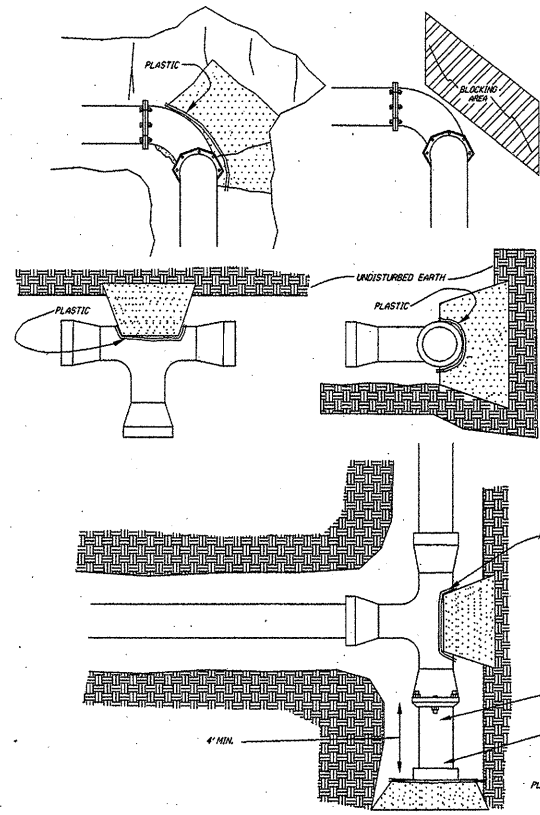




UTILITY CONSTRUCTION

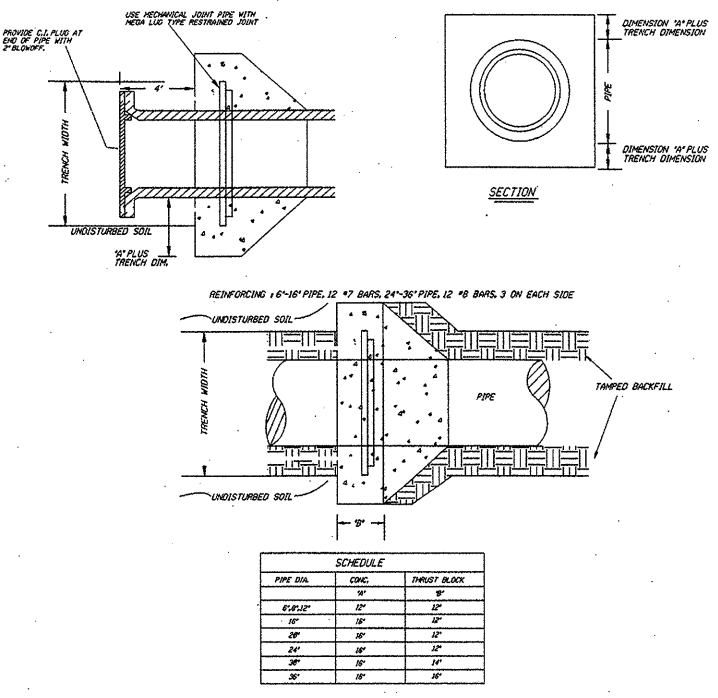


REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
 BASED ON TEST PRESSURE OF 200 P.S.I. (ALL AREA IN SQUARE FEET)

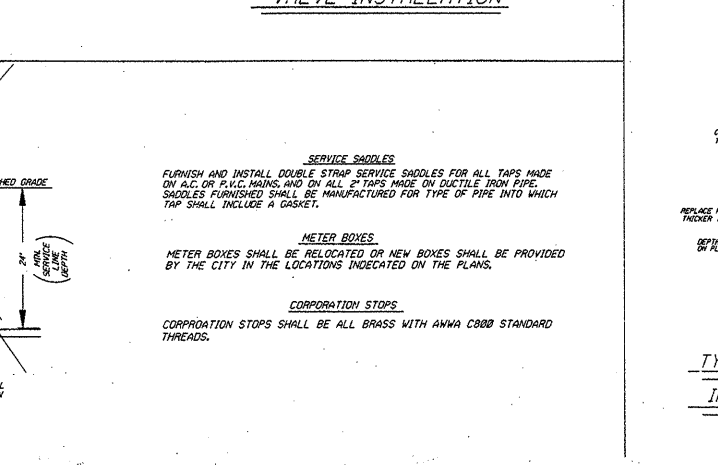
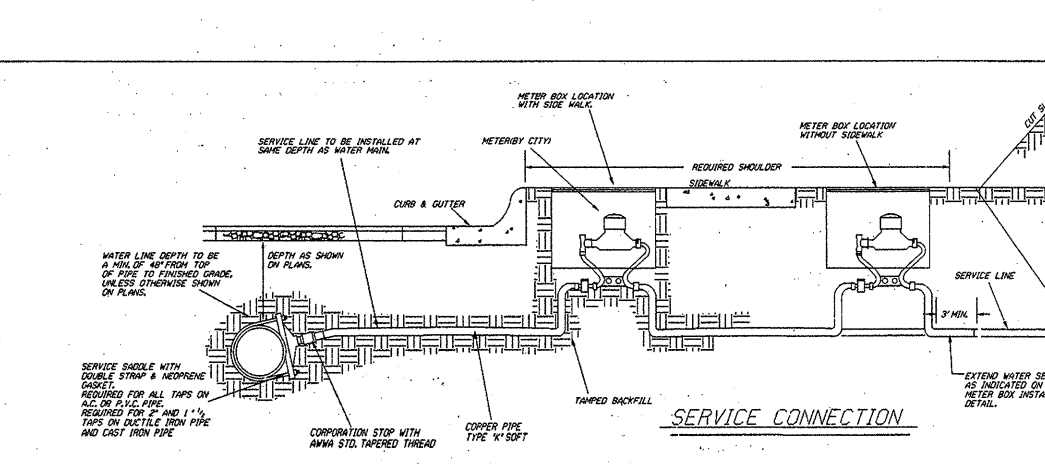
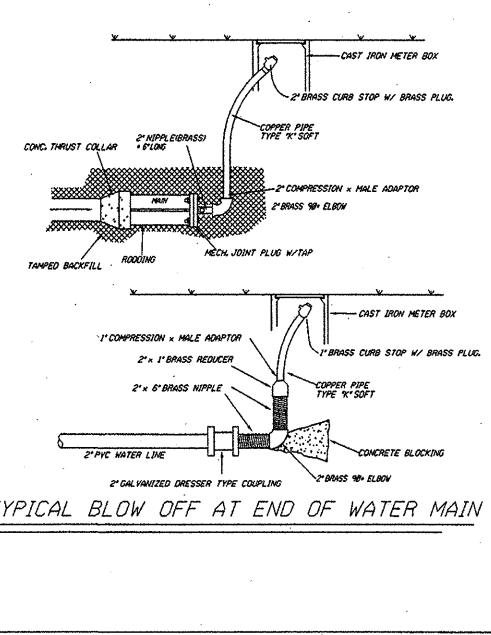
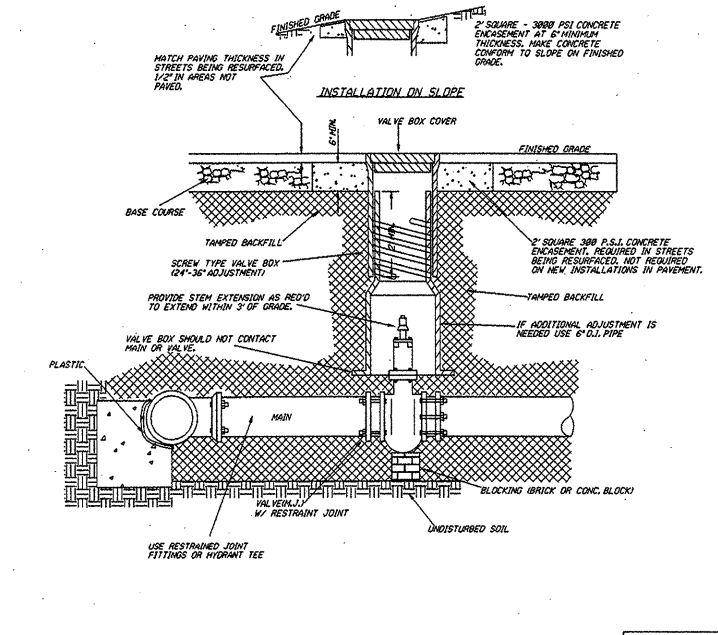
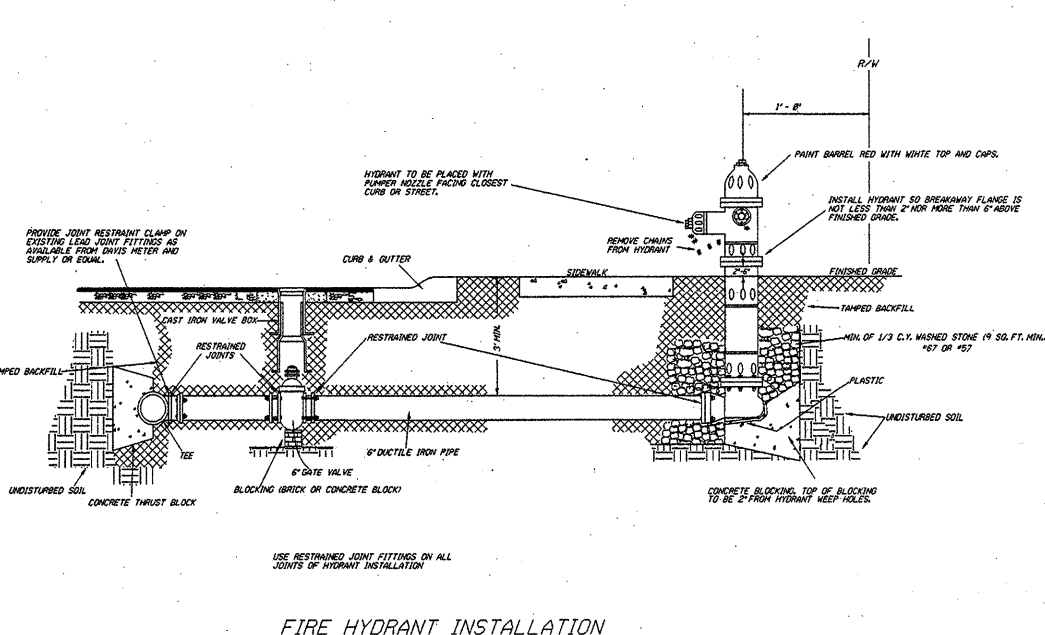
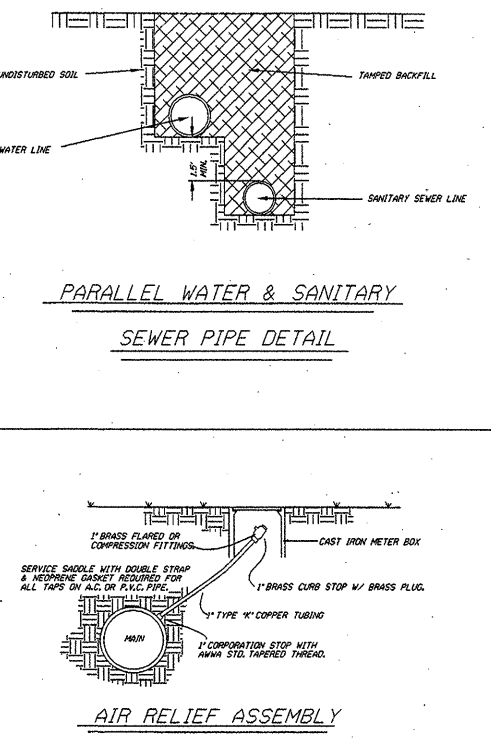
| PIPE DIA. | 90° BEND | 45° BEND | 30° BEND | 15° BEND | 90° BEND | 45° BEND | 30° BEND | 15° BEND |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 6" | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 |
| 8" | 1.400 | 1.400 | 1.400 | 1.400 | 1.400 | 1.400 | 1.400 | 1.400 |
| 10" | 1.800 | 1.800 | 1.800 | 1.800 | 1.800 | 1.800 | 1.800 | 1.800 |
| 12" | 2.200 | 2.200 | 2.200 | 2.200 | 2.200 | 2.200 | 2.200 | 2.200 |
| 14" | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 |
| 16" | 3.000 | 3.000 | 3.000 | 3.000 | 3.000 | 3.000 | 3.000 | 3.000 |
| 18" | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 |
| 20" | 3.800 | 3.800 | 3.800 | 3.800 | 3.800 | 3.800 | 3.800 | 3.800 |
| 22" | 4.200 | 4.200 | 4.200 | 4.200 | 4.200 | 4.200 | 4.200 | 4.200 |
| 24" | 4.600 | 4.600 | 4.600 | 4.600 | 4.600 | 4.600 | 4.600 | 4.600 |
| 26" | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |
| 28" | 5.400 | 5.400 | 5.400 | 5.400 | 5.400 | 5.400 | 5.400 | 5.400 |
| 30" | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 | 5.800 |

NOTES:
 REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH USE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
 USE 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.
 INCREASE BLOCKING AREA AND CONCRETE QUANTITY FOR PRESSURES ABOVE 200 P.S.I. OR POOR SOIL CONDITIONS.
 KEEP CONCRETE AWAY FROM JOINTS. PLACE CONCRETE FAIRLY DRY AND FORM IF REQUIRED FOR MAXIMUM AREA AGAINST UNDISTURBED SOIL.
 ALL FITTINGS AND ACCESSORIES TO BE WRAPPED WITH 10 MIL. POLYETHYLENE TAPE TO PROTECT AGAINST CONCRETE.
 USE 3000 P.S.I. CONCRETE.

CONCRETE THRUST BLOCKING



THRUST COLLAR INSTALLATION



8/17/99
 15-MAR-2006 12:28
 s:\projects\utilities\jnm\sh\ddc_and_wba\37631_ashboro-randolph\pco\j-psh\salsbury_ut.uc9_s013_wbs_37631_ashboro.odgn
 NSH/JSM