TRENCH BACKFILL

- No blocking necessary at this point when branch is plugged (mechanical joint plug only)
- Tee & plug blocking shown; tapping sleeve blocking similar

Earth

UNDISTURBED

30° Max

30° Max

Sizing opposite based on pipe bearing area

WATERWORKS

Gooseneck

Supported with Gravel

Curb Box

Wood or Concrete Block

Copper Tubing

Connect to Existing Service Line

Plain Concrete or Concrete Block

Property, Right of Way or Easement Line

Sidewalk

3 Min

8' X 2' X 2' Service Marker

(Top 2' Painted Blue)

3' Min

Water Main

Corporation Stop

Copper Tubing

Plain Concrete or Concrete Block

Plywood

Plywood

Backfill

Compacted Earth

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.

TYPICAL SECTION

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.

TYPICAL BEND

Notes:

1. Service clamp not required where small size service line connects to large cast iron or ductile iron pipe and three threads of the corporation stop make contact with the wall.

2. Gravel backfill trench from water main to back of curb line and under sidewalk areas or earth backfill with standard compaction where specified.

WATER CURB CONNECTION

Notes:

1. Place concrete thrust block detail to surround concrete pad. Follow trench backfill detail to surround hydrant with gravel.

2. Set hydrant on a precast concrete pad. Follow trench backfill detail to surround hydrant with gravel.

STANDARD FIRE HYDRANT & CONNECTION

1. Use City Standards for Operating & Cap Nuts.

2. Supply, furnish, and install hydrant marker, include costs in the unit bid price for the hydrant. Place hydrant marker current with city standards or as approved by the Engineer.

LAYOUT FOR RELOCATION OF HYDRANTS

1. Place concrete thrust blocking as directed.

2. Set hydrant on a precast concrete pad. Follow trench backfill detail to surround hydrant with gravel.

TYPICAL CORPORATION STOP AND CURB STOP

Notes:

1. Use City Standards for Operating & Cap Nuts.

2. Supply, furnish, and install hydrant marker. Include costs in the unit bid price for the hydrant.

Include placed concrete in price bid for water main.

TRENCH BACKFILL

Pipe Encasement 1/2 OD + 3" (Gravel)

Gravel

Undisturbed Earth

Copper Service Line

Pipe Diameter Varies

Stainless Steel Double Bolt Saddle Clamp

Grade Line

6" or 8" Pipe

6" or 8" long solid sleeve mechanical joint

Existing Water Main

Existing Pipe

Tighten Bolts to Manufacturer’s Spec with Torque Wrench

Standard Gate Valve

Standard Tee

Concrete Block

Wood or Concrete Block

Copper Tubing

Wood or Concrete Block

Curb Stop

Saddle Clamp

Copper Tubing

Plain Concrete or Concrete Block

Plywood

Plywood

Backfill

Compacted Earth

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.

TYPICAL SECTION

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.

TYPICAL BEND

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.

WATER MAIN THRUST BLOCK DETAILS

Table of Required Bearing Areas

<table>
<thead>
<tr>
<th>Size of Pipe</th>
<th>10&quot;</th>
<th>12&quot;</th>
<th>14&quot;</th>
<th>16&quot;</th>
<th>18&quot;</th>
<th>20&quot;</th>
<th>22&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bend 90°</td>
<td>14'</td>
<td>12'</td>
<td>11'</td>
<td>10'</td>
<td>9'</td>
<td>8'</td>
<td>7'</td>
</tr>
<tr>
<td>Bend 45°</td>
<td>14'</td>
<td>12'</td>
<td>11'</td>
<td>10'</td>
<td>9'</td>
<td>8'</td>
<td>7'</td>
</tr>
<tr>
<td>Bend 22.5°</td>
<td>14'</td>
<td>12'</td>
<td>11'</td>
<td>10'</td>
<td>9'</td>
<td>8'</td>
<td>7'</td>
</tr>
<tr>
<td>Bend 11.25°</td>
<td>14'</td>
<td>12'</td>
<td>11'</td>
<td>10'</td>
<td>9'</td>
<td>8'</td>
<td>7'</td>
</tr>
</tbody>
</table>

Notes:

1. Place concrete blocking against undisturbed earth and plywood. Keep bells and bolts free of concrete. Include placed concrete in price bid for water main.

2. Use solid concrete blocks for blocking on 8" Dia. pipe and below, if approved by the Engineer. Place concrete, as shown above, for 10" Dia. pipe and larger.