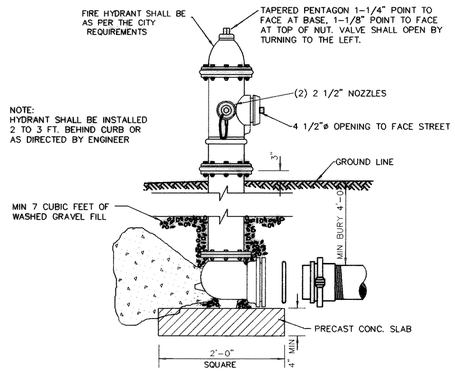
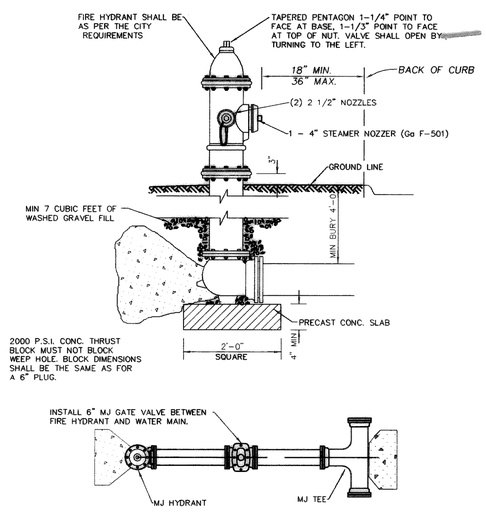



## FIRE HYDRANT ASSEMBLY DETAIL

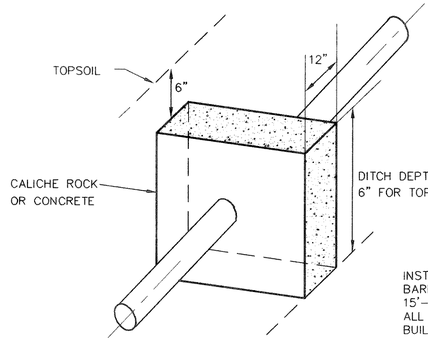
RESTRAINED JOINT INSTALLATION

NOTE: USE WHERE THERE IS INSUFFICIENT UNDISTURBED TRENCH TO BLOCK HYDRANT.



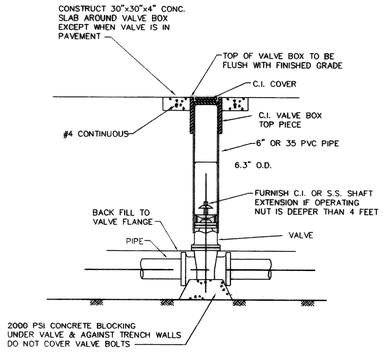

## FIRE HYDRANT ASSEMBLY DETAIL

BLOCKED INSTALLATION

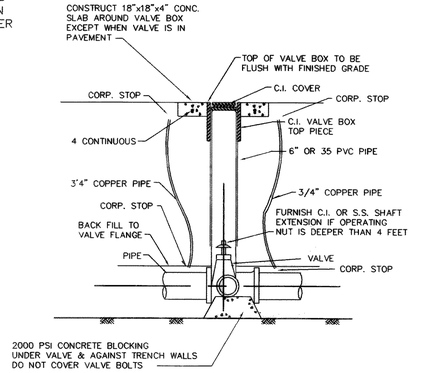



## IMPERVIOUS BARRIER

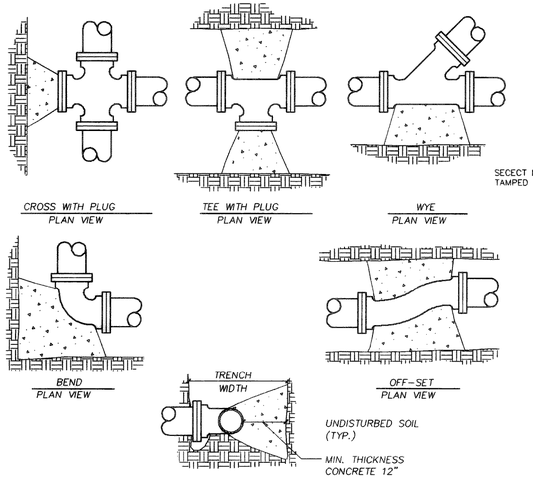
INSTALL 12" THICK IMPERVIOUS BARRIER AT BUILDING LINE AND 15'-0" OUT FROM BUILDING ON ALL LINES WHICH TRAVEL UNDER BUILDING GRADE BEAM




## VALVE INSTALLATION DETAIL




## BUTTERFLY VALVE INSTALLATION DETAIL



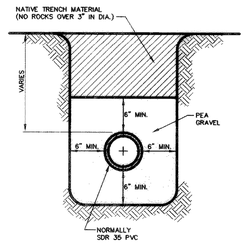

TYPICAL SECTION

NOTES:

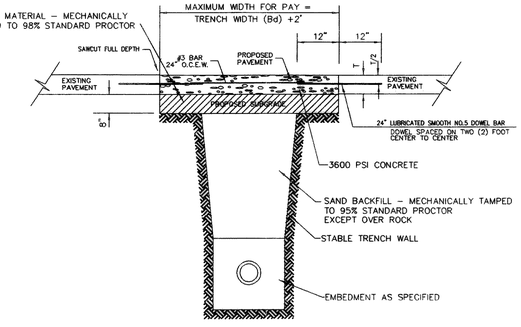
1. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. IN UNSTABLE MATERIALS, FOR VERTICAL BENDS OR OFFSETS, BLOCKING SHALL BE DESIGNED FOR ACTUAL THRUST USING THE FORMULA P=125(H)(A)SIN 1/2 WHERE H=1-1/2 RATED HEAD, A=AREA OF PIPE IN SQ. FT., =ANGLE, AND P=THUST IN POUNDS.
3. BEFORE POURING, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
4. CONC. SHALL BE 2500 PSI MIN.
5. THRUST BLOCKS SHOWN ALSO APPLY TO SANITARY FORCE MAINS.
6. PLUMBING CONTRACTOR TO FURNISH SIZES OF THRUST BLOCKS FOR APPROVAL PRIOR TO CONSTRUCTION.

## TYPICAL THRUST BLOCKS

NOT TO SCALE




## SANITARY SEWER



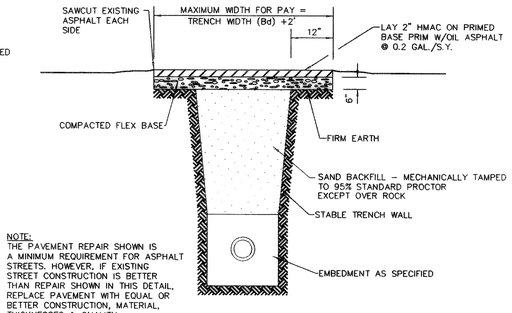

NOTES:

1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5", 6" AND 7" PAVEMENT THICKNESS.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTOR'S OPTION.
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.

   DRILLING BY HAND IS NOT APPLICABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

## EMBEDMENT UNDER CONCRETE STREETS & PAVEMENT REPAIR DETAIL

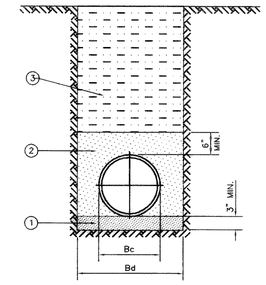
N.T.S.




NOTE:
THE PAVEMENT REPAIR SHOWN IS A MINIMUM REQUIREMENT FOR ASPHALT STREETS. HOWEVER, IF EXISTING STREET CONSTRUCTION IS BETTER THAN REPAIR SHOWN IN THIS DETAIL, REPLACE PAVEMENT WITH EQUAL OR BETTER CONSTRUCTION, MATERIAL, THICKNESSES & QUALITY.

## EMBEDMENT UNDER ASPHALT STREETS & PAVEMENT REPAIR DETAIL

N.T.S.



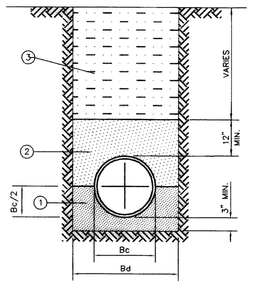

① GRANULAR MATERIAL (SAND) – TOP OF LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES. COMPACT TO 95% PROCTOR DENSITY.

② GRANULAR MATERIAL (SAND) – COMPACT TO 90% STANDARD PROCTOR DENSITY EXCEPT UNDER STRUCTURES, ROADWAYS AND PAVEMENT WHERE 95% DENSITY IS REQUIRED.

③ SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, COMPACT TO 95% STANDARD PROCTOR DENSITY.

## CLASS "C-2" EMBEDMENT

WATER




① FINE GRADATION CRUSHED STONE – TOP LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.

② SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, USE NON-GRANULAR MATERIAL COMPACTED TO 95% STANDARD PROCTOR DENSITY. ( NO SAND PERMITTED ABOVE STONE )

③ SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, COMPACT TO 95% STANDARD PROCTOR DENSITY.

## CLASS "B+" EMBEDMENT

ROOF DRAIN LINES, FORCE MAIN AND STORM SEWER LINES

These Drawings have been modified to conform to the Construction Records.
Glenn Engineering Corporation
By [signature] Date: 2-23-04

# UTILITY DETAILS

AS SHOWN

DATE MAY 2, 2001
DRAWN BY R.HOWMAN
CHECKED RAH
COMM NO
REVISED

# ROCKWALL ELEMENTARY #8
## ROCKWALL INDEPENDENT SCHOOL DISTRICT
## ROCKWALL, TEXAS

FINAL PLANS FOR BIDDING AND CONSTRUCTION

SHW Group Inc.
Architects + Engineers

SHEET NUMBER C 2.19
OF ___
SET NUMBER