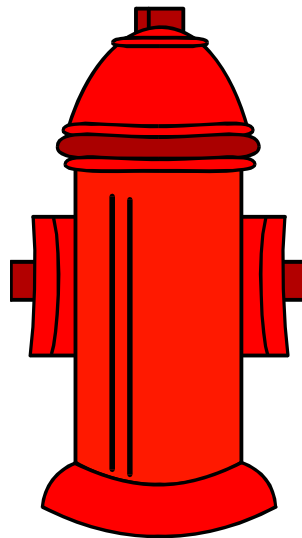


# **BULLHEAD CITY FIRE DEPARTMENT**

## *Standards for Fire Hydrant Installation*

### **Appendix H 2003 International Fire Code**



**Revised July 2005**

-Updated-  
July 2005

**BULLHEAD CITY FIRE DEPARTMENT**  
Standards for Fire Hydrant Installation  
Appendix H – 2003 International Fire Code

An approved water supply capable of supplying required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed. When any portion of the building protected is in excess of 400 feet from a water supply on a public street, there shall be provided, when required by the Chief, on-site fire hydrants and mains capable of supplying the required fire flow.

1) Paved access to fire hydrants of at least twenty (20) feet in width , twenty-six (26) feet in width at the fire hydrant, shall be provided and maintained to accommodate fire fighting apparatus.

- a) When fire protection facilities are to be installed by the developer, such facilities including all surface access roads shall be installed and made serviceable prior to and during the time of construction.
- b) Fire hydrants shall be installed in approved locations per specifications, with a spacing of 600 feet and a minimum flow of 1,000 gpm @ 20 psi for residential developments and a spacing of 300 feet with a minimum flow of 1,500 gpm @ 20 psi for multiple family and commercial developments.

2) The fire hydrants shall be the manufacturer's latest and best design, conforming to the latest issue of A.W.W.A. specifications C-502, and the specifications within. **The types of fire hydrants specified by the Bullhead City Fire Department are the Clow Medallion, Kennedy K-81, AVK Model 27-80, Mueller Centurion, and the Waterous made after 2005.** These five types of hydrants are the most economical to install and maintain that meet our specifications. Variations from these five types will not be allowed.

Bullhead City Fire Department

- 1) It shall be the responsibility of the Office of Fire Prevention to establish the general location of the fire hydrants to be installed.

The above to include general information on the hydrant location such as side of street, side of driveway, and distance from project site.

- 2) It shall be the responsibility of the owner, developer, job superintendent or general contractor of the project to identify the exact location for each hydrant.

This is to insure that the center of the hydrant is located within 18 inches of back of sidewalk, if applicable, and that the break-away flange of the hydrant is to be at level, maximum 4 inches above sidewalk or finish grade and 2 ½ inches above concrete ring.

Hydrant shall be installed per Bullhead City Fire Department Specifications and all necessary inspections made.

- 3) The allowable distances between the above grade flange and the finish grade shall be four (4) inches maximum. The flange shall be a minimum of two and one half (2 1/2) inches above the concrete ring.
- 4) The outside of the hydrant top section shall be painted a minimum of one coat primer and two finish coats of federal safety yellow enamel.
- 5) Both the operating nut and the nozzle cap nuts shall be National Standard pentagon in shape and measure 1 ½ inches from point to flat at the base of the nut. Nozzle caps shall be provided with rubber gaskets and retaining chains.
- 6) Hydrants shall have 2 ½ inch (ODM-3.0686 and a TPI of 7) inside diameter hose nozzles with National Standard fire hose coupling threads and one 4 ½ inch (ODM-5.7609 and a TPI of 4) inside diameter pumper nozzle with National Standard fire hose coupling screw threads.
- 7) Main valve opening shall have a minimum diameter of 5 ¼ inches to assure optimum flow.
- 8) Broken rock or gravel will be compacted directly under the hydrant for drainage as per attached diagram.
- 9) The shoe of the hydrant shall be provided with a mechanical joint 6 inches in size and shall be epoxy lined.
- 10) The hydrant shall have not less than 6 inch diameter pipe size connection of ductile iron, or PVC Schedule 200.

- 11) An epoxy lined gate valve shall be installed between the water main and the fire hydrant, bolted by flange to the tee, in order to facilitate hydrant repair without interruption of the water supply in the main.
- 12) The hydrant connection into an existing main shall be of the hot-tap style (without interrupting water supply in the main) using a stainless steel or cast iron tapping tee and a tapping valve with flange, as per attached detail.
- 13) Concrete thrust blocks, of appropriate size and shape, shall be installed at all changes in direction or any point where pressure would exist, as per attached detail.
- 14) Street valve boxes shall have a concrete reinforcement ring installed around them at grade level as per attached details.
- 15) All hydrant installations shall be open for inspection by the Bullhead City Fire Department. All hydrants must be inspected and approved by the respective water company and fire department representatives before any backfilling.
- 16) Permits are required and shall be obtained from the water company, planning and zoning, and the fire department. Applicable fees shall be paid to the individual organization.
- 17) Hydrants installed in a commercial area without curbing shall have guard posts installed to protect such hydrant if indicated by the department as per illustration #4. These posts are to be of 4 inch steel pipe positioned 3 feet from hydrant, so not to interfere with the connections to any of the nozzles. These posts shall be cemented in the ground vertically, with a minimum of 36 inches exposed above grade level. The posts are to be filled with soil or concrete and capped with concrete. Upon cement curing, the posts shall be painted federal safety yellow for ease of visibility.
- 18) All hydrant barrels shall be reinforced with a concrete slab, 36 inches in diameter, or 36 inches square, 3 ½ inches in depth and installed close to grade level, at least 2 ½ inches below the flange as per illustration #5.
- 19) Contractors shall call Blue Stake for utilities location prior to any excavation.
- 20) If a hydrant or the plumbing thereto is installed within the following allowed distances of another utility, that utility will be contacted to inspect the same before backfill:

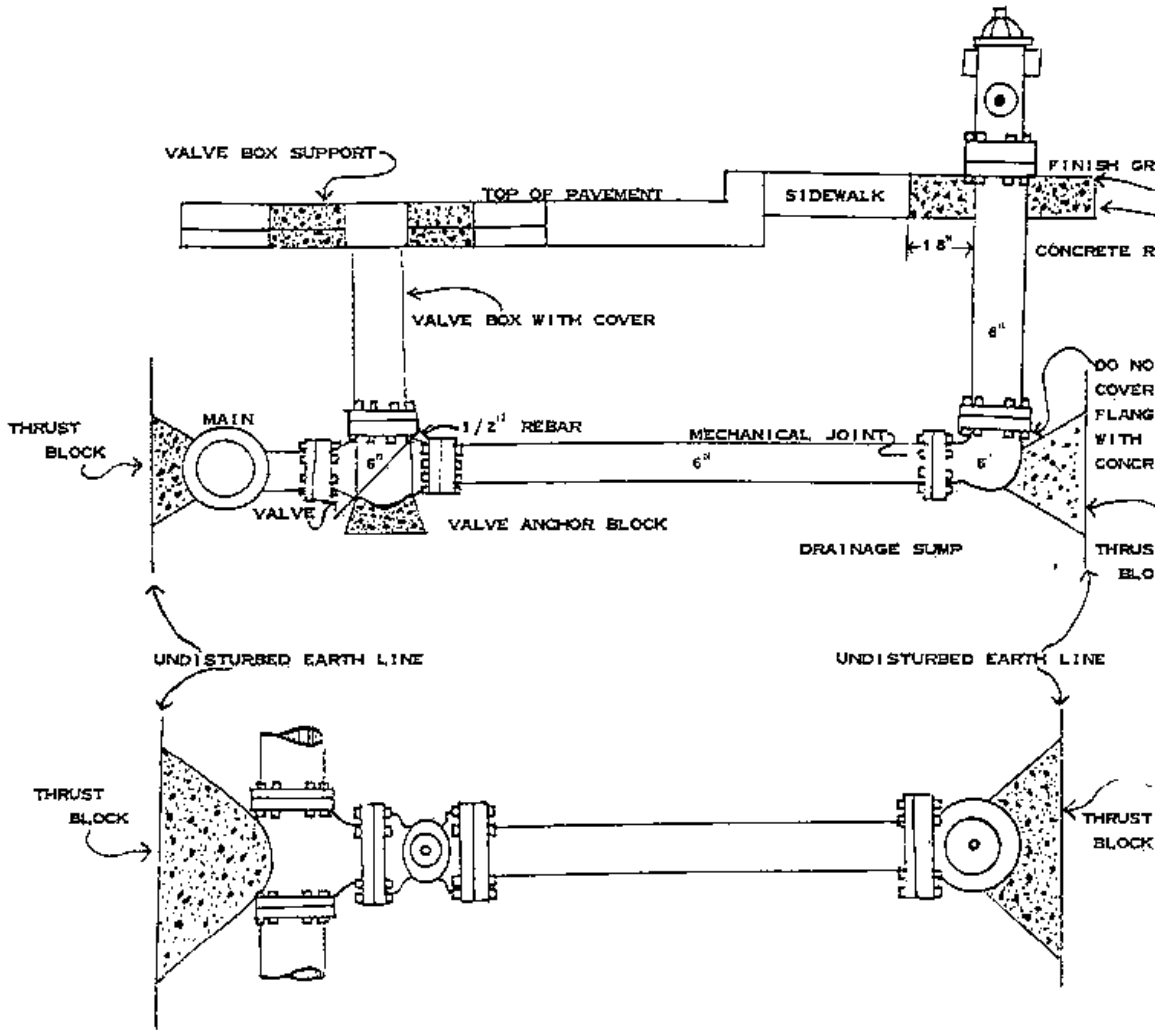
Southwest Gas – 6 inches  
Frontier Communications – 1 inch  
Mohave Electric Coop – 3 feet

- Cable TV – only if damaged
- 21) The Bullhead City Fire Department has installed fire hydrants throughout the district in accordance with plan specifications. Due consideration has been given to existing or prior conditions. If changing conditions due to street upgrading or new site development should occur and necessitate the changing of hydrant grade or location, the person responsible for the required changes shall be liable for the required hydrant changes.
- 22) Insurance – all parties working within the city's right of way shall comply with City of Bullhead City current liability insurance requirements.

Permits – City, Utility and Fire Department requirements and fee schedules.

Inspections – All hydrants, thrust blocks and water mains shall be inspected by the franchised utility and fire department at the location of the hydrant prior to backfilling any excavation. The City of Bullhead City shall accept inspections done by the franchised utility and fire department as proof of compliance with city regulations.

# FIRE HYDRANT INSTALLATION DETAIL

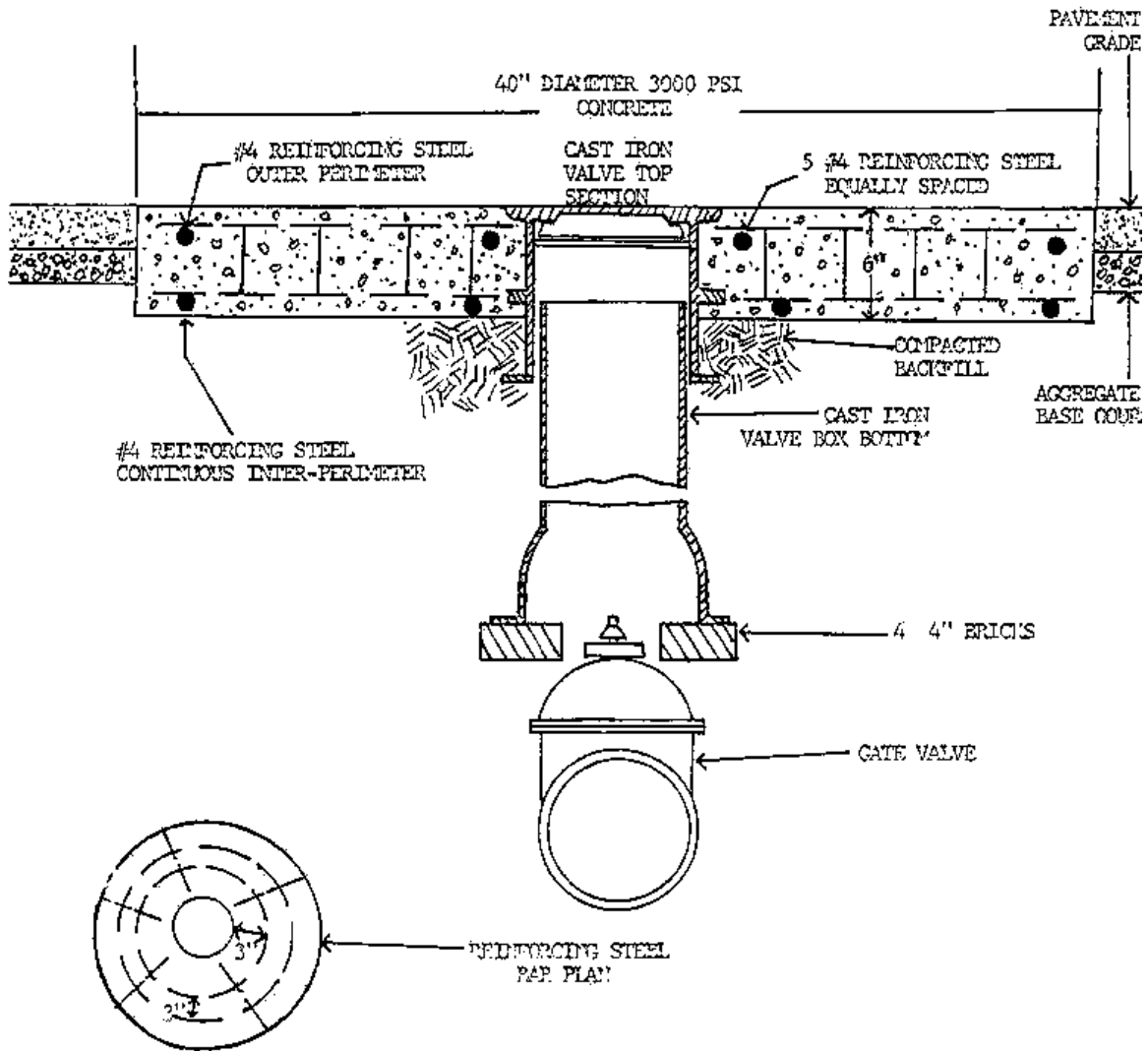


Thrust Block Sizes for Tees and 90°:

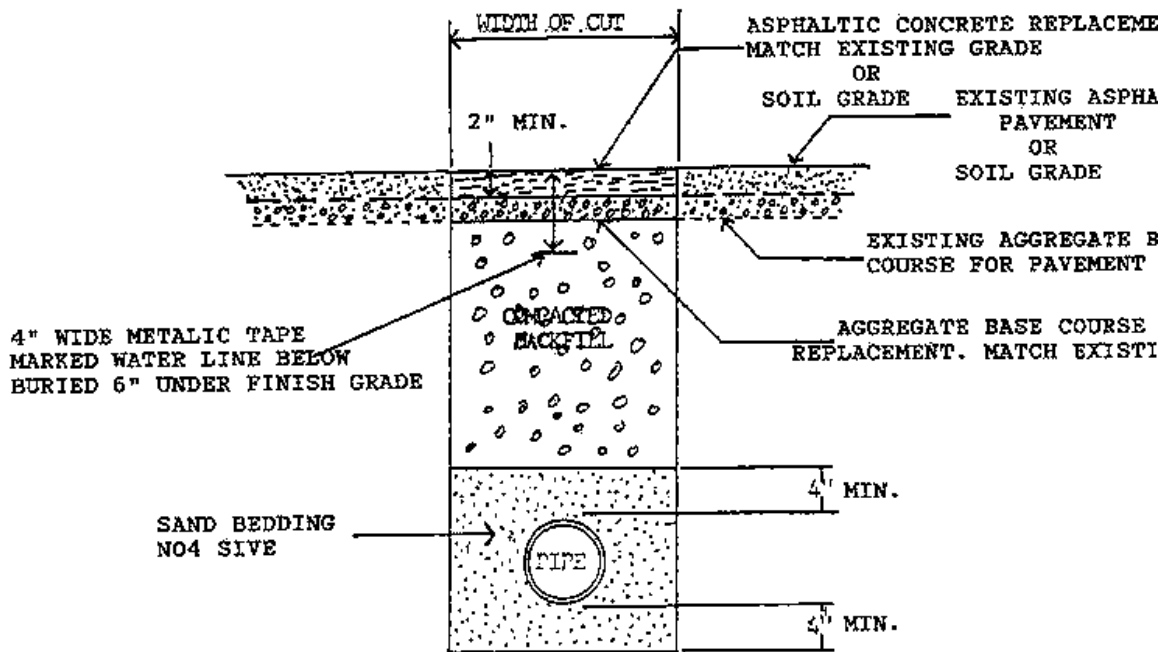
Pipe Size	Amount
4"	3 cubic feet
6"	5 cubic feet
8"	8 cubic feet
10"	13 cubic feet
12"	18 cubic feet
16"	32 cubic feet

Thrust Blocks are to extend to undisturbed earth. Use 3000 psi concrete.

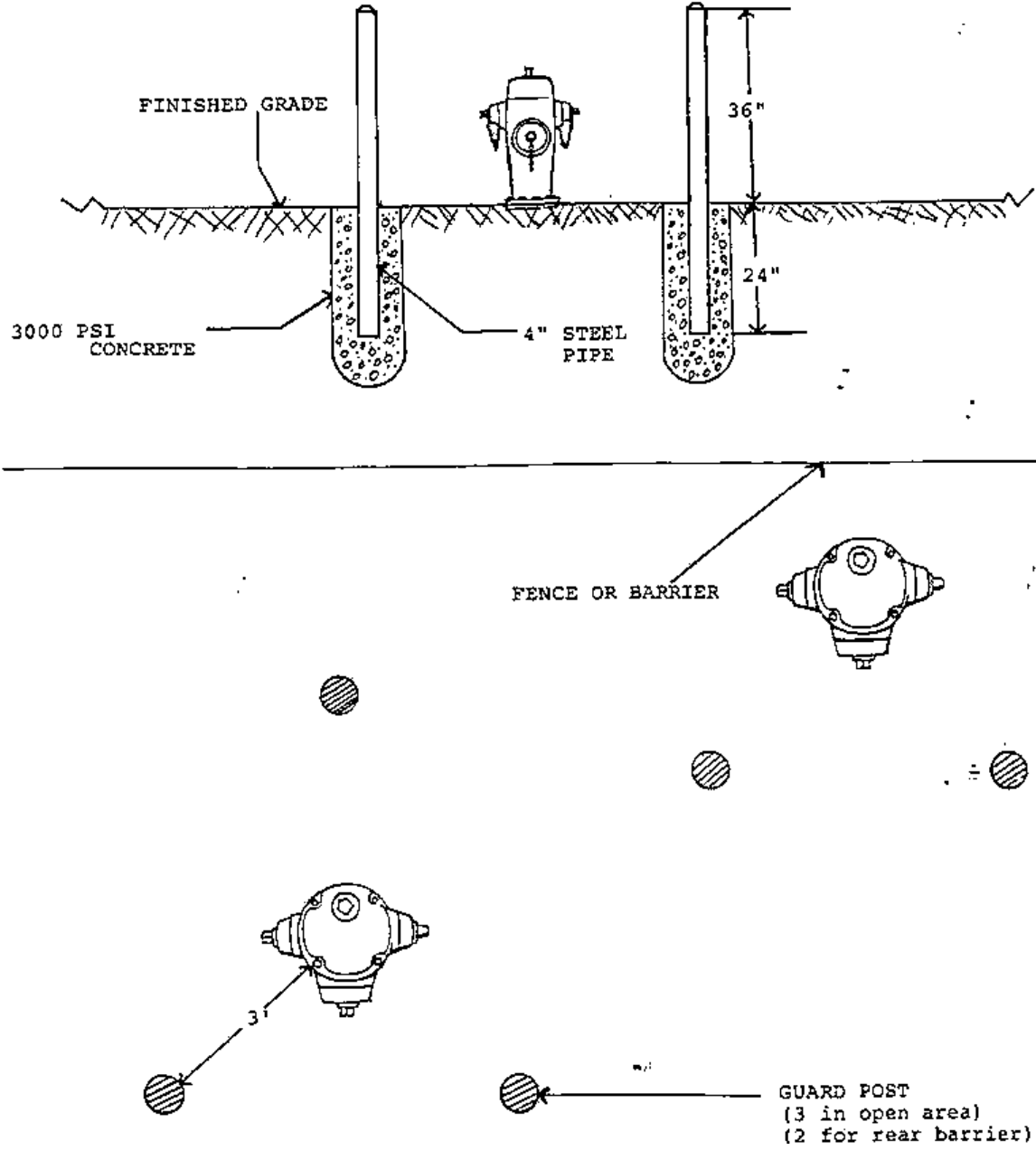
# TRAFFIC AREA VALVE BOX & COVER SUPPORT



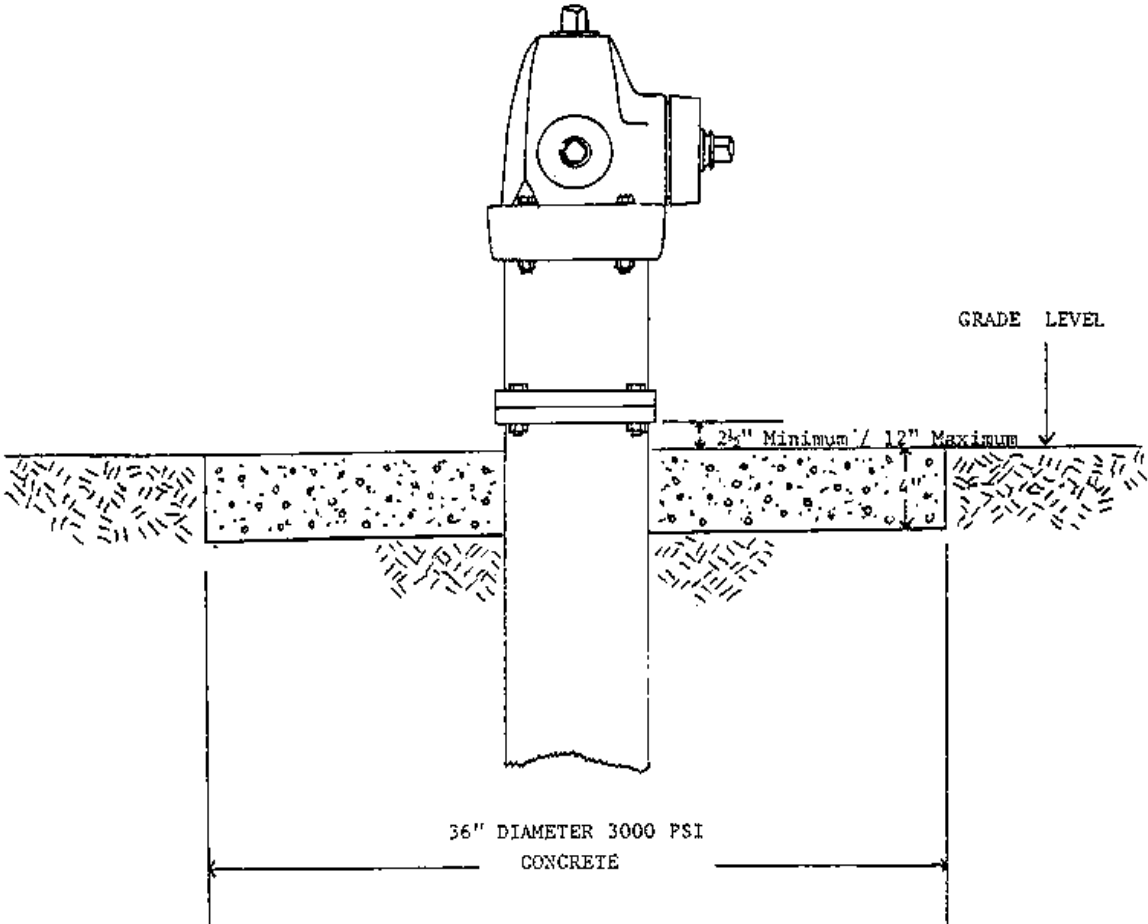
# TRENCH & PAVEMENT REPLACEMENT DETAIL

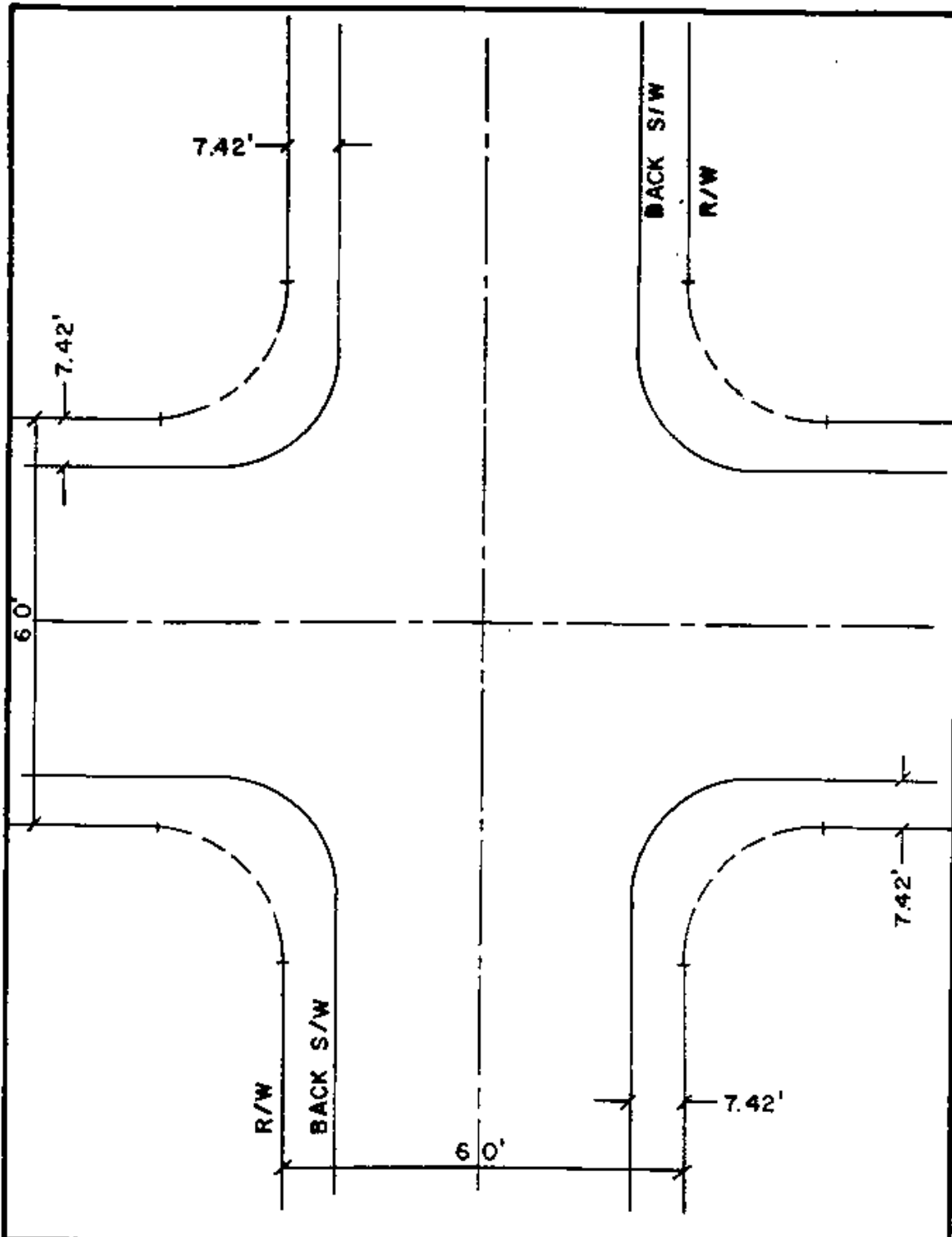


# HYDRANT GUARD POSTS



# HYDRANT BARREL SUPPORT





REVISIONS	<b>FIRE HYDRANT LOCAL</b>	HYD. NO.	
	<i>BULLHEAD CITY - FIRE DEPT.</i>	DIST.	BOX