CITY OF SOUTH GATE

STANDARD DRAWINGS
FOR

WATER AND SEWER SYSTEMS
2021 EDITION

Prepared By:
Public Works Department
PREFACE

THESE "STANDARD DRAWINGS FOR WATER AND SEWER CONSTRUCTION - 2021 EDITION" (STANDARD DRAWINGS) HAVE BEEN PREPARED AND ADOPTED BY THE CITY OF SOUTH GATE, PUBLIC WORKS DEPARTMENT.

THESE STANDARD DRAWINGS SHALL BE USED AS GUIDES FOR PREPARING CONSTRUCTION PLANS AND FOR CONSTRUCTION OF THE DETAILED ITEMS. THEY WILL BE USED ON PUBLIC WORKS CONTRACTS, MAINTENANCE AND REPAIRS, AND ANY CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR ON PRIVATE PROPERTY WHERE PERMITS ARE REQUIRED. THEY ARE FOR USE IN CONCERT WITH THE LATEST EDITION OF THE "GREENBOOK - STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".

IT SHALL BE THE ENGINEER'S OR CONTRACTOR'S RESPONSIBILITY TO POSSESS COPIES OF THE STANDARD PLANS.

"PERMITTEES" WILL BE REQUIRED TO OBTAIN CURRENT "STANDARD DRAWINGS" PRIOR TO ISSUANCE OF ANY PERMIT. ALL CONTRACTORS ARE REQUIRED TO CONSTRUCT IN ACCORDANCE WITH CURRENT "STANDARD DRAWINGS".

THE ELECTRONIC COPY OF THE STANDARD DRAWINGS IS AVAILABLE FOR DOWNLOAD FROM THE CITY'S WEBSITE:

http://www.cityofsouthgate.org/225/Public-Works

UPDATES TO THE STANDARD DRAWINGS WILL BE POSTED TO THIS WEBSITE AS THEY ARE ADOPTED BY THE CITY OF SOUTH GATE.

USERS OF THE STANDARD DRAWINGS ARE ENCOURAGED TO SUBMIT CORRECTIONS AND PROPOSED CHANGES TO THE STANDARDS DRAWINGS TO PUBLIC WORKS DEPARTMENT, STANDARDS AND CONTRACT DOCUMENTS SECTION AT pwengineering@sogate.org.

Arturo Cervantes, P.E.
Assistant City Manager/Director of Public Works
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**SEWER SYSTEM**

| SD - 1    | STANDARD MANHOLE |
| SD - 2    | SHALLOW MANHOLE |
| SD - 3    | DROP MANHOLE |
| SD - 4    | SEWER MANHOLE BASE |
| SD - 5    | MANHOLE COATING AND LINING |
| SD - 6    | EXISTING MANHOLE ABANDONMENT |
| SD - 7    | 24" MANHOLE FRAME AND COVER HEAVY DUTY |
| SD - 8    | 24" MANHOLE FRAME AND COVER LIGHT DUTY |
| SD - 9    | 36" MANHOLE FRAME AND COVER HEAVY DUTY |
| SD - 10   | MANHOLE PIPE CONNECTORS |
| SD - 11   | HOUSE CONNECTION (SEWER LATERAL) |
| SD - 12   | CUT-IN WYE CONNECTION |
| SD - 13   | SADDLE CONNECTION |
| SD - 14   | PIPE BEDDING AND TRENCH BACKFILL FOR SEWERS |
| SD - 15   | CONCRETE ENCASEMENT |
| SD - 16   | CONCRETE BACKFILL |
| SD - 17   | CONCRETE ANCHOR |
| SD - 18   | CONCRETE PROTECTION FOR EXISTING SEWER PIPE |
| SD - 19   | CONCRETE SUPPORT FOR UNDERCUT SEWER PIPE |
| SD - 20   | HOUSE CONNECTION SEWER REPAIR |
| SD - 21   | PIPE BEDDING AND TRENCH BACKFILL FOR SEWER IN GROUNDWATER |
| SD - 22   | SEWER LATERAL CLEANOUT |
| SD - 23   | SEWER MAIN CLEANOUT |
| SD - 24   | CLEANOUT SEWER FORCE MAIN |
| SD - 25   | 4" BACKWATER DEVICE |
| SD - 26   | BACKWATER DEVICE FOR HOUSE CONNECTIONS |
| SD - 27   | GREASE INTERCEPTOR WITH 24" SAMPLE BOX |
ABBREVIATIONS
AND
SYMBOLS
ABBREVIATIONS AND SYMBOLS

ABS Acrylonitrile – butadiene – styrene
AC Asphalt Concrete
ACI American Concrete Institute
ACP Asbestos Cement Pipe
ADA Americans with Disabilities Act
ADAS Americans with Disabilities Act Standards
AGG Aggregates
ANSI American National Standards Institute
ASCE American Society of Civil Engineers
ASTM American Society for Testing and Materials
AWWA American Water Work Association
CAL/OSHA California Occupational Safety and Health Administration
CalTrans California Department of Transportation
CATV Cable/TV
CC Calcium Chloride
C/C Center to Center
CCF One Hundred Cubic Feet
CF Cubic Foot
CFS Cubic Feet per second
CL Center Line
CLR Clear
CMLCP Cement mortar lined coated steel pipe
CONC Concrete
CSP Corrugated steel pipe
CTB Cement treated base
CV Check valve
CY Cubic Yard
D Diameter or Load of Pipe
DCDA Double Check Detector Assembly
DI Ductile Iron
DIA Diameter
Dist. Distance or Distribution Main
DWG Drawing
EA Each
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<td>Outside diameter</td>
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<td>PCC</td>
<td>Point of compound curvature</td>
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<td>PCF</td>
<td>Pounds per cubic foot</td>
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<td>PCR</td>
<td>Point of curb return</td>
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<td>PL</td>
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<td>PO</td>
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<td>PPB</td>
<td>Pedestrian Push Button</td>
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<tr>
<td>PSI</td>
<td>Pound per square inch</td>
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<tr>
<td>PVC</td>
<td>Polyvinyl Chloride</td>
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<td>R</td>
<td>Radius</td>
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<td>RCV</td>
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<td>S</td>
<td>Slope or second</td>
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<td>SCRW</td>
<td>Steel cylinder rod wrapped</td>
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<td>Univ. of Southern California</td>
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<td>VERT</td>
<td>Vertical</td>
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<tr>
<td>W</td>
<td>Water, Wider or width</td>
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<td>With</td>
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<td>WWF</td>
<td>Welded wire fabric</td>
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<td>Clean-Out</td>
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<td>Cut Off Wall</td>
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<td>Existing Water Lateral</td>
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<td>Indicates High Pressure.</td>
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<td>Existing Electric Conduit</td>
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<td>/Cable; &quot;OH&quot; Indicates</td>
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<td>8&quot; VCP</td>
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<td>18&quot; RCP</td>
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WATER SYSTEM
NOTES:
1. NO WATER METER BOXES SHALL BE INSTALLED IN DRIVEWAYS OR SIDEWALKS UNLESS APPROVED AND SHOWN ON THE PLANS. METER BOXES SHALL BE SET TO PREVENT WATER RUNOFF INTO THE BOX.
2. NO SERVICES CLOSER THAN 24 INCHES TO PIPE BELL.
3. TAPS SHALL BE MADE AT LEAST 24 INCHES FROM ANY OTHER TAP OR COUPLING.
4. INSTALL CORP. STOP WITH KEY ON THE SIDE IN OPEN POSITION.
5. SERVICE SADDLE AND CORP. STOP SHALL BE IPS (AWWA) THREAD.
6. A TRAFFIC LOAD RATING COVER SHALL BE USED IN AREAS WITHOUT CURB, IN AREAS WITH ROLLED CURB, OR WHERE THE METER IS LOCATED WITHIN 5 FEET OF THE BCR, ECR, OR A DRIVEWAY APPROACH.
7. CORP. STOP, FITTINGS, AND SERVICE LINE WITHIN 3 FEET OF SERVICE SADDLE SHALL BE COATED WITH 20 MIL MIN. PIPE WRAP TAPE PER ITEM 11 ON SHEET 2.
8. FLATTENING COPPER PIPE TO MAKE THE RADIUS IS NOT ALLOWED.
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<td>STRAP TO BE DOUBLE STRAP S.S.</td>
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<td>2</td>
<td>1&quot; BRONZE BALL VALVE INSULATED CORP. STOP</td>
<td>I.P. X C.T.S. COMPRESSION</td>
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<td>3</td>
<td>COPPER TUBING</td>
<td>1&quot; TYPE K, SOFT (ONE PIECE ONLY, NO SPLICES)</td>
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<td>4</td>
<td>1&quot; ANGLE METER STOP (BALL VALVE)</td>
<td>1&quot; C.T.S. COMPRESSION X METER SWIVEL NUT AND LOCKWING W/ 1/8&quot; THICK CLOTH INJECTED IN GASKET</td>
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<td>5</td>
<td>WATER METER AND TRANSMITTER</td>
<td>3/4&quot; OR 1&quot; (SUPPLIED BY CITY)</td>
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<td>6</td>
<td>WATER METER BOX AND LID</td>
<td>15 1/2&quot; X 25&quot; X 12&quot; METER BOX, H2O LOADING</td>
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<td>7</td>
<td>BRONZE BALL VALVE</td>
<td>1&quot; I.P. X C.T.S. COMPRESSION</td>
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<td>8</td>
<td>WATER METER BOX PAD</td>
<td>CRUSHED ROCK AS SHOWN</td>
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<td>9</td>
<td>TRENCH WITH SAND ENVELOPE</td>
<td>IMPORTED WITH SE &gt; 30, 12&quot; MIN. &amp; 24&quot; MAX. TRENCH WIDTH</td>
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<td>METER ADAPTOR OR BALL VALVE COUPLING</td>
<td>METER NUT X 1&quot; I.P.S.</td>
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<td>11</td>
<td>TAPE WRAP A DISTANCE OF 3 FEET FROM &amp; INCLUDING INSULATED CORP. STOP</td>
<td>20 MIL MIN.</td>
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<tr>
<td>12</td>
<td>90° COPPER ELBOW (OPTIONAL)</td>
<td>1&quot; C.T.S.</td>
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**NOTES:**
1. ALL MATERIALS SHALL MEET ANSI/AWWA C800, NSF 61, AND NSF 372 STANDARDS.
2. ITEMS 7 AND 10 MAY BE A COMBINATION METER COUPLING AND BALL VALVE ASSEMBLY WITH HANDLE.
1. NO WATER METER BOXES SHALL BE INSTALLED IN DRIVEWAYS OR SIDEWALKS UNLESS APPROVED AND SHOWN ON THE PLANS. METER BOXES SHALL BE SET TO PREVENT WATER RUNOFF INTO THE BOX.

2. NO SERVICES CLOSER THAN 24 INCHES TO PIPE BELL.

3. TAPS SHALL BE MADE AT LEAST 24 INCHES FROM ANY OTHER TAP OR COUPLING.

4. INSTALL CORP. STOP WITH KEY ON THE SIDE IN OPEN POSITION.

5. SERVICE SADDLE AND CORP. STOP SHALL BE IPS (AWWA) THREAD.

6. A TRAFFIC LOAD RATING COVER SHALL BE USED IN AREAS WITHOUT CURB, IN AREAS WITH ROLLED CURB, OR WHERE THE METER IS LOCATED WITHIN 5 FEET OF THE BCR, ECR, OR A DRIVEWAY APPROACH.

7. CORP. STOP, FITTINGS, AND SERVICE LINE WITHIN 3 FEET OF SERVICE SADDLE SHALL BE COATED WITH 20 MIL MIL. PIPE WRAP TAPE PER ITEM 12 ON SHEET 2.

8. FLATTENING COPPER PIPE TO MAKE THE RADIUS IS NOT ALLOWED.
<table>
<thead>
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<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SPECIFICATION</th>
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<tbody>
<tr>
<td>1</td>
<td>SERVICE SADDLE</td>
<td>STRAP TO BE DOUBLE STRAP S.S.</td>
</tr>
<tr>
<td>2</td>
<td>2&quot; BRONZE BALL VALVE INSULATED CORP. STOP</td>
<td>2&quot; I.P. X C.T.S. COMPRESSION</td>
</tr>
<tr>
<td>3</td>
<td>COPPER TUBING</td>
<td>2&quot; TYPE K, SOFT (ONE PIECE ONLY, NO BENDS, UNLESS COMPRESSION ELBOW IS USED)</td>
</tr>
<tr>
<td>4</td>
<td>90° COPPER ELBOW</td>
<td>2&quot; C.T.S.</td>
</tr>
<tr>
<td>5</td>
<td>2&quot; ANGLE METER STOP (BALL VALVE)</td>
<td>2&quot; C.T.S. COMPRESSION X METER SWIVEL NUT AND LOCKWING W/ 1/8&quot; THICK, CLOTH REINFORCED NEOPRENE INSERTED IN GASKET</td>
</tr>
<tr>
<td>6</td>
<td>WATER METER AND TRANSMITTER</td>
<td>1 1/2&quot; OR 2&quot; FLG (SUPPLIED BY CITY)</td>
</tr>
<tr>
<td>7</td>
<td>BRONZE WATER METER FLANGE, SLOT DRILLED</td>
<td>2&quot; F.I.P. THREADS W/ 1/8&quot; THICK CLOTH INSERT DROP IN GASKET</td>
</tr>
<tr>
<td>8</td>
<td>BRONZE BALL VALVE</td>
<td>2&quot; F.I.P. X F.I.P.</td>
</tr>
<tr>
<td>9</td>
<td>WATER METER BOX AND LID</td>
<td>19&quot; X 32&quot; X 12&quot; METER BOX, H2O LOADING</td>
</tr>
<tr>
<td>10</td>
<td>WATER METER BOX PAD</td>
<td>CRUSHED ROCK AS SHOWN</td>
</tr>
<tr>
<td>11</td>
<td>TRENCH WITH SAND ENVELOPE</td>
<td>IMPORTED WITH SE &gt; 30, 12&quot; MIN. &amp; 24&quot; MAX. TRENCH WIDTH</td>
</tr>
<tr>
<td>12</td>
<td>TAPE WRAP A DISTANCE OF 3 FEET FROM &amp; INCLUDING INSULATED CORP. STOP</td>
<td>20 MIL MIN.</td>
</tr>
</tbody>
</table>

NOTES:
1. ALL MATERIALS SHALL MEET ANSI/AWWA C800, NSF 61, AND NSF 372 STANDARDS.
2. ITEMS 7 AND 8 MAY BE A COMBINATION SLOT DRILLED METER FLANGE AND VALVE ASSEMBLY WITH HANDLE.
NOTES:

1. TWO-WAY FEED SHALL BE PROVIDED WHERE FOUR OR MORE SERVICES ARE TO BE INSTALLED. A MAXIMUM OF TEN SERVICES MAY BE INSTALLED ON ONE BATTERY.

2. SEE STD. NO. WD-1 FOR METER DETAILS.

3. CHIP 4" W IN CURB FACE TO IDENTIFY WATER SERVICE/CORP. STOP LOCATION.
ITEM  | DESCRIPTION
--- | ---
1 | HOT TAP or FLG TEE - SEE STD. NO. WD-13 / D.I. TEE (*)
2 | FLG X FLG OR MJ X FLG RESILIENT WEDGE GATE VALVE (*)
3 | D.I. PIPE CLASS 52 (*)
4 | D.I. TEE, FLG X FLG X MJ (SHORT BODY MAY BE USED)
5 | SERVICE INSTALLATION - SEE STD. NO. WD-2
6 | THRUST BLOCK - SEE STD. NO. WD-35
7 | D.I. END CAP (*)
8 | SIZE BALL VALVE CORP. STOP - SEE STD. NO. WD-2

*NOTE: SERVICE LINE SIZE TO BE DETERMINED

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

MANIFOLD ASSEMBLY FOR 2-INCH AND LARGER SERVICES

CITY OF SOUTH GATE, INCORPORATED JAN. 29, 1923

APPROVED 8/26/21 - DIRECTOR OF PUBLIC WORKS

STD. NO. WD-4
REVISION SHEET 1 OF 1
DATE
20,800# LOAD RATED

POLYMER CONCRETE BOX

OPEN BASE

TOP VIEW

SECTION A-A

3" X 6"
MOUSEHOLE
ONE EACH END
(TYP.)

SECTION B-B

1 1/2 AND 2-INCH METER BOX

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED

DIRECTOR OF PUBLIC WORKS

DATE

STD. NO.
WD-7

REVISION

SHEET 1 OF 1
POLYMER CONCRETE COVER

17 1/2"
9 1/4"

CAVITY FOR DROP-IN COVER

14 5/8"
30 1/2"

NON-SKID SURFACE

PICK HOLE

(ACCEPTS DROP-IN READ LID)

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

1 1/2 AND 2-INCH METER BOX LID

APPROVED

DIRECTOR OF PUBLIC WORKS

REVISED

DATE

STD. NO.
WD-8

SHEET 1 OF 1
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>TURBINE METER WITH TEST PORT AND TRANSMITTER</td>
</tr>
<tr>
<td>②</td>
<td>BRONZE STRAINER</td>
</tr>
<tr>
<td>③</td>
<td>GATE VALVE, FLG W/2” OPERATING NUT</td>
</tr>
<tr>
<td>④</td>
<td>TAPPING SLEEVE AND GATE VALVE PER STD. NO. WD-13. USE FLG TEE FOR NEW CONSTRUCTION</td>
</tr>
<tr>
<td>⑤</td>
<td>GATE VALVE CAN ASSEMBLY PER STD. NO. WD-16</td>
</tr>
<tr>
<td>⑥</td>
<td>DUCTILE IRON PIPE, FLG X FLG</td>
</tr>
<tr>
<td>⑦</td>
<td>DUCTILE IRON PIPE, FLG X P.E. (CUT TO FIT)</td>
</tr>
<tr>
<td>⑧</td>
<td>STAINLESS STEEL SERVICE SADDLE FOR DI PIPE, W/2” FEMALE I.P. THREADS</td>
</tr>
<tr>
<td>⑨</td>
<td>2” BRASS NIPPLE, 6” LONG (2” MIP X FIP CORP. STOP)</td>
</tr>
<tr>
<td>⑩</td>
<td>2” STREET ELL, BRASS</td>
</tr>
<tr>
<td>⑪</td>
<td>2” FULL PORT BALL VALVE, BRASS BODY</td>
</tr>
<tr>
<td>⑫</td>
<td>COMPRESSION COUPLING BRASS</td>
</tr>
<tr>
<td>⑬</td>
<td>PRECAST CONCRETE VAULT WITH SPRING ASSISTED HINGED DIAMOND PLATE STEEL COVER WITH ANTENNA MOUNT AND RECESSED LOCKING HASP. PROVIDE 6” X 12” HINGED READING LID INSTALLED OVER METER REGISTER.</td>
</tr>
<tr>
<td>⑭</td>
<td>2” COPPER PIPE</td>
</tr>
<tr>
<td>⑮</td>
<td>GROOVED END COUPLING</td>
</tr>
<tr>
<td>⑯</td>
<td>DUCTILE IRON PIPE SPOOL, FLG X GROOVE END</td>
</tr>
<tr>
<td>⑰</td>
<td>DUCTILE IRON 90° BEND, FLG</td>
</tr>
<tr>
<td>⑱</td>
<td>FLEX COUPLING ADAPTOR</td>
</tr>
<tr>
<td>⑲</td>
<td>PIPE SUPPORT PER STD. NO. WD-43</td>
</tr>
<tr>
<td>⑳</td>
<td>BOLT FLANGE INSULATING COUPLING</td>
</tr>
<tr>
<td>㉑</td>
<td>SIZE X 3” REDUCER (FOR 3” SERVICE ONLY)</td>
</tr>
<tr>
<td>㉒</td>
<td>MIN. 6” DEEP GRAVEL BED</td>
</tr>
</tbody>
</table>

NOTES:
1. ALL GATE VALVES SHALL BE RESILIENT WEDGE, NON-RISING STEM, FUSION EPOXY LINED AND COATED.
2. CONCRETE VAULT SHALL BE SIZED TO HOUSE METER INSTALLATION WITH MINIMUM CLEARANCES SHOWN IN SHEET 1.
3. VAULT COVER SHALL CONFORM TO H10 PARKWAY LOADING AND H20 IN TRAFFIC AREAS.
4. TORSION ASSISTED VAULT LIDS TO BE PROVIDED WITH ANTENNA MOUNT.
<table>
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<td>BRONZE STRAINER</td>
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<td>3</td>
<td>GATE VALVE, FLG W/2&quot; OPERATING NUT</td>
</tr>
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<td>4</td>
<td>TAPPING SLEEVE AND GATE VALVE PER STD. NO. WD-13. USE FLG TEE FOR NEW CONSTRUCTION</td>
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<td>5</td>
<td>GATE VALVE CAN ASSEMBLY PER STD. NO. WD-16</td>
</tr>
<tr>
<td>6</td>
<td>DUCTILE IRON PIPE, FLG X FLG</td>
</tr>
<tr>
<td>7</td>
<td>SIZE X 3&quot; REDUCER (FOR 3&quot; SERVICE ONLY)</td>
</tr>
<tr>
<td>8</td>
<td>BOLT FLANGE INSULATING COUPLING</td>
</tr>
<tr>
<td>9</td>
<td>2&quot; BRASS NIPPLE, 6&quot; LONG (2&quot; MIP X FIP CORP. STOP)</td>
</tr>
<tr>
<td>10</td>
<td>FLANGE COUPLING ADAPTOR</td>
</tr>
<tr>
<td>11</td>
<td>2&quot; FULL PORT BALL VALVE, BRASS BODY</td>
</tr>
<tr>
<td>12</td>
<td>PIPE SUPPORT PER STD. NO. WD-43</td>
</tr>
<tr>
<td>13</td>
<td>PRECAST CONCRETE VAULT WITH SPRING ASSISTED HINGED DIAMOND PLATE STEEL COVER WITH ANTENNA MOUNT AND RECESSED LOCKING HASP. PROVIDE 6&quot; X 12&quot; HINGED READING LID INSTALLED OVER METER REGISTER.</td>
</tr>
<tr>
<td>14</td>
<td>DUCTILE IRON PIPE SPOOL, FLG X P.E. (CUT TO FIT)</td>
</tr>
<tr>
<td>15</td>
<td>DUCTILE IRON TEE, FLG</td>
</tr>
<tr>
<td>16</td>
<td>DUCTILE IRON PIPE SPOOL, FLG X GROOVE END</td>
</tr>
<tr>
<td>17</td>
<td>DUCTILE IRON 90° BEND, FLG</td>
</tr>
<tr>
<td>18</td>
<td>GROOVED END COUPLING</td>
</tr>
<tr>
<td>19</td>
<td>MIN. 6&quot; DEEP GRAVEL BED</td>
</tr>
</tbody>
</table>

NOTES:
1. ALL GATE VALVES SHALL BE RESILIENT WEDGE, NON-RISING STEM, FUSION EPOXY LINED AND COATED.
2. CONCRETE VAULT SHALL BE SIZED TO HOUSE METER INSTALLATION WITH MINIMUM CLEARANCES SHOWN IN SHEET 3.
3. VAULT COVER SHALL CONFORM TO H10 PARKWAY LOADING AND H20 IN TRAFFIC AREAS.
4. TORSION ASSISTED VAULT LIDS TO BE PROVIDED WITH ANTENNA MOUNT.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

3-INCH AND LARGER WATER METER SERVICE INSTALLATION

APPROVED:

DIRECTOR OF PUBLIC WORKS

REVISION

STD. NO.
WD-10

DATE
8/26/21

SHEET 4 OF 6
<table>
<thead>
<tr>
<th>ITEM</th>
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<tbody>
<tr>
<td>1</td>
<td>TAPPING SLEEVE AND GATE VALVE PER STD. NO. WD–13. USE FLG TEE FOR NEW CONSTRUCTION</td>
</tr>
<tr>
<td>2</td>
<td>GATE VALVE CAN ASSEMBLY PER STD. NO. WD–16</td>
</tr>
<tr>
<td>3</td>
<td>SIZE X 3” REDUCER (FOR 3” SERVICE ONLY)</td>
</tr>
<tr>
<td>4</td>
<td>DUCTILE IRON PIPE SPOOL, FLG X P.E. (CUT TO FIT)</td>
</tr>
<tr>
<td>5</td>
<td>FLEXIBLE COUPLING</td>
</tr>
<tr>
<td>6</td>
<td>DUCTILE IRON 90° ELL FLG X FLG</td>
</tr>
<tr>
<td>7</td>
<td>FLEX COUPLING ADAPTOR</td>
</tr>
<tr>
<td>8</td>
<td>DUCTILE IRON TEE, FLG</td>
</tr>
<tr>
<td>9</td>
<td>DUCTILE IRON FLG X FLG SPOOL</td>
</tr>
<tr>
<td>10</td>
<td>RW GATE VALVE FLG X FLG W/NRS STEM</td>
</tr>
<tr>
<td>11</td>
<td>FLG X GROOVED–END DUCTILE IRON SPOOL, 4” MIN. LENGTH</td>
</tr>
<tr>
<td>12</td>
<td>GROOVED–END COUPLING</td>
</tr>
<tr>
<td>13</td>
<td>BOLT FLANGE INSULATING COUPLING</td>
</tr>
<tr>
<td>14</td>
<td>PIPE SUPPORT PER STD. NO. WD–43</td>
</tr>
<tr>
<td>15</td>
<td>BRONZE STRAINER</td>
</tr>
<tr>
<td>16</td>
<td>METER SIZE BRONZE COMPANION FLANGED WITH THREADED 2” OUTLET</td>
</tr>
<tr>
<td>17</td>
<td>BRASS ADAPTER – MIP X COMPRESSION</td>
</tr>
<tr>
<td>18</td>
<td>2” COPPER BYPASS</td>
</tr>
<tr>
<td>19</td>
<td>BRASS COMPRESSION 90° ELBOW</td>
</tr>
<tr>
<td>20</td>
<td>BRONZE BALL VALVE WITH LOCKING WING – FIP X FIP</td>
</tr>
<tr>
<td>21</td>
<td>PRECAST CONCRETE VAULT WITH SPRING ASSISTED HINGED DIAMOND PLATE STEEL COVER WITH ANTENNA MOUNT AND RECESS LOCKING HASP. PROVIDE 6” X 12” HINGED READING LID INSTALLED OVER METER REGISTER.</td>
</tr>
<tr>
<td>22</td>
<td>TURBINE METER WITH TEST PORT AND TRANSMITTER</td>
</tr>
<tr>
<td>23</td>
<td>2” BRASS NIPPLE, 6” LONG (2” MIP X FIP CORP. STOP)</td>
</tr>
<tr>
<td>24</td>
<td>2” FULL PORT BALL VALVE, BRASS BODY</td>
</tr>
<tr>
<td>25</td>
<td>MIN. 6” DEEP GRAVEL BED</td>
</tr>
</tbody>
</table>

**NOTES:**
1. ALL GATE VALVES SHALL BE RESILIENT WEDGE, NON–RISING STEM, FUSION EPOXY LINED AND COATED.
2. CONCRETE VAULT SHALL BE SZIED TO HOUSE METER INSTALLATION WITH MINIMUM CLEARANCES SHOWN IN SHEET 5.
3. VAULT COVER SHALL CONFORM TO H10 PARKWAY LOADING AND H20 IN TRAFFIC AREAS.
4. TORSION ASSISTED VAULT LIDS TO BE PROVIDED WITH ANTENNA MOUNT.
NOTES:

1. ALL DOMESTIC METERS NEED WATER DIVISION APPROVAL.
2. IRRIGATION METERS TO BE APPROVED TURBINE METERS.
3. METERS TO BE INSTALLED ABOVE GROUND.
NOTES:

1. THE CEMENT LINED FLANGED NOZZLE IS CUSTOM FABRICATED TO FIT O.D. OF INSIDE STEEL CYLINDER AND CAN BE USED WHEN THE ENCLOSED STEEL CYLINDER PIPE IS 12 OR 10 GAUGE OR MORE IN THICKNESS.

2. THE CONNECTION CONSISTS OF A CEMENT LINED FLANGED NOZZLE (LINING 1/2" OR MORE) WITH CURVED PAD (TO FIT AGAINST STEEL LINER).

3. AFTER CONCRETE HAS BEEN ALL CHIPPED OFF (JUST LARGE ENOUGH FOR PAD) THE NOZZLE IS WELDED TO LINE FIRST, THEN PAD IS WELDED TO THE NOZZLE AND PIPE TO PREVENT FLUID FROM GETTING BETWEEN THE PAD AND THE PIPE. BOLT ON VALVE, COVER ALL EXPOSED AREAS WITH CEMENT AND COMPLETE TAP-IN.

4. TAPE WRAP 3 FEET INCLUDING INSULATED CORP. STOP/OUTLET.

3/4 - 2-INCH HOT TAPS FOR CEMENT MORTAR LINED STEEL PIPE

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED
DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-12

REVISION

DATE

SHEET 1 OF 1
NOTES:
1. TAPPING CUTTER SHALL BE MAXIMUM ALLOWABLE DIAMETER CONSISTENT WITH NOMINAL GATE VALVE SIZE.
2. GATE VALVE SHALL BE RESILIENT WEDGE EPOXY LINED AND COATED TYPE, FLG x M.J., NON-RISING STEM.
3. WRAP EXTERIOR OF VALVE AND ACTUATOR WITH 8 MIL POLYETHYLENE SHEETING AND TAPE.
4. VALVE CAN SHALL BE PER STD. NO. WD-16.
NOTES:
1. CEMENT LINED FLANGED NOZZLE WITH REINFORCING PAD. (CERTIFIED WELDER REQUIRED).
2. GATE VALVES SHALL BE RESILIENT WEDGE EPOXY LINED AND COATED TYPE, NRS FLG x M.J., OR FLG x PUSH-ON.
3. TAPPING CUTTER SHALL BE MAXIMUM ALLOWABLE DIAMETER CONSISTENT WITH NOMINAL GATE VALVE SIZE.
4. MAKE TAP A MINIMUM OF 3' CLEAR OF ANY PIPE JOINT.
5. WRAP EXTERIOR OF VALVE AND ACTUATOR WITH 8 MIL POLYETHYLENE SHEETING AND TAPE.
6. VALVE CAN SHALL BE PER STD. NO. WD-16.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

WELDED TAPPING SLEEVE
AND GATE VALVE FOR STEEL
CYLINDER PIPE

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-14

REVISION

DATE
8/26/12

SHEET 1 OF 1
NOTES:

1. ALL ANCHOR RODS ARE TO BE COVERED WITH 80 MILS OF BITUMASTIC COMPOUND.

2. THE ANCHOR BLOCK SHALL BE KEYED NO LESS THAN 12 INCHES INTO UNDISTURBED SOIL OF THE TRENCH WALL AND NO LESS THAN 6 INCHES INTO THE TRENCH BOTTOM.

3. ANCHOR BLOCK REQUIRED ONLY WHEN VALVE IS NOT FLANGED TO A TEE OR CROSS.

4. CONCRETE SHALL BE 2,500 PSI MINIMUM WITH 3-INCHES MINIMUM COVER REBAR. NO CONCRETE SHALL BE POURED ON VALVE OR JOINT.

5. WRAP EXTERIOR OF VALVE, ACTUATOR, AND REBAR WITH 8 MIL POLYETHYLENE SHEETING AND TAPE.

6. VALVE CAN SHALL BE PER STD. NO. WD-16.
ON TOP OF CURB, INSTALL A YELLOW ARROW MARKER IN THE DIRECTION OF VALVE, AND IN THE FACE OF CURB, INSTALL A REFLECTIVE YELLOW "V" MARKER. (CURB MARKING PRODUCT, Z-MARKER OR APPROVED EQUAL).

ADJUST CAP & RIM FLUSH TO 1/4" HIGH ABOVE FINISHED PAVEMENT GRADE &/OR 1" ABOVE NATURAL GROUND SURFACE.

FINISHED GRADE GROUND SURFACE

TOP SECTION SLIP CAN LENGTH 12", 18" OR 24" AS REQUIRED

20 GA. GALV. SLIP CAN B 5/8" O.D.

2" SQ. OPERATING NUT

8" I.D.x1/4" P, SPOKED WHEEL, OPTIONAL TACK WELDED TO SHAFT EXTENSION.

CENTER & PLUMB OVER OPERATING NUT

SHAFT EXTENSION REQUIRED WHERE TOP OF VALVE IS MORE THAN 5' BELOW FINISH GROUND SURFACE. 1-1/4" DIA. STD. BLACK PIPE PAINTED W/PRIMER AFTER FABRICATION.

8" O.D. SDR35 PVC PIPE

COMPACTED BACKFILL

CUT TO FIT VALVE BODY INSTALLATIONS

VALVE SIZE & LOCATION AS SHOWN ON JOB PLAN AND PROFILE SHEETS

SUPPORT BLOCK

NOTES:

1. ALL PIPE, FLANGES, VALVES, AND OTHER PIPELINE MATERIALS SHALL BE CLASS 150 (175WPP) MINIMUM; OR HIGHER CLASS AS SHOWN ON PLANS.

2. VALVE CAP:
   - WATER - BLUE, MARKED "WATER"
   - FIRE - RED, MARKED "FIRE"
   - RECYCLED - PURPLE, MARKED "RECYCLED WATER"
12-INCH AND UNDER

* OPTIONAL BASED ON THE SITE CONDITIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FLG x FLG RESILIENT WEDGE GATE VALVE, NON-RISING STEM</td>
</tr>
<tr>
<td>2</td>
<td>FLG x M.J. RERAINT JOINT</td>
</tr>
<tr>
<td>3</td>
<td>FLEXIBLE COUPLING</td>
</tr>
<tr>
<td>4</td>
<td>INSTALL THRUST BLOCK AND VALVE RERAINTS PER STD. NO. WD-15</td>
</tr>
<tr>
<td>5</td>
<td>D.I.P. FLG x P.E.</td>
</tr>
</tbody>
</table>

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

CUT-IN VALVE

STD. NO. WD-17

REVISION

DIRECTOR OF PUBLIC WORKS

APPROVED

DATE
18-INCH AND 20-INCH

13 FEET MINIMUM LENGTH (TYP.)

48" MINIMUM (TYP.)

36" MINIMUM (TYP.)

24" MINIMUM (TYP.)

10" (APP.)

36" MINIMUM (TYP.)

1/2" REBAR (2 TOTAL)

BOTTOM OF TRENCH

EXISTING WATER MAIN
MATCH SIZE

THRUST RESTRAINT
6' (W) X 5' (L) X 4' (T)

EXISTING WATER MAIN
MATCH SIZE

VALVE SUPPORT
3' (W) X 3' (L)
X 1' (T)

ITEM

1

2

3

4

5

6

DESCRIPTION

FLG X FLG BUTTERFLY VALVE

FLG X PL CMLCSP/DUCTILE IRON SPOOL

FLEXIBLE COUPLING

INSTALL THRUST BLOCK AND VALVE RESTRAINTS

#4 REBAR MIN 2 FT. ALL AROUND W/2 3/4" SUPPORT REBARS

6" X 2 FEET WELDED PLATES OR CONCRETE ANCHORS (FOUR TOTAL)

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

CUT-IN VALVE

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.

WD-17

REVISION

REV. DATE

SHEET 2 OF 3
18-INCH AND 20-INCH

VALVE OPERATOR NUTS TO BE PLACED SOUTH & WEST OF VALVE.

INTERSECTION INSTALLATION PLAN VIEW

VALVE OPERATOR NUTS TO BE PLACED TOWARD CURB.

NOTE:
1. VALVE RISER TO BE 12 GA. (MIN.) DOUBLE-DIPPED ASPHALT COATED STEEL PIPE. (P.V.C. IN PAVED AREA ONLY).
2. CENTER AND PLUMB RISER OVER GATE VALVE OPERATION NUT.
3. VALVE CAP TO BE PAINTED GROUND TRAFFIC BLUE.
4. ALL PIPE, FLANGES, GATE VALVES, AND OTHER PIPELINE MATERIALS, SHALL BE CLASS 150 (175 W.P.) MINIMUM; OR HIGHER CLASS AS SHOWN ON PLANS.
5. ALL STEEL FLANGES SHALL BE PRIMED AND COATED PER STD. SPECIFICATIONS.
6. CONCRETE SUPPORTS TO AVOID INTERFERENCE WITH BOLTS OR HUB END CONNECTIONS AND Poured AGAINST UNDISTURBED EARTH.

CUT-IN VALVE

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-17

REVISION

DATE
8/26/24

SHEET 3 OF 3
* OPTIONAL BASED ON THE SITE CONDITIONS

NOTES:
1. ALL PIPE MATERIALS SHALL BE DUCTILE IRON.
2. INSTALL THRUST BLOCKS AND RESTRAINTS PER STD. NO. WD-35.
3. WRAP ALL FITTINGS IN 8 MIL PIPEWRAP PLASTIC.

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<tr>
<td>1</td>
<td>FLG x FLG (OR FLG x M.J.) RESILIENT WEDGE GATE VALVE, NON-RISING STEM</td>
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<tr>
<td>2</td>
<td>D.I.P. FLG x P.E.</td>
</tr>
<tr>
<td>3</td>
<td>FLG x FLG TEE</td>
</tr>
<tr>
<td>4</td>
<td>FLEXIBLE COUPLING PER POTABLE WATER MATERIAL GUIDELINES. FOR SAME SIZE O.D., USE DUCTILE IRON M.J. SLEEVE OR FLG x M.J. ADAPTER.</td>
</tr>
</tbody>
</table>

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

CUT-IN TEE

STD. NO. WD-18

APPROVED
DIRECTOR OF PUBLIC WORKS

REVISION

DATE 8/26/21

SHEET 1 OF 1
IN FRONT OF FIRE HYDRANT, AT TOP OF CURB, INSTALL A YELLOW ARROW MARKER IN THE DIRECTION OF VALVE, AND IN THE CURB FACE, INSTALL A YELLOW REFLECTIVE "V" MARKER.

24" SEE STD. NO. WD-22

5' MIN. 10' MAX.

5' MIN. 7' MAX.

4" X 4" X 8" DEEP CONCRETE COLLAR
(SEE NOTE 9)

2" THICK CONCRETE SUPPORT (TYP.)

WATER MAIN

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

RESIDENTIAL FIRE HYDRANT INSTALLATION

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-19

REVISION

DATE

8/2/21

SHEET 1 OF 2
NOTES:
1. PROVIDE 24" X 36" EXPANSION JOINT AROUND FIRE HYDRANT FOR NEW SIDEWALK CONSTRUCTION.
2. FIRE HYDRANT SHALL BE LOCATED A MINIMUM OF 5' FROM BCR, ECR, OR DRIVEWAY APPROACH.
3. 4-INCH OUTLET TO BE FACING STREET, PERPENDICULAR TO CURB.
4. DISTANCE TO BE 5'-3" WHEN 4-FOOT SIDEWALK IS ADJACENT TO CURB. FOR MORE DETAIL, REFER TO STD. NO. WD-22.
5. FOR ALL CASES, THE LOCATION OF FIRE HYDRANT SHALL MEET ADA REQUIREMENT THAT A MINIMUM 48-INCH CLEARANCE SHALL BE MAINTAINED FROM ANY OBSTRUCTION IN THE WALKWAY.
6. FIRE HYDRANT PAINT COLOR SHALL BE APPROVED BY THE ENGINEER.
7. CONTRACTOR SHALL USE ADDITIONAL RESTRAINED BEND(S) NECESSARY TO AVOID OTHER EXISTING OR PROPOSED UTILITIES WHEN REQUIRED.
8. FOR ROLLED CURBS, THE DISTANCE FROM THE EDGE OF PAVEMENT TO THE FIRE HYDRANT SHALL BE AS DIRECTED BY THE WATER DIVISION.
9. CONCRETE COLLAR TO BE USED ON FIRE HYDRANTS WHERE THERE IS NO CONCRETE SIDEWALK. IF GATE VALVE IS WITHIN 4', THEN EXTEND COLLAR TO A MAXIMUM OF 4' TO INCLUDE THE GATE VALVE AND INSTALL VALVE CAN PER STD. NO. WD-15.
IN FRONT OF FIRE HYDRANT AT TOP OF CURB, INSTALL A YELLOW ARROW MARKER IN THE DIRECTION OF VALVE, AND IN THE CURB FACE, INSTALL A YELLOW REFLECTIVE "V" MARKER.

24" SEE STD. NO. WD-22

5' MIN. 10' MAX.

1' OFF STREET OR 1' OFF MEDIAN CURB OR PAINTED MEDIAN

REFLECTIVE BLUE RAISED PAVEMENT MARKER

4' X 4' X 8" DEEP CONCRETE COLLAR (SEE NOTE 9)

2" THICK CONCRETE SUPPORT (TYP.)

WET BARREL FIRE HYDRANT, (2) 2-1/2" AND (1) 4" OUTLETS: 1-1/2" PENTAGON OPERATING NUT; 6 BOLT PATTERN

FIRE HYDRANT BURY ELL, IN 24", 36", 42", & 48" LENGTHS AS NEEDED; 6 BOLT PATTERN (MJ X FLG)

6" AWWA D.I. PIPE CLASS 52

6" RESILIENT WEDGE GATE VALVE, MJ X FLG, NON-RISING STEM

TEE OR TAPPING SLEEVE, TABBING TO BE PER STD. NOS. WD-13 AND WD-14

THRUST BLOCK PER STD. NO. WD-35

GATE VALVE CAN ASSEMBLY PER STD. NO. WD-16

(1) 4" AND (2) 2-1/2" METAL PROTECTOR CAPS AND CHAIN

6" DIA. C/I BREAK-AWAY CHECK VALVE, 3-1/2" LONG SOLID BOLTS INSTALLED WITH NUT ON TOP ON ALL FLANGED JOINTS

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL FIRE HYDRANT INSTALLATION

APPROVED: [Signature]
DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-20

REVISION

DATE
8/26/21

SHEET 1 OF 2
NOTES:

1. PROVIDE 24" X 36" EXPANSION JOINT AROUND FIRE HYDRANT FOR NEW SIDEWALK CONSTRUCTION.

2. FIRE HYDRANT SHALL BE LOCATED A MINIMUM OF 5' FROM BCR, ECR, OR DRIVEWAY APPROACH.

3. 4-INCH OUTLET TO BE FACING STREET, PERPENDICULAR TO CURB.

4. DISTANCE TO BE 5'—3" WHEN 4-FOOT SIDEWALK IS ADJACENT TO CURB. FOR MORE DETAIL, REFER TO STD. NO. WD-22.

5. FOR ALL CASES, THE LOCATION OF FIRE HYDRANT SHALL MEET ADA REQUIREMENT THAT A MINIMUM 48-INCH CLEARANCE SHALL BE MAINTAINED FROM ANY OBSTRUCTION IN THE WALKWAY.

6. FIRE HYDRANT PAINT COLOR SHALL BE APPROVED BY THE ENGINEER.

7. CONTRACTOR SHALL USE ADDITIONAL RESTRAINED BEND(S) NECESSARY TO AVOID OTHER EXISTING OR PROPOSED UTILITIES WHEN REQUIRED.

8. FOR ROLLED CURBS, THE DISTANCE FROM THE EDGE OF PAVEMENT TO THE FIRE HYDRANT SHALL BE AS DIRECTED BY THE WATER DIVISION.

9. CONCRETE COLLAR TO BE USED ON FIRE HYDRANTS WHERE THERE IS NO CONCRETE SIDEWALK. IF GATE VALVE IS WITHIN 4", THEN EXTEND COLLAR TO A MAXIMUM OF 4' TO INCLUDE THE GATE VALVE AND INSTALL VALVE CAN PER STD. NO. WD-16.
### HYDRANT LOCATION PLANS

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<thead>
<tr>
<th>ITEM</th>
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</tr>
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<tbody>
<tr>
<td>1</td>
<td>3&quot; F.I.P. X 2-1/2&quot; NST FIRE HOSE OUTLET RECYCLED WATER WHARF HEAD STYLE HYDRANT WITH 2-1/2&quot; HOSE OUTLET, PAINTED PURPLE</td>
</tr>
<tr>
<td>2</td>
<td>4&quot; D.I.P. SPOOL, FLG X FLG</td>
</tr>
<tr>
<td>3</td>
<td>4&quot; D.I.P., 90 DEGREE BEND, FLG X M.J. OR FLG X FLG</td>
</tr>
<tr>
<td>4</td>
<td>4&quot; FLG X M.J. VALVE</td>
</tr>
<tr>
<td>5</td>
<td>4&quot; D.I.P. SPOOL, PAINTED PURPLE</td>
</tr>
<tr>
<td>6</td>
<td>THRUST BLOCK PER STD. NO. WD-35</td>
</tr>
<tr>
<td>7</td>
<td>4&quot; D.I.P. WHERE REQUIRED</td>
</tr>
<tr>
<td>8</td>
<td>CONSTRUCT 48&quot; X 36&quot; X 6&quot; THICK OR 36&quot; X 36&quot; X 6&quot; THICK CONCRETE PAD REINFORCED WITH W.W.F. 1.6 X 1.6. SEE HYDRANT LOCATION PLANS ON THIS SHEET FOR APPLICABLE CONDITION</td>
</tr>
<tr>
<td>9</td>
<td>VALVE BOX PER STD. NO. WD-16. VALVE COVER PAINTED PURPLE, WITH &quot;RECLAIMED WATER&quot; CASTING</td>
</tr>
<tr>
<td>10</td>
<td>4&quot; DUCTILE IRON COMPANION FLANGES, THREADED, WITH BREAK—AWAY BOLTS</td>
</tr>
<tr>
<td>11</td>
<td>4&quot; FLG X 3&quot; F.I.P. DUCTILE IRON COMPANION FLANGE AND 3&quot; CLOSE NIPPLE PIPE</td>
</tr>
</tbody>
</table>

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**CITY OF SOUTH GATE**

DEPARTMENT OF PUBLIC WORKS

RECYCLED WATER WHARF HEAD HYDRANT

APPROVED: [Signature]

DIRECTOR OF PUBLIC WORKS

REVISED: 8/26/21

STD. NO. WD-21

REVISION

DATE

SHEET 1 OF 2
NOTES:
1. RECYCLED WATER WHARF HEAD TYPE HYDRANTS FOR PERMANENT USE SHALL BE CONSTRUCTED ON THE MAIN LINE ONLY IN SELECT LOCATIONS AS APPROVED BY THE ENGINEER.
2. RECYCLED WATER WHARF HEAD TYPE HYDRANTS SHALL BE PAINTED PURPLE.
3. LOCATE 2-1/2" HOSE OUTLET PERPENDICULAR TO THE CURB LINE.
4. AT NO POINT SHALL ANY PART OF THE HYDRANT BE CLOSER THAN 36" AWAY FROM ANY STRUCTURE, LANDSCAPING, OR PATH OF TRAVEL.
5. FILL BREAK-AWAY BOLTS WITH SILICONE SEALANT.
NOTE:

FOR ALL CASES, THE LOCATION OF FIRE HYDRANT SHALL MEET ADA REQUIREMENTS THAT A MINIMUM 48-INCH CLEARANCE SHALL BE MAINTAINED FROM ANY OBSTRUCTION IN THE WALKWAY.
NO. | SIZE AND DESCRIPTION
--- | ---
1 | RESIDENTIAL FIRE METER: MINIMUM 1" FOR RESIDENTIAL FIRE SERVICE
2 | DOUBLE CHECK VALVE BACK FLOW ASSEMBLY, U.S.C. APPROVED
3 | IRRIGATION SHUT OFF VALVE
4 | IRRIGATION LINE
5 | PRIVATE PROPERTY SHUTOFF
6 | ACCESS PANEL WITH FIRE DEPT. SIGNAGE
7 | FIRE SPRINKLER SPARE HEAD BOX
8 | APPROVED FIRE SPRINKLER SYSTEM

**NOTES:**
1. FOR WATER SERVICE AND METER DETAILS, SEE STANDARD PLANS.
2. REMOVE AND STORE BACK FLOW ASSEMBLY SHUT OFF VALVE HANDLES IN FIRE SPRINKLER SPARE HEAD BOX.
CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

METER PROTECTION FOR RESIDENTIAL FIRE SPRINKLER SYSTEM

METER & SERVICE SIZE AS REQUIRED
CITY WATER MAIN

METHOD - 1

METER & SERVICE SIZE AS REQUIRED
CITY WATER MAIN

METHOD - 2

NOTES:
NFPA 13D COMPLIANCE IS REQUIRED.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED
DIRECTOR OF PUBLIC WORKS

STD. NO.
WD-24

REVISION

DATE
8/26/21

SHEET 1 OF 1
LIST OF MATERIALS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>APPROVED REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY.</td>
</tr>
<tr>
<td>2</td>
<td>BRASS UNION REQUIRED IF THREADED FITTINGS (ELBOWS) ARE USED.</td>
</tr>
<tr>
<td>3</td>
<td>BACKFLOW PREVENTION ASSEMBLY ENCLOSURE PER MANUFACTURER'S RECOMMENDATIONS (SEE NOTES 1 AND 2). MUST BE HINGED, LOCKABLE, ROUNDED TUBULAR SHAPE.</td>
</tr>
<tr>
<td>4</td>
<td>CONCRETE PAD, CLASS 520-C-2500, MUST BE CONSTRUCTED TO ENSURE 4&quot; CLEARANCE AROUND THE BACKFLOW ENCLOSURE.</td>
</tr>
</tbody>
</table>

NOTES:

1. SEE SPECIFICATIONS FOR APPROVED BACKFLOW ASSEMBLIES, BACKFLOW ENCLOSURES, TESTING REQUIREMENTS, PLACEMENT OF BACKFLOW ASSEMBLIES AND OTHER REQUIREMENTS.

2. PROPOSED LOCATION OF THE BACKFLOW DEVICE, PROTECTIVE ENCLOSURE AND ALL PARTS MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

3. ALL FITTINGS AND PIPE SHALL BE BRASS OR COPPER WITH EITHER IPT OR SOLDERED CONNECTIONS, RESPECTIVELY. NO PVC UNDER ENCLOSURE CONCRETE SLAB – COPPER ONLY. INLET AND OUTLET PIPE SHALL BE COPPER.

4. A WYE STRAINER OR HOSE BIBB IS NOT ALLOWED TO BE INSTALLED ON BACKFLOW ASSEMBLY PIPING.

5. A PRESSURE REDUCER, IF REQUIRED, IS ONLY PERMITTED AT THE BUILDING AND NOT ON THE BACKFLOW ASSEMBLY.

6. THERE SHALL BE NO CONNECTIONS BETWEEN THE METER AND THE BACKFLOW ASSEMBLY.

7. FINAL PLACEMENT OF THE BACKFLOW PREVENTION ENCLOSURE MUST BE AT LEAST 12" BEHIND THE PUBLIC RIGHT-OF-WAY.

8. IF A NEW METER IS INSTALLED, PIPE SHALL BE COPPER FROM METER TO BACKFLOW. IF THERE IS EXISTING PIPING TO THE METER, IT MAY REMAIN PER PLUMBING CODE.
LENGTH VARIES DEPENDING ON SIZE OF BACKFLOW ASSEMBLY

PLAN
CUSTOMER MAINTAINED PIPING

ELEVATION

FLOW

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

DOUBLE CHECK BACKFLOW ASSEMBLY

STD. NO.
WD-26

APPROVED
DIRECTOR OF PUBLIC WORKS

REVISION
DATE

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<tr>
<th>ITEM</th>
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<tbody>
<tr>
<td>1</td>
<td>DUCTILE IRON 90° BEND FLG x MJ</td>
</tr>
<tr>
<td>2</td>
<td>DUCTILE IRON 90° BEND FLG x FLG</td>
</tr>
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<td>DUCTILE IRON SPOOL FLG x FLG LENGTH AS REQUIRED</td>
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<td>4</td>
<td>TRANSITION COUPLING (BY OTHERS, FOR ON-SITE CONNECTION WHEN ON-SITE PIPING EXISTS)</td>
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<tr>
<td>5</td>
<td>APPROVED DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY WITH RISING STEM RESILIENT WEDGE GATE VALVES</td>
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<tr>
<td>6</td>
<td>6&quot; THICK P.C.C. SLAB, REINFORCE WITH W.W.F. 1.6 X 1.6</td>
</tr>
<tr>
<td>7</td>
<td>FLG X MJ ADAPTER WITH RETAINER GLAND</td>
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<tr>
<td>8</td>
<td>FACTORY INSTALLED BY-PASS METER ASSEMBLY CONSISTING OF APPROVED POSITIVE DISPLACEMENT METER, REDUCED PRESSURE PRINCIPLE DEVICE AND ASSOCIATED PIPING. METER TO BE USED FOR FIRE SYSTEMS ONLY</td>
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<td>9</td>
<td>THRUST BLOCK PER STD. NO. W-35</td>
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<tr>
<td>10</td>
<td>PIPE SUPPORT PER STD. NO. WD-43</td>
</tr>
<tr>
<td>11</td>
<td>DUCTILE IRON PIPE PE X FLG</td>
</tr>
<tr>
<td>12</td>
<td>END CAP (IF REQUIRED)</td>
</tr>
<tr>
<td>13</td>
<td>DUCTILE IRON 90° BEND FLG X FLG. FOR 3&quot; DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY USE 4&quot;x3&quot; DUCTILE IRON 90° REDUCING BEND FLG x FLG</td>
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NOTES:

1. NOTIFY CITY PRIOR TO INSTALLATION OF BACKFLOW DEVICE.
2. BACKFLOW ASSEMBLY SHALL BE A MINIMUM OF 36" FROM ANY STRUCTURE, CURB OR SIDEWALK.
3. LOCATION OF BACKFLOW ASSEMBLY SHALL BE APPROVED BY THE ENGINEER.
4. PLACE BRASS PLUGS IN ALL TEST VALVE OUTLETS.
5. BY-PASS METER TO BE USED FOR FIRE SYSTEMS ONLY. DO NOT INSTALL BY-PASS METERS WHERE SUPPLY TO DEVICE IS ALREADY METERED.
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<td>APPROVED N-PATTERN REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY WITH RISING STEM RESILIENT WEDGE GATE VALVES</td>
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<td>THRUST BLOCK PER STD. NO. W-35</td>
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<tr>
<td>⑩</td>
<td>DUCTILE IRON PIPE SECTION, 24&quot; LONG</td>
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<td>⑪</td>
<td>END CAP (IF REQUIRED)</td>
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NOTES:
1. MAINTAIN POSITIVE SLOPE FROM MAIN TO AIR RELEASE VALVE.
2. SLIP-ON OR COPPER FITTINGS WITH SILVER SOLDER BRAZING SHALL BE USED IN LIEU OF COPPER PACK JOINTS.
3. AIR VALVE ASSEMBLY SHALL BE LOCATED PER STD. NO. WD-32.
4. AS AN ALTERNATIVE, THE ENCLOSURE CAN BE 12" DIA. X 24" HIGH.
LOW LINEAR DENSITY POLYETHYLENE ENCLOSURE (SANDSTONE COLOR) (20" DIA x 30" HIGH) ARMORCAST OR APPROVED EQUAL

STAINLESS STEEL WIRE MESH W/ THREADED VENT CAP

28" SQ. CONC. BASE

VALVE BOX PER STD. NO. WD-16

AC PAVEMENT

2" ELBOW, FIPxCOPPER, PACK JOINT

2" BALL VALVE, CCxMIP

2" COPPER PIPE, TYPE "K" SOFT

SERVICE SADDLE, (MAIN SIZE x 2" F.I.P.)

2 EA. - 2"x90° ELBOWS THREAD.ED, 2 EA. - 2" PIPE NIPPLES

2 COMBINATION AIR VALVE (SINGLE BODY)

2" BRASS NIPPLE

2" BRASS COUPLING OR TWO FLANGES W/ INSULATED BUSHINGS

3/8"x6" ANCHOR BOLT (3 TOTAL)

2" BRASS NIPPLE

14" SQUARE CONC. FILL (TO BE 6" BELOW PIPE)

2" BALL VALVE CURB STOP W/ SQUARE NUT, COPPER PACK JOINT INLET & OUTLET

2" COPPER PIPE

2"x90° BRASS BEND

2" BALL VALVE, CCxMIP

NOTES:
1. MAINTAIN POSITIVE SLOPE FROM MAIN TO AIR RELEASE VALVE.
2. SLIP-ON OR COPPER FITTINGS WITH SILVER SOLDER BRAZING SHALL BE USED IN LIEU OF COPPER PACK JOINTS.
3. AIR VALVE ASSEMBLY SHALL BE LOCATED PER STD. NO. WD-32.
NOTE:

FOR ALL CASES, THE LOCATION OF AIR RELEASE AND VACUUM RELIEF ENCLOSURE SHALL MEET ADA REQUIREMENTS THAT A MINIMUM 48" CLEARANCE SHALL BE MAINTAINED FROM ANY OBSTRUCTION IN THE WALKWAY.
WHEN TUBING crosses CURB, chip or STAMP 3" HIGH "BO" in face of CURB over TUBING, and PAINT WHITE.

1" - See NOTE 1

2" ABS PLUG
2" NIPPLE
3" MIN TYP.
90 DEG. ELBOW
4" WIDE REDWOOD SHIMS at the entirE WIDTH of the BOX.

FLUSH IN STREET or SIDE WALK

PREFABRICATED METER BOX with 4K LID

2" ANGLE METER STOP

3/4" ROCK DRAIN

3" TYP.

FOAM BOARD or BUILDING PAPER BOND BREAKER TO SEPARATE CONCRETE FROM BOLTS

BLIND FLANGE with 2" TAP, OFFSET FROM CT, NEAR THE PIPE INVERT

5-FT. MIN. (NO SERVICES)

FLANGED COUPLING ADAPTOR

2" COPPER

1" WIDE PLUMBER'S STRAP CONNECTED to REDWOOD SHIMS with 4 (MIN.) NAILS or SCREWS.

WATER MAIN

VALVE (OPTIONAL)

NIPPLE & MACHINE FITTING, FITTING MIN. 2" ABOVE THRUST BLOCK

THREADS INSULATING BUSHING, NIPPLE, AND 2" STREET ELBOW

NOTES:
1. LOCATE METER BOX 1" ABOVE GRADE IN UNIMPROVED AREAS.
2. ALL PARTS TO BE BRASS OR BRONZE, except 2" ABS PLUG.
NOTES:
1. SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE.
2. BLOW-OFF ASSEMBLIES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SPECIFICATIONS.
3. CAM & GROOVE ADAPTER SHALL BE DRILLED AND TAPPED AS REQUIRED FOR THE PRESSURE PET COCK.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>SIZE AND DESCRIPTION</th>
<th>ITEM NO.</th>
<th>SIZE AND DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24&quot; MH FRAME &amp; COVER MARKED &quot;WATER&quot;</td>
<td>9</td>
<td>USE DUCTILE IRON PIPE</td>
</tr>
<tr>
<td>2</td>
<td>4&quot; OR 6&quot; CAM &amp; GROOVE ADAPTER x MIPT WITH LOCKING DUST CAP, SEE NOTE 3</td>
<td>10</td>
<td>VALVE WELL FRAME AND COVER (SEE STD. NO. WD-16)</td>
</tr>
<tr>
<td>3</td>
<td>1/4&quot; PRESSURE PET COCK</td>
<td>11</td>
<td>4&quot; OR 6&quot; FLG x MJ/FLG RWGV</td>
</tr>
<tr>
<td>4</td>
<td>4&quot; OR 6&quot; FLANGED COMPANION x FIPT</td>
<td>12</td>
<td>WATER MAIN</td>
</tr>
<tr>
<td>5</td>
<td>3/8&quot; ROCK 4&quot; TO 6&quot; DEEP</td>
<td>13</td>
<td>SIZE x 4&quot; OR 6&quot; MJ/FLG x FLG TEE</td>
</tr>
<tr>
<td>6</td>
<td>4&quot; OR 6&quot; FLG DI PIPE x REQUIRED LENGTH (MAXIMUM OF 2 SPOOLS)</td>
<td>14</td>
<td>4&quot; OR 6&quot; FLANGED 45° BEND</td>
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<tr>
<td>7</td>
<td>CONCRETE THRUST BLOCK (SEE STD. NO. WD-35)</td>
<td>15</td>
<td>4&quot; OR 6&quot; x 24&quot; FLG DI SPOOL</td>
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<tr>
<td>8</td>
<td>4&quot; OR 6&quot; FLG x FLG OR FLG x MJ TEE</td>
<td>16</td>
<td>4&quot; OR 6&quot; DI BLIND FLANGE</td>
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CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

4 AND 6-INCH BLOW-OFF INSTALLATION

APPROVED
DIRECTOR OF PUBLIC WORKS

8/26/21

REVISION
DATE

STD. NO.
WD-34

SHEET 1 OF 1
NOTES:

1. ALL BURIED BOLTS SHALL BE COATED WITH "BITUMASTIC NO. 50" OR APPROVED EQUAL.
2. THRUST BLOCK AREAS BASED ON 225 PSI PRESSURE AND 2,000 PSF ALLOWABLE SOIL PRESSURE WITH 23/4 FEET OF COVER MINIMUM. ADDITIONAL BEARING AREA REQUIRED FOR SPECIAL CONDITIONS SHALL BE APPROVED BY THE ENGINEER.
3. THRUST BLOCK BEARING FACES SHALL BE PLACED AGAINST UNDISTURBED SOIL, APPROVED COMPACTED BACKFILL OR CLASS 100-E-100 SLURRY.
4. THRUST BLOCKS SHALL BE 560-C-3250 CONCRETE, UNLESS SPECIFIED OTHERWISE.
   A. INSTALL ¾" BEND ROD HANDLES
   B. USE CARDBOARD SEPARATORS BETWEEN BLOCKS, IF NEEDED.

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
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<td>2</td>
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<td>16.3</td>
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<td>11.3</td>
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<td>2</td>
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<td>2</td>
<td>40.1</td>
<td>15.1</td>
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</tbody>
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CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

STANDARD THRUST BLOCK

REVISION
STD. NO.
WD-35

DIRECTOR OF PUBLIC WORKS

DATE

1 OF 1
NOTES:

1. RELATIVE COMPACTION IN PIPE TRENCHES SHALL BE AS FOLLOWS:
   A. PIPE BASE AND PIPE ZONE: PIPE BASE AND PIPE ZONE—90% RELATIVE COMPACTION.
   B. TRENCH ZONE — NOT BENEATH PAVING: BACKFILL IN TRENCH ZONE NOT BENEATH PAVING—90% RELATIVE COMPACTION.
   C. TRENCH ZONE — PAVED AREAS: BACKFILL IN TRENCH ZONE IN PAVED AREAS—90% RELATIVE COMPACTION.
   D. STREET ZONE: TOP 18 INCHES OF TRENCH. BACKFILL IN STREET ZONE IN PAVED AREAS—95% RELATIVE COMPACTION.
   E. FOUNDATION STABILIZATION: ROCK REFILL MATERIAL FOR FOUNDATION STABILIZATION—90% RELATIVE DENSITY.
   F. OVEREXCAVATION: ROCK REFILL FOR OVEREXCAVATION—90% RELATIVE DENSITY.
   G. COMPACTION TESTS: PERFORM COMPACTION TESTS AT RANDOM DEPTHS AND AT 200-FOOT INTERVALS, AND AS DIRECTED BY ENGINEER.

2. CLEAR SPACE SHALL BE BETWEEN 6 INCHES AND 8 INCHES FOR PIPE DIAMETER 10 INCHES AND UNDER. FOR PIPE DIAMETER 12 INCHES AND GREATER, CLEAR SPACE SHALL BE 12 INCHES.

3. SAND—CEMENT SLURRY IN PIPE ZONE AND PIPE BASE SHALL CONSIST OF ONE SACK.
NEW POTABLE WATER LINE

PARALLEL CONSTRUCTION

PERPENDICULAR CROSSING

IF ANY WATER LINE IS TO BE CONSTRUCTED WITHIN ANY OF THE ABOVE INDICATED ZONES, SPECIAL CONSTRUCTION SHALL BE REQUIRED AS DESCRIBED BELOW.

ZONE DOMESTIC WATER (SEE GENERAL NOTE 3)

A. DO NOT LOCATE ANY PARALLEL DOMESTIC WATER LINE IN THIS AREA A WITHOUT STATE AND LOCAL HEALTH DEPARTMENT APPROVAL.


NEW SEWER & RECYCLED WATER LINES

PARALLEL CONSTRUCTION

ZONE C (NO JOINTS)

PERPENDICULAR CROSSING

ZONE D (NO JOINTS)

PROHIBITED ZONE

WATER

1'

6'

4'

4'

6'

IF ANY SEWER OR RECLAIMED WATER PIPELINES ARE TO BE CONSTRUCTED WITHIN ANY OF THE ABOVE INDICATED ZONES, SPECIAL CONSTRUCTION SHALL BE REQUIRED AS DESCRIBED BELOW.

ZONE    SEWER                        RECYCLED WATER
---     -----------------------------  -----------------------------
A.      DO NOT LOCATE ANY PARALLEL SEWER OR RECLAIMED WATER LINES IN THIS AREA WITHOUT A STATE AND LOCAL HEALTH DEPARTMENT APPROVAL.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

PIPELINE SEPARATION REQUIREMENTS

APPROVED
DIRECTOR OF PUBLIC WORKS

REVISED
DATE

STD. NO.
WD-37

SHEET 2 OF 3
BASIC SEPARATION STANDARDS

1. PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN DOMESTIC WATER AND RECLAIMED WATER LINES AND SEWER LINES SHALL BE AT LEAST 10 FEET, OUTSIDE OF PIPE TO OUTSIDE OF PIPE.

2. PERPENDICULAR CONSTRUCTION (CROSSING): WATER LINES SHALL BE AT LEAST ONE FOOT ABOVE SEWER AND RECLAIMED WATER LINES WHERE THESE LINES MUST CROSS.

3. SPECIAL PROVISIONS: WHERE THE BASIC SEPARATION STANDARDS CANNOT BE ATTAINED ALTERNATIVE CONSTRUCTION CRITERIA ARE SHOWN BELOW:

GENERAL NOTES:

1. NO PIPE JOINTS SHALL BE PERMITTED WITHIN ZONE D. IT IS THE INTENT OF THESE REQUIREMENTS NO JOINTS SHALL OCCUR WITHIN ZONE C. IF THAT CANNOT BE ACCOMPLISHED, THE NEW LINE SHALL BE ENCASED FOR THE FULL LENGTH OF ZONE C.

2. SEWER FORCE MAINS SHALL NOT BE PERMITTED IN ZONES A THROUGH D.

3. THE MATERIALS OF NEW LINE'S AT CROSSINGS SHALL BE CONSISTENT WITH OTHER NEW MATERIALS I.E., STEEL ON A STEEL LINE.

4. THESE CONSTRUCTION CRITERIA APPLY TO HOUSE SEWER LATERALS THAT CROSS ABOVE A WATER MAIN, BUT NOT TO THOSE THAT CROSS BELOW A WATER LINE.
NOTES:
1. ALL PIPE JOINTS AT 90° BENDS SHALL BE RESTRAINED. FLANGED JOINTS MAY BE USED WHERE CONDITIONS WARRANT.
2. INSTALLATION SHALL BE ENCASED IN A POLYETHYLENE WRAP PER AWWA STANDARD C105.
3. ALL PIPE JOINTS SHALL BE RESTRAINED.
4. TRENCH BACKFILL AND BEDDING SHALL BE AS SHOWN ON STD. NO. WD-36.
CONSTRUCTION NOTES:

1. DUCTILE IRON FLANGED SPOOL (LENGTH AS REQUIRED).
2. 45° DUCTILE IRON FLANGED BEND.
3. MJ x FLG ADAPTOR (IF REQUIRED).
4. THRUST BLOCK PER STD. NO. WD-35.
5. 1" AIR RELEASE ASSEMBLY PER STD. NO. WD-30 (INSTALL ON HIGH END), IF REQUIRED.
6. SEE STD. NO. WD-37 IF OBSTRUCTIONS ARE SEWER OR STORM DRAIN MAINS.
7. SEPARATION REQUIREMENT PER STD. NO. WD-37.

NOTE: COAT ALL EXPOSED BOLTS WITH 3M EC-244 COATING OR APPROVED EQUAL.
**BONDING CLIP NOTES**

1. **BONDING CLIPS SHALL BE LOCATED AT THE SPRING LINE OF THE PIPE.**

2. **BONDING CLIPS SHALL BE MADE OF ASTM A366 STEEL WITH A CUT LENGTH OF 2-1/2-INCHES AND WIDTH OF 1-1/4-INCH.**

3. **LYTHERM FILLER STRIP SHALL BE 1-INCH X 1-1/2-INCH WIDE TO OVERLAP SIDES OF CLIP CONTRACTOR SHALL CRIMP BONDING CLIP OVER FILLER AT PT. "A" TO COMPRESS FILLER.**

**BELLOVAL AND SPIGOT RUBBER GASKET JOINT**

**LAP WELD SLIP JOINT**

**NOTE:**

1. **SEE SPECIFICATIONS FOR STEEL PIPE SHELL THICKNESS, MORTAR LINING AND COATING THICKNESS, AND INSTALLATION REQUIREMENTS.**

---

**CITY OF SOUTH GATE**  
**DEPARTMENT OF PUBLIC WORKS**

**CEMENT MORTAR LINED**  
**AND COATED STEEL PIPE**  
**JOINT DETAILS**

**APPROVED**

**DIRECTOR OF PUBLIC WORKS**

**STD. NO.**  
**WD-40**

**REVISION**

**DATE**

**SHEET 1 OF 1**
NOTE:
1. SEE SPECIFICATIONS FOR STEEL PIPE SHELL THICKNESS, MORTAR LINING AND COATING THICKNESS, AND INSTALLATION REQUIREMENTS.
**STLE CASING SCHEDULE**

<table>
<thead>
<tr>
<th>NOMINAL CARRIER PIPE SIZE</th>
<th>MINIMUM CASING SIZE</th>
<th>MIN. WALL THICK.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>12&quot; O.D.</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>6&quot;</td>
<td>14&quot; O.D.</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>16&quot; O.D.</td>
<td>5/16&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>18&quot; O.D.</td>
<td>5/16&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>20&quot; O.D.</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>24&quot; O.D.</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>30&quot; O.D.</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>42&quot; O.D.</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>36&quot;</td>
<td>51&quot; O.D.</td>
<td>1/2&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**

1. CASING SHALL BE INSTALLED BY THE BORE, JACK AND/OR TUNNEL METHOD.
2. SIZE AND THICKNESS OF CASING SHALL BE AS SHOWN IN SCHEDULE. FOR LONG BORES OR SPECIAL SITUATIONS, GREATER WALL THICKNESS THAN SHOWN IN THE SCHEDULE MAY BE REQUIRED.
3. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL-CIRCUMFERENCE.
4. CARRIER PIPE SHALL BE PRESSURE TESTED PRIOR TO FILLING CASING.
5. EACH END OF CASING SHALL BE SEALED WITH APPROVED RUBBER CASING END SEALS.
6. CONTRACTOR SHALL FURNISH ALL NECESSARY THRUST RESTRAINT DEVICES.
7. BACKFILL FOR CASING IN OPEN CUT TRENCH SHALL BE IN ACCORDANCE WITH STD. NO. WD–36.
8. BACKFILL ANNULAR SPACE WITH AIR BLOWN SAND.
9. PROVIDE GROUT CONNECTIONS PER STD. SPECIFICATIONS.
NOTE:
1. PIPE SUPPORT MAY BE BOLT-MOUNTED TO FLANGED JOINTS.
NOTE:
1. PIPE SUPPORT MAY BE BOLT-MOUNTED TO FLANGED JOINTS.
NOTES:

1. WATER AND RECYCLED WATER MAINS AND SEWER LATERALS 4" DIAMETER AND SMALLER SHALL HAVE A SHORT SECTION OF PIPE REMOVED AND PIPE ENDS ENCASED IN CONCRETE.

2. EXISTING MAIN TO BE PLUGGED WITH CONCRETE OR PRESSURE GROUTED AT INTERVALS OF ABOUT 200’ OR AS DIRECTED BY THE ENGINEER.

3. EXISTING MAINS 12" AND LARGER REQUIRE THE ENTIRE LENGTH OF THE PIPE TO BE FILLED BY PRESSURE GROUTING OR BY BLOWN SAND.

4. EXISTING VALVES SHALL BE TURNED TO THE CLOSED POSITION. REMOVE GATE WELL AND REPLACE WITH COMPACTED BACKFILL.

5. FOR ABANDONMENT OF MANHOLES SEE SD-6.

6. PRIOR AGENCY APPROVAL REQUIRED FOR CUTTING AND PLUGGING.
NOTES:

1. TYPE "A" AND TYPE "B" PROTECTION POSTS SHALL BE INSTALLED WHERE INDICATED ON THE APPROVED PLANS OR AS DIRECTED BY THE ENGINEER. CITY OF SOUTH GATE REQUIREMENTS DICTATE IN AREAS OF CITY EQUIPMENT.

2. CHAIN TO BE 1/4" PROOF COIL CHAIN GALVANIZED STEEL. WELD 4–LINK SEGMENT TO POST AND 3–LINK SEGMENT TO SLEEVE.

3. TYPE "A" AND TYPE "B" PROTECTION POSTS SHALL BE COATED USING SAFETY YELLOW IN ACCORDANCE WITH CITY'S STANDARDS.

4. PAINT COLOR SHALL BE APPROVED BY ENGINEER.

PROTECTION POST
TYPE "A"

4–CHAIN LINK
SEGMENT WELDED
TO POST

3–CHAIN LINK
SEGMENT WELDED
TO SLEEVE

CHAIN HASP DETAIL

4" DIAMETER
GALVANIZED PIPE
POST 1/4" WALL

5" DIAMETER
GALVANIZED PIPE
SLEEVE 1/4" WALL

CONCRETE FOOTING

DEMOUNTABLE PROTECTION POST
TYPE "B"

©

LEGEND ON PLANS

PROTECTION POST
TYPE "B"

4" DIAMETER
GALVANIZED STEEL POST,
1/4" WALL FILLED
WITH CONCRETE

CONCRETE FOOTING

8" MIN
DIAMETER

LEGEND ON PLANS

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

PROTECTION POST
INSTALLATION

APPROVED

DIRECTOR OF PUBLIC WORKS

WD-46

STD. NO.

REVISION

DATE

SHEET 1 OF 1
SEWER SYSTEM
NOTES:
1. MANHOLE FRAME AND ALL JOINTS SHALL BE SET IN CLASS "C" MORTAR.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478.
3. VERTICAL WALL OF CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.
4. CONCRETE BASE SHALL BE 560–C–3250.
5. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
   A) CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THAN 3').
   B) 6" TO 18" OF 3' DIAMETER GRADE RINGS AND/OR RISERS.
   C) 5' DIAMETER SHAFT VARIABLE HEIGHT.
6. FLEXIBLE PIPE JOINTS SHALL BE REQUIRED WITHIN 12" OF OUTSIDE FACE OF MANHOLE.
7. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
8. PRECAST BASE SHALL BE APPROVED BY THE ENGINEER.
9. MANHOLE LINING SHALL BE PER STD. NO. SD–5.
10. USE PREFORMED COLD–APPLIED READY–TO–USE PLASTIC JOINING SEALANT COMPOUNDS FOR ALL MANHOLE JOINTS. REMOVE EXCESS FROM SURFACES INSIDE THE MANHOLE PRIOR TO APPLYING MANHOLE LINING.
SECTION B-B

NOTES:
1. FOR PVC SEWER PIPE, USE CONCRETE MANHOLE ADAPTER. FOR VCP SEWER PIPE, USE WATER TIGHT FLEXIBLE MANHOLE CONNECTOR.
2. USE SAME MATERIAL AS IN SEWER MAIN (TYP.).
SECTION B-B

520-A - 3000 CONCRETE

30" DIA.

8" MAX.

TAPERED CONE 2:4 MIN.

MORTAR

INLET

OUTLET

VARIABLE

3/4 D

4" MIN.
UNDISTURBED EARTH

SEE STD. NO. SD-1 FOR JOINT DETAIL

SECION A-A

VARES

SLOPE IN 12"

1"

PLAN

OPTIONAL BASE

LOCATION OF MANHOLE COVER

(SHELF)

FLOW

(SHELF)

4" DIA.

INLET

OUTLET

NOTES:

1. EXCEPT AS INDICATED HEREON OR ON THE PROJECT PLANS, MANHOLES SHALL CONFORM TO STD. NO. SD-1 PRECAST CONCRETE MANHOLE.

2. IN UNPAVED TRAFFIC AREAS FORM A CONCRETE COLLAR 10" WIDE AND 10" DEEP AROUND MANHOLE FRAME.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED
DIRECTOR OF PUBLIC WORKS

STD. NO.
SD-2

REVISION

DATE

8/26/21

SHEET 1 OF 1
NOTES:

1. FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.

2. ALL APPLICABLE PROVISIONS OF STD. NO. SD-1 STANDARD MANHOLE SHALL APPLY TO DROP MANHOLE.

3. THIS CONFIGURATION IS ALLOWED ONLY FOR A NEW SEWER CONNECTION TO AN EXISTING MANHOLE, SO THAT THE SLOPE OF THE NEW SEWER PIPE DOES NOT EXCEED 5%.

4. EXISTING MANHOLE MUST BE COMPLETELY LINED OR COATED.

5. WEIGHT OF CLEAN-OUT LID MUST NOT BE SUPPORTED BY THE PIPE.
NOTES:
1. MANHOLE BASE SHALL BE COATED PER STD. NO. SD-5.
2. LOWEST POINT ON SHELF SHALL BE EVEN WITH TOP OF PIPE.
3. CAST IN PLACE MANHOLE BASES CAST WITH 560-C-3250 SHALL BE CURED A MINIMUM OF THREE DAYS PRIOR TO STACKING MANHOLE. BASES CAST WITH 560-CW-4000 (WITHOUT CALCIUM CHLORIDE (CC)) OR WITH 560-C-3250 TREATED WITH A MINIMUM OF 2% CC SOLUTION IN ACCORDANCE WITH 201-1 SHALL BE CURED A MINIMUM OF 24 HOURS. THESE CURING REQUIREMENTS APPLY TO MANHOLES WITH A MAXIMUM HEIGHT OF 25". SHORTER CURING TIMES, DEEPER INSTALLATIONS, AND ALTERNATE CONCRETE MIX DESIGNS REQUIRE ENGINEER'S PRIOR APPROVAL.
4. CONCRETE SPECIFIED BY ALTERNATE CLASS OR OTHERWISE CONTAINING FLY ASH IS NOT ALLOWED FOR USE IN CAST IN PLACE MANHOLES.
5. CONCRETE MIX DESIGNS CONTAINING ACCELERATING ADMIXTURES OTHER THAN CC REQUIRE A BREAK HISTORY AND ENGINEER'S APPROVAL.
NOTES:

1. REFER TO SPECIFICATIONS WHERE APPLICABLE.

2. MANHOLES FOR SEWER MAINS SHALL BE COATED AND LINED.

3. MANHOLE SHAFT AND CONE SECTIONS, AND GRADE RINGS SHALL BE PVC LINED OR EPOXY/POLYURETHANE COATED. INTERIOR COATING AND LINING TYPES SHALL BE APPROVED BY THE ENGINEER. APPLY NON-SKID COATING ON TOTAL SHELF AREA.

4. ELASTOMERIC POLYURETHANE COATING SHALL BE APPLIED TO THE INTERIOR OF MANHOLE BASES.

5. MATERIALS SHALL BE SELECTED FROM THE CITY'S APPROVED MATERIALS LIST.
NOTES:
1. REFER TO SPECIFICATIONS WHERE APPLICABLE.
2. ALL SALVAGED MATERIAL BECOMES PROPERTY OF CITY OF SOUTH GATE.
3. BACKFILL PER CITY'S REQUIREMENT.
4. FOR CUTTING & PLUGGING ABANDONED SEWER MAINS, SEE STD. NO. WD-45.
NOTES:
1. FRAME AND COVER SHALL BE CAST IRON. CAST IRON SHALL CONFORM TO ASTM 48, CLASS 35B.
2. WEIGHTS: FRAME 166 LBS – 193 LBS. COVER 147 LBS = 171 LBS.
3. MACHINE ALL MATCHING SURFACES AND SEATS OF FRAME AND COVER TO PREVENT ROCKING.
4. IMPORTED FRAMES AND COVERS SHALL HAVE THE COUNTRY OF ORIGIN MARKED IN COMPLIANCE WITH FEDERAL REGULATIONS.

FOR
SEWER PROJECTS
STORM DRAIN PROJECTS
WATER PROJECTS
MARK
SEWER
STORM DRAIN
WATER

24" MANHOLE FRAME AND COVER HEAVY DUTY

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED
DIRECTOR OF PUBLIC WORKS

STD. NO.
SD-7

REVISION
DATE

SHEET 1 OF 1
3/4" RADIUS LUG SLOT IN BOTH SIDES OF RIM
3/4" DIA. PICK HOLE
2" x 1" DIAMOND MAT, 1/8" DEEP
COSG STORM DRAIN

TOP OF FRAME & COVER

LETTERS 1" HIGH, NO OTHER INSCRIPTION TO APPEAR ON EXPOSED SURFACES.

15"
1 1/4"

OPEN POSITION MARK, 1/8" DEEP GROOVE IN BOTH SIDES OF RIM AND COVER.

DIA. CLEAR OPENING

SECTION THROUGH RIM

23 5/8" OUTSIDE DIA. OF COVER

SECTION THROUGH FRAME & COVER

22" DIA. CLEAR OPENING

MACHINED SURFACE
LUG, BOTH SIDES
5/8" R

BOTTOM OF COVER

SAME ANGLE THROUGHOUT

OUTLINE WHERE RIB JOINS RIM
OUTLINE WHERE RIBS JOIN

SECTION THROUGH RIB AT MID RADIUS

FOR MARK
SEWER PROJECTS SEWER
STORM DRAIN PROJECTS STORM DRAIN
WATER PROJECTS WATER

NOTES:
1. FRAME AND COVER SHALL BE CAST IRON. CAST IRON SHALL CONFORM TO ASTM 48, CLASS 30.
2. FRAME AND COVER FOR USE IN NON-TRAFFIC AREA ONLY.
3. WEIGHTS: FRAME 29 LBS – 33 LBS.
   COVER 95 LBS – 110 LBS.
4. IMPORTED FRAMES AND COVERS SHALL HAVE THE COUNTRY OF ORIGIN MARKED IN COMPLIANCE WITH FEDERAL REGULATIONS.
NOTES:
1. FRAME AND COVER SHALL BE CAST IRON. CAST IRON SHALL CONFORM TO ASTM 48, CLASS 35B.
2. WEIGHTS: FRAME 314 LBS – 363 LBS.
   OUTER COVER 285 LBS – 330 LBS.
   INNER COVER 147 LBS – 171 LBS.
3. MACHINE ALL MATCHING SURFACES AND SEATS OF FRAME AND COVER TO PREVENT ROCKING.
4. IMPORTED FRAMES AND COVERS SHALL HAVE THE COUNTRY OF ORIGIN MARKED IN COMPLIANCE WITH FEDERAL REGULATIONS.
NOTES:

1. A RUBBER O-RING OR A FLEXIBLE CONNECTOR (AS SHOWN IN PRECAST MANHOLE BASE TYPE 'B') SHALL BE USED WHEN BREAKING INTO EXISTING MANHOLE.

2. FOR MANHOLE COATING AND LINING, SEE STD. NO. SD-5.
NOTES:

1. In no case shall a lateral connect to the sewer main directly on top of the pipe.

2. All joints on sewer lateral pipe shall be VCP compression type.

3. Lateral shall extend to property line unless shown otherwise on plans.

4. Do not tap hole and insert lateral pipe directly into main. All connections shall be made using a saddle or wye cut in.

5. Sewer lateral shall have 6" metal tape with green lettering indicating "sewer" installed above the alignment of the non-metallic pipe from sewer main to property line.

DETAIL SHOWING THE MANNER OF CONNECTING OPPOSITE LATERALS TO A SEWER MAIN. TWO CONNECTIONS SHALL NOT BE MADE IN THE SAME LENGTH OF PIPE.

LEGEND ON PLANS

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

HOUSE CONNECTION
(SEWER LATERAL)

STD. NO.
SD-11

APPROVED

DIRECTOR OF PUBLIC WORKS

REVISED

DATE

8/26/21

SHEET 1 OF 1
BAND SEAL COUPLING FOR WYE OR TEE CONNECTION TO SEWER LATERAL

FACTORY MADE WYE OR TEE FITTING

FLOW

BAND SEAL COUPLING FOR WYE OR TEE CONNECTION TO SEWER MAIN

SEWER MAIN TO BE MACHINE CUT FOR WYE OR TEE CONNECTION

FACTORY MADE WYE OR TEE CONNECTION

NOTES:
1. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.
2. NO MORE THAN ONE CUT-IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING VCP SEWER MAIN.
3. FOR SEWER LATERAL INSTALLATION, SEE STD. NO. SD-11.
4. FOR TRENCH BACKFILL, SEE STD. NOS. SD-14, SD-15, AND SD-16.
5. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST.
NOTES:
1. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.
2. NO MORE THAN ONE CUT-IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING VCP SEWER MAIN.
3. FOR SEWER LATERAL INSTALLATION, SEE STD. NO. SD-11.
4. FOR TRENCH BACKFILL, SEE STD. NOS. SD-14, SD-15, AND SD-16.
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<tr>
<th>ITEM</th>
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<tr>
<td>1</td>
<td>45° SADDLE WYE WITH GASKET</td>
<td>4</td>
<td>CONCRETE ENCASEMENT</td>
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<td>2</td>
<td>STAINLESS STEEL HOSE CLAMPS (2-EACH)</td>
<td>5</td>
<td>EXISTING VCP SEWER MAIN</td>
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<td>3</td>
<td>EXISTING PVC SEWER MAIN</td>
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CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

SADDLE CONNECTION

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.
SD-13

REVISION

DATE

SHEET 1 OF 1
NOTES:

1. FOR TRENCH RESURFACING IN IMPROVED STREETS, SEE STD. NO. WD-36.

2. (*) INDICATES MINIMUM RELATIVE COMPACTION.

3. UNLESS INDICATED OTHERWISE IN DRAWINGS OR SPECIFICATIONS, MINIMUM DEPTH OF COVER FROM THE TOP OF PIPE TO FINISH GRADE FOR SEWER MAIN SHALL BE 5'. FOR SHALLOWER DEPTH, SPECIAL DESIGN IS REQUIRED.

4. SEE TYPE A INSTALLATION FOR DETAILS NOT SHOWN FOR TYPES B AND C.

5. FOR PIPE SIZE ENCASMENT LARGER THAN 15", MAXIMUM SIDE WALL CLEARANCE SHALL BE 12" OR AS SHOWN ON THE PLANS.

6. 6" METAL WARNING TAPE SHALL BE INSTALLED ABOVE PIPE 4" BELOW TRENCH CAP AND 12" BELOW FINISH GRADE IN UNIMPROVED STREETS.

7. 1" SAND CUSHION OR A 6" MINIMUM SAND CUSHION WITH 1" NEOPRENE PAD SHALL BE PLACED FOR CROSSING UTILITIES WHEN VERTICAL CLEARANCE IS 1' OR LESS. THE NEOPRENE PAD SHALL BE PLACED ON THE MOST FRAGILE UTILITY.
NOTES:
1. ENCASE PIPE TO THE NEAREST FLEXIBLE JOINT OR AS REQUIRED BY THE ENGINEER.
2. FOR TRENCH RESURFACING IN IMPROVED STREETS, SEE STD. NO. WD-36.
3. CONCRETE ENCASEMENT SHALL BE USED FOR RIGID PIPE ONLY.
4. 6" METAL TAPE SHALL BE INSTALLED ABOVE PIPE, 4" BELOW PAVEMENT SECTION.
5. (*) INDICATES MINIMUM RELATIVE COMPACTION.
NOTES:
1. FOR TRENCHING IN IMPROVED STREETS, SEE STD. NO. WD–36.
2. CONCRETE BACKFILL FOR PVC PIPE CAN BE USED ABOVE THE PIPE BEDDING ZONE.
3. 6″ METAL TAPE SHALL BE INSTALLED ABOVE PIPE, 4″ BELOW PAVEMENT SECTION.
4. (*) INDICATES MINIMUM RELATIVE COMPACTION.
NOTE:
1. PIPE PROTECTION MAY BE REQUIRED IF REQUIRED BY THE ENGINEER.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS
CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

CONCRETE ANCHOR

SD-17

REVISION

DATE

DIRECTOR OF PUBLIC WORKS

8/26/24

NOTES:
1. FOR EXISTING PVC PIPE, IT SHALL BE COVERED WITH TAR PAPER, POLYURETHANE BAGGIE OR RUBBER MAT PRIOR TO POURING CONCRETE.
2. 6" METAL TAPE SHALL BE INSTALLED ABOVE PIPE, 4" BELOW PAVEMENT SECTION.
3. (*) INDICATES MINIMUM RELATIVE COMPACTION.
1. FOR WATER LINE CONSTRUCTION, ENCASEMENT SHALL EXTEND TO FIRST JOINT BEYOND 2' AT BOTH SIDES OF TRENCH OR TO A DISTANCE OF 4', WHICHEVER IS LESS.

2. WHERE CONNECTING TO FLEXIBLE PIPE, JOIN USING TWO COUPLINGS WITH A SHORT PIPE SPOOL (TYPICAL).

3. NO ENCASEMENT IS REQUIRED WHERE THE TRENCH WIDTH IS 24" OR LESS.

4. FOR EXISTING PVC PIPE, IT SHALL BE COVERED WITH TAR PAPER, POLYURETHANE BAGGIE OR RUBBER MAT PRIOR TO POURING CONCRETE.
NOTE:
1. FOR WATER LINE CONSTRUCTION, PIPE REPAIR SHALL EXTEND TO FIRST JOINT BEYOND 2' AT BOTH SIDES OF TRENCH OR TO A DISTANCE OF 4', WHICHEVER IS LESS.
NOTES:

1. FOR TRENCH RESURFACING IN IMPROVED STREETS, SEE STD. NO. WD–36.

2. (*) INDICATES MINIMUM RELATIVE COMPACTION.

3. UNLESS INDICATED OTHERWISE IN DRAWINGS OR SPECIFICATIONS, MINIMUM DEPTH OF COVER FROM THE TOP OF PIPE TO FINISH GRADE FOR SEWER MAIN SHALL BE 5'. FOR SHALLOWER DEPTH, SPECIAL DESIGN IS REQUIRED.

4. INSTALL WARNING/IDENTIFICATION TAPE PER STD. NO. SD–14.

5. 1' SAND CUSHION OR A 6" MIN. SAND CUSHION WITH 1" NEOPRENE PAD SHALL BE PLACED FOR ALL CROSSING UTILITIES WHEN VERTICAL CLEARANCE IS 1' OR LESS. THE NEOPRENE PAD SHALL BE PLACED ON THE MOST FRAGILE UTILITY.
NOTES:
1. RISER AND CLEANOUT PLUG SHALL BE SAME DIAMETER AS SEWER LATERAL.
2. CLEANOUT SHALL BE LOCATED WITHIN CITY RIGHT OF WAY, BEHIND THE SIDEWALK.
NOTES:
1. CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS.
2. CLEANOUT PIPE TO BE SAME SIZE AND MATERIAL AS SEWER (MAX. DIA. 8").
3. BACKFILL TO TOP OF 45° BEND WITH 3/8" CRUSHED ROCK.
4. LATERALS SHALL BE SELECTED FROM THE CITY'S APPROVED MATERIAL LIST.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS
SEWER MAIN CLEANOUT

APPROVED:  
DIRECTOR OF PUBLIC WORKS

REVISED: 8/26/21

STD. NO. SD-23

DATE

LEGEND ON PLANS
NOTES:
1. CONCRETE SLAB SHALL BE 560-C-3250.
2. USE HEAVY DUTY MANHOLE FRAME AND COVER, STD. NO. SD-7, IN AREAS SUBJECT TO VEHICULAR TRAFFIC.
   USE LIGHT DUTY MANHOLE FRAME AND COVER, STD. NO. SD-8, IN ALL OTHER LOCATIONS.
3. MINIMUM PIPE PRESSURE CLASS 200.
CLEANOUT TO BE LOCATED ON STREET SIDE OF RIGHT-OF-WAY OR PROPERTY LINE AND PER STD. NO. SD-22

CLEANOUT PER UNIFORM PLUMBING CODE

PLAN VIEW

RIGHT-OF-WAY

PROPERTY LINE

SEWER LATERAL

CURB & GUTTER

SIDEWALK

SEWER MAIN LINE

RIGHT-OF-WAY

PROPERTY LINE

CLEANOUT

BACKWATER DEVICE

BLDG/RESIDENCE

SECTION A-A

NOTES:

1. WHEN BACKWATER DEVICE IS INSTALLED IN THE DRIVEWAY, SEE SHEET 2.
2. INSTALL VALVE BOX SO THAT IT IS FLUSH WITH PAVEMENT SURFACE OR 1" ABOVE FINISH GRADE (SOIL SURFACE).
3. PVC BACKWATER DEVICE AND ATTACHED PARTS SHALL BE PER THE CALIFORNIA PLUMBING CODE (CPC).
4. CLEANOUT PLUG (ABS) THREADED.
5. STANDARD 45° BEND.
6. THE BACKWATER DEVICE SHALL BE LOCATED AS CLOSE TO THE STRUCTURE AS REASONABLY POSSIBLE TO MINIMIZE THE DEPTH OF THE BACKWATER DEVICE.

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

4" BACKWATER DEVICE

CITY OF SOUTH GATE
DEPARTMENT OF PUBLIC WORKS

APPROVED

DIRECTOR OF PUBLIC WORKS

STD. NO.
SD-25

REVISION

DATE

SHEET 1 OF 2
NOTE:
1. THE BOX & COVER IS 10K LOAD RATED.
NOTES:

1. THE BACKWATER VALVE INSTALLATION SHALL BE INSTALLED WHERE: (A) PLUMBING FIXTURE LEVELS ARE BELOW THE ELEVATION OF THE CURB AT THE POINT WHERE THE BUILDING SEWER CROSSES UNDER THE CURB OR (B) PLUMBING FIXTURE LEVELS ARE BELOW THE ELEVATION OF THE UPSTREAM MANHOLE RIM UNLESS WAIVED IN WRITING BY THE CITY OF SOUTH GATE.

2. THE RECOMMENDED OUTLET ELEVATION IS ONE FOOT BELOW THE FLOOR ELEVATION, BUT UNDER NO CIRCUMSTANCES SHALL THIS ELEVATION BE LESS THAN 4".

3. CAUTION SHALL BE EXERCISED IN LOCATING THE HOOD TO AVOID DAMAGE TO INSTALLATION FROM SURFACE IMPACT.

4. BACKWATER OVERFLOW VALVE MANUFACTURER TO BE SAME AS CURRENTLY APPROVED BY THE CITY OF SOUTH GATE.
   ① BACKWATER VALVE
   ② 4" COUPLING*
   ③ 4" PIPE*
   ④ 4" 1/B BEND AND WYE (PLAIN ENDS)*

* MATERIAL VARIES
NOTES:
1. STRUCTURE SHALL BE INSTALLED TO ALLOW ACCESS FOR MAINTENANCE OR INSPECTION AT ALL TIMES.
2. WHERE SUBJECT TO VEHICLE LOADING, DESIGN ADEQUACY SHALL BE SUBSTANTIATED AND STRUCTURE SHALL BE
   PLACED ON SUITABLE BASE OF COMPACTED SOIL OR UNDISTurbed EARTH.
3. ALL SURFACE WATER MUST DRAIN AWAY FROM THE SAMPLING BOX AND INTERCEPTOR TO EXCLUDE RAIN WATER
   FROM THE SEWER SYSTEM.
4. FLOW TO THE SAMPLING BOX AND/OR INTERCEPTOR SHALL EXCLUDE ALL SANITARY SEWAGE AND SURFACE
   DRAINAGE.
5. EACH INSTALLATION IS SUBJECT TO REVIEW BY THE CITY OF SOUTH GATE FOR ADEQUATE CAPACITY PRIOR TO
   CONSTRUCTION.
6. INSPECTION COVERS SHALL BE BROUGHT TO GRADE TO PERMIT VISUAL INSPECTION OF INTERNAL FITTINGS, WITH
   RISERS AS REQUIRED.
7. SAMPLING BOX SHALL BE A MINIMUM OF 24" ID. SAMPLING BOX MAY BE ATTACHED OR AT A VARIABLE DISTANCE
   FORM THE INTERCEPTOR AS APPROVED BY THE CITY OF SOUTH GATE SOURCE CONTROL DIVISION.
8. MINIMUM CAPACITY OF INTERCEPTOR IS 750 GALLONS.
9. INTERCEPTORS REQUIRING MORE THAN 6 FEET OF GRADE RINGS MUST HAVE APPROVAL BEFORE INSTALLATION.