



## **PUBLIC PROTECTION SURVEY INFORMATION FOR AREAS WITHOUT WATER MAINS**



(Alternative Water Supply)

### **Criteria concerning water delivery by fire department apparatus include:**

When a tanker relay system is used, the volume of the tanker capacities is reduced by 10% for spillage, under filling and incomplete unloading.

Travel time of apparatus is calculated from the formula:  $T = 0.65 + 1.7D$  (T=Travel Time D=Distance)

Slower speeds will be used for underpowered apparatus, or apparatus laying hose lines.

The delivery rate of a tanker relay system will be affected by the rate of filling and of dumping of the tankers and the usable volume of the fire-site folding tanks or other fire-site storage.

Credit may be given for apparatus responding from outside the municipality or legal fire district upon communication facilities, handling of alarms, inter-department training, fire grounds communication and time of arrival at fires.

### **Please provide us with a map showing:**

- The legal boundary of the municipality or legal fire district served by the fire department.
- All roads that are usable by fire apparatus under all weather conditions ( certified by County Engineer, or other registered professional engineer).
- Indicate all bridges that do not have a safe weight capacity sufficient for fire department apparatus. NOTE: Weight information is available from the State Highway Department.
- The location of fire stations.
- The location and name of any fire stations housing automatic-aid apparatus.
- The location and identification of each water supply point (hydrants or suction supplies).

NOTE: Continuous access road to within ten (10) feet under adverse weather conditions to all supply points is required.

### **Please provide a description of each water supply point; and:**

- The maximum rate for a hydrant supplied from a water main, or dry hydrant, using the pumper and hose arrangement scheduled to be used at this hydrant (supported by test results).

*NOTE: The maximum rate if tankers are supplied directly from a hydrant, using the hose arrangement scheduled to be used at this hydrant (supported by test results).*

- For an impounded supply, cistern, tank or other storage facility: the minimum storage available (at not over fifteen (15) foot lift) during a drought with average fifty (50) year frequency (certified by a registered professional engineer). The maximum rate obtainable using the pumper(s) and hose arrangement scheduled to be used at this point (supported by test results).
- For a supply from a flowing stream, the minimum rate of flow available during a drought with an average fifty (50) year frequency (certified by a registered professional engineer). The maximum rate obtainable using the pumper(s) and hose arrangement scheduled to be used at this point (supported by test results).
- For each location, the number of pumpers that can operate simultaneously.
- For each water supply point, the distance to the water supply point from each fire station with responding apparatus.
- No credit can be given for any procedure that may contaminate a domestic water supply or result in any type of pollution.

**Please give us a description of a recent fire or demonstration more than 1000 feet from a hydrant, where 250 - g.p.m. or more was delivered for one hour, giving the following information:**

- Location of fire or test.
- Date.
- Number of tankers (if used) dumping simultaneously.
- Rate of flow delivered.
- Distance delivered.
- Time duration.
- Number of personnel participating with a description of each person's function such as fire fighter, pump operator, tanker operator, etc.
- Only the average documented manpower response will be allowed to participate in the demonstration.
- The apparatus used with the following information for each:
  - a. Make - year.
  - b. Pump capacity.
  - c. Tank capacity.
  - d. Functions (Tanker, Pumper, etc.).
- The folding tanks used, if any, with the following information for each:
  - a. Total capacity.
  - b. Usable capacity = Total capacity less volume that cannot be pumped out when drafting from tank.
  - c. Set-up time.
  - d. Name of apparatus carrying each folding tank.

### **Description of the overall operation**

If different combinations of apparatus are used in various sections of the municipality or legal fire district, list the combinations with the data in Nos. 7 and 8 above and show the areas on the map.

For each vehicle used to carry water, indicate the actual time to discharge the capacity of the tank and the actual time necessary to fill the tank using the pumpers that normally will be used for filling. If different capacity pumpers will be used for filling, the time shall be obtained for filling with each capacity pumper.

**NOTE:** The actual time to be recorded shall be the time necessary for the vehicle to travel 200 feet to the site, maneuver into position, fill or dump and travel 200 feet from the site.

When the water supply is delivered through a hose line, indicate the time for a pumper to travel 200 feet to a water supply point, connect suction and discharge hoses and commence pumping. If the water supply points are both hydrants and drafting sites, the time shall be obtained for both types of water supply points.

When the water supply is delivered through a hose line, indicate the lengths and diameter of the hose line used for the time trial and the time from when the pumper begins to fill the hose line until a solid stream of water is delivered at the other end.

Current equipment inventories for all apparatus in service and in reserve in your municipality or legal fire district.