly to verify that their entries into Tiburon were completed and successful.

“Hydrant Inspections Remaining – Past Period” will audit your assigned hydrants and produce a list of hydrants not yet inspected for the past period or fiscal year. It is highly recommended that every captain use #2 on or after July 1 to verify that their
entries into Tiburon were completed and successful.

FIRE HYDRANT POLICIES

The Department relies almost totally on fire hydrants and the attendant water mains as sources of water for firefighting purposes. The policies contained herein are based upon operational necessities and provide a close correlation with available firefighting resources and procedures.

Spacing and Flow

Standards by which hydrants are required are contained in the Development Standards Document. This document is modified regularly, and the CRR Division can provide the most current standards, as needed.

Annexed Areas

Areas annexed into the City of Fresno may, or may not, contain adequate fire hydrants. The City does not have any retroactive regulations, which require compliance with current standards for annexed areas. These are two of the major reasons why certain areas of the city are deficient in adequate water supplies.

There are currently two avenues of approach to remedy the lack of fire hydrants in these areas.

1. Property owners within the affected areas may, individually or collectively, provide funding for installation of water mains and fire hydrants by the water purveyor serving their area.

2. New construction in these areas is subject to current standards for installation of fire hydrants and required fire flow.

3. The above requirements have been extremely beneficial in the Department’s efforts to rectify substandard water supplies. To this end, it is important that company officers report any absence of the fire hydrants adjacent to new construction projects or to recently completed projects.

Private Water Districts

Domestic water supply and water for fire protection purposes in the city are provided by several different water purveyors in addition to the City’s own water system. Each of these water systems is generally independent of the other, except that occasional inter-ties exist between systems for emergency or supplemental requirements.
There are no retroactive hydrant and fire flow requirements for areas served by other water purveyors when those areas are annexed to the City of Fresno. However, new construction projects are subject to current standards for fire protection and installation of new fire hydrants and attendant mains shall comply with City requirements.

Fire hydrants of private water districts and other water purveyors located within the city are to be painted the same color(s) as the City of Fresno’s hydrants.

**Private Fire Hydrants**

Private fire hydrants, by definition, are hydrants on private property, which are installed for the protection of structures on the property. The property owners, or lessees, are responsible for hydrant maintenance and are to be served with notices of repair when applicable. A public hydrant is usually differentiated from a private hydrant in that a public hydrant is usually installed immediately adjacent to a public street, with the 4-1/2-inch outlet positioned toward the street.

**Note:** There are some exceptions to this general definition. For instance, easements have been granted in a few of the large developments for the installation of public water mains and hydrants to serve the development.

Private hydrants may be supplied with water from the City of Fresno, other water purveyors, or on-site private wells. They are to be painted the same as public hydrants.

**Hydrant Identification Numbers**

Identification numbers shall be stenciled on the hydrants with black paint and one-inch stencils. Identification numbers shall be assigned as follows:

1. Hydrant identification numbers shall consist of seven digits.

2. The first five digits will indicate the fire zone in which the hydrant is located.

3. The last two digits will be a sequential numbering of the hydrants within the fire zone. Public hydrants will be numbered 01 through 49. Private hydrants will be numbered 50 through 99.

   **Example:** The first private hydrant in Fire Zone 25116 shall be numbered 2511650.

4. Only the last three digits of the seven-digit hydrant number shall be stenciled on the barrel of the fire hydrant.
Example: Hydrant 2511650 shall have 650 stenciled on the barrel with black paint and one-inch stencils.

New Hydrant Installation

Hydrants located within the city may be installed by private plumbing contractors or the City of Fresno Public Works Department. In either instance, the hydrant shall be installed according to City specifications. Inspection of new installations is the responsibility of the Public Works Department for public hydrants or the Development and Resources Management Department for private hydrants. CRR Division is the liaison with these departments.

The Department is currently responsible for assigning numbers to new hydrants, entering hydrant information into Tiburon, and painting and stenciling new hydrants. Additionally, new hydrants are given an operational inspection, and fire flow tests are conducted as necessary.

The following outline describes the required operational procedures upon notice of a new hydrant installation.

1. The CRR Division shall obtain and verify the necessary information and route it to the FireGIS Analyst at Fire Headquarters.
   a. The FireGIS Analyst shall send information on private hydrants only to the City Finance Department, Billing and Collections Division.

2. Upon receipt of information FireGIS shall:
   a. Assign a number to the new hydrant and make the necessary Tiburon entry.
   b. Forward hydrant information to the company officer responsible for the corresponding hydrant district for inspection, painting, and stenciling.
   c. Monitor the return of information from the company officer. Information shall be completed and returned within ten days.
   d. Publish a new hydrant page and distribute copies to all Department destinations and administrators of other applicable fire departments.
   e. Send completed information to the Public Utilities Department, Water Division as necessary.
3. Within ten days of receipt of information of a new hydrant from FireGIS, company officers shall:
   a. Inspect the hydrant to determine serviceability, paint, and stencil it.
   b. Enter computer records for unscheduled maintenance in Tiburon.
   c. Return hydrant information to the FireGIS Analyst.

4. Upon discovery of a new hydrant within their hydrant inspection district, company officers shall:
   a. Search Tiburon records to verify a number has not been issued for the hydrant.
   b. Determine if the new hydrant is operational.
   c. Notify FireGIS of the hydrant type, location, address, and gate valve location if applicable, and request directions for appropriate action.

If the hydrant is not operational upon initial inspection, FireGIS shall be immediately notified via email at firegis@fresno.gov and firehydrants@fresno.gov.

Hydrant Specifications

All water mains and fire hydrant installations shall be required to meet the "Standard Specifications for Construction of Water Facilities" as adopted by the City of Fresno. Special attention should be given to those sections dealing with specifications for the construction of water mains and the installation of fire hydrants.

All fire hydrants shall meet or exceed "American Water Works Association Standards" for wet- or dry-barrel fire hydrants and have a minimum of the following in residential areas:

1. One 2-1/2-inch outlet.
2. One 4-1/2-inch outlet.

In commercial areas have a minimum of the following:

1. Two 2-1/2-inch outlets.
2. One 4-1/2-inch outlet.

In certain specific locations, fire hydrants may have two 4-1/2-inch outlets. These locations are generally found in a commercial area where a fire hydrant is installed in a median island to serve both sides of the street.
These specifications, in translation of everyday operational criteria, require the following:

1. Water mains shall be properly grid and of such capacity to provide for domestic use, fire protection systems, and fire flows, as required.

2. Fire hydrants shall be operable with existing Department tools.

3. All outlet caps and operating valves must be in place and functional.

4. A minimum three-foot clearance shall be provided around the circumference of each hydrant.

**Hydrant Gate Valves**

Previously, all fire hydrants within the city were required to have a gate valve installed between the city main and the hydrant riser. Changes in technology, economy considerations, and other factors have since eliminated this requirement in many instances. The following guidelines will assist in determining whether a gate valve exists and should be required and/or maintained.

1. All wet-barrel hydrants (Fresno, Iowa, Darling, Greenburg, Jones, American AVK, etc.) are required to have a separate gate valve.

   Exception: Wharf hydrants have no separate gate valves, as they were in place when the areas served were annexed to the city, and there is no retroactive requirement for installation of gate valves.

2. Dry-barrel hydrants (PSCIP, Clow, Apollo, and Mueller) are not required to have separate gate valves.

3. Gate valves, where provided, shall be exercised manually.

Hydrants that appear to be in violation of these guidelines shall be brought to the attention of the hydrant program manager via email to firehydrants@fresno.gov.

**Hydrant Books**

FireGIS shall be responsible for maintaining hydrant book pages.

Company officers shall be responsible for verifying that fire hydrant locations are properly indicated in the hydrant book. All fire hydrants shall be indicated by a red dot, except Wharf fire hydrants, which shall be indicated by a green dot.
Hydrant pages will be received from FireGIS already color coded for the city of Fresno and other fire jurisdictions.

**Airports**

Fresno Yosemite International (FYI) - All hydrants, around and within FYI, are inspected by the Department, including the four underground hydrants on the runway. Inspection of the runway hydrants requires coordination with the air traffic tower.

California Air National Guard (ANG) - All hydrants, in and around the ANG, are inspected by the ANG Fire Department. Contact must be made with ANG’s Fire Department (454-5145) to obtain record of the inspections that were conducted.

*Note:* FYI and ANG lease property from the City of Fresno and utilize city water. Both of these agencies have access and security concerns that require the Department’s cooperation when inspecting hydrants within their premises.

**High Pressure Hydrants**

There are a small number of private hydrants that are pressurized by fire pumps from 60 PSI through 125 PSI. If they are on the City’s water system, then it would add an additional 50 PSI. Some of these private hydrants are also on private water systems. These hydrants will be identified by stenciling H.P. on the hydrants with blue paint using 3” stencils. Additionally, these hydrants will be noted on the hydrant page with the letters H. P. next to the hydrant.

**Inspection Procedure**

High-pressure hydrants shall be inspected by fire companies only. Company officers shall make contact with the property representative prior to the inspection to coordinate the inspection with the property representative. Flowing of these hydrants can activate the fire pump and/or alarm system.

Contact the CRR Division for assistance.
## High Pressure Hydrant Locations

The following properties in the City of Fresno have private hydrants that are downstream from fire pumps or FDCs.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>FIRE ZONE</th>
<th>BUSINESS NAME OR OWNER</th>
<th>NUMBER OF PRIVATE HYDRANTS</th>
<th>DOWNSTREAM OF FIRE PUMP AND FDC</th>
<th>DOWNSTREAM OF FIRE PUMP(S) NO FDC, NOT ON CITY WATER</th>
<th>DOWNSTREAM OF FDC, NO FIRE PUMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>6646 N. Cedar</td>
<td>3959</td>
<td>Cedar Tree Plaza</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5778 W. Barstow</td>
<td>4151</td>
<td>Formerly Fruehauf</td>
<td>6</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>790 W. Shaw</td>
<td>4256</td>
<td>Figarden Village</td>
<td>1 (hydr. #4256551 in the old west part of the center)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4525 W. Shaw</td>
<td>4352</td>
<td>Formerly Levits Furniture (vacant)</td>
<td>5 (hydrant #4352251 next to pump house is not HP)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4498 N. Brawley</td>
<td>4353</td>
<td>FUSD</td>
<td>2</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4150 N. Blackstone</td>
<td>4557</td>
<td>Walmart</td>
<td>2</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3400 N. GAP Dr.</td>
<td>4661</td>
<td>GAP Warehouses</td>
<td>24 (hydrant #4661451 next to pump house is not HP)</td>
<td></td>
<td>X (primary supply is by water tank with auto fill from 24&quot; city water)</td>
<td>X</td>
</tr>
<tr>
<td>2893 N. Fowler</td>
<td>4762</td>
<td>Sunrise Medical</td>
<td>2 (only hydrant # 4762450 located in the interior yard is HP)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
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<td>--------------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>5900 E. Shields</td>
<td>4762</td>
<td>Grundfos Pumps</td>
<td>4</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1445 N. Sierra Vista</td>
<td>4959</td>
<td>Irri-Tech</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5610 E. Olive</td>
<td>5062</td>
<td>Gallo</td>
<td>17</td>
<td>X</td>
<td>(private wells)</td>
<td></td>
</tr>
<tr>
<td>5045 E. Butler</td>
<td>5360</td>
<td>IRS</td>
<td>8</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1844 S. Cherry</td>
<td>5457</td>
<td>Extra Space Storage</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2851 E. Florence</td>
<td>5557</td>
<td>Aquarius Brands</td>
<td>4 (hydr # 5557451 is not HP)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2205 S. Van Ness</td>
<td>5557</td>
<td>Caglia Property</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4343 E. Florence</td>
<td>5559</td>
<td>Cornuts</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2494 S. Orange</td>
<td>5658</td>
<td>Capri-Sun</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2494 S. Railroad</td>
<td>5658</td>
<td>Weir Floway</td>
<td>4 (hydrant next to pump house is not HP)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2525 S. Sunland</td>
<td>5658</td>
<td>Container Corporation</td>
<td>5</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2885 S. Cherry</td>
<td>5857</td>
<td>Formerly Nishinbo Plant (vacant)</td>
<td>6</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<tbody>
<tr>
<td>2887 S. East</td>
<td>5858</td>
<td>DDG Warehouses</td>
<td>11</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1150 E. North</td>
<td>5858</td>
<td>Pepsi</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2797 S. Orange</td>
<td>5858</td>
<td>C&amp;S Logistics</td>
<td>6</td>
<td>X</td>
<td>(2 tanks)</td>
<td></td>
</tr>
<tr>
<td>3628 S. Cedar</td>
<td>6059</td>
<td>FABRO</td>
<td>16</td>
<td>X</td>
<td>(pond)</td>
<td></td>
</tr>
<tr>
<td>2094 E. Malaga</td>
<td>6159</td>
<td>SFPP Ltd</td>
<td>4</td>
<td>X</td>
<td>(private well)</td>
<td></td>
</tr>
<tr>
<td>4155 S. Maple</td>
<td>6159</td>
<td>Southern Pacific Pipelines</td>
<td>18</td>
<td>X</td>
<td>(private wells)</td>
<td></td>
</tr>
</tbody>
</table>

### HIGH PRESSURE HYDRANTS WITHIN NCFPD

The following properties in the North Central Fire Protection District have private hydrants that are downstream from fire pumps or FDCs.

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<tbody>
<tr>
<td>7409 W. Central</td>
<td>6149</td>
<td>The Wine Group</td>
<td>8</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6375 W. Central</td>
<td>6150</td>
<td>FPD Training Facility</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18000 W. American</td>
<td>6237</td>
<td>American Ave. Dump</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>