TABLE OF CONTENTS

S-0            TABLE OF CONTENTS
S-1            MANHOLE DETAILS
S-2            CONCRETE BASE AND JOINT DETAILS
S-3            MANHOLE SHAFT OPENING ORIENTATION PLAN
S-4            MANHOLE FRAME AND COVER (TRAFFIC LOADING)
S-5            PVC PIPE BEDDING AND MANHOLE CONNECTION DETAILS
S-6            VCP OR PVC TYPICAL LATERAL
S-7            CUT-IN WYE CONNECTION
S-8            V.C.P. PIPE BEDDING DETAILS
S-9            LATERAL CLEANOUT DETAIL
S-10           CONCRETE ENCASEMENT TYPE A, B & C
S-11           CONCRETE SLOPE ANCHORS
S-12           STEEL CASING PIPE
S-13           DROP MANHOLE MAIN LINE CONNECTION DETAIL
S-14           PVC MANHOLE LINER
S-15           PVC T-LOCK LINER DETAILS
S-16           PVC LINER WITH GAS FLAP INSTALLATION
S-17           FLAT TOP MANHOLE
S-18           TYPICAL GREASE INTERCEPTOR
S-19           DESIGN CRITERIA FOR SEPARATION OF WATER AND SEWER MAINS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

<table>
<thead>
<tr>
<th>REV. NO.</th>
<th>DATE</th>
<th>BY/APP.</th>
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APPROVED: 
DIRECTOR OF UTILITIES
DATE

DEPUTY DIRECTOR, UTILITIES
DATE

DESIGNED: ZK 12-05
DRAWN: EA 12-05
SCALE: AS SHOWN
DATE: S-0
NOTES:

1. PLACE TWO HALF MOON SHAPED TEMPORARY PLYWOOD COVERS (5/8" THICK MINIMUM) IN BOTTOM OF MANHOLE AFTER SHAFTS HAVE BEEN SET TO KEEP DEBRIS FROM ENTERING SEWER.

2. FOR DROP MANHOLE SEE STD. DWG. S-13.

3. FOR MANHOLE LOCATED OUTSIDE PAVED AREAS, THE FRAME AND COVER SHALL BE SET A MINIMUM OF 0.1 FT. ABOVE FINISH GRADE IN SHOULDER AREAS, UNPAVED ROADS OR LANDSCAPED AREAS, AND 18" IN UNFINISHED AREAS.

4. ALL INLETS AND OUTLETS SHALL BE SUPPORTED WITH CONCRETE SUPPORTS PRIOR TO POURING MANHOLE BASE.

5. MANHOLE LOCATIONS SHALL BE MARKED ON CURB FACE.

**MANHOLE DETAILS**

---

**CITY OF ALHAMBRA**

**DEPARTMENT OF UTILITIES**

**LIST OF STANDARDS**

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**APPROVED:**

**DIRECTOR OF UTILITIES**

**DATE:** 01-24-06

---

**Drawn:** EA 12-05

**Designed:** ZK 12-05

**Scale:** AS SHOWN

**Dwg. No.:** S-1
PIPE SHALL BE LAID WITH END SQUARE INTO M.H. BASE, UNLESS OTHERWISE NOTED. REMOVE TOP PORTION OF PIPE, THEN CONSTRUCT FILLET SHELF OVER PIPE TO DRAIN.

FOR LOCATION OF M.H. SHAFT OPENING SEE STD. DWG. S-3

M.H. STATIONING

0.10' MIN. FALL ACROSS M.H. (TYP.) UNLESS SEWER SLOPE GREATER. 0.20' MIN. FALL FOR 90° M.H.

SEE STD. DWG. S-5 FOR PVC PIPE CONNECTION DETAILS

R = 2 X D

STUB (TYP.)

8" MIN. CONC. ENCASEMENT (ENCASE BELL)

2-2' JOINTS AT BOTH INLETS AND OUTLETS FOR VCP ONLY.

NOTES:

1. MORTAR JOINTS – SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL-FACES. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS.

2. PLASTIC JOINTS – PERFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND SHALL BE QUICK-SEAL AS SUPPLIED BY QUIKSET UTILITY VAULTS, SANTA ANA, CALIFORNIA – OR APPROVED EQUAL. MUST BE USED WHEN GROUND WATER IS ENCOUNTERED.

CONCRETE BASE AND JOINT DETAILS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED: 01-24-06

DIRECTOR OF UTILITIES

DESIGNED BY: ZK 12-05

DRAWN BY: EA 12-05

REV. NO. DATE BY/APP. ITEM

C29330 12-02-05
SECTION A-A

1. 48" MANHOLES SHALL HAVE 24" COVERS (DETAIL A-1170)
   60" MANHOLES SHALL HAVE 30" COVERS (DETAIL A-1497-CR)
   72" MANHOLES SHALL HAVE 36" COVERS (DETAIL A-1325)

2. WHERE FRAME AND COVER ARE SET 18" ABOVE GRADE, FOUR (4) 3/8" DIA.
   INSERTS FOR ADJUSTABLE STUDS SHALL BE CAST IN TOP GRADE RING.
   ALIGNED AS DETAILED ABOVE. FRAME SHALL BE BOLTED TO GRADE RING.

3. MANHOLE COVER AND FRAME SHALL BE AS MANUFACTURED BY ALHAMBRA FOUNDRY OR EQUAL.
   PLEASE SEE ALHAMBRA FOUNDRY REFERENCE DETAILS.

MANHOLE FRAME AND COVER (TRAFFIC LOADING)
MODEL NUMBER
A-1497-CR

MATERIAL
GRAY IRON
ASTM A-48 CLASS 35B

WEIGHT
(APPROXIMATE)
COVER: 350 LBS.
FRAME: 320 LBS.

LOADING
TRAFFIC (H20)

DESCRIPTION
30° O TRAFFIC MH
COVER & FRAME
APWA STD. 632

ALHAMBRA FOUNDRY CO., LTD.
1147 SOUTH MERIDIAN AVENUE • BOX 469 • ALHAMBRA, CA 91803–0469
MODEL NUMBER
A-1325

MATERIAL
CAST IRON
ASTM A-48 CL35B

WEIGHT
(APPROXIMATE 8505 LBS./SET)
850 LBS./SET

COATING/FINISH
WATER BASED
ASPHALT EMULSION
BLACK PAINT

LOADING
TRAFFIC(H20)

DESCRIPTION
36" MH RING
W/ 2 CONCENTRIC COVERS
INNER OPENING: 22"

ALHAMBRA FOUNDRY CO., LTD.
1147 SOUTH MERIDIAN AVENUE • BOX 469 • ALHAMBRA, CA 91803–0469
NOTES:

1. CONCRETE ENCASEMENT PER STD. DWG. S-10 SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE EXCEEDS THE MAXIMUM WIDTH SPECIFIED ABOVE.
2. IF UNSTABLE SOIL IS ENCOUNTERED, CITY REPRESENTATIVE SHALL DETERMINE DEPTH OF REMOVAL AND THICKNESS OF FOUNDATION ROCK REFILL MATERIAL.
3. SEE STD. DWGS. S-1 & S-2 FOR MANHOLE DETAILS.

PVC PIPE BEDDING & MANHOLE CONNECTION DETAILS

REV. NO.  DATE  BY/APP.  ITEM

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED: 01-24-06

DIAGRAMMATIC  01-24-06
DEPUTY DIRECTOR-UTILITIES
LOCATE LATERAL WITH 1-1/2" HIGH "S" CHISELED IN FACE OF CURB WHERE THE LATERAL CROSSES UNDER THE CURB OR ON EDGE OF CONCRETE ALLEYS.

NOTE:
APPROVED SEWER LATERAL MATERIAL TYPES: VCP OR SDR-26 PVC PIPE.

* ALL NEW LATERALS MUST BE
  6" FOR RESIDENTIAL
  8" FOR COMMERCIAL

BACKFILL OPTION:
1. SLURRY OR
2. NATIVE SOIL (MUST HAVE SOIL TECH REPORT 95% OR GREATER).

NOTES:
1. LATERAL SIZE TO BE DETERMINED ON THE BASIS OF TOTAL NUMBER OF FIXTURE UNITS DRAINED, BUT IN NO CASE SHALL THE LATERAL DIAMETER BE LESS THAN SIX INCHES FOR SINGLE OR MULTIPLE FAMILY RESIDENTIAL AND SIX INCHES FOR COMMERCIAL OR INDUSTRIAL LAND USES.
2. LATERAL TO BE INSTALLED TO PROPERTY LINE
3. IF LATERAL NOT BUILT, PLUG WYE BRANCH WITH STOPPER.
4. IF RISER NOT BUILT, PLUG LATERAL AT #.
5. THE CONTRACTOR WILL APPLY A HYDRAULIC PRESSURE TEST FOR EACH CONNECTION. ALL NECESSARY TOOLS, LABOR AND MATERIAL FOR SUCH TESTS SHALL BE FURNISHED BY THE CONTRACTOR OR PERSON ASSUMING CONTROL OF THE WORK.

VCP OR PVC TYPICAL LATERAL

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

REV. NO.  ITEM  DATE  BY/APP.

REMARKS:
APPROVED
DIRECTOR OF UTILITIES

DESIGNED  DRAWN  CHECKED  SCALE:  DWG. NO.  DATE:

SIGNATURES:

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED
DIRECTOR OF UTILITIES

DESIGNED  DRAWN  CHECKED  SCALE:  DWG. NO.  DATE:

SIGNATURES:

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED
DIRECTOR OF UTILITIES

DESIGNED  DRAWN  CHECKED  SCALE:  DWG. NO.  DATE:

SIGNATURES:
CUT IN WYE CONNECTION

CERAMIC WELD OR BANDED RUBBER COUPLING

SECTION A-A

CLAY OR PVC

<table>
<thead>
<tr>
<th>CLAY OR PVC</th>
<th>8&quot; &amp; UP</th>
<th>CONNECTION BY STD MANHOLE</th>
</tr>
</thead>
</table>

NOTES:

1. THE SADDLE CONNECTION SHALL BE SECURED WITH 470-C-2500 W/4" MAX SLUMP CONCRETE ENCASEMENT AFTER THE CONNECTION IS APPROVED BY THE CITY REPRESENTATIVE.

2. ALL CHIPS, DIRT, EPOXY, MORTAR, AND CONCRETE SHALL BE KEPT OUT OF THE SEWER.

3. DAMAGED PIPE SHALL BE REPLACED.

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED: 

APPROVED: 

DESIGNED: ZK 12-05

DRAWN: EA 12-35

DEPUTY DIRECTOR UTILITIES 01-24-06

DIRECTOR OF UTILITIES 01-24-06

C29330 12-02-05

SCALE: AS SHOWN

DWG. NO.: S-7
NOTES:
1. TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE SHALL BE WITHIN THE FOLLOWING LIMIT FOR TYPICAL NORMAL BEDDING.
   (A) MAXIMUM TRENCH WIDTH—O.D. PIPE OR BELL PLUS 8” MAX. EACH SIDE
       OF PIPE.
   (B) MINIMUM TRENCH WIDTH—O.D. PIPE OR BELL PLUS 6” MIN. EACH SIDE
       OF PIPE.
2. OVERWIDTH BEDDING SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER
   LIMIT OF THE PIPE ZONE EXCEEDS THE MAXIMUM WIDTH SPECIFIED ABOVE.
3. MAXIMUM OVERWIDTH BEDDING TO BE DETERMINED IN FIELD BY THE CITY
   REPRESENTATIVE ON THE BASIS OF OVERWIDTH EXCAVATED.
4. IF UNSTABLE SOIL IS ENCOUNTERED, CITY REPRESENTATIVE SHALL DETERMINE
   DEPTH OF REMOVAL AND SIZE OF FOUNDATION ROCK REFILL MATERIAL.

V.C.P. PIPE BEDDING DETAILS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED:

REV. NO. DATE BY/APP. ITEM

DESIGNED: ZK 12-05
DRAWN: EA 12-05
CHECKED: MY 12-05

SCALE: AS SHOWN

CITY ENGINEER: D29330 12-02-05

DEPUTY DIRECTOR-UTILITIES: 01-24-06

DIRECTOR OF UTILITIES: LAMONTAN 01-24-06

DWG. NO. S-8

SHT. 8 OF 19
NOTES:
1. CLEANOUT PIPE TO BE SAME SIZE AND KIND OF MATERIAL AS LATERAL. LATERAL CLEANOUT DETAIL

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

REV. NO. DATE BY/APP. ITEM
APPROVED:
DIRECTOR OF UTILITIES:

DESIGNED: ZK 12-05 SCALE: AS SHOWN
DRAWN: EA. 12-05 DATE: S-9

Trench Width

SECTION A - A

CAST IRON COVER MARKING
1 - 3/4" DIA. HOLE

A.C. PAVEMENT
SEWER CLEANOUT

470-B-2500 W/4" MAX SLUMP CONCRETE COLLAR (ROUND)
ALHAMBRA FOUNDRY A-1240 FRAME AND COVER

GRASS AREA

SEE S-5 AND S-8 FOR BEDDING REQUIREMENTS

3" ABOVE GROUND
TOP OF GROUND

PAVED AREA

1/8 BEND
PLUG END WITH STOPPER
1 SACK SLURRY

ELEVATION
UNDISTURBED SOIL

470-B-2500 W/4" MAX SLUMP CONC. COLLAR (SQUARE)
NOTES:
1. CONCRETE ENCASEMENT SHALL BE USED WHEN COVER IS UNDER 4' OR OVER 20'.
2. ENCASEMENT TO BE PLACED AGAINST UNDISTURBED NATURAL GROUND OR FILL COMPACTED TO 90% RELATIVE DENSITY.
3. NO. 4 GRADE 40 STEEL REINFORCING BARS SHALL BE PLACED AS SHOWN.
4. TYPE OF CONCRETE ENCASEMENT TO BE USED WILL BE SHOWN ON PLANS OR AS SPECIFIED BY CITY REPRESENTATIVE TO MEET UNFORESEEN FIELD CONDITIONS. UNLESS NOTED OTHERWISE, ENCASEMENT SHALL BE 470-C-2500 WITH 4" MAX. SLUMP.
5. WHERE SLOPED TRENCHES ARE USED, WALLS WILL NOT BEGIN TO SLOPE CLOSER THAN 12" FROM THE TOP OF THE PIPE.

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

DEPUTY DIRECTOR-UTILITIES

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
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DEPUTY DIRECTOR-UTILITIES
Notes:
1. Slopes greater than 10% shall be used by special written approval of City.
2. Pipe anchors required on all slopes of 3:1 or steeper.
3. Anchor shall extend 12" into natural undisturbed soil.
4. Concrete shall be 560-C-3250 with 4" max. slump.
5. Anchors for trapazoidal trench sections will conform to trench cross section and extend 12" into undisturbed soil.

Concrete Slope Anchors

<table>
<thead>
<tr>
<th>Pipe Slope</th>
<th>Pipe Slope</th>
<th>X Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>1:1</td>
<td>12'</td>
</tr>
<tr>
<td>66.6%</td>
<td>1-1/2:1</td>
<td>14'</td>
</tr>
<tr>
<td>50%</td>
<td>2:1</td>
<td>16'</td>
</tr>
<tr>
<td>40%</td>
<td>2-1/2:1</td>
<td>18'</td>
</tr>
<tr>
<td>33.3%</td>
<td>3:1</td>
<td>20'</td>
</tr>
</tbody>
</table>

Reinforcing Steel Pattern

3" Min. Clearance Between Reinforcing Steel and Edge of Concrete

#4 bars 6" C.C.
CASING SCHEDULE

<table>
<thead>
<tr>
<th>V.C.P. SIZE</th>
<th>MIN. CASING SIZE</th>
<th>MIN. WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>16&quot; I.D.</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>18&quot; I.D.</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>21&quot; I.D.</td>
<td>5/16&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>24&quot; I.D.</td>
<td>5/16&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P.V.C. SIZE</th>
<th>MIN. CASING SIZE</th>
<th>MIN. WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>14&quot; I.D.</td>
<td>1/4&quot;</td>
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<td>18&quot; I.D.</td>
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<tr>
<td>12&quot;</td>
<td>20&quot; I.D.</td>
<td>5/16&quot;</td>
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</table>

PIPES LARGER THAN 12" REQUIRE DETAILED DRAWINGS

NOTES:
1. UNLESS NOTED OTHERWISE, CASING SHALL BE INSTALLED BY THE BORE, JACK AND/OR TUNNEL METHOD. IF OPEN-CUT INSTALLATION OF CASING IS ALLOWED, BACKFILL SHALL BE IN ACCORDANCE WITH STD. DWG. S-5 OR S-8.
2. SIZE AND THICKNESS OF CASING SHALL BE AS SHOWN IN SCHEDULE.
3. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL-CIRCUMFERENCE.
4. UNFINISHED REDWOOD SKIDS SHALL BE PROVIDED PER DETAIL ABOVE.
5. CARRIER PIPE SHALL BE AIR PRESSURE TESTED PRIOR TO FILLING OF ANNULAR SPACE.
6. UPSTREAM AND DOWNSTREAM ELEVATIONS OF CARRIER PIPE TO BE VERIFIED PRIOR TO FILLING OF ANNULAR SPACE.
7. EACH END OF CASING SHALL BE SEALED WITH CONCRETE MORTAR, OR MANUFACTURED CASING END COVER.
8. PERIPHERY OF CASING SHALL BE PRESSURE GROUTED.
9. ANNULAR SPACE SHALL BE FILLED WITH LEAN GROUT OR AIR BLOWN SAND.

STEEL CASING PIPE

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

REV. NO. | DATE | BY/APP. | ITEM
---------|------|---------|------

APPROVED: [Signature]
DEPUTY DIRECTOR-UTILITIES
01-24-06

DESIGNED | BY | DATE | SCALE | DWG. NO. | DATE
---------|----|------|-------|----------|------
ZK       | 12-05 | AS SHOWN | S-12 |

DRAWN | BY | DATE
EA | 12-05 |
NOTES:

1. DROP MANHOLE TO BE USED FOR SPECIAL SITUATIONS ONLY, AND SHALL NOT BE CONSTRUCTED WITHOUT CITY APPROVAL.
2. ALL NEW OPENINGS CONSTRUCTED INTO MANHOLE SHALL BE DONE BY CORE DRILLING.

DROP MANHOLE MAIN LINE CONNECTION DETAIL

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

APPROVED: [Signature] 01-24-06
DIRECTOR OF UTILITIES

DESIGNED: ZK 12-05
DRAWN: EA 12-05
CHECKED: MY 12-05

SCALE: AS SHOWN
DATE: 01-24-06

DWG. NO. S-13
SHT. 13 OF 19
SEE STD. DWGS. S-1, S-2, S-4

PVC MANHOLE LINER

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

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D Sisterman 01-24-06

TECHNICAL DIRECTOR-UTILITIES 01-24-06

C28330 12-02-05

TURNBACK OF VCP SHALL BE A MINIMUM OF 6" HOLD PVC LINER TO OUTSIDE SURFACE OF VCP W/ 3/8 SS BAND. APPLY CONTACT CEMENT ADHESIVE TO BOTH SURFACES.

REMOVE PIPE ABOVE SPRINGLINE BY SAW CUTTING

2 - PREFORMED CORNER TURNBACKS UNDER FRAME
NOTE
1. At butt joints, install 1" weld strip on front and back.
2. Liner ribs shall be oriented vertically on vertical surfaces.

P.V.C. T-LOCK LINER DETAILS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS
NOTE

FOR INSTALLATION AT EXISTING M.H., REMOVE INTERFERING CONCRETE AT END OF EACH LATERAL AND EXTEND VCP AS SHOWN. GROUT IN PLACE. EXTEND PVC M.H. LINER OVER GROUT AND INSTALL GAS FLAP AS SHOWN.

P.V.C. LINER WITH GAS FLAP INSTALLATION

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS
TYPICAL SECTION
FLAT TOP MANHOLE

NOTES
1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH STD. DWG. S-1.
2. REINFORCED CONCRETE MANHOLE, QUIKSET OR APPROVED EQUAL.

FLAT TOP COVER

PLAN

FLAT TOP MANHOLE

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

REV. NO. DATE BY/APP. ITEM

APPROVED
DIRECTOR OF UTILITIES

DESIGNED ZK 12-05 SCALE: AS SHOWN
DRAWN EA 12-05
CHECKED HW 12-05

DATE:

S-17

C29330 12-02-05
SECTION A-A

1. INLET PIPE 4-INCH MINIMUM
2. INFLOW TEE AND STANDPIPE
3. CROSSOVER TEE AND STANDPIPE
4. BAFFLE WALL
5. OUTFLOW TEE AND STANDPIPE

NOTE:
GREASE INTERCEPTOR SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UNIFORM PLUMBING CODE, APPENDIX H. MINIMUM CAPACITY SHALL BE 750 GALLONS.
NEW SEWER

PERPENDICULAR CROSSING
NOTE: "P" IS A PROHIBITED CONSTRUCTION ZONE

NEW SEWER BEING INSTALLED
ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER
A SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT
APPROVAL FROM THE RESPONSIBLE HEALTH AGENCY
AND WATER SUPPLIER.
B A SEWER LINE PLACED PARALLEL TO A WATER
LINE SHALL BE CONSTRUCTED OF:
1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH
   COMPRESSION JOINTS.
2. PLASTIC SEWER PIPE WITH RUBBER RING JOINTS,
   OR 26.
3. DUCTILE IRON PIPE WITH COMPRESSION
   JOINTS.
4. REINFORCED CONCRETE PRESSURE PIPE WITH
   COMPRESSION JOINTS (PER AWWA C302-74).
C A SEWER LINE CROSSING A WATER MAIN SHALL BE
CONSTRUCTED OF:
1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS
   COATING AND MECHANICAL JOINTS. NO JOINTS
   WITHIN 10' EITHER SIDE OF WATER.
2. A CONTINUOUS SECTION OF CLASS 200
   (OR 14 PER AWWA C900) PVC PIPE OR
   EQUIVALENT, CENTERED OVER THE WATER PIPE
   BEING CROSSED.
3. A CONTINUOUS SECTION OF REINFORCED
   CONCRETE PRESSURE PIPE (PER AWWA C302-74)
   CENTERED OVER THE PIPE BEING CROSSED.
4. ANY SEWER PIPE WITHIN A CONTINUOUS STEEL
   PIPE SLEEVE.

PARALLEL INSTALLATION
(CONT.)
D A SEWER LINE CROSSING A WATER MAIN SHALL BE
CONSTRUCTED OF:
1. A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH
   HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS
   CENTERED ON THE WATER PIPE BEING CROSSED.
2. A CONTINUOUS SECTION OF CLASS 200 (OR 14 PER
   AWWA C900) PVC PIPE OR EQUIVALENT, CENTERED
   ON THE WATER PIPE BEING CROSSED.
3. A CONTINUOUS SECTION OF REINFORCED CONCRETE
   PRESSURE PIPE (PER AWWA C302-74) CENTERED
   ON THE WATER PIPE BEING CROSSED.
4. ANY SEWER PIPE WITHIN A CONTINUOUS STEEL
   PIPE SLEEVE.
5. ANY SEWER PIPE MATERIAL ENCASED IN REINFORCED
   CONCRETE PER STD. DWG. S-10 TYPE "B".

DESIGN CRITERIA FOR SEPARATION
OF WATER AND SEWER MAINS

CITY OF ALHAMBRA
DEPARTMENT OF UTILITIES
LIST OF STANDARDS

REV. NO. DATE BY/APP. REM
APPROVED REMONTAN 01-24-06
DIRECTOR OF UTILITIES

APPROVED: 01-24-06
DEPUTY DIRECTOR UTILITIES

DESIGNED ZK 12-05
DRAWN EA 12-05
CHECKED 12-05

SCALE: AS SHOWN
DWG. NO. S-19