STANDARD PLANS

DRAINAGE
1. "V"=3'-6" MINIMUM. FOR "V" GREATER THAN 5' INCREASE THICKNESS OF SIDEWALL 1" FOR EACH FOOT OF DEPTH OVER 5'.
2. ALL CONCRETE SHALL BE 4000 PSI (6 SACK/CY).
3. PRECAST BOXES AND GRADE RINGS MAY BE USED WHEN APPROVED BY THE ENGINEER.
4. ALL MATERIALS EXCEPT REINFORCING STEEL SHALL BE SHOP GALVANIZED AFTER FABRICATION.
5. PRECAST GALLERIES OR EXTENSIONS WHEN USED SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
6. OPTIONAL BASE MAY BE USED WITH D-2 CATCH BASIN WHEN STORM DRAIN IS 36" DIA. OR LARGER.
7. NO MORE THAN 2" OF GROUT IS ALLOWED BETWEEN Poured WALLS AND PRECAST TOPS.
8. CATCH BASIN SHALL BE CONSTRUCTED TO WITHSTAND H20 LOADING.
NOTES

1. THIS STD. SHALL BE USED WHERE EXISTING GUTTER PAN IS 1'. ALL CATCH BASINS INSTALLED WITH 2' GUTTER PAN SHALL BE PER CITY STD. D-2.
2. "V" = 3'-6" MINIMUM. FOR "V" GREATER THEN 5' INCREASE THICKNESS OF SIDEWALL BY 1" FOR EACH FOOT OF DEPTH OVER 5'.
3. ALL CONCRETE SHALL BE CLASS 'A" (6 SK./CU.YD).
4. PRECAST BOXES AND GRADE RINGS MAY BE USED WHEN APPROVED BY THE CITY ENGINEER.
5. ALL MATERIALS EXCEPT REINFORCING STEEL SHALL BE SHOP GALVANIZED AFTER FABRICATION.
6. PRECAST GALLERIES OR EXTENSIONS WHEN USED SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
7. OPTIONAL BASE MAY BE USED WITH 6-2 CATCH BASIN WHEN STORM DRAIN IS 36" DIA. OR LARGER.
8. SEE D-4 FOR SPECIAL APRONS.
9. NO MORE THAN 2" OF GROUT IS ALLOWED BETWEEN Poured WALLS AND PRECAST TOPS.
10. CATCH BASIN SHALL BE CONSTRUCTED TO WITHSTAND H2O LOADING.
STREET SLOPES LESS THAN 2 1/2%

OFFSET TYPE D-2 C.B. APRON

OFFSET TYPE GO C.B. APRON

NOTE: WHERE THE DEPTH OF THE BOX IS 8'-0" OR LESS THE WALL THICKNESS SHALL BE 6". WHERE THE DEPTH OF THE BOX IS GREATER THAN 8'-0" THE WALL SHALL BE 8".

TYPICAL PROFILE-OFFSET TYPE D-2 & GO C.B.

STREET SLOPES 2 1/2% OR MORE

ANGLED D-2 C.B. APRON

ANGLED GO C.B. APRON

TYPICAL PROFILE-OFFSET TYPE D-2 & GO C.B.

CITY OF NAPA

SPECIAL APRONS FOR TYPE D-2 & GO CATCH BASINS

PUBLIC WORKS DEPARTMENT

DRAWN BY: LFM
APPROVAL DATE: 06/2018
REVISED DATE: NONE

CHECKED BY: IHH
APPROVED BY: JBL
DRAWING NO. D-4A
1. Owner shall be responsible for cleaning and maintaining drain pipe on both his property and the portion through the sidewalk.

2. 10-gauge wire mesh 4" x 4". Wire mesh shall be full width of sidewalk minus 2'. Length of wire mesh shall at a minimum equal the width and shall be centered over pipe. Wire mesh shall be placed mid-way between the bottom of the weakened plane joints and the top of the pipe(s).

3. Multiple pipes may be used where necessitated by the contributing area. In this case pipes shall be spaced 6" on center.
NOTES

1. BOX WIDTH MAY VARY FROM 6” TO 12” PER CITY APPROVAL.

2. GALVANIZED STEEL BOX TO BE 1/4” THICK.

3. ALL CONCRETE SHALL BE 4000 PSI (6 SACK PER CUBIC YARD).

4. REMOVE CURB AND GUTTER A MINIMUM OF ONE FOOT ON EACH SIDE OF THE DRAIN. CONNECT NEW CURB AND GUTTER WITH EXISTING PER CITY STD. S-4B.

5. IF SIDEWALK AND CURB ARE CONTINUOUS, POUR MONOLITHIC WITH WIRE FABRIC EXTENDING INTO CURB.

6. WIRE MESH SHALL BE FULL WIDTH OF SIDEWALK MINUS 2”, LENGTH OF WIRE MESH SHALL BE BOX WIDTH PLUS 24” EACH SIDE.
RESERVED
1. PRE-CAST SHAFTS SHALL BE USED.

2. PRE-CAST CONCRETE PIPE SECTIONS, GRADE RINGS, AND TAPERED SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPEC. C-478.

3. ALL CONCRETE JOINTS SHALL BE CLEANED, WETTED, AND MORTARED PRIOR TO SETTING THE NEXT SECTION. THE JOINTS SHALL BE PACKED, TRAWLED, AND BRUSHED WHILE THE MORTAR IS PLASTIC. RAM-NEK FLEXIBLE MAY ALSO BE USED, UPON APPROVAL FROM THE ENGINEER.

4. FRAME TO BE USED IN STREET AND DRIVEWAY AREAS SHALL BE PHOENIX P-1090, SOUTH BAY FOUNDRY #1900 CFH D&L FOUNDRY A-1024 OR APPROVED EQUAL, AND 2" FRAME SHALL BE USED IN S/W EASEMENT ETC. WHERE NO TRAFFIC IS ALLOWED. ALL M.H. SHALL HAVE 24" MIN. CLEAR OPENING.

5. M.H. THAT ARE SHALLOW MAY BE CONST. CONCENTRIC OR FLAT TOP AND/OR WITH A LARGER DIA. M.H. FRAME TO FACILITATE CONSTRUCTION WITH APPROVAL OF THE ENGINEER, LONGER STEPS MAY BE REQUIRED.

6. RING AND COVER SHALL BE SET TO GRADE AND CROSS SLOPE SUBSEQUENT TO PLACING A.C.

7. 48" DIA. BARREL SHALL BE USED FOR PIPES UP TO 24" IN DIA.; 60" DIA. BARREL SHALL BE USED ON PIPES UP TO 36" DIAMETER. 42" DIAMETER OR LARGER PIPE SHALL CONFORM TO STANDARD D-8 DRAWING.

8. ALL CAST IN PLACE PIPE POUR ED THOUGH A MANHOLE REQUIRES STANDARD D-8 MANHOLE DETAILS.
7-SACK P.C.C.
5000 PSI
FINISH GRADE
STD. MANHOLE ASSEMBLY TO BE SET IN NON-SHRINK HIGH-STRENGTH GROUT PHOENIX P-1090 OR APPROVED EQUAL
SEE CITY STD. D-14
GRADE RINGS AS NEEDED
18" MAX. SEE NOTE 1
ONE PIECE ECCENTRIC TAPER SECTION SEE NOTE 1
PRECAST CONCRETE MANHOLE, SEE NOTE 1
1' MIN(TYP)
6'-6" MIN. (VARIES)
60" DIA.
6 SACK OR 4000 PSI P.C.C.
#4 BARS 18" O.C. EACH WAY
#4 BARS 3" O.C. EACH WAY
#5 BARS 3" O.C.
#6 BARS TO OVERLAP AS SHOWN (TYP.)
#4 BAR
#5 BARS 3" O.C.
3 - #4 BARS 5'-8" LONG 3" O.C. CONT.
ADD'L BARS 6" O.C. TO INSIDE EDGE OF MANHOLE
PIPE SHALL BE LAIYED THRU M.H. FOR BOTH CAST IN PLACE & PRECAST PIPE OPTION
NOTES
1. PRECAST CONCRETE MANHOLE BARREL, GRADE RINGS AND TAPERED SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPEC. C-478.
2. PAVE STREET THEN SET MANHOLE RING AND COVER TO GRADE AND CROSS SLOPE PER CITY STD D-14.

CITY OF NAPA
PUBLIC WORKS DEPARTMENT

STANDARD MANHOLE
42" DIAMETER OR LARGER PIPE

DRAWN BY: LFM
CHECKED BY: IHH
APPROVAL DATE: 06/2018
APPROVED BY: JBL
SCALE: NONE
REVISED DATE: 08/2021
DRAWING NO. D-8
NOTES

1. COLLAR MUST EXTEND TO TOP OF MANHOLE FRAME AND OVER BOTTOM FLANGE OF FRAME.

2. PLACE 4-#4 BARS X 4 FT. LONG AROUND MANHOLE IN CROSSING PATTERN.

3. MINIMUM COLLAR VOLUME SHALL BE ONE-HALF CUBIC YARD.

4. THE TABLE SHOWS MINIMUM REQUIREMENTS FOR CONCRETE COLLARS. THE ENGINEER SHALL SIZE FOR DESIGN PRESSURE AND SUBMIT DESIGN CALCULATIONS FOR THE CONCRETE COLOR AND REBAR FOR EACH SPECIFIC CONDITION, FOR APPROVAL BY THE PUBLIC WORKS DIRECTOR.

### TABLE

<table>
<thead>
<tr>
<th>OUTSIDE COLLAR DIMENSIONS (FT)</th>
<th>CONCRETE COLLAR VOLUME (CY)</th>
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<tbody>
<tr>
<td>4X4</td>
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<tr>
<td>6.5X7</td>
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</tbody>
</table>

ALL CONCRETE JOINTS SHALL BE JOINED USING MORTAR, "RAM-NEK" OR APPROVED EQUAL.
RESERVED
NOTES

1. WHERE THE TRENCH PARALLELS CURB AND THE NEAREST TRENCH LINE IS LESS THAN 3 FEET FROM THE GUTTER LIP, ALL EXISTING ASPHALT CONCRETE SHALL BE REPLACED TO THE GUTTER LIP.

2. 3 SACK SLURRY PCC BACKFILL COMPLYING WITH LATEST CALTRANS STANDARD SPECIFICATION IS REQUIRED FOR SHALLOW TRENCHES AND HIGH TRAFFIC AREAS.

3. REFER TO CITY STD. S-12 FOR ADDITIONAL REQUIREMENTS.
IF PERPENDICULAR WINGWALL IS AVAILABLE SIDE BARS MAY BE DELETED IF CENTER BARS EXTEND TO WALL

TRASH RACK SHALL BE WELDED USING 2" SCHEDULE 80 PIPE, BARS, AND ANGLES AS SHOWN, AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

ENSURE THAT CONCRETE HAS REACHED FULL DESIGN STRENGTH (28 DAYS MIN. CURED) BEFORE DRILLING HOLES OR INSTALLING ANCHORS

CLEAN AND PAINT ALL EXPOSED AREAS ABOVE RADIUS WITH 2 COATS GRAY GALVANIZED PAINT

SMOOTH RADIUS GALVANIZED FROM THIS POINT DOWN

6" MIN. BETWEEN BOLT AND TOP OF WALL

3/4" DIA. BOLT WITH 1 1/2" DIA. WASHER EACH SIDE, 12" O.C.

USE NYLOCK FASTENERS, APPROVED CONCRETE ANCHOR OR APPROVED EQUAL

NOTES:
1. STEEL TO BE ASTM DESIGNATION A-36
2. ALL FILLET WELDS TO BE \( \frac{1}{2} \)"
3. FOR PIPES LARGER THAN 60"Ø, TRASH RACK SHALL BE ENGINEERED
NOTES

1. RIMS SHALL BE ADJUSTED TO FINAL GRADE AND CROSS-SLOPE AFTER PLACEMENT OF FINAL PAVING. SAW CUT A CIRCULAR HOLE AROUND THE APPURTENANCE USING A METHOD THAT PROVIDES A SMOOTH EDGE, AS APPROVED BY THE ENGINEER AND REMOVE PAVEMENT AS SHOWN.

2. PROTECT FROM TRAFFIC LOADING (BY STEEL PLATE OR OTHER METHOD APPROVED BY THE ENGINEER) AT ALL TIMES.

3. ALL ENCASEMENTS SHALL BE SET FLUSH WITH STREET SURFACE.

4. CONTRACTOR SHALL ARRANGE FOR CITY INSPECTION BEFORE PCC IS PLACED. MANHOLE SHALL BE EXCAVATED AND BACKFILL COMPACTED, PRIOR TO CITY INSPECTION.

5. CONCRETE SHALL BE TACK COATED PRIOR TO AC PLACEMENT.

6. LIGHT BROOM FINISH ON PCC.

7. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN A STEEL PLATE OVER EACH CONCRETE COLLAR PLACED AROUND EACH FRAME OR BOX UNTIL THE ASPHALT CONCRETE PLACED TO FINISH GRADE.

8. CONCRETE COLLAR SHALL BE SEVEN (7) SACK, 5000 PSI.

9. USE OF GRADE RING IS LIMITED BY 18" MAXIMUM MANHOLE THROAT LENGTH.

10. INSTALL MANHOLE BARREL RISERS, AS NECESSARY, TO RAISE THE CONE AS HIGH AS POSSIBLE BELOW THE MANHOLE RING AND COVER TO KEEP THE MANHOLE THROAT AS SHORT AS POSSIBLE (18' MAX).