Notes:
1. PC’S & PT’S are to be within the manhole.
2. All inverts to be U-shaped channel equal to pipe ID and shall be constructed with sweeps.
3. Manhole pipe connector shall be Per Standard Specifications.
4. A 2’ cone height is allowed for manhole depths that are less than 6.0’ from the finished surface to the invert elevation.
5. Alternate designs for 60” manholes shall be approved by the Engineer.
6. Standard manhole shall be used for installations with manhole depths that are 5.5’ or greater.
Manhole Depth, Per Standard Specifications, See Notes 4 and 5

1" Per ft

Minimum 1'-0"

27"

Standard Cover Slab, Per Standard Specifications

Chimney Seal, Per Standard Specifications

Gasket

U-shaped Channel Depth
Equal to Outlet Pipe ID 1:10 to Vertical, TYP

1', TYP

4" Minimum Type 1 Bedding Material

Notes:
1. PC'S & PT'S are to be within the manhole.
2. All inverts to be U-shaped channel equal to pipe ID and shall be constructed with sweeps.
3. Manhole pipe connector shall be Per Standard Specifications.
4. Standard shallow manhole shall be used for installations with manhole depths less than 5.5'.
5. The use of shallow manholes require prior approval by the Public Works Director.

N.T.S.

STANDARD SHALLOW MANHOLE DETAIL
WITH MONOLITHIC BASE (48", 60" & 72")

CITY OF RAPID CITY

PUBLIC WORKS DEPARTMENT

DATE: 8-19-22

Sec. - Sht. 9-2
STANDARD DROP MANHOLE DETAIL
FOR INVERT CHANGES LESS THAN 4'

Note:
The use of drop manholes requires prior approval by the Public Works Director.

N.T.S.

DATE: 8-19-22

CITY OF RAPID CITY
PUBLIC WORKS DEPARTMENT

STANDARD DROP MANHOLE DETAIL
FOR INVERT CHANGES LESS THAN 4'

Note:
The use of drop manholes requires prior approval by the Public Works Director.
STANDARD DROP MANHOLE DETAIL
FOR INVERT CHANGES OF 4' OR MORE

Note:
The use of drop manholes requires prior approval by the Public Works Director.

DATE: 8-19-22
N.T.S.
**Slope Manhole Invert so that Any Flow Entering Manhole Will Flow into Pipe Penetration, U-shaped Channel Requirements Are Not Required for Termination Manholes**

- **Chimney Seal, Per Standard Specifications**
- **Adjusting Rings, Per Standard Specifications**
- **Precast Concrete Manhole with Eccentric Cone**
- **Neoprene O-ring Type Gasket or Equal**
- **External Joint Seal, Per Standard Specifications when Required by Plans**
- **Surface**
- **Casting & Ring, Per Standard Specifications**
- **Opening Opposite of Outlet Pipe**
- **27” Dia**
- **2” or 4” Adjusting Rings, TYP**
- **1”, TYP**
- **5%**
- **4” Minimum Type 1 Bedding Material**

**Note:**
Manhole pipe connector shall be Per Standard Specifications.
ConEXToNs TO AN EXIstING MANHOLE

Notes:
1. The connection to an existing manhole requires prior approval by the Public Works Director.
2. Straight through manhole shown. Other configurations shall be constructed in the same manner.
3. The wall of the existing manhole base shall be cored and a boot-type connection utilized.
4. The manhole bench and newly constructed invert shall be reconstructed Per Standard Specification and Detail.

PLAN
Typical Straight Through Manhole

N.T.S.
Notes:
1. Depending on location, cross-slope of street, height adjustment requirements, etc., the Engineer reserves the right to require a larger cut to assure that all transitions and tolerances as per Standard Specifications will be met.
2. Blocks for shimming per Standard Specifications.
3. 1/4" maximum surface deviation in 10 feet.
4. Patch Material - Patch material shall match the existing pavement material. (e.g., PCC pavement shall be patched with PCC and existing asphalt pavement with asphalt). See Detail for asphalt concrete pavement.
5. PCC Pavement Patch Minimum Depths - 6" PCC pavement minimum or match existing, whichever is greater.
6. Install 3/4"x18" smooth dowel around perimeter of patch for PCC pavements less than 7". Install 1"x18" smooth dowel around perimeter patch for 7" to less than 8" PCC pavements. Install 1 1/4"x 18" smooth dowel around perimeter of patch for PCC pavements greater than 8".

Finish Sawcut Location

Street Centerline

Dowel Bars, Per Note, Spaced 18" OC

Manhole Casting to be Set, Per Standard Specifications

See Note

Match Longitudinal & Transverse Slope

Internal Chimney Seal, Per Standard Specifications

Controlled Low Strength Material (Flowable Fill), Per Standard Specifications

Finish Surface Must Meet Specification Using 10' Straight Edge

N.T.S.

MANHOLE ADJUSTMENT AND PATCH DETAIL PCC PAVEMENT

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT

DATE: 8-19-22

Sec. - Sht. 9-7
Notes:
1. Depending on location, cross-slope of street, height adjustment requirements, etc.. The Engineer reserves the right to require a larger cut to assure that all transitions and tolerances as Per Standard Specifications will be met.
2. Blocks for shimming Per Standard Specifications.
3. 1/4" maximum surface deviation in 10 feet.
4. Patch Material - Patch material shall match the existing pavement material. (e.g. PCC pavement shall be patched with PCC and existing asphalt pavement with asphalt). See Detail for asphalt concrete pavement.
5. Asphalt Concrete Pavement Patch Minimum Depth - 5" minimum or match existing pavement depth whichever is greater. 2 lifts or more required. Granular material shall be 6" in depth or match existing, whichever is greater.

N.T.S.

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT
MANHOLE ADJUSTMENT AND PATCH DETAIL
ASPHALT CONCRETE PAVEMENT

DATE: 8-19-22
Sec. - Sht. 9-8
**SANITARY SEWER SERVICE CONNECTION**

**8" or 10" Sewer Main**
- Wye, Per Standard Specifications and Plans
- Street Elbow (Rotated Horizontal and Vertical)
- Slope Per Plans
- Finish Grade 2% MIN Slope
- Sewer Service Line

**12" and Larger Sewer Main**
- Tee, Per Standard Specifications and Plans
- Street Elbow (Rotated Vertical)
- Slope Per Plans
- Sewer Service Line

**Note:**
1. All fittings shall be gasketed.
2. Service lines shown on this detail shall be 4" or 6".

**DETAIL 1**
- Invert of Connecting Pipe Shall Not Dip Below Centerline of Main.
- Service Line Location
- Pipe Bedding, See Detail 11-3
- Wye or Tee
- Trench Wall
- Depth Per Plans
- 3.5' Minimum Cover

**PLAN**
- Finish Grade

**SECTION A-A**
- N.T.S.
DEEP SANITARY SERVICE CONNECTION

Note:
1. All fittings shall be gasketed.
2. Service lines shown on this detail shall be 4" or 6".
SANITARY SEWER SERVICE
CLEANOUT DETAIL

Notes:
1. All fittings shall be gasketed.
2. Cleanouts shall be the same diameter (D) as service line.
3. Cleanouts shall be installed at all changes in horizontal alignment of greater than 45 degrees and at distances not to exceed 75 feet for 4 inch diameter pipe and 100 feet for 6 inch diameter pipe.
4. Cleanouts shall be installed when the summation of the horizontal degree of change in a service line exceeds 135 degrees.
5. Service lines shown on this detail shall be 4" or 6".

ELEVATION
Notes:
1. All fittings shall be gasketed.
2. Cleanouts shall be the same diameter (D) as service line.
3. Cleanouts shall be installed at all changes in horizontal alignment of greater than 45 degrees and at distances not to exceed 75' for 4" diameter pipe and 100' for 6" diameter pipe.
4. Cleanouts shall be installed when the summation of the horizontal degree of change in a service line exceeds 135 degrees.
5. Service lines shown on this detail shall be 4" or 6".
Note:
1. This detail shall be used when sanitary sewer service cleanouts are located in concrete or asphalt surfaced areas, or as shown in plans.