





## Fire Hydrant Certification of Responsibility Detail Information Check List

- 8. Hydrant Barrel
  - a. Lower barrel a single piece \_\_\_\_\_
  - b. Joint coupling connecting low barrel to upper barrel that rotates on 360° \_\_\_\_\_
  - c. Bury depth shall be specified from bottom of inlet to the ground line. \_\_\_\_\_
  - d. Inside wall thickness (with tolerance) \_\_\_\_\_
    - i. Upper Barrel \_\_\_\_\_ Tolerance \_\_\_\_\_
    - ii. Lower Barrel \_\_\_\_\_ Tolerance \_\_\_\_\_
    - iii. Bonnet \_\_\_\_\_ Tolerance \_\_\_\_\_
  - e. Barrel Material on wall thickness on AWWA C-502, Table 3 \_\_\_\_\_
    - i. Upper Barrel \_\_\_\_\_
    - ii. Lower Barrel \_\_\_\_\_
    - iii. Bonnet \_\_\_\_\_
- 9. Hydrant Barrel Drain Construction
  - a. bronze or corrosion resistant material to line the drain opening \_\_\_\_\_
- 10. Gaskets and Seals
  - a. All dynamic seals to be "O-Ring" type for watertight seal \_\_\_\_\_
  - b. All dynamic seals to be Buna "N" or oil resistant materials \_\_\_\_\_
  - c. All moving parts contact with seal to be bronze or corrosion-resistant material, if not bronze specify \_\_\_\_\_
  - d. All bronze parts contacting with O-Ring \_\_\_\_\_
- 11. Extensions
  - a. F.H. barrel is available on extensions from 6" to 60" in 6" increments \_\_\_\_\_
  - b. Hydrant Painting (Attached MSDS sheet for paints should comply with \_\_\_\_\_
- 12. City Specification)
  - a. Exterior above Traffic Flange \_\_\_\_\_
  - b. Exterior below Traffic Flange \_\_\_\_\_
  - c. Interior Surfaces Above or Below Main Valve \_\_\_\_\_

### Part E Performance Standards

#### 1. Hydraulic Performance

All testing information, drawings and testing reports are submitted \_\_\_\_\_

All fire hydrants were tested in upright position, \_\_\_\_\_

All fire hydrants were tested with min. water pressure of 65 psi \_\_\_\_\_

All fire hydrants were tested with water supply pipes of 6 inch or larger \_\_\_\_\_

#### a. Hydraulic Performance Standards

1. Discharge 1500 GPM at inlet static pressure not to exceed 20 psig \_\_\_\_\_

Discharge 1500 GPM at Pumper Nozzle with a max head loss of 8 psig \_\_\_\_\_

2. (with pressure not to exceed 37 psig) \_\_\_\_\_

Perform standard Hydrostatic testing on meeting Section 5.1 of AWWA \_\_\_\_\_

3. C-502-05 \_\_\_\_\_

#### b. Hydraulic Performance Testing

Test by qualified and independent testing lab acceptable by the City \_\_\_\_\_

Testing Fire hydrant to be a five-foot length \_\_\_\_\_

A certified testing report is submitting with the followings \_\_\_\_\_

1. The date of testing is less than 5 years from date to apply CR \_\_\_\_\_

2. Fire hydrants tested \_\_\_\_\_

a. Fire hydrant's name \_\_\_\_\_

b. Catalogue number of fire hydrant \_\_\_\_\_

c. Fire Hydrant Date of production \_\_\_\_\_

3. Schematic drawing of testing apparatus, dimension of piping element \_\_\_\_\_

a. Inside diameter and length of piping \_\_\_\_\_

Distance from flow measuring points to pressure measurement \_\_\_\_\_

b. point \_\_\_\_\_

c. Distance from flow and pressure monitoring points to hydrant inlet \_\_\_\_\_

d. Distance from flow and pressure measuring points to nozzles \_\_\_\_\_

e. Distance from flow measuring points to pressure measurement \_\_\_\_\_

f. Inside diameter and length of discharge tubing \_\_\_\_\_

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- 4. Elevation of all points of measurement, inlet, and outlet  
Reports or certificates documenting accuracy of all measuring devices \_\_\_\_\_
- 5. used in the test \_\_\_\_\_
- 6. Raw test data \_\_\_\_\_  
Sample hand calculation demonstrating reduction of data and indicating relevant equation, fluids properties, conversion factors and \_\_\_\_\_
- 7. assumptions \_\_\_\_\_  
Point of Clarification: Hydraulic Performance Testing and Traffic \_\_\_\_\_
- 8. a. Impact Testing to be witnessed by COH acceptable parties \_\_\_\_\_  
The test must be conduct on at least 3 separate hydrants and inlet \_\_\_\_\_
- b. water temperature shall be 70 degree F +/- 5 \_\_\_\_\_
- 2. Traffic Impact Performance
  - a. Traffic Impact Performance Standards
    - Certified fire hydrants tested shall be equipped with items for clean
    - 1. break \_\_\_\_\_
    - 2. Breakable barrel feature \_\_\_\_\_
    - 3. Breakable valve stem coupling \_\_\_\_\_
    - 4. After impactation, shut-off valve remain closed without leakage \_\_\_\_\_
    - 5. Repairing cost for replacing damaged parts < \$250 \_\_\_\_\_
  - b. Traffic Impact Performance Testing
    - 1. Certified test report on impact test \_\_\_\_\_
    - 2. F.H. to be installed per this standard for testing \_\_\_\_\_
    - 3. F.H. to be struck at point of 18" ± 2" above ground line \_\_\_\_\_  
Point of Impact on F.H. to be within 2" of line perpendicular to base and \_\_\_\_\_
    - 4. middle between pump nozzle and one hose nozzle \_\_\_\_\_
    - 5. Vehicle to hit F.H. within 6" of bumper midpoint \_\_\_\_\_
  - Traffic Impact Performance Testing Requirement
    - Three successive tests by standard American made vehicles of 3500 , \_\_\_\_\_
    - 6. 5500 & 10500 lbs ± 500 lbs \_\_\_\_\_
    - Testing on three (3) separate F.H. per Approved Engineering Control \_\_\_\_\_
    - 7. Drawing \_\_\_\_\_
    - 8. Impact speed of 35 mph for each vehicle weight \_\_\_\_\_  
Speed equivalent to Kinetic Energy from calculation of different weight \_\_\_\_\_  
vs. test speed 35 mph and their equivalent speeds are 3500 lb \_\_\_\_\_
    - 9. (\_\_\_\_\_), 5500 lb (\_\_\_\_\_) & 10500 lb (\_\_\_\_\_) \_\_\_\_\_
    - 10. Inlet water temperature to be 70± 5 degree Fahrenheit \_\_\_\_\_  
Test F.H. was installed with un-harnessed push-on joint \_\_\_\_\_ or \_\_\_\_\_
    - 11. with mechanical joint \_\_\_\_\_  
Test F.H. was installed, backfilled with thrust blocking to City of \_\_\_\_\_
    - 12. Houston standard \_\_\_\_\_  
Test F.H. was installed with upper body or nozzle section to have \_\_\_\_\_
    - 13. pumper nozzle positioned \_\_\_\_\_
- 3. Test Report
  - 1. Detail schematic drawing of testing facility \_\_\_\_\_
  - 2. Description of Mechanical equipment used in impact testing \_\_\_\_\_
  - 3. List of damaged F.H. parts in each testing and their current price schedule \_\_\_\_\_
  - 4. a. Photos on each F.H. before and after the impact testing \_\_\_\_\_
  - b. Photos on F.H. installation and bedding before the impact testing \_\_\_\_\_
  - c. Photos of a fabricated bumper used for the impact testing \_\_\_\_\_
  - d. Photos on F.H. installation and bedding before the impact testing \_\_\_\_\_
  - 5. Size of water main supplying water to F.H. \_\_\_\_\_  
Static pressure of water main supplying water to F.H. \_\_\_\_\_

**Fire Hydrant Certification of Responsibility Detail Information Check List**

- Any water loss & estimation on water loss within 10 minutes after Impact
- 6. Testing for F.H. # 1
  - Any water loss & estimation on water loss within 10 minutes after Impact
  - Testing for F.H. # 2
  - Any water loss & estimation on water loss within 10 minutes after Impact
  - Testing for F.H. # 3
- 7. F.H. was inspected and tested for damage after each test
  - Perform visual inspection of each F.H. and list parts cracking, breakage
  - a. or other than disfigurement for normal operation
    - Verify upper valve rod is straight and true to meet manufacturer's
  - b. 1. standard
    - Verify run-out at F.H. shear coupling is less than 0.002 inches of
    - 2. total indicator movement is straight and true to meet manufacturer's
  - Verify all F.H. operating nut and three (3) outlet nozzle cap nuts are fully functional will fit a standard 1-1/2" x 1-7/16" tapered pentagon
  - c. operating wrench.
    - Verify all F.H. outlet nozzles locking devices are functional cap nuts are
  - d. fully functional to fit hose coupling meeting AWWA standard.
    - Replace all damaged parts and reassemble F.H. to existing lower section and perform standard Mechanical test meeting Section 5.1
  - e. 1. of AWWA C-502-05 (Attach separate sheet on testing result)
    - Replace all damaged parts and reassemble F.H. to existing lower section and perform standard Hydrostatic testing meeting Section
    - 2. 5.1 of AWWA C-502-05 (Attach separate sheet on testing result)