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Section I

Street Improvements
NOTES:
1. DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.
2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE. NOT TO SCALE

RESIDENTIAL DRIVEWAY APPROACH
Definition: An approach is located between the edge of the gutter and property line. It is composed of an apron and flairs (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or his designee. Permits are required for all activities on public right-of-way.

2. Proposal Plan: A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the driveway (landscaped area) and any other useful information.
   Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Engineering Driveway Approach permit.

3. Location: No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway where necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10) feet from the center of any city tree without written approval of the City Arborist.

4. Concrete Finish: Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works Inspectors.

5. Adjacent Approach: No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach.

6. Width: The maximum overall width of any residential driveway approach shall not exceed twenty feet (20'), and the maximum width of two (2) adjacent residential driveway approaches which are combined shall not exceed twenty six feet (26'). The minimum overall width of any driveway approach shall be sixteen feet (16'). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to on the opposite side.

Number: Only one driveway approach shall be permitted in any residential zone on any lot or parcel with less than seventy five feet (75') of frontage, or with a front setback of less than twenty five feet (25'); with the exception that a circular driveway requiring two (2) driveway approaches shall be permitted where the parcel frontage is within four percent (4%) of the seventy five feet (75') minimum required for two (2) driveway approaches, and further, that no other deviation from the provisions of this code or discretionary action is required for such circular driveway.


---

**RESIDENTIAL DRIVEWAY APPROACH**

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**REVISIONS**

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**CITY OF BEVERLY HILLS, CALIFORNIA**

**DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION**

**CIVIL ENGINEERING DIVISION**

---

**RECOMMENDED**

---

**APPROVED**

---

**STANDARD DRAWING**

**BH 101**

---

**SHEET 2 OF 2**
NOTES:
1. **DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.**
2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. ("GREENBOOK")
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.  NOT TO SCALE

NON-RESIDENTIAL DRIVEWAY APPROACH
CITY OF BEVERLY HILLS
NON-RESIDENTIAL DRIVEWAY APPROACH SPECIFICATIONS AND GENERAL REQUIREMENTS
IN REFERENCE TO BEVERLY HILLS MUNICIPAL CODE SEC. 8-4-4

Definition: An approach is located between the edge of the gutter and property line. It is composed of an apron and flair(s) (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or his designee. Permits are required for all activities on public right-of-way.

2. Proposal Plan: A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the parkway (landscaped area) and any other useful information.
   Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Driveway Approach permit.

3. Location: No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway where necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10) feet from the center of any city tree without written approval of the City Arborist.

4. Concrete Finish: Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works Inspectors.

5. Adjacent Approach: No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach.

6. Width: The maximum overall width of any non-residential driveway approach shall not exceed forty feet (40'). The minimum overall width of any driveway approach shall be sixteen feet (16'). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to the opposite side.


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NON-RESIDENTIAL DRIVEWAY APPROACH

REVISIONS

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CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED  
DATE  11-18-10

APPROVED  
PUBLIC WORKS DIRECTOR  DATE  11-18-10

STANDARD DRAWING
BH 102

SHEET 2 OF 2
CASE 3

CASE 4

CURB RAMPS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED:  DATE: 11/18/2011
APPROVED:  DATE: 11/18/11
PUBLIC WORKS DIRECTOR

STANDARD DRAWING:  BH 103

SHEET 2 OF 4
NOTES:

1. CONCRETE SHALL BE CLASS 520-C-2500 AND SHALL BE 4" THICK OVER 4" CRUSHED MISCELLANEOUS BASE AT 90% RELATIVE COMPACTION.

2. THE CURB RAMP SHALL BE OUTLINED, AS SHOWN WITH A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.

3. CURB RAMPS SHALL HAVE A RECESSED YELLOW DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3' DEPTH OF THE RAMP. EDGES SHALL BE FLUSH WITH THE SURFACE OF THE RAMP. SEE DETECTABLE WARNING DETAIL FOR SIZE AND PATTERN. THE EDGE OF THE DETECTABLE WARNING NEAREST TO THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FL.

4. UTILITY PULL BOXES, MANHOLES, VAULTS AND OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP WILL BE RELOCATED BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, THE CONSTRUCTION OF THE RAMP.

5. TRANSITIONS FROM RAMPS AND LANDING TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.

6. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5 PERCENT WITHIN 48" OF THE TOP AND BOTTOM OF CURB RAMP.

7. THE BOTTOM OF THE RAMP SHALL HAVE A 0 INCH LIP AT CURB FACE.

8. IF DISTANCE FROM CURB TO BACK OF SIDEWALK IS TOO SHORT TO ACCOMMODATE RAMP AND 4'-0" LANDING AS SHOWN IN CASE 1 AND CASE 2, THE SIDEWALK MAY BE DEPRESSED LONGITUDINALLY AS IN CASE 5 OR 6, OR SIDEWALK MAY BE WIDENED AS SHOWN IN CASE 2.

9. AS SITE CONDITIONS DICTATE, THE RETAINING CURB SIDE AND THE FLARED SIDE OF CASE 4 RAMP SHALL BE CONSTRUCTED IN REVERSE POSITION.

10. IF LOCATED ON A CURVE, THE SIDES OF THE RAMP NEED NOT BE PARALLEL, BUT THE MINIMUM WIDTH OF THE RAMP SHALL BE 4'-0".

11. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

12. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

---

CURB RAMPS

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY: DATE: 11/18/2011
APPROVED BY: DATE: 11/18/11

STANDARD DRAWING
BH 103
SHEET 4 OF 4
ABBREVIATIONS:

WPJ - WEAKENED PLANE JOINT
EXP JT - EXPANSION JOINT
BCR - BEGINNING OF CURB RETURN
ECR - END OF CURB RETURN

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE DETAIL AND/OR PLANS AND SHALL BE FORMED BY CUTTING A GROOVE IN THE PAVEMENT WITH A POWER DRIVEN SAW. THE GROOVE FOR A TRANSVERSE JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-SIXTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER; THE GROOVE FOR A LONGITUDINAL JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-FOURTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER; AND THE WIDTH SHALL BE THE MINIMUM WIDTH POSSIBLE WITH THE SAW BEING USED, BUT SHALL NOT EXCEED 1/4".

2. EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE DETAIL AND/OR PLANS. EXPANSION JOINT FILLER MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 1/2", A MAXIMUM THICKNESS OF 3/4", A DEPTH EQUAL TO THE THICKNESS OF THE PAVEMENT, AND SHALL BE COMPOSED OF MATERIALS AS SPECIFIED OR APPROVED BY THE ENGINEER. AFTER THE CONCRETE HAS BEEN FINISHED, AN EDGER OF 1/4" RADIUS SHALL BE USED ON EACH SIDE OF THE EXPANSION JOINT FILLER. THE EXPANSION JOINT FILLER SHALL BE CLEANED OF ALL CONCRETE MORTAR.

3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 2.5' IN WALKS AND 20' IN GUTTERS. JOINTS IN CURB, GUTTER, AND WALK SHALL BE ALIGNED.

4. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY FROM SIDEWALK.

5. SIDEWALK AND CURBFACE SHALL BE TROWELED AND LIGHT BROOM FINISHED.

6. SIDEWALK, CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.

7. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

8. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C5" CALIFORNIA CONTRACTOR'S LICENSE.

CURB AND SIDEWALK JOINTS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

STANDARD DRAWING
BH 104

REVISIONS

MARK | DATE | DESCRIPTION
--|---|---

CITY ENGINEER

PUBLIC WORKS DIRECTOR

DATE 7-30-09

DATE 7-31-09

SHEET 1 OF 1
TRANSVERSE EXPANSION JOINT PER STANDARD DRAWING BH 104

1/2" MIN. 3/4" MAX.

EXPANSION JOINT SECTION

W (4' MIN.)
(WIDTH TO MATCH ADJOINING WALK)

W/2 (2'5 MAX.)
LONGITUDINAL WPJ PER STANDARD DRAWING BH 104
2.00% (MAX.) CROSS SLOPE - TO STREET

CRUSHED MISCELLANEOUS BASE. MINIMUM 90% RELATIVE COMPACTION.

COMPACTED SUBGRADE. MINIMUM 90% RELATIVE COMPACTION.

NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
2. SEE BH 104 FOR JOINT LOCATION PLACEMENT.
3. CRUSHED MISCELLANEOUS BASE TO BE APPROVED BY THE CITY ENGINEER.
4. SIDEWALK SHALL BE TROWLED AND LIGHT BROOM FINISHED.
5. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
6. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

STANDARD SIDEWALK SECTION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED
CITY ENGINEER
DATE 7-30-09

APPROVED
PUBLIC WORKS DIRECTOR
DATE 7-31-09

STANDARD DRAWING
BH 105

SHEET 1 OF 1
RESIDENTIAL
INTEGRAL CURB AND GUTTER SECTION
NOT TO SCALE

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.

2. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.

3. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPPED TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES FOR INTEGRAL CURB AND GUTTER. SIDE FORMS SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER COMPLETION OF THE GUTTER, BUT MUST BE REMOVED BEFORE THE WORK WILL BE ACCEPTED.

4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

---

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY: [Signature]
DATE: 7-30-09

APPROVED BY: [Signature]
DATE: 1-31-09

STANDARD DRAWING
BH 106
SHEET 1 OF 1
NON-RESIDENTIAL INTEGRAL CURB AND GUTTER SECTION

NOT TO SCALE

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
2. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.
3. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPEd TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES FOR INTEGRAL CURB AND GUTTER. SIDE FORMS SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER COMPLETION OF THE GUTTER, BUT MUST BE REMOVED BEFORE THE WORK WILL BE ACCEPTED.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

NON-RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

STANDARD DRAWING
BH 107
NOTES:
1. CURB RETURN RADIUS, R, SHALL BE 5' TYPICAL, UNLESS OTHERWISE SPECIFIED.
2. TOP OF CURB ELEVATIONS SHALL MATCH EXISTING SIDEWALK ELEVATIONS.
3. ALLEY APPROACH WITH A SLOPE EXCEEDING 16.66% SLOPE SHALL REQUIRE A SPECIAL PERMIT FROM THE TRANSPORTATION/ENGINEERING OFFICIAL.
4. ACTUAL SHAPE AND LOCATION OF ALLEY APPROACH SHALL BE DETERMINED IN THE FIELD BY THE CITY ENGINEER.
5. ALLEY APPROACH AND NEW SIDEWALK WITHIN ALLEY APPROACH SHALL BE A CLASS 520-C-2500 8" THICK MONOLITHIC POUR OVER 6" CRUSHED MISCELLANEOUS BASE AT 95% RELATIVE COMPACTION.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

ALLEY APPROACH DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY ENGINEER DATE 7-30-09
APPROVED PUBLIC WORKS DIRECTOR DATE 7-31-09

STANDARD DRAWING BH 108
SHEET 1 OF 2
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<td>7.5&quot;</td>
<td>10&quot;</td>
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### Diagram

- **SECTION A-A**
  - Not to Scale
  - 8" Thick Throughout
  - 6" Crushed Miscellaneous Base, 95% Relative Compaction (Throughout)

- **SECTION B-B**
  - Not to Scale
  - Flow Line
HIKE UP 1\(^*\) PER 1\(^*\)
OF GUTTER WIDTH

BATTER 1.5:12

FLOWLINE

1/4"

1/4"

36" MIN.

18" MIN. (TYP)

1-1/2" MIN.
CLEARANCE

C.I. PIPE
(4" MAX. O.D.)

C.I. PIPE
(4" MAX. O.D.)

MATCH CROSS SLOPE
OF SIDEWALK

CUT EXISTING CURB ON
VERTICAL LINE TO ENTIRE
DEPTH, RECONSTRUCT
TO SCORELINE IF
NEAREST SCORELINE IS
LESS THAN 4" (TYP.)

EXISTING
CURB

FLOW LINE

2-#3 BAR - 18" LONG
CENTERED OVER DRAIN

1/2" MIN.
CLEARANCE

36" MIN.

Curb & Gutter Section

NOT TO SCALE

ELEVATION "A-A"

NOT TO SCALE

NOTES:
1. MINIMUM CURB BREAK AND RECONSTRUCTION IS 3'-0" IN LENGTH.
2. CURB & GUTTER SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.
3. FOR MULTIPLE CURB DRAINS, SPACING BETWEEN C.I. PIPES SHALL BE A MINIMUM OF 6" O.C.
4. 3" PIPE IN 6" CURB IS ALLOWED BY CORING.
5. FOR OTHER CONDITIONS SEE APWA STANDARD PLAN 150-2.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD
   SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S
   LICENSE.

4" CURB DRAIN IN 6" CURB

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

STANDARD DRAWING

BH 109

REVISIONS

MARK | DATE | DESCRIPTION

|      |      |               |

|      |      |               |

|      |      |               |

|      |      |               |

|      |      |               |

|      |      |               |

CITY ENGINEER

PUBLIC WORKS DIRECTOR

DATE 7-30-09

DATE 7-31-09

SHEET 1 OF 1
<table>
<thead>
<tr>
<th>S</th>
<th>J BAR SPACING</th>
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</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>7&quot;</td>
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<tr>
<td>36&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>42&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>48&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>54&quot;</td>
<td>6-12&quot;</td>
</tr>
<tr>
<td>60&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>66&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>72&quot;</td>
<td>3-1/2&quot;</td>
</tr>
</tbody>
</table>

For S = 30" and less, use 2 anchors. Otherwise, use 3 anchors.

For S = 48" and less, B = 3" use 2-1/2"x2"x1/2" galvanized steel angle. Otherwise, B = 4".

Use 3-1/2"x3"x1/2" galvanized steel angle.

Notes:

1. Floor of box shall be troweled smooth.
2. If toe of slope is allowed within the R/W, inlet type 1 begins at the toe rather than at the R/W line.
3. For open ditch (type 2), the 24" extension beyond the R/W line is not required when back of walk is 24" or more from the R/W line; however, the pipe shall extend to the R/W line in any event.
4. Top of inlet structure (type 1 & 2) shall be flush with adjacent surface where practical.
5. A headed steel stud, 5/8" x 6-3/8" with a 1" head attached by a full penetration butt weld may be used as an alternate anchor.
6. Normal curb face at point M and Q. Curb face is B + 5" at point N and P.
7. The 3" leg of the 5/8" dia. anchors shall be parallel to the top of sidewalk.
8. Slope = 2.0%
9. Angle 'A' shall be 30° minimum when roadway slope is greater than 5.0%.
10. All work shall be constructed in accordance with the current standard specifications for public works construction ("Greenbook").
11. Contractor shall have a valid Class "A" or "C8" California contractor's license.
LONGITUDINAL ALLEY GUTTER
NOT TO SCALE

TRANSITION DETAIL A
BEGINNING OF LONGITUDINAL GUTTER

TRANSITION DETAIL B
END OF LONGITUDINAL GUTTER

NOTES:
1. LONGITUDINAL ALLEY GUTTER SHALL BE CLASS 520-C-2500 PCC.
2. CONTROL JOINTS SHALL BE PLACED AT 10’ INTERVALS FOR FULL LENGTH OF LONGITUDINAL GUTTER.
3. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
4. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL ALLEY GUTTER DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY:

DATE: 11-18-10

APPROVED BY:

DATE: 11-18-10

STANDARD DRAWING
BH 111

SHEET 1 OF 1
LONGITUDINAL ALLEY GUTTER AT MANHOLE

CASE 1 (2'-0" LONGITUDINAL GUTTER)

CASE 2 (4'-0" LONGITUDINAL GUTTER)

NOTES:
1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
2. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL GUTTER PER CITY OF BEVERLY HILLS STD. DRAWING NO. BH 111

CRUSHED MISCELLANEOUS BASE. MINIMUM 95% RELATIVE COMPACTION

CAUTION: THIS DRAWING SHOWS THE GENERAL ARRANGEMENT OF THE WORK AS SHOWN ON THE PLAN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE SPECIFIC REQUIREMENTS OF THE WORK AS SHOWN ON THE PLAN AND TO CONSTRUCT AS SHOWN.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 7-30-09
APPROVED DATE 7-31-09

STANDARD DRAWING BH 112
SHEET 1 OF 2
CASE 3 (2'-0" LONGITUDINAL GUTTER)

LONGITUDINAL GUTTER PER CITY OF BEVERLY HILLS STD. DRAWING NO. BH 111

CASE 4 (4'-0" LONGITUDINAL GUTTER)

LONGITUDINAL GUTTER PER CITY OF BEVERLY HILLS STD. DRAWING NO. BH 111

NOTES:
1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
2. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL ALLEY GUTTER AT VAULT

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 7-30-09
APPROVED DATE 7-31-09

STANDARD DRAWING BH 112
SHEET 2 OF 2
SURFACE

12" MIN. (TYP.)

W

STEEL PLATE WITH NON-SKID SURFACE TREATMENT

T

MILL ALL AROUND TRENCH, 12" x "T"

TEMPORARY EXCAVATION

#4 x 12" PIN

TEMPORARY PAVING OR COLD-MIX ASPHALT CONCRETE (CUTBACK) PLACED AROUND ALL EDGES OF PLATE AND ROAD SURFACE. USE WEDGES TO PREVENT RATTLING.

<table>
<thead>
<tr>
<th>&quot;W&quot;</th>
<th>MINIMUM STEEL PLATE THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤3'-0&quot;</td>
<td>1 INCH</td>
</tr>
<tr>
<td>&gt;3'-0&quot;, UP TO 4'-0&quot;</td>
<td>1-1/4 INCH</td>
</tr>
</tbody>
</table>

NOTES:

1. ALL STEEL TRENCH PLATES SHALL BE FULLY SUPPORTED AROUND THE PERIMETER TO PREVENT TIPPING.
2. TRENCHES AND EXCAVATIONS SHALL BE ADEQUATELY SHORED OR BRACED TO WITHSTAND HIGHWAY TRAFFIC LOADS.
3. WHEN TWO OR MORE PLATES ARE USED, THE PLATES SHALL BE TACK WELDED AT EACH CORNER OR AS REQUIRED BY THE CITY ENGINEER.
4. ALL TRENCH PLATES SHALL BE PINNED IN EACH CORNER WITH PINS MADE OF #4 REBAR, OR EQUIVALENT DIAMETER STEEL ROD, WITH A MINIMUM LENGTH OF 12".
5. ALL TRENCH PLATING SHALL BE DESIGNED FOR HS20-44 TRUCK LOADING.
6. FOR TRENCHES AND EXCAVATIONS WITH SPANS GREATER THAN FOUR FEET (4'), A STRUCTURAL DESIGN SHALL BE PREPARED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AND REVIEWED BY THE CITY.
7. TRENCH PLATES SHALL BE USED WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY TO MAINTAIN ALL VEHICULAR, BICYCLE AND PEDESTRIAN TRAFFIC FLOW.
8. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
CASE I - PLAN

CASE I - EXISTING SECTION: ASPHALT CONCRETE

1. Construct new asphalt concrete base course, type B, PG 64-10, 1" thicker than the existing section.

2. Construct new asphalt concrete wearing course:

<table>
<thead>
<tr>
<th>Types of Streets</th>
<th>Depth</th>
<th>Asphalt Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Residential Streets</td>
<td>1&quot;</td>
<td>Type D2, PG-64-10</td>
</tr>
<tr>
<td>Streets with Rubberized Asphalt</td>
<td>2&quot; MIN</td>
<td>ARHM-GG PG-64-16</td>
</tr>
<tr>
<td>Collector/Major Streets</td>
<td>1-1/2&quot;</td>
<td>Type C2, PG-64-10</td>
</tr>
</tbody>
</table>

1 AND 2: The total thickness of 1 + 2 shall be 4" minimum for local or collector streets and 6" minimum for major streets. Asphalt concrete layers shall be compacted to 95% of maximum theoretical specific gravity.
3. The limits of the restoration shall be a rectangular area extending a minimum of 12" beyond the outer edge of the widest portion of the T-section. The limits shall be sawcut after backfill of trench is completed. The existing A.C. shall be removed to a depth equal to the thickness of the wearing course. Removal by cold milling or pneumatic hammer is acceptable. If the removals are less than 5' apart or less than 2' from a concrete curb, gutter or cross gutter, the restoration shall be continuous between excavations and/or the edge of the concrete.

4. Construct new crushed aggregate base to match existing thickness or 4" thickness, whichever is greater. Compact to 95% of relative density.

5. Trench backfill shall be either:
   A. Native material or imported soil (if native is unsuitable)
   B. Crushed aggregate base
   C. Two sack cement sand slurry

   Compaction test (using city approved method) are required unless slurry is used.

6. Sawcutting will be required around the perimeter of the final edge of all excavations to provide clean, straight, vertical sides.

7. T-sections are 12" wide as measured from the final edge of trench (after sluffing).

8. All traffic striping and/or markings removed by restoration work shall be replaced.

9. All work shall be constructed in accordance with the current edition of standard specifications for public works ("Greenbook").

10. Contractor shall have a valid class "A" or "C8" California contractor's license.
CASE II - EXISTING SECTION: PORTLAND CONCRETE CEMENT

1. CONSTRUCT NEW PCC PAVEMENT 1" THICKER THAN THE EXISTING CONCRETE, 6" MINIMUM.

2. THE EXACT LIMITS FOR REMOVAL SHALL BE DETERMINED BY THE CITY ENGINEER SUCH THAT JOIN LINES ARE NOT WITHIN 2'-6" OF EXISTING PAVEMENT JOINTS OR SIGNIFICANT CRACKS. IF THE EXCAVATIONS ARE LESS THAN 5' APART OR LESS THAN 2'-6" FROM A CONCRETE CURB, GUTTER OR EXPANSION JOINT, THE RESTORATION SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF CONCRETE.

3. FOR PCC STREETS OR INTERSECTIONS THE LIMITS OF THE RESTORATION SHALL BE A RECTANGULAR AREA EXTENDING TO THE NEAREST CONSTRUCTION JOINT. THE STRUCTURAL SECTION OUTSIDE THE UTILITY TRENCH AREA SHALL BE EQUAL TO ① + ④.

4. CONSTRUCT NEW CRUSHED AGGREGATE BASE TO MATCH EXISTING THICKNESS OR 4" THICKNESS, WHICHEVER IS GREATER. COMPACT TO 95% OF RELATIVE DENSITY.

5. TRENCH BACKFILL SHALL BE EITHER:
   A. NATIVE MATERIAL OR IMPORTED SOIL (IF NATIVE IS UNSUITABLE)
   B. CRUSHED AGGREGATE BASE
   C. TWO SACK CEMENT SAND SLURRY
   COMPACTION TEST (USING CITY APPROVED METHOD) ARE REQUIRED UNLESS SLURRY IS USED.

6. SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE FINAL EDGE OF ALL EXCAVATIONS TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.

7. DOWEL SIZE, SPACING, AND EMBEDMENT SHOULD BE AS FOLLOWS:

<table>
<thead>
<tr>
<th>CONCRETE THICKNESS</th>
<th>SIZE AND SPACING</th>
<th>EMBEDMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>#4 @ 16&quot; O.C.</td>
<td>4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>#5 @ 16&quot; O.C.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>#6 @ 16&quot; O.C.</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

8. ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY RESTORATION WORK SHALL BE REPLACED.

9. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").

10. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
CASE III - EXISTING SECTION: ASPHALT OVER CONCRETE

① CONSTRUCT 1" NEW ASPHALT CONCRETE WEARING COURSE TYPE D2, PG 64-10. FOR STREETS WITH RUBBERIZED ASPHALT USE ARHM-GG PG-64-16, 2" MIN.

② CONSTRUCT NEW ASPHALT CONCRETE BASE COURSE, TYPE B, PG 64-10.

③ CONSTRUCT NEW PCC PAVEMENT BASE, 560-C-3250, 1" THICKER THAN THE EXISTING CONCRETE, 6" MINIMUM. ASPHALT CONCRETE LAYERS SHALL BE COMPACTED TO 95% OF MAXIMUM THEORETICAL SPECIFIC GRAVITY.

④ THE EXACT LIMITS FOR REMOVAL SHALL BE DETERMINED BY THE CITY ENGINEER SUCH THAT JOIN LINES ARE NOT WITHIN 2'-6" OF EXISTING PAVEMENT JOINTS OR SIGNIFICANT CRACKS. IF THE EXCAVATIONS ARE LESS THAN 5' APART OR LESS THAN 2'-6" FROM A CONCRETE CURB, GUTTER OR EXPANSION JOINT, THE RESTORATION SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF CONCRETE.

⑤ TRENCH BACKFILL SHALL BE EITHER:
   A. NATIVE MATERIAL OR IMPORTED SOIL (IF NATIVE IS UNSUITABLE)
   B. CRUSHED AGGREGATE BASE
   C. TWO SACK CEMENT SAND SLURRY

COMPACTION TEST (USING CITY APPROVED METHOD) ARE REQUIRED UNLESS SLURRY IS USED.

⑥ SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE FINAL EDGE OF ALL EXCAVATIONS TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.

⑦ DOWEL SIZE, SPACING, AND EMBEDMENT SHOULD BE AS FOLLOWS:

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<tr>
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<th>SIZE AND SPACING</th>
<th>EMBEDMENT</th>
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<tbody>
<tr>
<td>6&quot;</td>
<td>#4 @ 16&quot; O.C.</td>
<td>4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>#5 @ 16&quot; O.C.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>#6 @ 16&quot; O.C.</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

⑧ ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY RESTORATION WORK SHALL BE REPLACED.

⑨ ALL WORK SHALL BE CONSTRUCED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").

⑩ CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
Section II

Sewer and Sanitation
NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE RING RINGS.

2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.

3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.

4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

SECTION A-A

SECTION B-B

SECTION L-M

DROP MANHOLE "S"
CASE II

PIPE DIAMETER VARIABLE (TYP.)
REVERSE WYE
45° MITERED BEND
90° LONG RADIUS BEND
PORTLAND CEMENT CONCRETE

CASE III

PIPE DIAMETER VARIABLE (TYP.)
REVERSE WYE
45° MITERED BEND
PORTLAND CEMENT CONCRETE

CASE IV

PIPE DIAMETER VARIABLE (TYP.)
REVERSE WYE
(2) - 22-1/2" (1/16) LONG RADIUS BENDS
PORTLAND CEMENT CONCRETE

CASE V

PIPE DIAMETER VARIABLE (TYP.)
REVERSE WYE
45° LONG RADIUS BEND
PORTLAND CEMENT CONCRETE

CASE VI

PIPE DIAMETER VARIABLE (TYP.)
REVERSE WYE
45° MITERED BEND
PORTLAND CEMENT CONCRETE

DROP MANHOLE "S"

<table>
<thead>
<tr>
<th>DROP HEIGHT &quot;D&quot;</th>
<th>6&quot; PIPE</th>
<th>8&quot; PIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE I</td>
<td>3&quot; - 3&quot;</td>
<td>4&quot; - 0&quot;</td>
</tr>
<tr>
<td>CASE II</td>
<td>N.A.</td>
<td>3&quot; - 6&quot;</td>
</tr>
<tr>
<td>CASE III</td>
<td>N.A.</td>
<td>2&quot; - 7&quot;</td>
</tr>
<tr>
<td>CASE IV</td>
<td>1&quot; - 3&quot;</td>
<td>2&quot; - 1&quot;</td>
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<tr>
<td>CASE V</td>
<td>1&quot; - 2&quot;</td>
<td>1&quot; - 7&quot;</td>
</tr>
<tr>
<td>CASE VI</td>
<td>N.A.</td>
<td>1&quot; - 4&quot;</td>
</tr>
</tbody>
</table>

NOTE: FOR LARGER SIZE PIPES, "D" PER PROJECT PLAN

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE: 7-30-09
APPROVED DATE: 7-31-09

STANDARD DRAWING BH 201
SHEET 2 OF 2
NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.

2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.

3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.

4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.
NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.

2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.

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NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.

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NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.

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JUNCTION CHAMBER "H"
TERMINAL MANHOLE "Q"

NOTES:
1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.
NOTES:
1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

MODIFIED JUNCTION CHAMBER "F"
**INSTALLATION NOTES:**

2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADI 1/8" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2" UNLESS OTHERWISE SPECIFIED.

---

**NON-ROCKING MANHOLE FRAME AND COVER**

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
<tr>
<td>-------</td>
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</tbody>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED CITY ENGINEER
APPROVED PUBLIC WORK DIRECTOR

STANDARD DRAWING
BH 208

SHEET 1 OF 1
INSTALLATION NOTES:
2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADI 1/16" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2" UNLESS OTHERWISE SPECIFIED.

LARGE MANHOLE FRAME AND COVER

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY ENGINEER DATE 7-30-09
APPROVED BY PUBLIC WORKS DIRECTOR DATE 7-31-09

STANDARD DRAWING BH 209
SHEET 1 OF 1
CASE I
REINFORCED CONCRETE BEAM

CLASS 6.0-C-3000 REINFORCED CONCRETE BEAM DIMENSIONS

<table>
<thead>
<tr>
<th>TRENCH WIDTH</th>
<th>DEPTH OF BEAM</th>
<th>BAR SIZE</th>
<th>BEAM LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'-0&quot; or LESS</td>
<td>8&quot;</td>
<td>5/8&quot; 0&quot;</td>
<td>7'-0&quot;</td>
</tr>
<tr>
<td>4'-6&quot;</td>
<td>9&quot;</td>
<td>3/4&quot; 0&quot;</td>
<td>7'-6&quot;</td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td>9'-1/2&quot;</td>
<td>3/4&quot; 0&quot;</td>
<td>9'-0&quot;</td>
</tr>
<tr>
<td>6'-6&quot;</td>
<td>10'-2&quot;</td>
<td>3/4&quot; 0&quot;</td>
<td>7'-0&quot;</td>
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<tr>
<td>7'-0&quot;</td>
<td>12&quot;</td>
<td>3/4&quot; 0&quot;</td>
<td>10'-6&quot;</td>
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<tr>
<td>8'-0&quot;</td>
<td>13&quot;</td>
<td>7/8&quot; 0&quot;</td>
<td>11'-0&quot;</td>
</tr>
</tbody>
</table>

MINIMUM BEARING = 1/2 "D"

1. WIDTH OF BEAMS SHALL BE NOMINAL DIAMETER OF PIPE PLUS 2".
2. REINFORCING STEEL SHALL BE PLACED 1-1/2" CLEAR FROM THE SIDE AND BOTTOM OF BEAMS.
3. IF BEAMS ARE PRECAST, 18" AT ENDS OF BEAMS SHALL BE BEDDED IN CLASS 4.5-C-2000 CONCRETE. CLASS "C" MORTAR SHALL BE PLACED BETWEEN TOP OF BEAMS AND BOTTOM OF PIPE TO GIVE BEARING.

CASE II
CONCRETE SUPPORT WALL

1. SUPPORTING WALL SHALL HAVE A FIRM BEARING ON THE SUBGRADE AND AGAINST THE SIDES OF THE EXCAVATION.
2. WALL SHALL BE AT LEAST 2" FREE AND CLEAR OF ANY GAS OR WATER MAIN OR OTHER CONDUIT OR DUCT.
3. EITHER TYPE "A" OR "B" CROSS SECTION MAY BE USED AT THE CONTRACTORS OPTION.

CASE III
CAST IRON PIPE

CLASS OF CAST IRON PIPE

<table>
<thead>
<tr>
<th>CLASS 150 PIPE</th>
<th>CLASS 250 PIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSIDE DIAMETER</td>
<td>6&quot;  8&quot; 10&quot;</td>
</tr>
<tr>
<td>MAXIMUM TRENCH WIDTH</td>
<td>4'-6&quot; 5'-6&quot;</td>
</tr>
</tbody>
</table>

CASE IV
SPUN REINFORCED CONCRETE PIPE (STORM DRAINS ONLY)

1. CLASS 2000-D SPUN REINFORCED CONCRETE PIPE OF THE SAME DIAMETER AS STORM DRAIN MAY BE USED FOR STORM DRAINS ONLY WHERE WIDTH OF TRENCH IS 5'-0" OR LESS.
2. BEARING OF THE PIPE ENDS AND JOINT CLOSURE SHALL BE THE SAME AS FOR CASE III.

PIECE SUPPORTS ACROSS TRENCHES

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE: 7-30-09
APPROVED DATE: 7-31-09

STANDARD DRAWING BH 210
SHEET 1 OF 1
CASE I
CLAY AND CONCRETE PIPE

1. CASE I BEDDING (LOAD FACTOR 2.1) SHALL BE USED WHERE SPECIFIED ON THE PLANS OR WHERE REQUIRED AS AN ALTERNATIVE TO CASE II OR CASE III BEDDING AS PROVIDED HEREIN. CASE IV BEDDING SHALL BE USED INSTEAD OF CASE I AGAINST SHEETING OR UNSTABLE TRENCH SIDES IF SO REQUIRED BY THE ENGINEER.

CASE II
CLAY AND CONCRETE PIPE

1. CASE II BEDDING (LOAD FACTOR 1.8)
   a. "W" AT THE SPRING LINE SHALL NOT BE LESS THAN 8 INCHES FOR ANY DEPTH OF TRENCH.
   b. WHERE THE COVER IS LESS THAN 8 FEET, "W" MEASURED AT THE TOP OF THE PIPE MAY BE ANY DIMENSION GREATER THAN 8 INCHES.
   c. WHERE THE COVER IS GREATER THAN 8 FEET, "W" MEASURED AT THE TOP OF PIPE SHALL NOT BE GREATER THAN 8 INCHES UNLESS THE CONTRACTOR AT HIS OWN EXPENSE PROVIDES CASE I BEDDING. THE STATED 8 INCHES INCLUDES THE THICKNESS OF ANY SHEETING.

CASE III
REINFORCED CONCRETE PIPE

1. CASE III BEDDING (LOAD FACTOR 1.8)
   a. "W" AT THE SPRING LINE SHALL NOT BE LESS THAN 3 INCHES FOR ANY DEPTH OF TRENCH.
   b. WHERE THE COVER IS LESS THAN 6 FEET, "W" MEASURED AT THE TOP OF THE PIPE MAY BE ANY DIMENSION GREATER THAN 3 INCHES.
   c. WHERE THE COVER IS GREATER THAN 6 FEET, "W" MEASURED AT THE TOP OF PIPE SHALL NOT BE GREATER THAN 10 INCHES UNLESS THE CONTRACTOR AT HIS OWN EXPENSE PROVIDES CASE I BEDDING. THE STATED 10 INCHES INCLUDES THE THICKNESS OF ANY SHEETING.

CASE IV
EXCAVATION TO THIS LINE PERMITTED

1. CASE IV BEDDING (LOAD FACTOR 3.0) WHERE REQUIRED BY THE ENGINEER AS AN ALTERNATIVE TO CASE I OR CASE V TO MEET CONDITIONS ARISING DURING CONSTRUCTION.

CASE V
EXCAVATION TO THIS LINE PERMITTED

1. CASE V BEDDING (LOAD FACTOR 2.7) SHALL BE USED WHERE SPECIFIED ON THE PLANS. CASE IV BEDDING SHALL BE USED INSTEAD OF CASE V AGAINST SHEETING OR UNSTABLE TRENCH WALLS IF SO REQUIRED BY THE ENGINEER.

GENERAL NOTES
1. USE CASE III FOR RCP AND CASE II FOR VITRIFIED CLAY AND PLAIN CONCRETE PIPE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PROJECT DRAWINGS.
2. BEDDING "A" SHALL BE COMPOSED OF SAND, NO. 3 OR NO. 4 CRUSHED ROCK OR GRAVEL, OR OTHER GRANULAR MATERIAL AS MAY BE SPECIFIED OR OTHERWISE APPROVED BY THE ENGINEER. THE MAXIMUM SIZE OF ROCK OR GRAVEL SHALL BE NO. 3 FOR PIPES 27 INCHES IN DIAMETER AND LARGER, AND NO. 4 FOR PIPES SMALLER THAN 27 INCHES IN DIAMETER. BEDDING "B" SHALL BE COMPOSED OF SAND OR OTHER GRANULAR MATERIAL AS MAY BE SPECIFIED OR OTHERWISE APPROVED BY THE ENGINEER AND SHALL BE COMPLETED PRIOR TO PLACING BALANCE OF BACKFILL.
3. CONCRETE ENCASEMENT, WHERE CALLED FOR ON THE PROJECT DRAWINGS, SHALL BE CLASS 5.5-C-2800 CONCRETE Poured FROM A MINIMUM OF 6" BELOW BOTTOM OF PIPE TO A MINIMUM OF 6" ABOVE TOP OF PIPE.

PIPE BEDDING IN TRENCHES

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 7-30-09
APPROVED DATE 7-31-09

STANDARD DRAWING
BH 211
SHEET 1 OF 1
**SEWER AND WATER MAIN PARALLEL SEPARATION < 10'**

**CASE 1**
NEW SEWER

- **ZONE** SPECIAL CONSTRUCTION REQUIRED FOR SEWER
  - **A.** SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
  - **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 (PER ASTM D 3034) OR EQUIVALENT.
    3. CAST OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
    4. REINFORCED CONCRETE PRESSURE PIPE WITH COMPRESSION JOINTS (PER AWWA C302-74).
  - **P.** PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

**CASE 2**
NEW WATER MAIN

- **ZONE** SPECIAL CONSTRUCTION REQUIRED FOR SEWER
  - **A.** NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
  - **B.** A WATER LINE PLACED PARALLEL TO A SEWER LINE SHALL BE CONSTRUCTED OF STEEL PIPE, CMI, AND CMC WITH WELDED JOINTS.
  - **P.** PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

**ADDITIONAL NOTES:**

1. ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES,
2. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
3. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
4. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.
Case 1
New Sewer

Zone C
Special Construction Required for Sewer

- A sewer line crossing a water main shall be constructed of:
  1. Ductile iron pipe with hot dip bituminous coating and mechanical joints.
  2. A continuous section of Class 200 (DR 14 per AWWA C900) plastic pipe or equivalent, centered over the 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 sleeve.

Zone D
A sewer line crossing a water main shall be constructed of:

- A continuous section of ductile iron pipe with hot dip bituminous coating.
- A continuous section of Class 200 (DR 14 per AWWA C900) plastic pipe or equivalent, centered over the pipe being crossed.
- A continuous section of reinforced concrete pressure pipe (per AWWA C302-74) centered over the pipe being crossed.
- Any sewer pipe within a continuous sleeve.
- Any sewer pipe separated by a 10'x10'x4' thick reinforced concrete slab.

Zone P
Prohibited Zone - No sewer mains are allowed to be installed in this zone.

Case 2
New Water Main

Zone C
Special Construction Required for Sewer

- No joints within 10 feet of either side of sewer line. Use ductile iron pipe, CML, and polyethylene wrapped, or steel pipe, CML, and CMC.

Zone D
No joints within 4 feet of either side of sewer line. Use ductile iron pipe, CML, and polyethylene wrapped, or steel pipe, CML, and CMC.

Zone P
Prohibited Zone - No water mains are allowed to be installed in this zone.

Additional Notes:

1. Water mains and sewer mains must not be installed in the same trench.
2. Separation distances specified shall be measured from the nearest edge of facilities.
3. Steel pipe shall be a minimum of 10 gage thickness.

Sewer and Water Main Perpendicular Separation < 10'
1. Extend both ends of cradle or encasement to a point 1" short of first pipe joint beyond locations specified on plans.

2. Apply form oil, thin plastic sheet, or other acceptable material to pipe, to prevent bond between pipe and concrete.

3. Use class 420-C-2000 concrete for all cases.

4. Conditions of required use:
   a. Case I - Concrete Cradle
      1. When overburden depth is greater than 20'.
      2. As a support when crossing over a structure with a clearance less than 1.5' and greater than 0.5'.
      3. When within a 45° angle downward from the bottom of a footing.
   b. Case II - Concrete Encasement
      1. When crossing under a structure with a clearance less than 1.5' and greater than 0.5'.
      2. When cover dirt is less than 4'.
      3. When less than 3' from a power pole.
   c. Case III - Special Cradle
      1. As a support when crossing over a trench greater than 4' in width, see APWA standard plan 224.
   d. Case IV - Special Encasement
      1. When crossing under a structure with a width greater than 5' and a clearance less than 1.5' and greater than 0.5'.
      2. When within 10' of a pressurized water main, or within 25' of a gravity flow water main.
ADDITIONAL NOTES:

1. MATERIALS SHALL BE SELECTED FROM THE CITY OF BEVERLY HILLS APPROVED MATERIALS LIST.
2. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.
3. NO MORE THAN ONE CUT-IN LATERAL CONNECTION WILL BE ALLOWED FOR EACH LENGTH OF VCP SEWER MAIN.
4. LINING SHALL BE CORED THE EXACT DIAMETER OF THE LATERAL.
5. LATERAL SHALL BE FLUSH WITH THE LINING MATERIAL AND SHALL NOT PROTRUDE WITHIN THE LINING.
Section III

Flood Control and
Storm Drain Facilities

(RESERVED)
Section IV

Street Lighting and
Traffic Signals
NOTES:
1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #18 AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

ROUND INDUCTIVE LOOP DETECTOR INSTALLATION

<table>
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<tr>
<th>REVISIONS</th>
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<td>MARK</td>
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CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLISHED WORKS DIRECTOR

STANDARD DRAWING
BH 401

SHEET 1 OF 1
NOTES:
1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #18 AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOME RUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
7. FRONT LOOP (LOOP 1) SHALL EXTEND INTO CROSSWALK 12" WHERE APPLICABLE.
8. ROUND CORNERS OF ACUTE ANGLE SAWCUTS TO PREVENT DAMAGE TO CONDUCTORS.

BIKE LOOP DETECTOR INSTALLATION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED
CITY ENGINEER
DATE 11/15/11

APPROVED
PUBLIC WORKS DIRECTOR
DATE 11/18/11

STANDARD DRAWING
BH 402

SHEET 1 OF 1
NOTES:
1. NON-METALLIC BUSHING SHALL BE USED AT ROADWAY END OF CONDUIT.
2. TAPE WIRE 5" EACH SIDE OF ROADWAY BUSHING.
3. INSTALL DUCT SEAL COMPOUND TO EACH END OF ROADWAY CONDUIT BEFORE INSTALLING EPOXY OR OTHER APPROVED MATERIALS.
4. ROUND ALL SHARP EDGES WHERE WIRE HAS TO PASS.
5. SPLICE DETECTOR CONDUCTORS OR CABLE TO LEAD-IN CABLE FOR RUN TO CONTROLLER CABINET.
6. 2" PVC CONDUIT ENDS SEALED WITH APPROVED COMPUND AFTER CONDUCTOR INSTALLATION.
7. EXACT LOCATION OF THE DETECTOR HANDBOLE WILL BE DETERMINED BY THE CITY ENGINEER IN THE FIELD.
8. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
LID
- FIBRELYTE LID, NON-CONCRETE
- ETCHED POLYETHYLENE FACE
- FACE ANCHORED IN CONCRETE
- ULTRA-VIOLET INHIBITOR

BOX
- CHRISTY OR EQUAL

TRAFFIC SIGNAL PULL BOX & LID
Section V

Landscaping and Irrigation

(RESERVED)
Section VI

General Facilities
CROSSWALKS

LEGEND SHALL BE YELLOW (TYP.)

Curb and Gutter

P/L

W63 (S1-1) and W65 (S4-3) ± 300 FEET IN ADVANCE OF SCHOOL ZONE ONLY.

W63 W16-7

SCHOOL CROSSWALKS

NOTES:
1. ALL CROSSWALK LINES SHALL BE 12" STROKE.
2. CROSSWALK WIDTH SHALL BE EQUAL TO ADJACENT MAXIMUM SIDEWALK WIDTH, BUT NO LESS THAN 12 FEET.
3. OMIT LEGEND ON INTERSECTION APPROACHES WHEN SIGNALS, STOP OR YIELD SIGNS ARE IN PLACE.
4. REFER TO M.U.T.C.D CA SUPPLEMENT (LATEST EDITION).

CROSSWALK STRIPING

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 602

SHEET 1 OF 1
INSTALLATION NOTES:
1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATERGATES, JUNCTION CHAMBERS, ETC.
2. EDGE OF SPEED HUMP SHALL BE 5 FEET MINIMUM FROM EDGE OF DRIVEWAY.
3. WHENEVER POSSIBLE SPEED HUMPS SHALL BE PLACED AT PROPERTY LINES INSTEAD OF MID-LOT.
4. WHENEVER POSSIBLE SPEED HUMPS SHALL BE PLACED ADJACENT TO STREET LIGHTS.
TEMPORARY CURB RAMP DETAIL

EARTH BEHIND CURB TO BE KEPT LEVEL TO TOP OF RAMP AND SOLIDLY COMPACTED.

1"x6" PLANK ON TOP OF CURB MAY BE OMITTED FOR PNEUMATIC TIRED VEHICLES.

1" LESS THAN CURB FACE

EXISTING CURB AND GUTTER

SECTION A-A

(2) 2"x4" PLANKS, SPACED AS SHOWN

(1) 2"x4" PLANK, BEVELED AS SHOWN

2 SUPPORTS @ 12" OC.

TEMPORARY CURB RAMP PLAN

NOT TO SCALE

TEMPORARY CURB RAMP

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

DATE 7-30-09

DATE 9-31-09

BEVERLY HILLS

BH 604

STANDARD DRAWING

REVISIONS

MARK DATE DESCRIPTION

SHEET 1 OF 1
SPECIFICATIONS:

ALL MONUMENT COVERS SHALL BE MADE OF CAST IRON IN ACCORDANCE WITH A.S.T.M STANDARD SPECIFICATIONS A48M-03, CLASS 30, EXCEPT THAT NO TRANSVERSE TEST WILL BE REQUIRED.

ALL MONUMENT COVERS SHALL BE MADE TO THE DIMENSIONS AS SHOWN HEREON, SHALL BE OF UNIFORM THICKNESS AND FREE FROM FLAWS OR DEFECTS. ALL LETTERING SHALL BE RADially PLACED, UNIFORM IN SIZE AND SHALL CONFORM TO THE DIMENSIONS AS SHOWN HEREON WITHOUT FLAWS OR IRREGULAR LETTERING.

NOTES:

1. ALL RADII TO BE 1/16" UNLESS OTHERWISE SPECIFIED.
2. ALL DRAFT TO BE 1-1/2° UNLESS OTHERWISE SPECIFIED.

SURVEY MONUMENT COVER
SPECIFICATIONS FOR POST:
STEEL PIPE, STANDARD WEIGHT, 2" X 48" LONG, ASTM-A120-63T, NEW AND UNUSED, HOT DIPPED GALVANIZED, TOP REAMED

ADDITIONAL NOTES:
1. POST TO BE LEVEL AND STRAIGHT
2. AREA TO BE LEFT CLEAN
3. CEMENT GROUT - 1 CEMENT : 2-1/2 SAND
4. TOP OF INSTALLED METER COIN/CARD SLOT SHALL NOT EXCEED 48" ABOVE FINISHED GRADE.

PARKING METER POST INSTALLATION - CONCRETE SETTING
Section VII

Water Pipe Line Installations
LEGEND

PROPOSED WATER MAIN
EXISTING WATER MAIN
ROAD CENTER LINE
DEPT. OF WATER & POWER SERVICE
P.T. & T.
SOUTHERN CALIFORNIA EDISON
SOUTHERN CALIFORNIA GAS
STORM DRAIN AND MANHOLE
SANITARY SEWER AND MANHOLE
CURB LINE
O.L.C.
ABBREVIATIONS

B.H.W.  BEVERLY HILLS WATER
D.W. & P.-W.S.  DEPARTMENT OF WATER & POWER, WATER SERVICE
P.T. & T  PACIFIC TELEPHONE & TELEGRAPH COMPANY
S.C.E.  SOUTHERN CALIFORNIA EDISON
S.C.G.  SOUTHERN CALIFORNIA GAS
S.D.M.H.  STORM DRAIN MAINTENANCE HOLE
S.S.M.H.  SANITARY SEWER MAINTENANCE HOLE
M.W.D.  METROPOLITAN WATER DISTRICT
O.L.C.  ORNAMENTAL LIGHTING CONDUIT
F.A.C.  FIRE ALARM CONDUIT
C.I.  CAST IRON
F.H.  FIRE HYDRANT
P/L  PROPERTY LINE
JONES NO. J-3775 (6" x 4" x 4" x 2-1/2") FOR CITY OF BEVERLY HILLS, JONES NO. J-3775 (6" x 4" x 2-1/2") FOR CITY OF WEST HOLLYWOOD, ALL BRONZE BODY, OR APPROVED EQUAL.

BREAKAWAY BOLTS (5/8" x 3")

CURB AND GUTTER

TOP OF PAVEMENT

1. HYDRANT OUTLETS SHALL FACE THE STREET AT 45° OR AS DIRECTED BY THE CITY ENGINEER.
2. FINAL HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
3. CONNECTION OF THE FIRE HYDRANT TO THE WATER MAIN MAY REQUIRE FITTING AND COUPLINGS NOT SHOWN HEREON. THE CONTRACTOR SHALL PROVIDE AND INSTALL AT NO EXTRA COST.
4. BREAKAWAY BOLTS SHALL BE USED TO INSTALL THE HYDRANT HEAD ON THE BURY.
5. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 706 OR AS DIRECTED BY THE CITY ENGINEER.
6. FIRE HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
7. ALL HYDRANTS WATER OUTLET CAP MATERIAL SHALL BE BRONZE.
8. ALL FITTINGS USED TO CONNECT THE FIRE HYDRANT TO THE WATER MAIN SHALL BE PROPERLY RESTRAINED WITH APPROVED STANDARD METHODS OR AS DIRECTED BY THE CITY ENGINEER.
9. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
10. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
11. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT ASSEMBLY (TYPICAL)

REVISIONS

MARK | DATE | DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 703

SHEET 1 OF 1
LATERAL INSTALLATION PER STANDARD DRAWING BH 705

THRUST BLOCK
UNDISTURBED SOIL
EXISTING WATER MAIN
CURB AND GUTTER

VALVE BOX PER STANDARD DRAWING BH 707
WATER MAIN
THRUST BLOCK
UNDISTURBED SOIL

6" BUTTERFLY VALVE MJ x FLG PER STANDARD DRAWING BH 707

TEE MJ x FLG OUTLET
6" BUTTERFLY VALVE MJ x FLG PER STANDARD DRAWING BH 707
6"-90° BEND MJ x FLG
6" DUCTILE IRON PIP CLASS 52 (CEMENT MORTAR LINED)
2'-0" RESTRAINT JOINT MEGALUG TYPE (TYP.)
FACE OF CURB
UNDISTURBED SOIL
THRUST BLOCK
FIRE HYDRANT ASSEMBLY PER STANDARD DRAWING NO. BH 703

NOTES:
1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT INSTALLATION WITH WATER MAIN BEHIND THE CURB

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION

RECOMMENDED: DATE 7-30-09
APPROVED: DATE 7-31-09

STANDARD DRAWING
BH 704

SHEET 1 OF 1
EXISTING WATER MAIN TO REMAIN IN SERVICE

REMOVE INTERFERING PORTIONS OF EXISTING PIPE, VALVES, FITTINGS, ETC. AS REQUIRED

UNDISTURBED SOIL

THRUST BLOCK

FLEXIBLE COUPLING

TEE MJ x FLG OUTLET

6" BUTTERFLY VALVE
MJ x FLG PER STANDARD DRAWING BH 707

PROPOSED FIRE HYDRANT OR SERVICE LATERAL
SEE STANDARD DRAWING BH 703 FOR FIRE HYDRANT ASSEMBLY.

NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.

2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.

3. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.

4. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.
NOTES:
1. THRUST BLOCKS PER STANDARD DRAWING NUMBER BH 709, ARE REQUIRED AT ALL PLUGS, TEES AND ENDS, OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. ALL PERMANENT PLUGS OR CAPS, PER STANDARD DRAWING NO. BH 708, SHALL BE CAPABLE OF WITHSTANDING A 200 PSI TEST PRESSURE.
4. FINAL FIRE HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
5. REMOVE EXISTING TEE, VALVE, LATERAL AND FIRE HYDRANT ASSEMBLY IF LOCATION REMAINS THE SAME.
6. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
7. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

CONNECTION FOR UPGRADED FIRE HYDRANT INSTALLATION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED ________________________________ DATE 7-30-09
CITY ENGINEER

APPROVED ________________________________ DATE 7-30-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 706

SHEET 1 OF 1
PROVIDE HEAVY DUTY CAST IRON VALVE BOX CAP, WESTERN WATER WORKS SUPPLY COMPANY, 8" I.D. NO. 84 OR APPROVED EQUAL, MARKED AS INDICATED, PAINT AS INDICATED.

<table>
<thead>
<tr>
<th>VALVE TYPE</th>
<th>PAINT COLOR: (VALVE LOCATED IN BEVERLY HILLS)</th>
<th>PAINT COLOR: (VALVE LOCATED IN W. HOLLYWOOD)</th>
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<tr>
<td>WATER MAIN ISOLATION VALVE</td>
<td>YELLOW</td>
<td>YELLOW</td>
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<tr>
<td>FIRE HYDRANT BRANCH VALVE</td>
<td>SILVER</td>
<td>YELLOW</td>
</tr>
<tr>
<td>ZONE VALVE</td>
<td>RED</td>
<td>YELLOW</td>
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16 GAGE SPLIT GALVANIZED STEEL EXTENSION SLEEVE

PVC STANDPIPE LOWER SLEEVE
1/8" MINIMUM THICKNESS, ASPHALT COATED
TO PROVIDE 4" TO 6" OVERLAP (SLIP FIT).

NOTES:

1. VALVE OPERATORS SHALL BE A TRAVELING NUT TYPE AND HAVE 2-INCH OPERATING NUTS.

2. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

VALVE BOX DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED: [Signature] DATE: 7-30-09
APPROVED: [Signature] DATE: 7-31-09

STANDARD DRAWING
BH 707
SHEET 1 OF 1
NOTES:
1. CONCRETE SHALL BE 2000 P.S.I.
2. POUR CONCRETE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
3. REMOVE INTERFERING PORTIONS OF MAIN TO BE ABANDONED.
4. USE STEEL ANCHOR RODS OR STRAPS ONLY WHERE PERMITTED BY THE ENGINEER.
## HORIZONTAL BENDS

<table>
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<tr>
<th>Nominal Pipe Size (Inches)</th>
<th>Test Pressure (P.S.I.)</th>
<th>Dead Ends and Tees</th>
<th>Bends Less Than or Equal to Angle (11 - 1/4°)</th>
<th>Bends 22 - 1/2°</th>
<th>45°</th>
<th>90°</th>
<th>All Bends</th>
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<tr>
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<tr>
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<td>3'-0&quot;</td>
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<tr>
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<td>5'-6&quot;</td>
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<td>1'-0&quot;</td>
<td>3'-0&quot;</td>
</tr>
<tr>
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## VERTICAL BENDS

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<th>45°</th>
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<th>All Bends</th>
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<td>1'-0&quot;</td>
<td>3'-0&quot;</td>
<td>7'-0&quot;</td>
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**CONCRETE THRUST BLOCK SCHEDULE**

**NOTE:**

1. THRUST BLOCK SIZES ARE BASED ON A BEARING CAPACITY OF 1500 P.S.F., WITH A MINIMUM SOIL COVER OF 3'-0". IF SOIL COVER IS LESS THAN 3'-0", MULTIPLY BEARING AREA BY A FACTOR OF 1.5 FOR SOIL COVER OF 2'-0" TO 3'-0", OR BY A FACTOR OF THREE (3) FOR SOIL COVER OF 1'-0" TO 2'-0".

2. DIMENSIONS SHOWN REFER TO THRUST BLOCK TYPES SHOWN IN DETAIL, AND ARE MINIMUM VALUES ONLY.

3. CONCRETE MIX SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR 3000 LBS. STRENGTH AT 28 DAYS WHEN TESTED IS ACCORDANCE WITH ASTM C39.

4. ALL THRUST BLOCKS SHALL BE Poured SOLIDLY AGAINST FIRM, UNDISTURBED SOIL.

5. IF SOILS HAVE BEEN PREVIOUSLY EXCAVATED AND BACKFILLED, CONTRACTOR SHALL NOTIFY CITY ENGINEER, WHO MAY DIRECT THAT THE DIMENSIONS SHOWN SHALL BE INCREASED BY A FACTOR OF 1.5.

6. CONCRETE Poured AGAINST PIPE FITTINGS SHALL NOT EXTEND BEYOND THE FITTING JOINTS WITHOUT THE APPROVAL OF THE CITY ENGINEER.

7. THRUST REACTION BACKING TYPE (SEE DRAWING) SHALL BE AS DIRECTED BY THE CITY ENGINEER.

8. THE ANGLE (θ) SHOWN IN THE DETAILS SHALL BE GREATER THAN 45° IN ALL CASES.

---

**CONCRETE THRUST BLOCKS**

**CITY OF BEVERLY HILLS, CALIFORNIA**

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

**RECOMMENDED**

**APPROVED**

**STANDARD DRAWING**

BH 709

Sheet 1 of 4
CONCRETE THRUST BLOCKS

NOTE:
1. CONCRETE FOR THRUST BLOCK TO BE 2000 P.S.I.
CONCRETE THRUST BLOCKS

NOTE:
1. SEE STANDARD DRAWING NO. BH 711, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.
MAKE BLOCK FULL WIDTH OF TRENCH

TYPE V

SECTION P

WRAP WITH PLASTIC LINER TO PREVENT CORROSION

TYPE VII

NOTE:
1. SEE STANDARD DRAWING NO. BH 711, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.

CONCRETE THRUST BLOCKS
NOTES:

1. WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY SEE BEVERLY HILLS STANDARD DRAWING BH 113 FOR STEEL PLATE PLACEMENT.

2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

TRENCH FOR WATER LINE
WATER METER BOX & LID - 13" x 24"

NON-TRAFFIC RATED
DESCRIPTION OF MATERIAL: POLYMER CONCRETE (GRAY)
TOLERANCE: ±1/8"
ESTIMATED PART WEIGHT: 65.0 LBS.
WATER METER BOX & LID - 17" x 30"

NON-TRAFFIC RATED

DESCRIPTION OF MATERIAL: POLYMER CONCRETE (GRAY)

TOLERANCE: ±1/8"

ESTIMATED PART WEIGHT: 99.0 LBS.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 713

Sheet 1 of 2
TRAFFIC BOX
REINFORCED CONCRETE
H-20 LOADING
130 lbs.

EXTENSION
REINFORCED CONCRETE
H-20 LOADING
129 lbs.

SLAB
REINFORCED CONCRETE
32 lbs.

NOTES:
1. CALTRANS No. 3-1/2T STATE SPECIFICATIONS.

10" x 17" WATER METER BOX & LID - H/20 LOADING

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED
DATE 11-18-10

APPROVED
DATE 11-18-10

STANDARD DRAWING
BH 714

SHEET 1 OF 2
10" x 17" WATER METER BOX & LID - H/20 LOADING

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 11/19/10
APPROVED DATE 11/18/10

STANDARD DRAWING BH 714

METHODS

1 - 1/2" DIAMOND CHECKER PLATE
2 - 1/4" x 1-1/2" STEEL FLAT STOCK
3 - 3/4" x 1/2" STEEL FLAT STOCK
4 - 3/8" - 16 STEEL NUT
5 - 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6 - SURFACE AROUND WELD TO BE FLAT
TRAFFIC BOX
REINFORCED CONCRETE
H-20 LOADING
166 lbs.

EXTENSION
REINFORCED CONCRETE
H-20 LOADING
163 lbs.

SLAB
REINFORCED CONCRETE
52 lbs.

NOTES:
1. CALTRANS No. 5T STATE SPECIFICATIONS.

13" x 24" WATER METER BOX & LID - H/20 LOADING
13" x 24" WATER METER BOX & LID - H/20 LOADING

MATERIALS
1 - 1/2" DIAMOND CHECKER PLATE
2 - 1/4" x 1-1/2" STEEL FLAT STOCK
3 - 3/4" x 1/2" STEEL FLAT STOCK
4 - 3/8" - 16 STEEL NUT
5 - 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6 - SURFACE AROUND WELD TO BE FLAT

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED
APPROVED

STANDARD DRAWING
BH 715

SHEET 2 OF 2
17" x 30" WATER METER BOX & LID - H/20 LOADING

BOX
REINFORCED CONCRETE
H-20 LOADING
268 lbs.

EXTENSION
REINFORCED CONCRETE
H-20 LOADING
250 lbs.

SLAB
REINFORCED CONCRETE
106 lbs.

NOTES:
1. CALTRANS No. 6T STATE SPECIFICATIONS.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED: [Signature] DATE 11-18-10
APPROVED: [Signature] DATE 11-18-10

STANDARD DRAWING
BH 716

REVISIONS
MARK DATE DESCRIPTION

Sheet 1 of 2
17" x 30" WATER METER BOX & LID - H/20 LOADING

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED: D. CROUSE
APPROVED: J. L. CAUSTIN

STANDARD DRAWING
BH 716
SHEET 2 OF 2
MATERIALS:

1. 27" HIGH LOWER SECTION.
2. 6" TOP SECTION WITH GALVANIZED CAST-IN FRAME.
3. 12" x 12" KNOCK OUT 3-1/2" DEEP ON EACH END WALL
4. 6" OR 12" EXTENSION SECTIONS AVAILABLE.

NOTES:

1. DESIGNED FOR PEDESTRIAN/PARKWAY LOADS OR TRAFFIC
   AASHTO H20 FOR USE IN OFF-STREET LOCATIONS ONLY.

STRUCTURE DESIGNED IN ACCORDANCE WITH:

- AASHTO H-20 TRAFFIC BRIDGE LOADING
- ASTM C-857 STANDARD PRACTICE FOR MINIMUM
  STRUCTURAL DESIGN LOADING FOR UNDERGROUND
  PRECAST CONCRETE UTILITY STRUCTURES
- AMERICAN CONCRETE INSTITUTE ACI 318-05

2. CONCRETE COMPRESSIVE STRENGTH $P_c = 5500$ PSI.
3. REINFORCEMENT IN ACCORDANCE WITH ASTM A-706 WITH A
   YIELD STRENGTH $F_y = 60,000$ PSI.
4. 6" MINIMUM COMPACTED GRANULAR MATERIAL RECOMMENDED
   FOR SUB-BASE FOR EASE OF INSTALLATION AND EVEN LOAD
   DISTRIBUTION.
5. MINIMUM EXCAVATION SIZE: 3'-2" x 4'-2" x REQUIRED DEPTH.

2' x 3' WATER VAULT BOX & LID

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

STANDARD DRAWING

BH 717

SHEET 1 OF 3
2' x 3' WATER VAULT BOX & LID
2' x 3' WATER VAULT BOX & LID

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED
CITY ENGINEER
DATE 11-18-10

APPROVED
PUBLIC WORKS DIRECTOR
DATE 11-18-10

STANDARD DRAWING
BH 717

Sheets 3 of 3

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<th>QTY</th>
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<td>1</td>
<td>5/16&quot; DIAMOND PLATE 27-1/2&quot; x 39-1/2&quot;</td>
</tr>
<tr>
<td>1</td>
<td>10-1/8&quot; ID x 12-1/4&quot; OD 1/4&quot; PLATE</td>
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<tr>
<td>1</td>
<td>11-1/2&quot; ID x 13-1/2&quot; OD 1/4&quot; PLATE</td>
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APPROX. 104 lbs.
### MATERAILS:

1. 27" HIGH LOWER SECTION.
2. 6" TOP SECTION WITH GALVANIZED CAST-IN FRAME.
3. 12" x 12" KNOCK OUT x 3-1/2" DEEP ON EACH END WALL.
4. 6" OR 12" EXTENSION SECTIONS AVAILABLE.

### NOTES:

1. DESIGNED FOR PEDESTRIAN/PARKWAY LOADS OR TRAFFIC AASHTO H20 FOR USE IN OFF-STREET LOCATIONS ONLY.

2. STRUCTURE DESIGNED IN ACCORDANCE WITH:
   - AASHTO H-20 TRAFFIC BRIDGE LOADING
   - ASTM C-657 STANDARD PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
   - AMERICAN CONCRETE INSTITUTE ACI 318-05

3. CONCRETE COMPRESSIVE STRENGTH Fc = 5500 PSI.

4. REINFORCEMENT IN ACCORDANCE WITH ASTM A-706 WITH A YIELD STRENGTH OF Fy = 80,000 PSI.

5. 6" MINIMUM COMPACTED GRANULAR MATERIAL RECOMMENDED FOR SUB-BASE FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.

### 2'-6" x 4' WATER VAULT BOX & LID

<table>
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<th>STANDARD DRAWING</th>
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### REVISIONS

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### SHEET 1 OF 3
2'-6" x 4' WATER VAULT BOX & LID

SECTION A-A / C-C

SECTION B-B / D-D

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 11-19-19
APPROVED DATE 11-18-10

BH 718

SHEET 2 OF 3
2'-6" x 4' WATER VAULT BOX & LID
### Special Construction Required for Sewer

**A.** Sewer lines parallel to water mains shall not be permitted in this zone without approval from the City of Beverly Hills.

**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 (per ASTM D 3034) or equivalent.
3. Cast or ductile iron pipe with compression joints.
4. Reinforced concrete pressure pipe with compression joints (per AWWA C302-74).

**P.** Prohibited zone - no sewer mains are allowed to be installed in this zone.

### Special Construction Required for Water Main

**A.** No water mains parallel to sewers shall be constructed without approval from the City of Beverly Hills.

**B.** A water line placed parallel to a sewer line shall be constructed of steel pipe, cml, and cmc with welded joints.

**P.** Prohibited zone - no water mains are allowed to be installed in this zone.

### Additional Notes:

1. Zones identical on either side of center lines.
2. Water mains and sewer mains must not be installed in the same trench.
3. Separation distances specified shall be measured from the nearest edge of facilities.
4. Steel pipe shall be a minimum of 10 gage thickness.

---

**City of Beverly Hills, California**

Department of Public Works & Transportation
Civil Engineering Division

**Recommended**

**Approved**

**Standard Drawing**

BH 719

Sheet 1 of 2
CASE 1  
NEW SEWER

ZONE C.  SPECIAL CONSTRUCTION REQUIRED FOR SEWER

A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:

1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS.
2. A CONTINUOUS SECTION OF CLASS 200 (OR 14 PER AWWA C302-74) PLASTIC PIPE OR EQUIVALENT, CENTERED OVER THE 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 SLEEVE.

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.
2. A CONTINUOUS SECTION OF CLASS 200 (OR 14 PER AWWA C302-74) PLASTIC PIPE OR EQUIVALENT, CENTERED OVER THE 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 SLEEVE
5. ANY SEWER PIPE SEPARATED BY A 10"x10"x4" THICK REINFORCED CONCRETE SLAB.

P.  PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

CASE 2  
NEW WATER MAIN

ZONE C.  SPECIAL CONSTRUCTION REQUIRED FOR SEWER

A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:

1. NO JOINTS WITHIN 10 FEET OF EITHER SIDE OF SEWER LINE.
2. USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.

D.  NO JOINTS WITHIN 4 FEET OF EITHER SIDE OF SEWER LINE.

USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.

P.  PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

1.  WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
2.  SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
3.  STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN PERPENDICULAR SEPARATION < 10'

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 11-18-10
APPROVED DATE 11-18-10

STANDARD DRAWING
BH 719
SHEET 2 OF 2