NOTES:

1. MANHOLE FRAME AND COVER SHALL BE MANUFACTURED BY PHOENIX IRON WORKS, OAKLAND, NO.P-1090 OR APPROVED EQUIVALENT.

2. FOR MANHOLE LOCATED IN SIDEWALK AREAS USE PHOENIX NO. P-1067 FRAME AND COVER OR APPROVED EQUIVALENT.

3. MINIMUM WEIGHT OF FRAME IS 138 LBS.
   MINIMUM WEIGHT OF COVER IS 130 LBS.
NOTES:

1. MANHOLE BASE SHALL BE CLASS A (6-SACK) CONCRETE AND SHALL BE POURED AGAINST UNDISTURBED SOIL.

2. PRECAST CONCRETE CONE, BARREL AND RING SHALL CONFORM TO A.S.T.M. SPEC C-478, EXCEPT THAT TYPE II MODIFIED PORTLAND CEMENT SHALL BE USED.

3. ECCENTRIC CONE SECTION SHALL BE POSITIONED AS DIRECTED BY THE CITY.

4. RECESS IN MANHOLE BASE SHALL BE FORMED WITH AN APPROVED METAL FORMING RING TO RECEIVE PRECAST MANHOLE JOINT. PREFORMED PLASTIC SEAL GASKET SHALL BE INSTALLED BEFORE PLACING FIRST BARREL SECTION.

5. PRECAST MANHOLE BASES ARE NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY.

CITY OF ALBANY, CALIFORNIA

STANDARD DETAIL

STANDARD

SEWER MANHOLE

SS 2

SCALE: NTS

APPROVED BY: Ray Chan

DATE: DECEMBER 2015
RAISED MANHOLE RING AND COVER

**EXISTING CONDITION**

- Remove & retain existing std frame & cover
- Install temporary barrier to catch debris during construction

**RAISED RING CONDITION**

- Remove metal riser ring(s), if present
- Remove conc collar, if present
- Reuse existing std frame & cover
- Install preformed plastic sealing caskets (Ram-Neck or eq) prior to setting the frame
- Pour new class a conc collar all around

* If grade rings exceed 18", remove cone and install new 48" diameter barrel section

**SCALE:** NTS

CITY OF ALBANY, CALIFORNIA

STANDARD DETAIL

RAISED MANHOLE RING AND COVER

**APPROVED BY:**

Ray Chan

**DATE:**

December 2015

**STD DETAIL No.:**

SS 3
NOTES:

1. THIS MANHOLE MAY BE USED WHERE DISTANCE FROM TOP OF BASE TO BOTTOM OF FRAME IS BETWEEN 1'-3" AND 2'-6".

2. ALL STEEL REINFORCEMENT SHALL HAVE 3" MINIMUM CONCRETE COVER.
NOTES:

1. CONTRACTOR SHALL REFER TO THIS DETAIL WHEN CONNECTING NEW SEWER PIPES TO EXISTING MANHOLES. THE NEW PIPE MAY BE INSTALLED FOR A POINT REPAIR, PIPE REPLACEMENT, PIPE BURSTING OR SERVICE LATERAL REPLACEMENT.
NOTES

1. WHERE SEWER MAIN IS 6.63" OD POLYETHYLENE PIPE, USE 6" C-900 LONG RADIUS BELL X BELL 45° BEND AND RUN TO CLEANOUT CASTING.

2. CONTRACTOR SHALL VERIFY COMPATIBILITY WITH SEWER PIPE USE FOR RODDING AND FLUSHING CLEANOUT.
NOTES:

1. INSTALL 4' LONG COMPACTED IMPERVIOUS CLAY OR SLURRY CEMENT PLUGS IN PIPE ZONE BACKFILL AND PIPE BEDDING AT 400' INTERVALS.

2. MATCH EXISTING ASPHALT THICKNESS PLUS 1" (3" THICK, MINIMUM).

3. CONTROLLED DENSITY FILL MAY BE USED AS AN ALTERNATE PROVIDING MEASURES ARE TAKEN TO PREVENT PIPE FLOTATION.

4. THE FINAL LIFT OF AC IN STREETS SHALL BE COMPACTED WITH A ROLLER APPROVED BY THE PUBLIC WORKS DEPARTMENT.
1. WHEN THE LOWER LATERAL SEWER IS INSTALLED IN ADVANCE OF THE UPPER LATERAL, IT SHALL BE TERMINATED AT OR NEAR THE PROPERTY LINE. THE END OF THE LOWER LATERAL SHALL BE MARKED WITH A 4" x 4" REDWOOD STAKE, PAINTED GREEN, FROM THE TOP OF THE PIPE TO A MINIMUM OF 6" ABOVE THE FINISHED GROUND SURFACE.

2. WHERE CONCRETE CURBS AND GUTTERS EXIST OR ARE TO BE A PART OF AN IMPROVEMENT, EACH SIDE SEWER SHALL BE PERMANENTLY LOCATED BY IMPRINTING OR CHISELING AN "S" (3" SIZE) ON THE TOP OF THE CURB VERTICALLY ABOVE THE SEWER PIPE.

3. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE CITY.


5. MINIMUM PIPE SLOPE OF LESS THAN WHAT IS SPECIFIED MUST BE APPROVED BY THE CITY ENGINEER.

6. THE SIDE SEWER SIZE IS FOUR (4) INCHES IN DIAMETER FOR SINGLE FAMILY RESIDENTIAL, SIX (6) INCHES OR LARGER IN DIAMETER SIDE SEWER SHALL BE INSTALLED WHERE USE IS TO BE INDUSTRIAL, COMMERCIAL, OR MULTI-FAMILY RESIDENTIAL.


8. ADDITIONAL CLEANOUTS SHALL BE INSTALLED AT CHANGES IN DIRECTION WHERE THE ACCUMULATIVE TOTAL OF DEFLECTION FROM ANOTHER CLEANOUT IS MORE THAN 45°. THE MAXIMUM DISTANCE BETWEEN CLEANOUTS SHOULD BE 100 FEET, PER THE UNIFORM PLUMBING CODE.

9. CLEANOUTS AND RISER PIPES SHALL BE THE SAME SIZE AS THE LATERAL.

10. WHEN LOWER LATERAL FALLS WITHIN A DRIVEWAY, THE TWO WAY CLEANOUT SHALL BE LOCATED AT THE SIDEWALK ELEVATION, CLEAR OF THE APRON.
CITY OF ALBANY, CALIFORNIA
STANDARD CLEAROUTS AND SYNCHRONIZED PREVENTION DEVICE

SS 9 DETAIL NO.

NOTES

1. A BACKWATER PREVENTION DEVICE OR A BACKWATER SHUTOFF AND CHECK VALVE SYSTEM SHALL BE INSTALLED ON ALL UPPER LATERALS. BACKWATER PREVENTION DEVICES WILL ONLY BE PERMITTED WHEN SEWER OVERFLOW FROM THE PREVENTION DEVICE WILL NOT CAUSE DAMAGE TO THE SURROUNDING AREA. WHEN SEWER OVERFLOW COULD CAUSE SERIOUS DAMAGE TO THE SURROUNDING AREA, A STANDARD BACKWATER SHUTOFF AND CHECK VALVE SYSTEM SHALL BE INSTALLED AS SHOWN ON SS 10.

2. IF THE DIFFERENCE IN ELEVATION BETWEEN THE LOWEST FLOOR WITH PLUMBING WASTE FIXTURES AND THE RIM OF THE BACKWATER PREVENTION DEVICE IS LESS THAN SIX (6) INCHES, A TYPE C OR D BACKWATER CHECK VALVE AND SHUTOFF SYSTEM SHALL BE INSTALLED AS SHOWN ON STANDARD DETAIL SS 8.

3. CONCRETE BOXES COVERS SHALL BE TRAFFIC RATED WHEN USED IN AREAS SUBJECTED TO TRAFFIC SUCH AS DRIVEWAYS.

4. BOX SHALL BE CHRISTY FB OR EQUAL; USE FB D LID IN NON-TRAFFIC AREAS AND FBC FOR TRAFFIC AREAS.

SCALE: NTS
STANDARD ONE-WAY CLEANOUT OR TYPE B BACKWATER PREVENTION DEVICE. SEE NOTE 1 SS 9

FINISHED GRADE

3" MIN.

BALL VALVE W/ OPERATING NUT

SLOPES: 4" PIPE = 2% MIN. 6" PIPE = 1% MIN.

TYPE C
BACKWATER SHUTOFF AND CHECK VALVE SYSTEM

PRECAST CONC. BOX

REMOVABLE CHECK VALVE (CLEAN CHECK OR EQUAL)

TYPE A OR B BACKWATER PREVENTION DEVICE, OR STANDARD CLEANOUT SEE NOTE 1 SS 9

LOOSE CAP (TYP.)

SCALE: NTS

CITY OF ALBANY, CALIFORNIA

STANDARD DETAIL

BACKWATER SHUTOFF AND CHECK VALVE SYSTEM

STD DETAIL No.

SS 10

APPROVED BY: Ray Chan

DATE: DECEMBER 2015
NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE IS INSTALLED BELOW AN EXISTING MAIN SEWER. TYPE I, TYPE II OR TYPE III MAY BE USED AT THE CONTRACTOR'S OPTION, UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE CITY.

2. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1' OR LESS INSTALL A 4" X 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.

3. MAXIMUM SPACING OF REINFORCING STEEL TO BE 4" CENTER TO CENTER.

4. CONCRETE TO BE CLASS A (6 SACK MIX)

5. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE CITY.
NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, 12” OR LARGER, IS INSTALLED ABOVE AN EXISTING MAIN SEWER AND THE CLEARANCE IS LESS THAN 12”.

2. WHEN THE OUTSIDE DIAMETER OF THE PIPES ARE WITHIN 1’ OF THE OTHER THERE SHALL BE A 4” x 4” PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.

3. EXISTING MATERIAL BETWEEN CRADLES TO MID DEPTH OF SEWER TO BE CAREFULLY EXCAVATED AND REPLACED WITH COMPACTED CLASS II MATERIAL.

4. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY CITY.
NOTES:

1. WHEN ANY NEW UTILITY PIPE OR CONDUIT CONFLICTS WITH AN EXISTING SEWER LINE GRADE, THE UTILITY PIPE OR CONDUIT WRITTEN PERMISSION SHALL BE OBTAINED FROM THE CITY OF ALBANY, AND THE SEWER LINE SHALL BE RECONSTRUCTED IN SHALL BE RAISED OR LOWERED, IF POSSIBLE, TO MISS THE SEWER LINE. IF IT IS NOT POSSIBLE TO MOVE THE UTILITY LINE, ACCORDANCE WITH ONE OF THE DETAILS ABOVE AND THE STANDARD SPECIFICATIONS OF THE CITY.

2. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1' OR LESS, INSTALL A 4” X 4” PAD OF 35-45 DUOMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.
UNDISTURBED EARTH

CLASS A CONCRETE

COMPACT CLASS 2 AGGREGATE BASE MATERIAL AROUND PIPE

SEWER TRENCH

#5 @ 12"

8" MIN SLAB

6" TYP

PIPE BELL O.D.

UNDISTURBED EARTH

6" MIN

6" MIN

SEE STANDARD DETAIL SS 7 FOR PIPE BEDDING SCHEDULE & PIPE ZONE BACKFILL

NOTES

1. INSTALL OVER SEWER MAINS AND LOWER LATERALS WITH LESS THAN 30" COVER AND OVER UPPER LATERALS WITH LESS THAN 18" COVER.
NOTES:

1. CHECK BOARDS TO BE PLACED ON ALL SLOPES GREATER THAN 50% OR WHERE REQUIRED BY THE CITY.

2. ALL SLOPES 50% OR GREATER SHALL HAVE CLASS 150 C.I. BELL & SPIGOT PIPE.

3. ALL REDWOOD TO BE FOUNDATION GRADE