



STANDARD DRAWINGS  
FOR THE CONSTRUCTION OF  
SANITARY SEWERS

NOVEMBER 2018

**STANDARD  
DRAWING  
NUMBER**

**DRAWING TITLE**

- 1.0 .....STANDARD PLAN SIZE AND LAYOUT
- 2.0 .....BUILDING AND PRIVATE SEWER LATERAL LAYOUT
- 3.0 .....CLEANOUT BOX AND COVER DETAILS
- 3.1.....SANITARY SEWER FLUSHING CLEANOUT
- 4.0 .....PRIVATE LATERAL INSTALLATION
- 5.0.....STANDARD MANHOLE DEPTHS OVER 5 FT
- 5.1.....SHALLOW MANHOLE DEPTHS LESS THAN 5 FT
- 5.2.....ADJUST MANHOLE FRAME AND COVER TO GRADE
- 5.3.....BARREL SECTION JOINTS FOR STANDARD MANHOLE
- 5.4.....STANDARD TRACER WIRE INSTALLATION DETAIL
- 5.5.....HINGED MANHOLE FRAME AND COVER
- 6.0 .....DROP MANHOLE
- 7.0 .....CHIMNEY CONNECTION TO MAIN
- 8.0 .....WYE INSTALLATION TO EXISTING MAIN
- 8.1.....WYE INSTALLATION TO EXISTING LINED MAIN
- 8.2.....NEW LATERAL INSTALLATION TO EXISTING LINED MAIN
- 9.0 .....TRENCH BEDDING AND BACKFILL
- 10.0 .....ABANDONED MANHOLE
- 11.0 .....ABANDONED SEWER LATERAL
- 12.0 .....ABANDONED PIPE PLUG
- 13.0.....BACKWATER VALVE



DIANE GABRIEL  
GENERAL MANAGER

NOV 2017  
DATE

**INDEX TO STANDARD  
DRAWINGS**

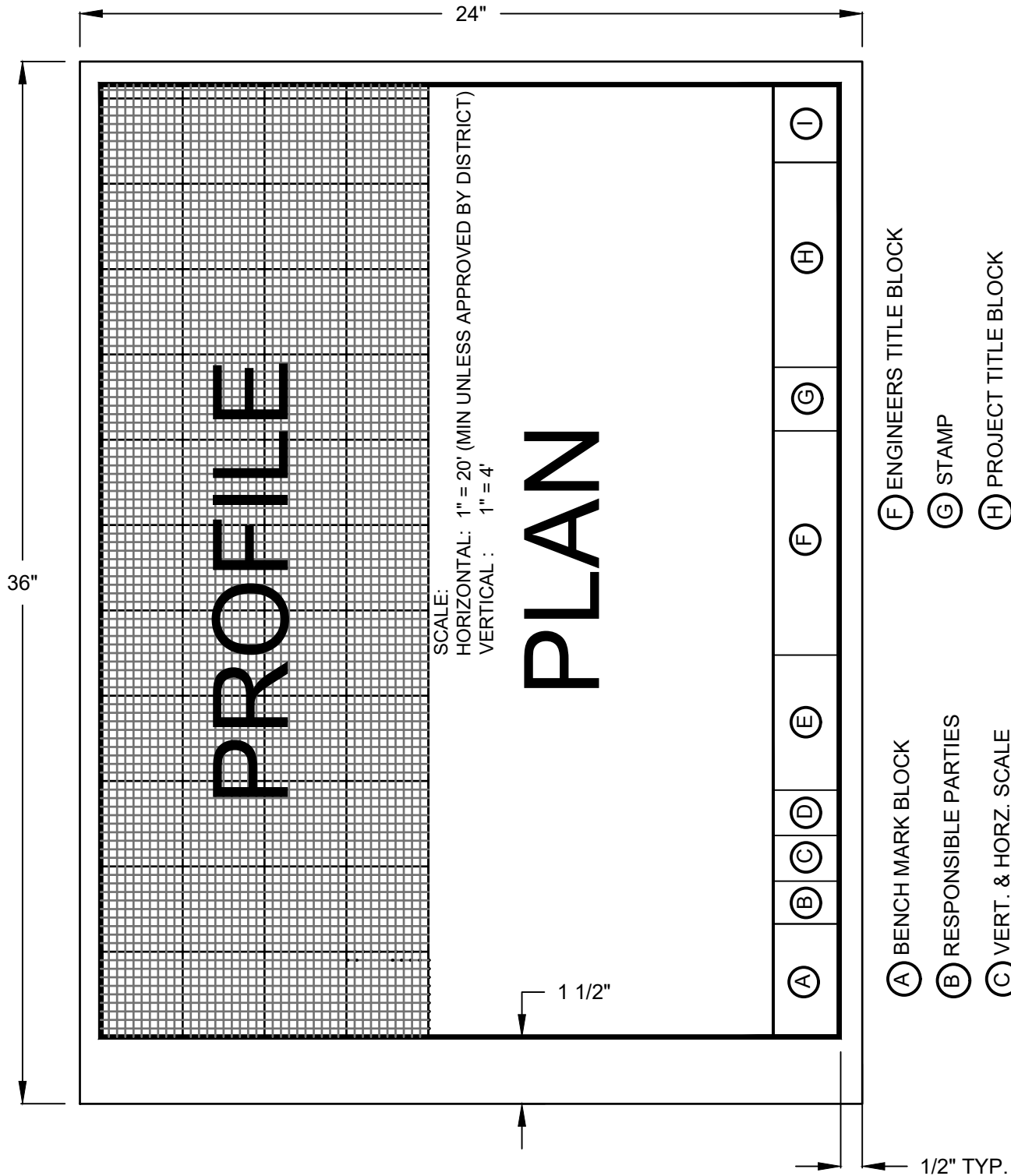
STANDARD  
DRAWING

REVISIONS

BY

APP

DATE



NOTE: STANDARD TITLE BLOCK CEN BE PROVIDED BY THE DISTRICT



JUNE 2017  
DATE

DIANE GABRIEL  
GENERAL MANAGER

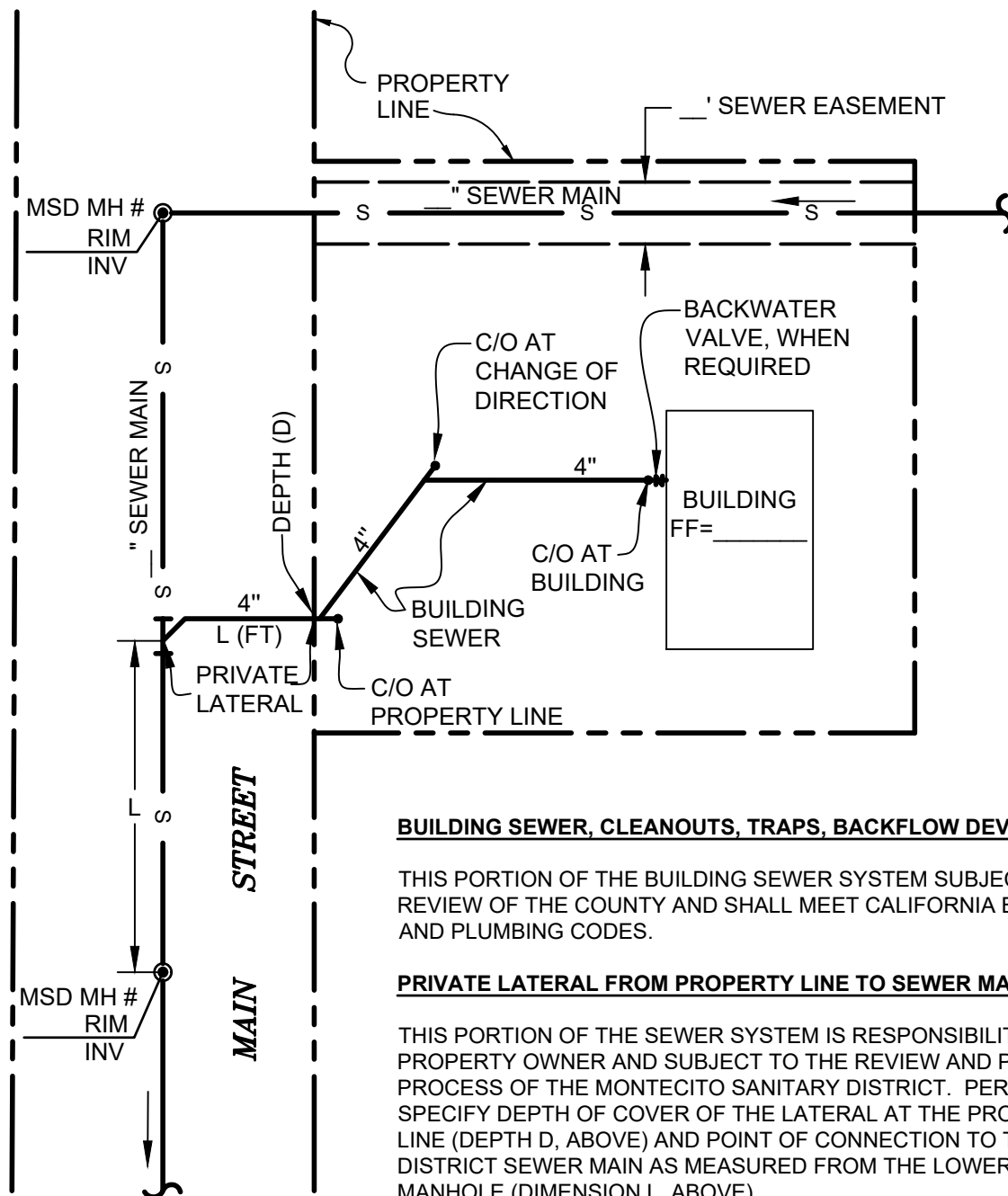
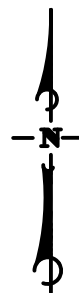
## STANDARD PLAN SIZE AND LAYOUT

STANDARD  
DRAWING

REVISIONS

NO. 1.0

EXAMPLE DRAWING:  
 4" LATERAL AND BUILDING SEWER  
 OWNER: JOHN DOE  
 ADDRESS: 300 MAIN ST  
 CONTRACTOR: ACME PLUMBING



#### **BUILDING SEWER, CLEANOUTS, TRAPS, BACKFLOW DEVICES**

THIS PORTION OF THE BUILDING SEWER SYSTEM SUBJECT TO REVIEW OF THE COUNTY AND SHALL MEET CALIFORNIA BUILDING AND PLUMBING CODES.

#### **PRIVATE LATERAL FROM PROPERTY LINE TO SEWER MAIN**

THIS PORTION OF THE SEWER SYSTEM IS RESPONSIBILITY OF THE PROPERTY OWNER AND SUBJECT TO THE REVIEW AND PERMIT PROCESS OF THE MONTECITO SANITARY DISTRICT. PERMIT TO SPECIFY DEPTH OF COVER OF THE LATERAL AT THE PROPERTY LINE (DEPTH D, ABOVE) AND POINT OF CONNECTION TO THE DISTRICT SEWER MAIN AS MEASURED FROM THE LOWER MANHOLE (DIMENSION L, ABOVE).

NO ADDITIONAL CLEANOUT (C/O) REQUIRED IF LATERAL DISTANCE IS LESS THAN 100' FROM REQUIRED BUILDING CLEANOUT.



JUNE 2017  
 DATE

DIANE GABRIEL  
 GENERAL MANAGER

## **BUILDING AND PRIVATE LATERAL SEWER LAYOUT**

STANDARD  
 DRAWING

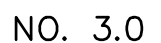
REVISIONS

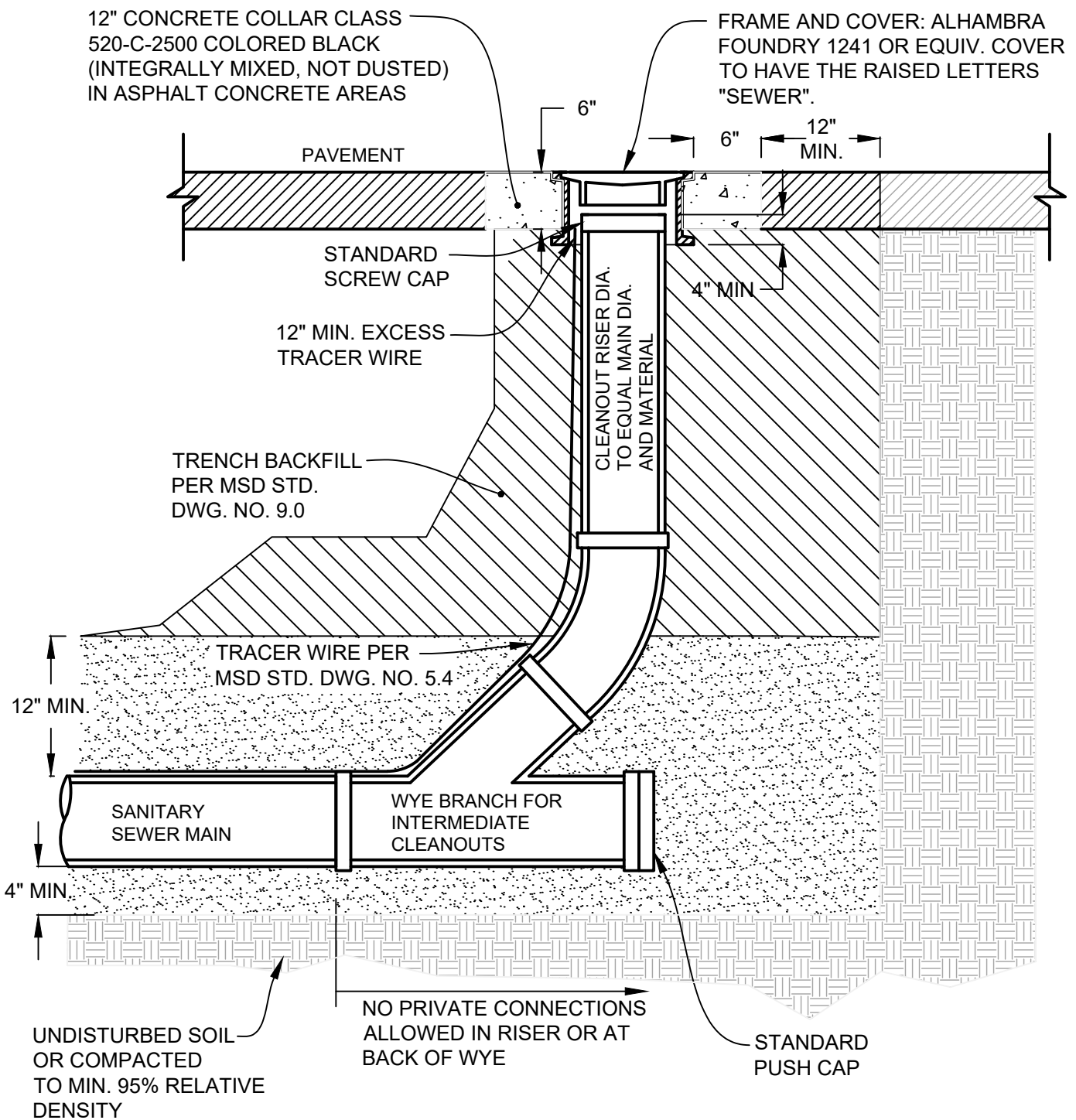
NO. 2.0



- (A) FRAME: BROOKS PRODUCTS #3-RT CURB VALVE BOX OR CHRISTY CONCRETE PRODUCTS G03 TRAFFIC BOX, OR EQUIV.
- (B) COVER: CAST IRON WITH THE LETTERS "SEWER".
- (C) PLUG: REMOVABLE PLUG OR CAP FOR MAINTENANCE.
- (D) FRAME AND COVER: ALHAMBRA FOUNDRY 1241 OR EQUIV. COVER TO HAVE THE RAISED LETTERS "SEWER".

1. INSTALLATION TO BE IN COMPLIANCE WITH STATE OR COUNTY PERMIT CONDITIONS.
2. TRAFFIC AREAS ARE DEFINED AS ANY LOCATION WHERE A VEHICLE COULD ACCESS.





**CONSTRUCTION NOTES:**

1. ALL PIPING AND FITTINGS SHALL BE PVC SDR 35.
2. SET CLEANOUT FRAME AND COVER FLUSH WITH PAVEMENT GRADE.



AUGUST 2017  
DATE

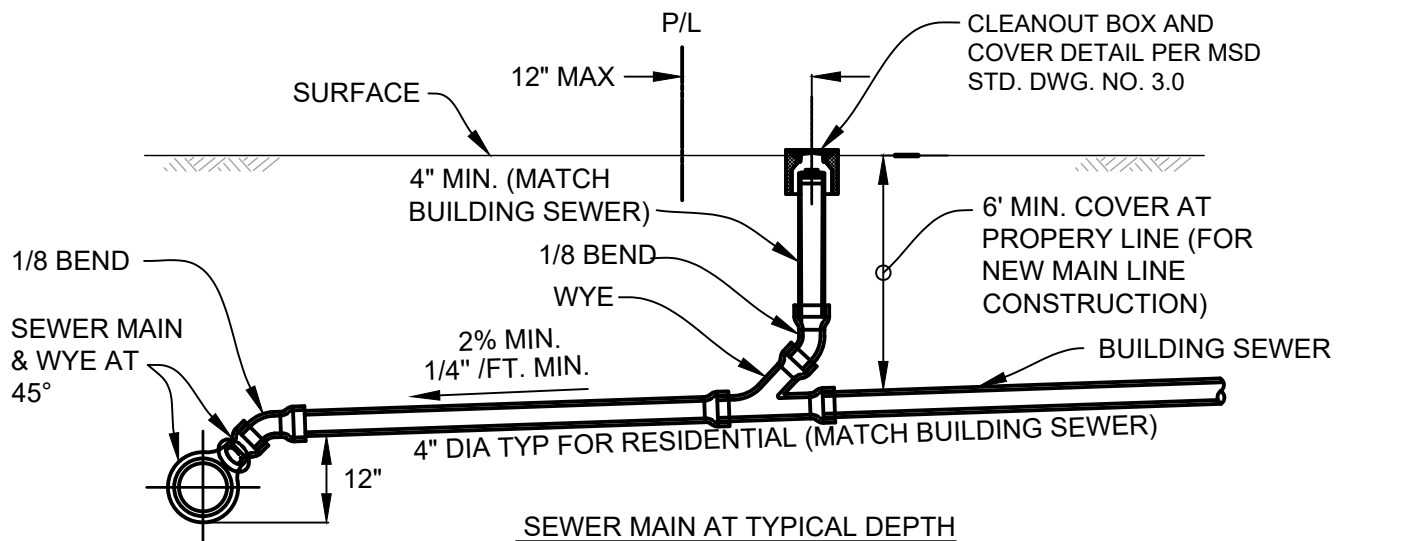
DIANE GABRIEL  
GENERAL MANAGER

**SANITARY SEWER  
FLUSHING CLEANOUT**

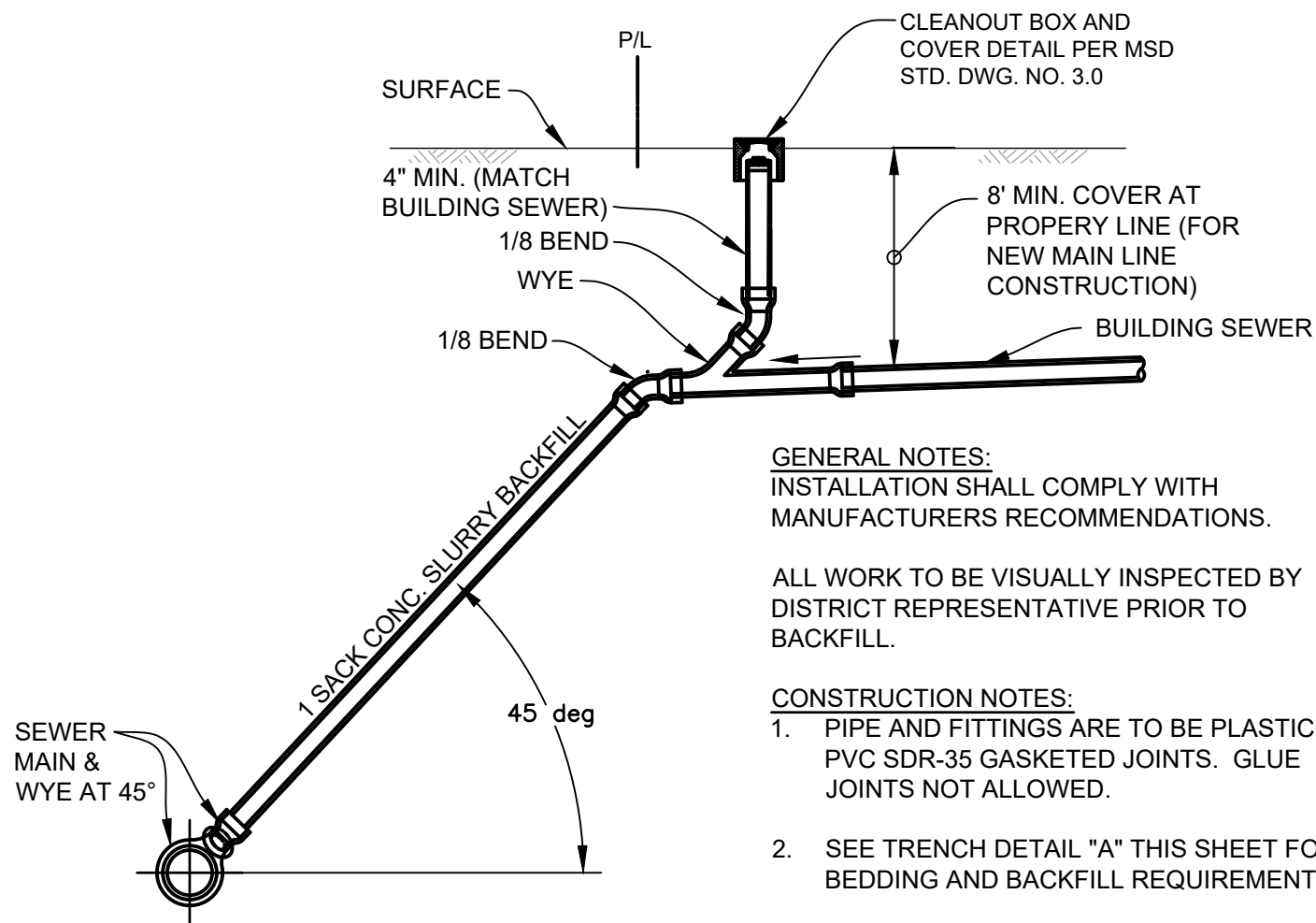
STANDARD  
DRAWING

REVISIONS

NO. 3.1



SEWER MAIN AT TYPICAL DEPTH



SEWER MAIN AT DEEPER DEPTHS

GENERAL NOTES:  
INSTALLATION SHALL COMPLY WITH  
MANUFACTURERS RECOMMENDATIONS.

ALL WORK TO BE VISUALLY INSPECTED BY  
DISTRICT REPRESENTATIVE PRIOR TO  
BACKFILL.

- CONSTRUCTION NOTES:
1. PIPE AND FITTINGS ARE TO BE PLASTIC  
PVC SDR-35 GASKETED JOINTS. GLUE  
JOINTS NOT ALLOWED.
  2. SEE TRENCH DETAIL "A" THIS SHEET FOR  
BEDDING AND BACKFILL REQUIREMENTS.



DIANE GABRIEL  
GENERAL MANAGER

JUNE 2018  
DATE

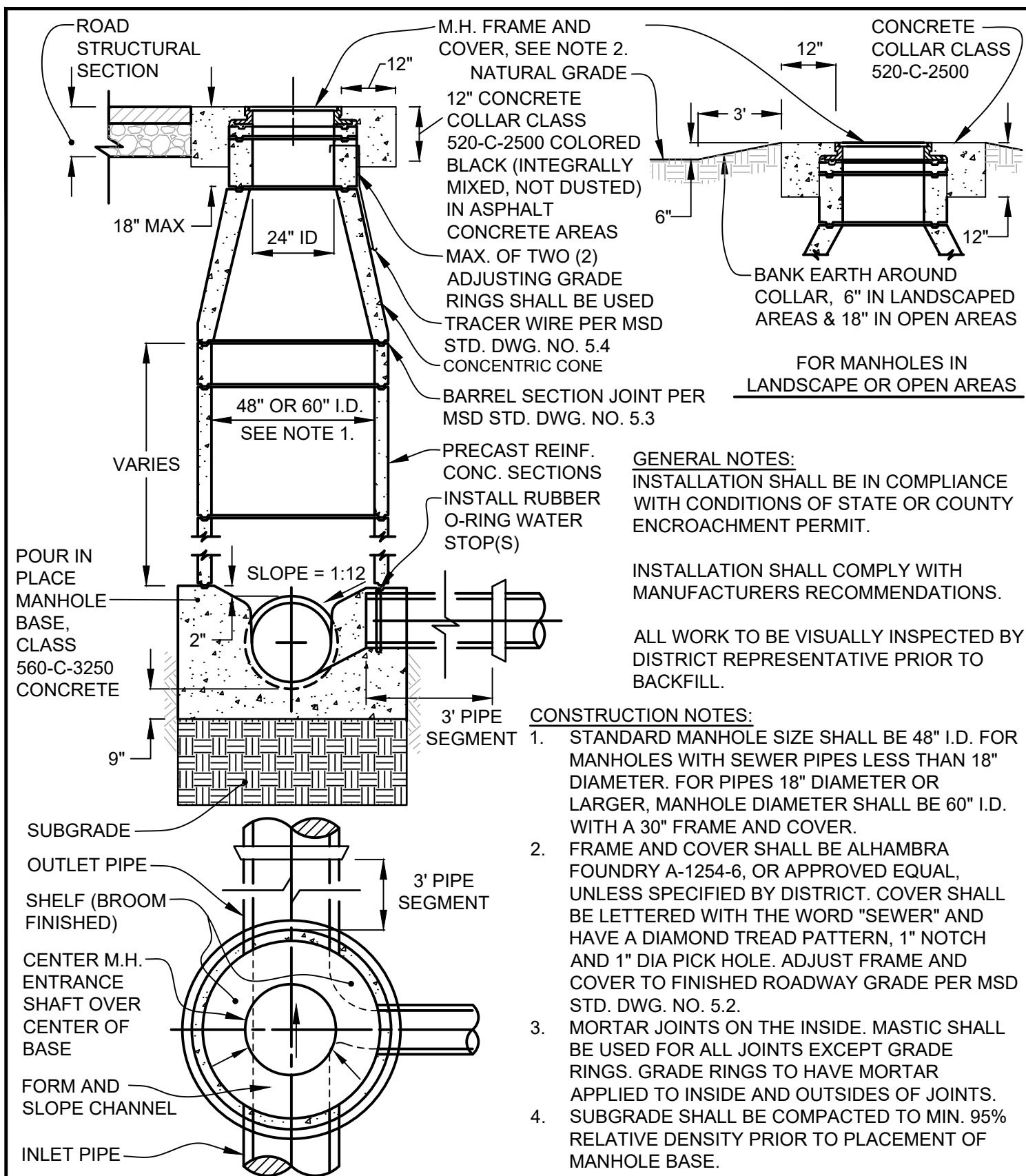
## PRIVATE LATERAL INSTALLATION

STANDARD  
DRAWING

REVISIONS

NO. 4.0





JULY 2017  
DATE

# STANDARD MANHOLE DEPTHS OVER 5 FT

STANDARD  
DRAWING



DIANE GABRIEL  
GENERAL MANAGER

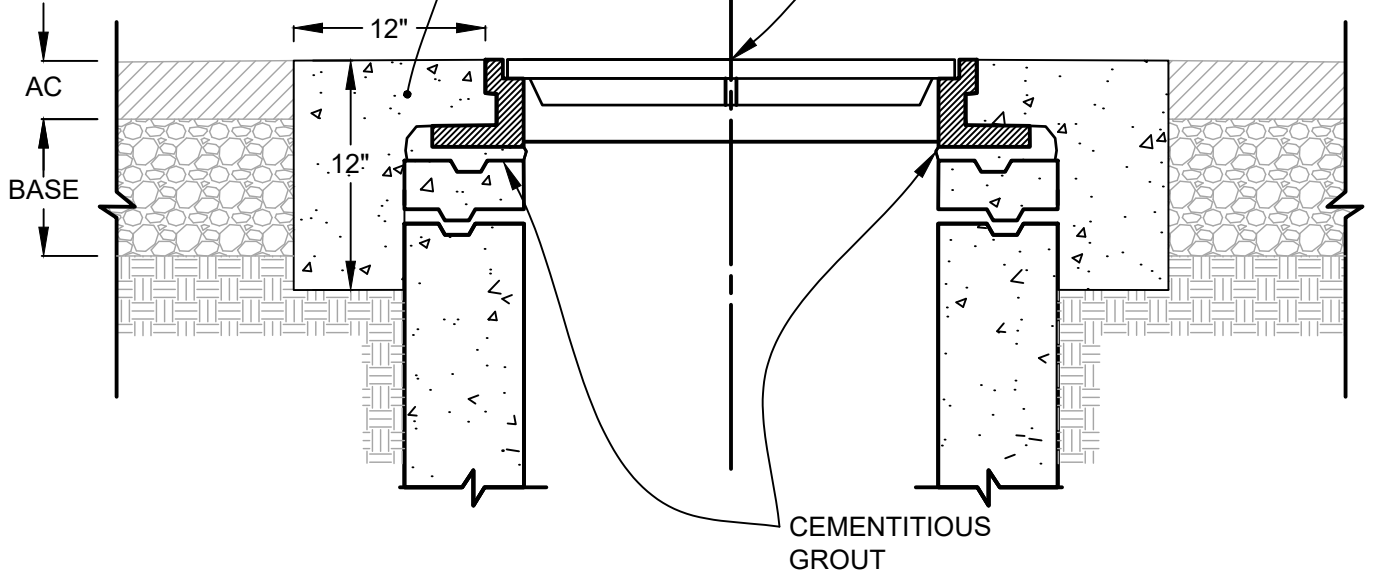
REVISIONS

NO. 5.0



NO. 5.1

12" CONCRETE COLLAR CLASS  
520-C-2500 COLORED BLACK  
(INTEGRALLY MIXED, NOT DUSTED)  
IN ASPHALT CONCRETE AREAS



**CONSTRUCTION NOTES:**

1. SET FRAME AND COVER TO ROADWAY GRADE USING FOLLOWING PROCEDURE:
  - A. REMOVE EXISTING PAVEMENT TO DIMENSIONS SHOWN.
  - B. POSITION FRAME TO FINISHED GRADE SO THAT THE FRAME IS FLUSH TO SUBFLUSH WITHIN 1/4 " OF THE PAVEMENT SURFACE.
  - C. APPLY GROUT TO ANNULAR SPACE BETWEEN FRAME BOTTOM AND TOP OF GRADE RING AS SHOWN IN THE SECTION VIEW.
  - D. APPLY TACK COAT TO OUTSIDE OF FRAME AND AT EXPOSED EDGE OF EXISTING PAVEMENT.
  - E. CONSTRUCT ROAD STRUCTURAL SECTION: FOR COUNTY OR STATE ROADWAYS, THE CONDITIONS OF THE ENCROACHMENT PERMIT SHALL BE USED, ASSUMED MIN. 0.5' AC OVER 0.5' CLASS 2 AGGREGATE BASE. FOR PRIVATE ROADS AND LANES, MATCH EXISTING PAVEMENT SECTION, MIN. 0.33' AC PAVEMENT OVER 0.5' CLASS 2 AGGREGATE BASE.
  - F. COMPACT SUB GRADE AND AGGREGATE BASE TO MIN. 95% RELATIVE DENSITY.

2. COVER AND FRAME ARE TO FIT SECURELY WITH NO NOTICEABLE ROCKING OF THE COVER UPON A WHEEL PASS OF A UTILITY VEHICLE.

**GENERAL NOTES:**

INSTALLATION TO BE IN COMPLIANCE WITH CONDITIONS OF STATE OR COUNTY ENCROACHMENT PERMIT.

MANHOLE FRAME ADJUSTMENT GRADE RING LIMITS, OUTSIDE THESE LIMITS REQUIRES RAISING OF THE SHAFT :

NEW CONSTRUCTION:

3" MAX. HEIGHT

1" MIN. HEIGHT

EXISTING CONDITION:

18" MAX. HEIGHT

1" MIN. HEIGHT

FALSE BOTTOMS MUST BE PLACED IN THE MANHOLE PRIOR TO LOWERING THE MANHOLE FRAME AND BE IN PLACE WHEN FRAME IS RAISED TO GRADE TO PROTECT THE SEWER FROM POTENTIAL DEBRIS.



AUGUST 2020  
DATE

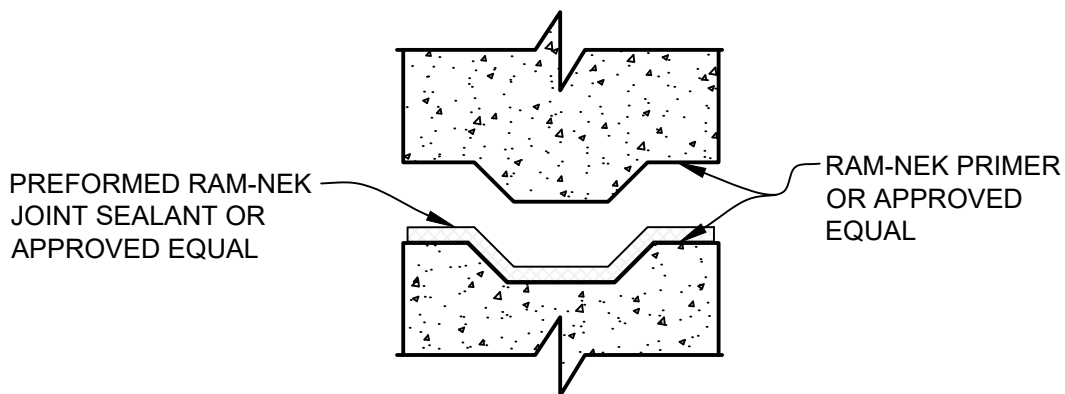
DIANE GABRIEL  
GENERAL MANAGER

**ADJUST MANHOLE FRAME  
AND COVER TO GRADE**

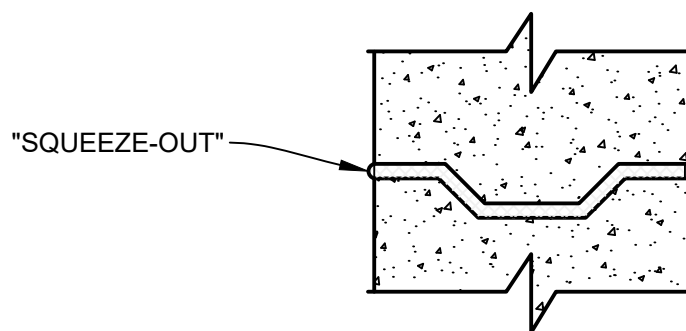
STANDARD  
DRAWING

REVISIONS

NO. 5.2



OPEN JOINT



CLOSED JOINT

CONSTRUCTION NOTES:

1. APPLY ONE BRUSH COAT RAM-NEK PRIMER TO CONCRETE SURFACES TO BE SEALED. REMOVE PAPER WRAPPER ON THE SIDE ONLY OF PREFORMED RAM-NEK STRIP AND PRESS FIRM TO THE DRY, CLEAN PRIMED JOINT SURFACE.
2. REMOVE PROTECTIVE PAPER WRAPPER FROM RAM-NEK. EACH PRECAST MANHOLE UNIT IS FORCED "HOME" BY ITS OWN WEIGHT, COMpressing RAM-NEK TO TIGHTLY PACK AND IMMEDIATELY SEAL THE JOINT. "SQUEEZE-OUT" IS VISIBLE PROOF OF A WATER-TIGHT JOINT.
3. AFTER FINAL JOINT IS LOWERED "HOME" RAM-NEK APPLICATION IS COMPLETE. BACKFILLING AND COMPACTION OPERATION CAN START IMMEDIATELY. TRIM JOINT SMOOTH WITH SHARP TOOL OR FLATTEN SMOOTH WITH ROLLER.
4. THE JOINT BETWEEN THE BARREL SECTION AND MANHOLE BASE SHALL HAVE 6" TO 8" ALLCRETE OR EQUAL OUTSIDE THE JOINT PRIOR TO BACKFILL.



DIANE GABRIEL  
GENERAL MANAGER

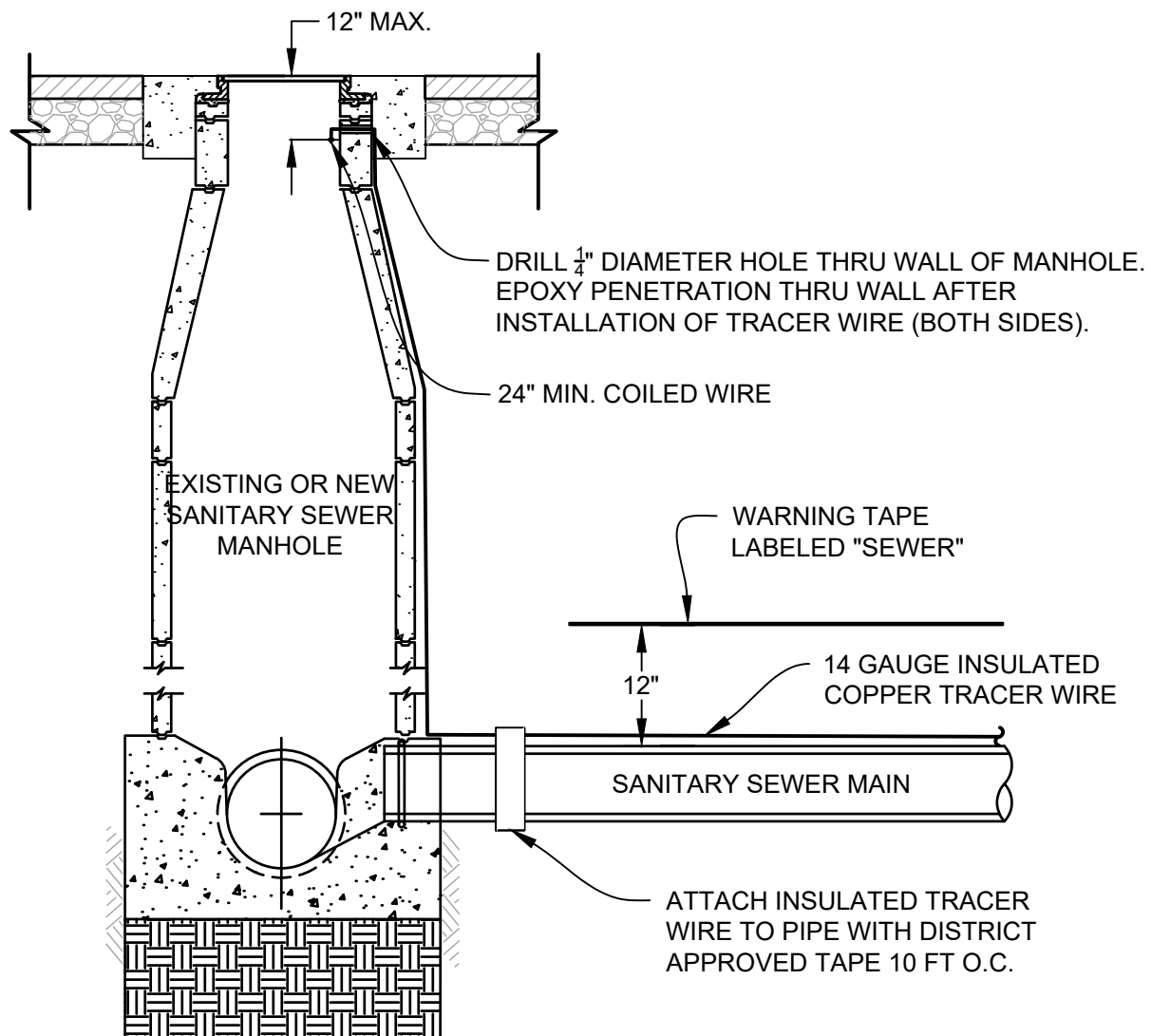
JUNE 2017  
DATE

BARREL SECTION JOINTS  
FOR STANDARD MANHOLE

STANDARD  
DRAWING

REVISIONS

NO. 5.3



**CONSTRUCTION NOTES:**

1. TRACER WIRE TO BE INSTALLED CONTINUOUS FROM MANHOLE TO MANHOLE, NO SPLICING WILL BE ALLOWED.
2. CONNECTIONS TO TRUNKLINE TRACER FEED SHALL BE ALLOWED PER SPECIFICATIONS OF DISTRICT APPROVED TRACER WIRE MANUFACTURER.



SEPT 2017  
DATE

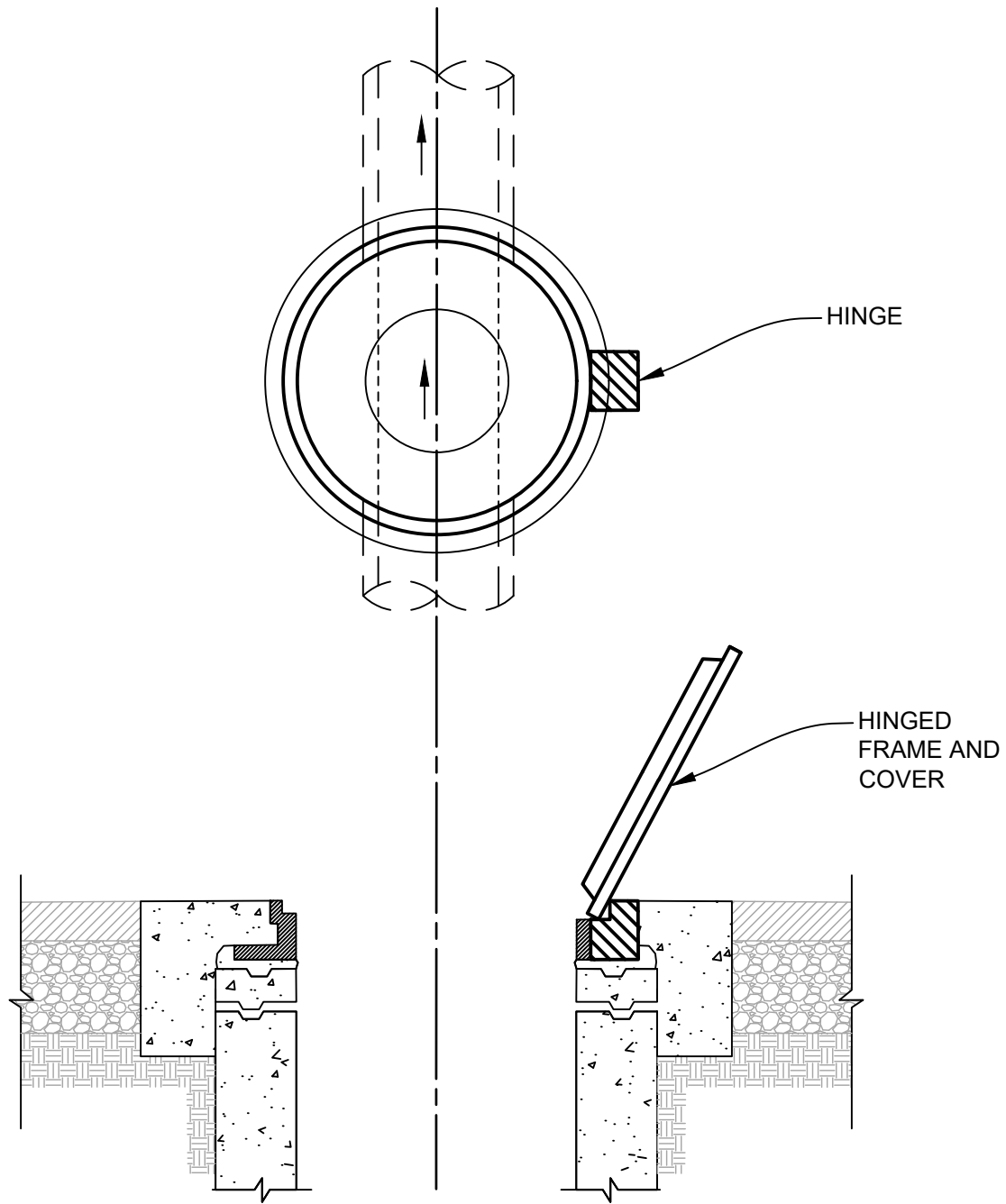
DIANE GABRIEL  
GENERAL MANAGER

## STANDARD TRACER WIRE INSTALLATION DETAIL

STANDARD  
DRAWING

REVISIONS

NO. 5.4



**CONSTRUCTION NOTES:**

1. HINGED MANHOLE FRAME AND COVER SHALL ONLY BE USED WHEN APPROVED BY THE DISTRICT. COVER SHALL BE PAMREX.
2. HINGED COVER SHALL OPEN TO THE RIGHT AS SEWER FLOWS DOWNSTREAM.
3. ADJUST FRAME AND COVER TO FINISHED ROADWAY GRADE PER MSD STD. DWG. NO. 5.2.



DIANE GABRIEL  
GENERAL MANAGER

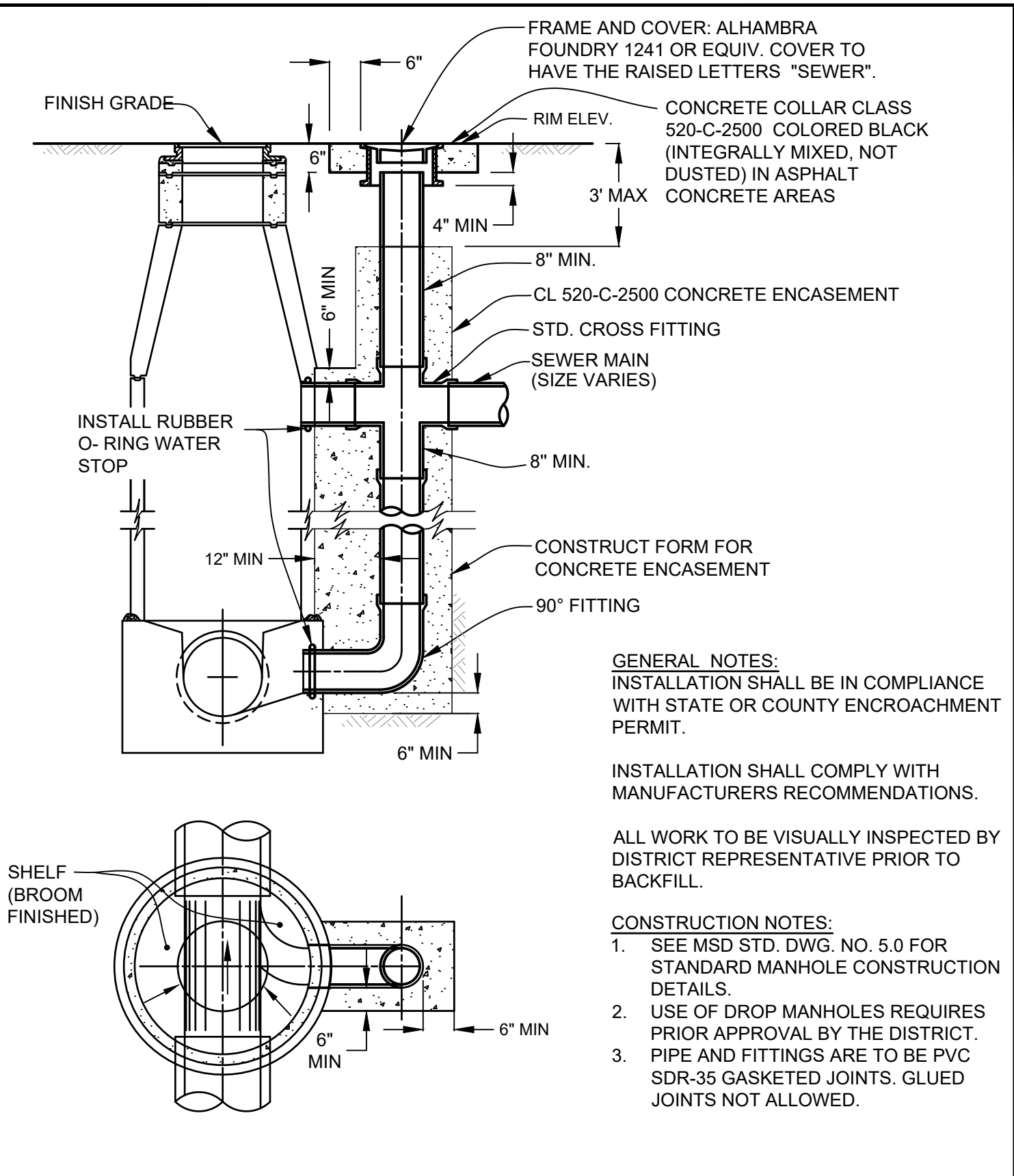
SEPT 2017  
DATE


**HINGED MANHOLE  
FRAME AND COVER**

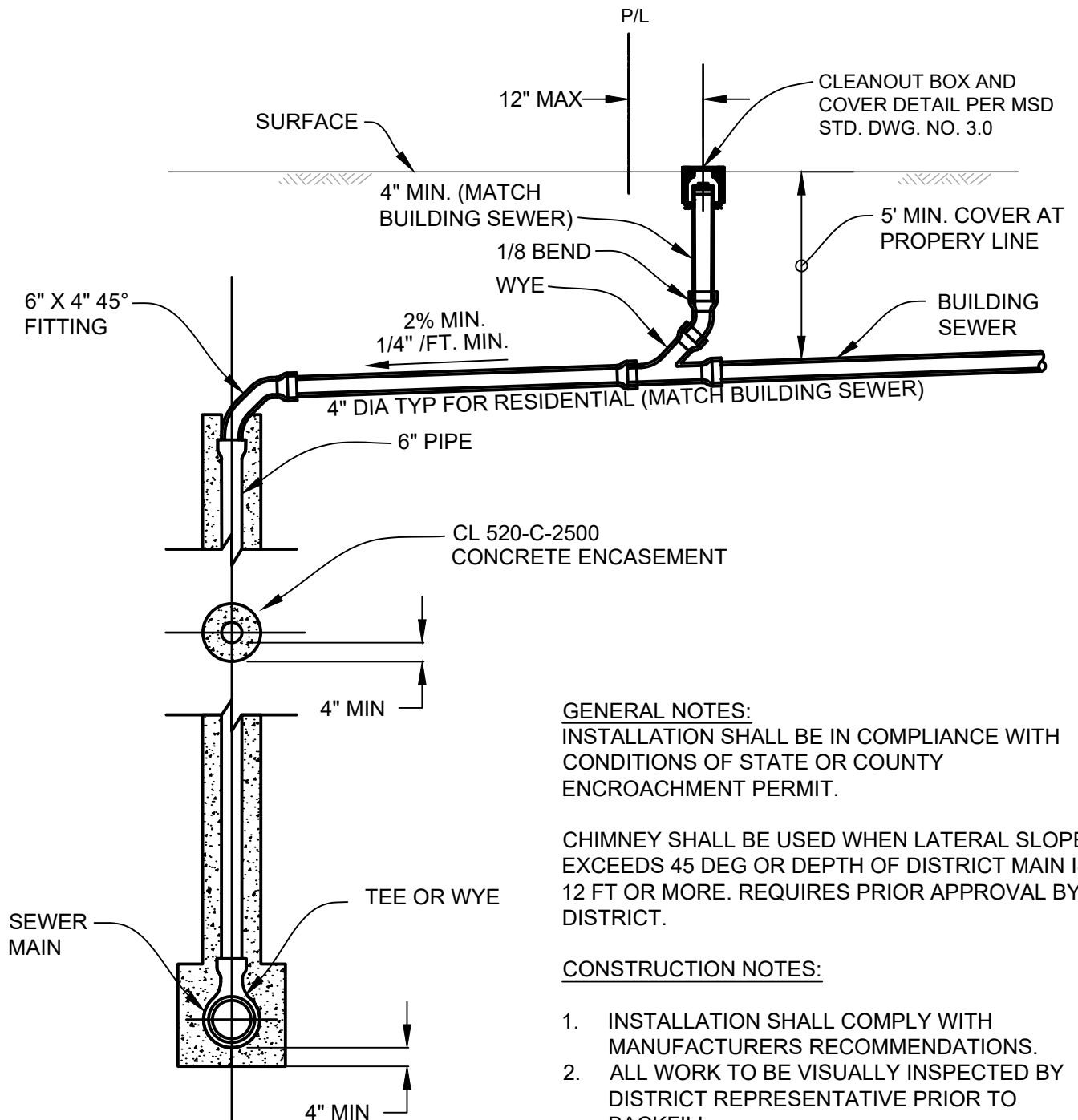
STANDARD  
DRAWING

REVISIONS

NO. 5.5



	JUNE 2017 DATE	DROP MANHOLE				STANDARD DRAWING
	DIANE GABRIEL GENERAL MANAGER	REVISIONS				NO. 6.0



**GENERAL NOTES:**

INSTALLATION SHALL BE IN COMPLIANCE WITH CONDITIONS OF STATE OR COUNTY ENCROACHMENT PERMIT.

CHIMNEY SHALL BE USED WHEN LATERAL SLOPE EXCEEDS 45 DEG OR DEPTH OF DISTRICT MAIN IS 12 FT OR MORE. REQUIRES PRIOR APPROVAL BY DISTRICT.

**CONSTRUCTION NOTES:**

1. INSTALLATION SHALL COMPLY WITH MANUFACTURERS RECOMMENDATIONS.
2. ALL WORK TO BE VISUALLY INSPECTED BY DISTRICT REPRESENTATIVE PRIOR TO BACKFILL.
3. PIPE AND FITTINGS SHALL BE PVC SDR-35 GASKETED JOINTS. GLUED JOINTS NOT ALLOWED.
4. SEE MSD STD. DWG. NO. 9.0 FOR BEDDING AND BACKFILL REQUIREMENTS.



JUNE 2017  
DATE

DIANE GABRIEL  
GENERAL MANAGER

# CHIMNEY CONNECTION TO MAIN

STANDARD  
DRAWING

REVISIONS

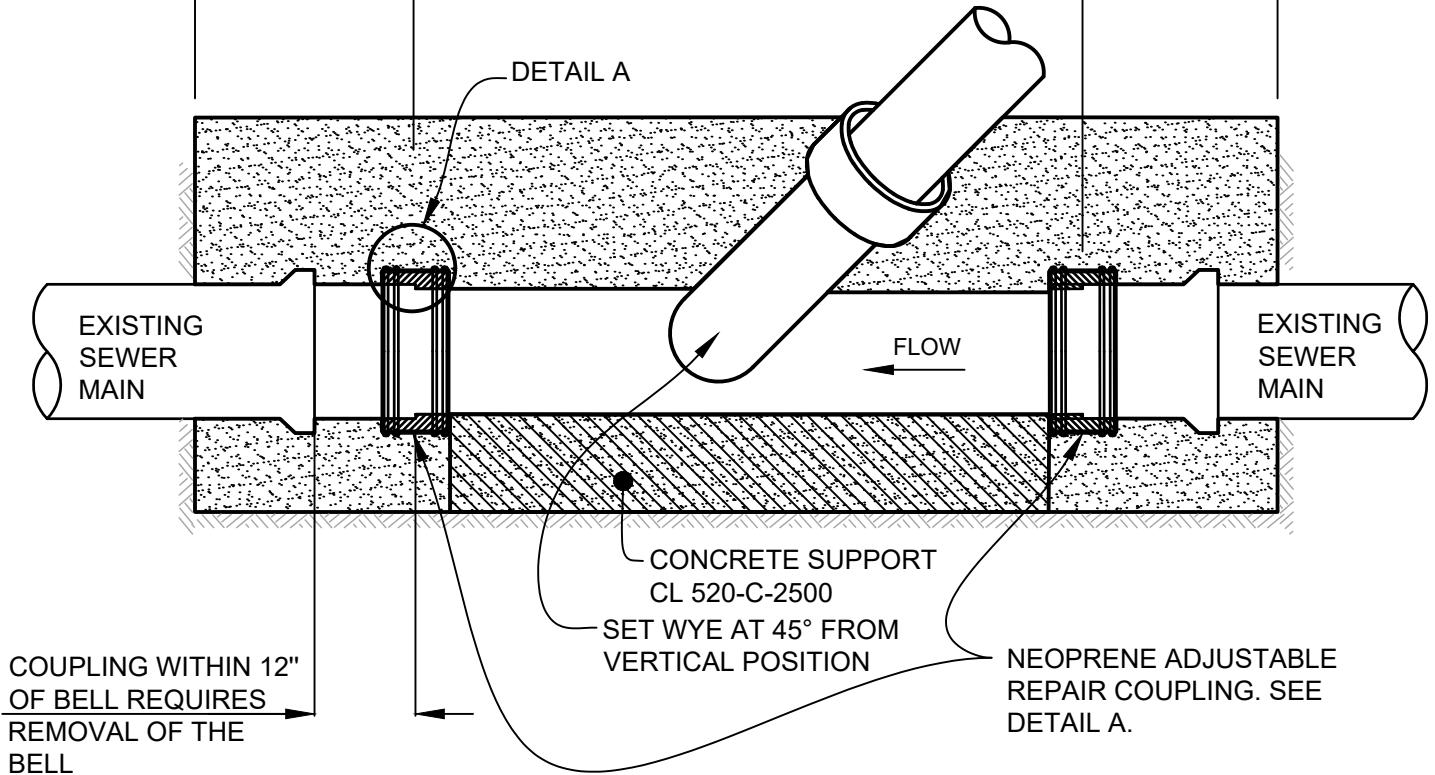
NO. 7.0



OVEREXCAVATE A MIN. OF 12" FROM COUPLING AND BACKFILL TO A MIN. OF 12" ABOVE SEWER MAIN PIPE WITH APPROVED GRANULAR MATERIAL  
SEE MSD STD. DWG. NO. 9.0 FOR BEDDING AND BACKFILL REQUIREMENTS

REMOVE SECTION OF EXISTING SEWER MAIN  
PIPE & INSTALL WYE AS SHOWN

DETAIL A



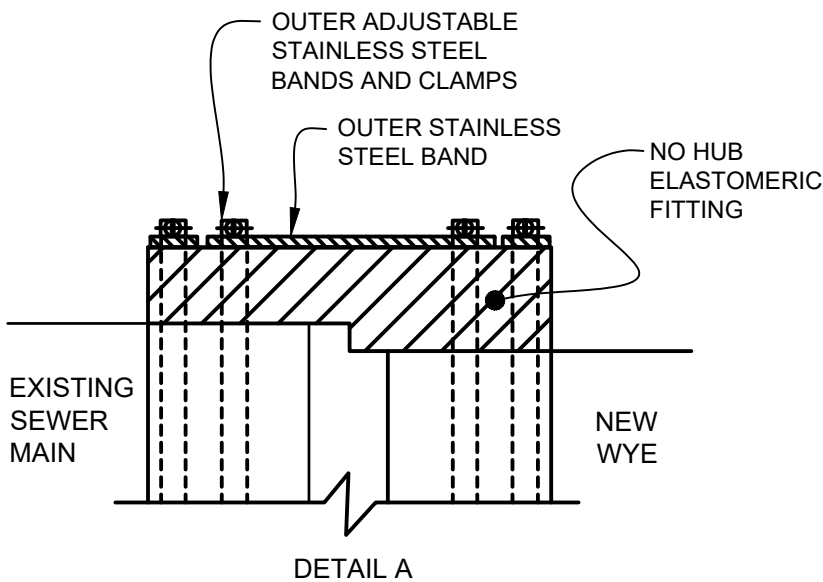
#### GENERAL NOTES:

INSTALLATION SHALL COMPLY WITH  
MANUFACTURERS RECOMMENDATIONS.

ALL WORK TO BE VISUALLY INSPECTED BY  
DISTRICT REPRESENTATIVE PRIOR TO  
BACKFILL.

#### CONSTRUCTION NOTES:

1. TAPPING TYPE WYE WILL NOT BE  
ALLOWED (NO PLASTIC OR  
ELASTOMERIC SADDLES AND BANDS).
2. PROTRUSION INTO MAIN IS NOT  
ALLOWED.
3. PIPE AND FITTINGS ARE TO BE PVC  
SDR-35 GASKETED JOINTS. GLUED  
JOINTS NOT ALLOWED.



JUNE 2017  
DATE



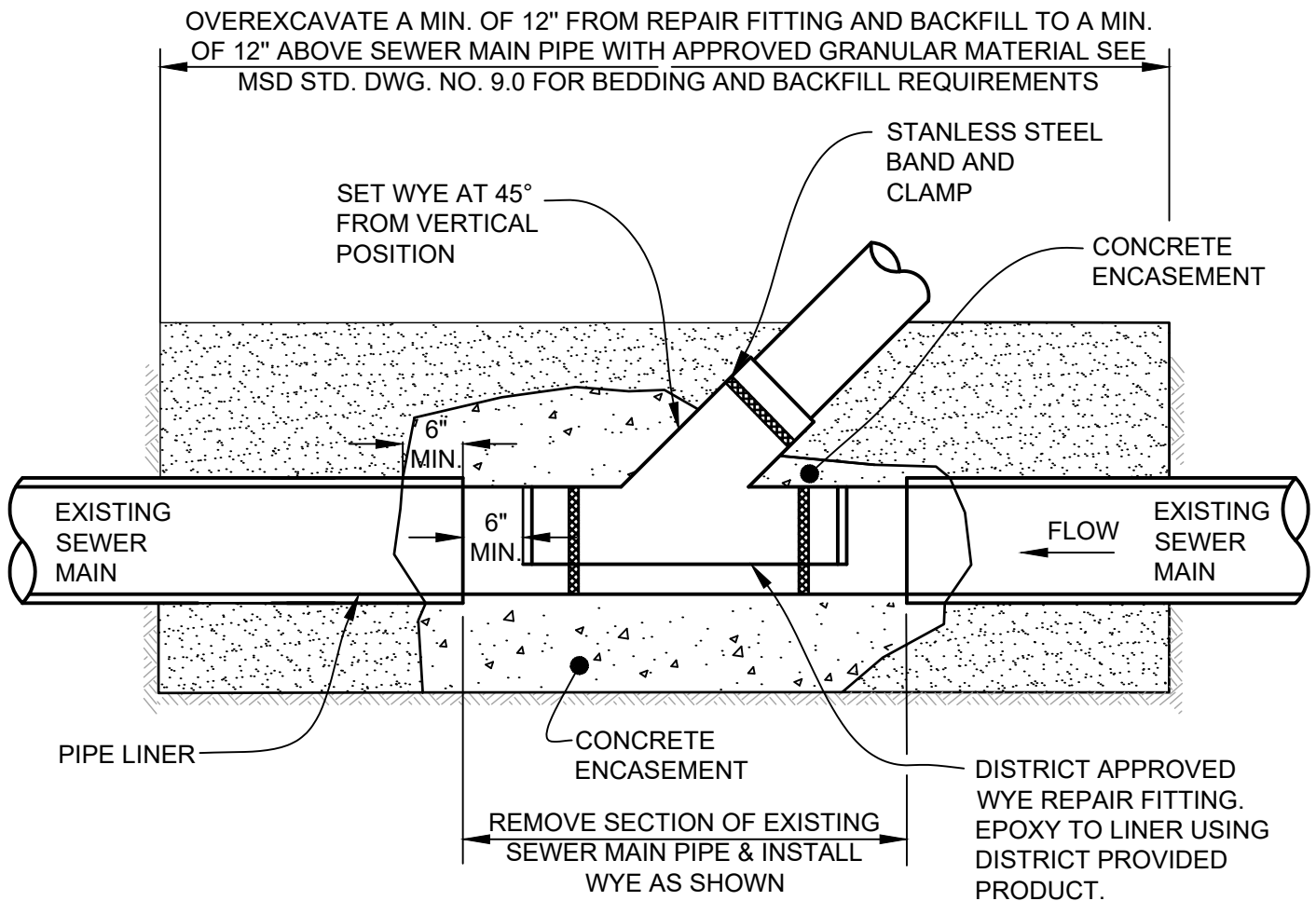
DIANE GABRIEL  
GENERAL MANAGER

## WYE INSTALLATION TO EXISTING MAIN

STANDARD  
DRAWING

REVISIONS

NO. 8.0



#### GENERAL NOTES:

INSTALLATION SHALL COMPLY WITH MANUFACTURERS RECOMMENDATIONS.

ALL WORK TO BE VISUALLY INSPECTED BY DISTRICT REPRESENTATIVE PRIOR TO COMMENCEMENT OF CUTTING OF EXISTING MAIN.

#### CONSTRUCTION NOTES:

1. TAPPING TYPE WYE WILL NOT BE ALLOWED (NO PLASTIC OR ELASTOMERIC SADDLES AND BANDS).
2. PROTRUSION INTO MAIN IS NOT ALLOWED.



DIANE GABRIEL  
GENERAL MANAGER

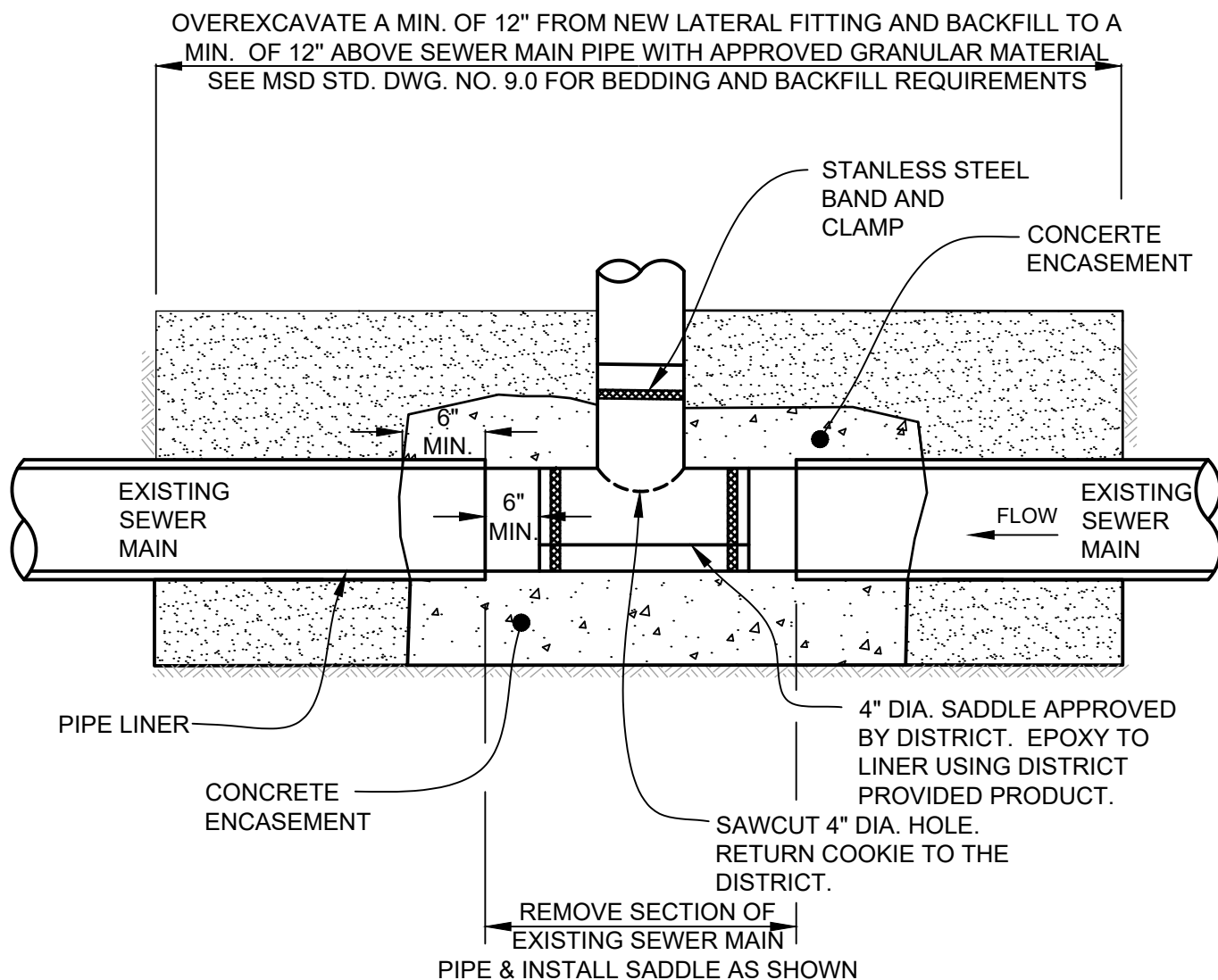
JUNE 2017  
DATE

## WYE REPLACEMENT TO EXISTING LINED MAIN

STANDARD  
DRAWING

REVISIONS

NO. 8.1



#### GENERAL NOTES:

INSTALLATION SHALL COMPLY WITH MANUFACTURERS RECOMMENDATIONS.

ALL WORK TO BE VISUALLY INSPECTED BY DISTRICT REPRESENTATIVE PRIOR TO COMMENCEMENT OF CUTTING OF EXISTING MAIN.

#### CONSTRUCTION NOTES:

1. TAPPING TYPE LATERAL WILL NOT BE ALLOWED (NO PLASTIC OR ELASTOMERIC SADDLES AND BANDS).
2. PROTRUSION INTO MAIN IS NOT ALLOWED.



JUNE 2017  
DATE

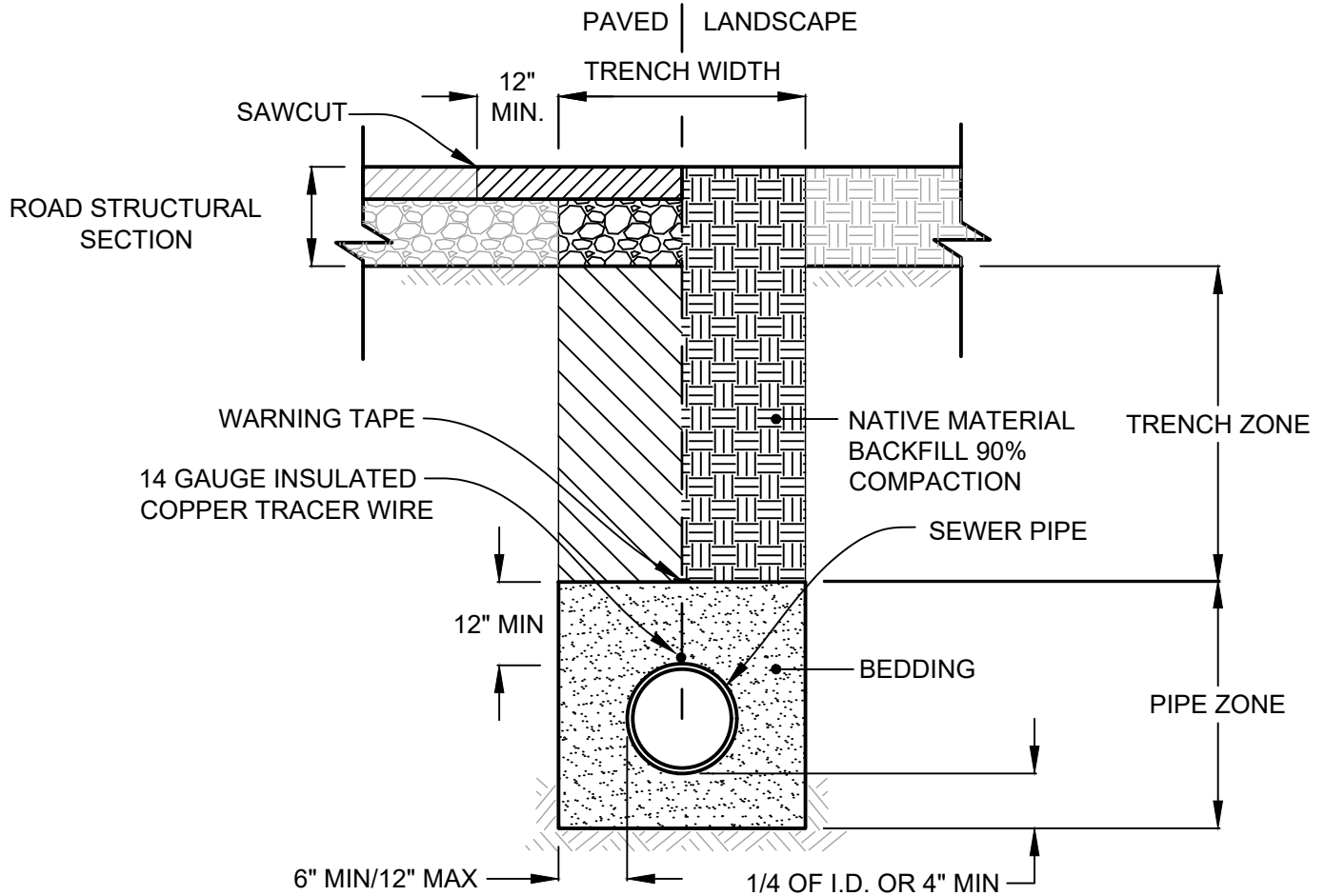
DIANE GABRIEL  
GENERAL MANAGER

## NEW LATERAL INSTALLATION TO EXISTING LINED MAIN

STANDARD  
DRAWING

REVISIONS

NO. 8.2



#### CONSTRUCTION NOTES:

##### PIPE ZONE

1. BEDDING SHALL BE SAND WITH A SAND EQUIVALENT GREATER THAN 30, COMPACTED TO 95% RELATIVE DENSITY.
2. YELLOW SAND NOT ALLOWED.
3. PIPE AND FITTINGS SHALL BE PVC SDR-35 GASKETED JOINTS. GLUE JOINTS NOT ALLOWED.

##### TRENCH ZONE

1. FOR COUNTY OR STATE ROADWAYS, BACKFILL SHALL BE 1 SACK CEMENT SLURRY UNLESS STATED OTHERWISE IN THE CONDITIONS OF THE ENCROACHMENT PERMIT.
2. FOR PRIVATE ROADS AND LANES, BACKFILL SHALL BE 1 SACK CEMENT SLURRY MIN. DEPTH 2', MAX. DEPTH 5'. ADDITIONAL TRENCH BACKFILL BELOW BOTTOM OF SLURRY SHALL BE NATIVE MATERIAL FREE

OF LUMPS AND STONES LARGER THAN 2", COMPACTED TO A MIN. 90% IN 6" LIFTS.

3. FOR LANDSCAPE AREAS OR NATURAL TERRAIN, COMPACT NATIVE MATERIAL TO MIN. 90% RELATIVE DENSITY.

##### ROAD STRUCTURAL SECTION

1. FOR COUNTY OR STATE ROADWAYS, THE CONDITIONS OF THE ENCROACHMENT PERMIT SHALL BE USED FOR REPAIR OF ROAD STRUCTURAL SECTION, ASSUMED MIN. 0.5' AC OVER 0.5' CLASS 2 AGGREGATE BASE.
2. FOR PRIVATE ROADS AND LANES, MATCH EXISTING PAVEMENT SECTION, MIN. 0.33' AC PAVEMENT OVER 0.5' CLASS 2 AGGREGATE BASE.

##### GENERAL NOTES:

ALL WORK WITHIN COUNTY OR STATE ROADWAYS SHALL BE VISUALLY INSPECTED BY DISTRICT REPRESENTATIVE PRIOR TO BACKFILL.



AUGUST 2017  
DATE

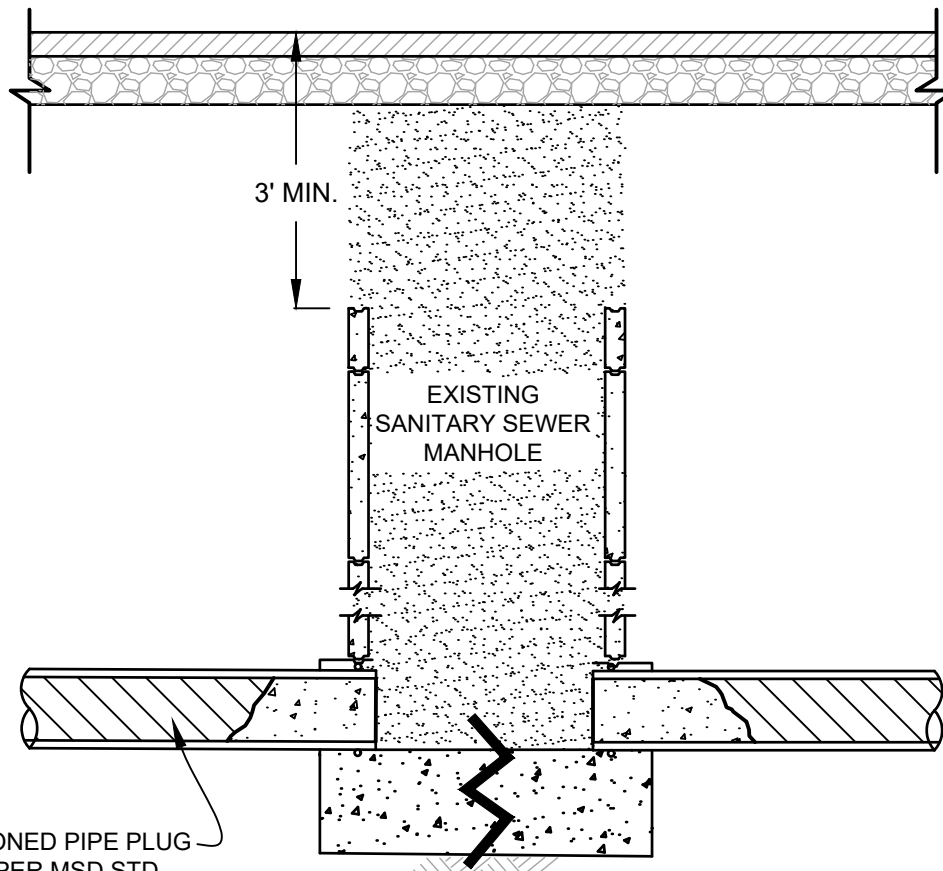
DIANE GABRIEL  
GENERAL MANAGER

## TRENCH BEDDING AND BACKFILL

STANDARD  
DRAWING

REVISIONS

NO. 9.0



ABANDONED PIPE PLUG  
DETAIL PER MSD STD.  
DWG.NO. 12.0

**CONSTRUCTION NOTES:**

1. REMOVE FRAME, COVER, TAPER AND BARREL SECTIONS AS REQUIRED TO A MINIMUM OF 3' BELOW FINISHED GRADE.
2. AFTER PLUGGING ALL PIPES IN MANHOLE, THE REMAINING PORTION OF THE BARREL SECTION AND ALL VOIDS CREATED BY THE REMOVAL OF THE UPPER PORTIONS OF THE MANHOLE, SHALL BE BACKFILLED WITH CLEAN SAND AND COMPACTED TO MIN. 90% RELATIVE DENSITY.
3. BOTTOM OF MANHOLE SHALL BE BROKEN/HOLES CREATED FOR DRAINAGE.
4. FRAME/COVER CASTINGS SHALL BE DELIVERED TO DISTRICT OR AS DIRECTED BY THE DISTRICT.



DIANE GABRIEL  
GENERAL MANAGER

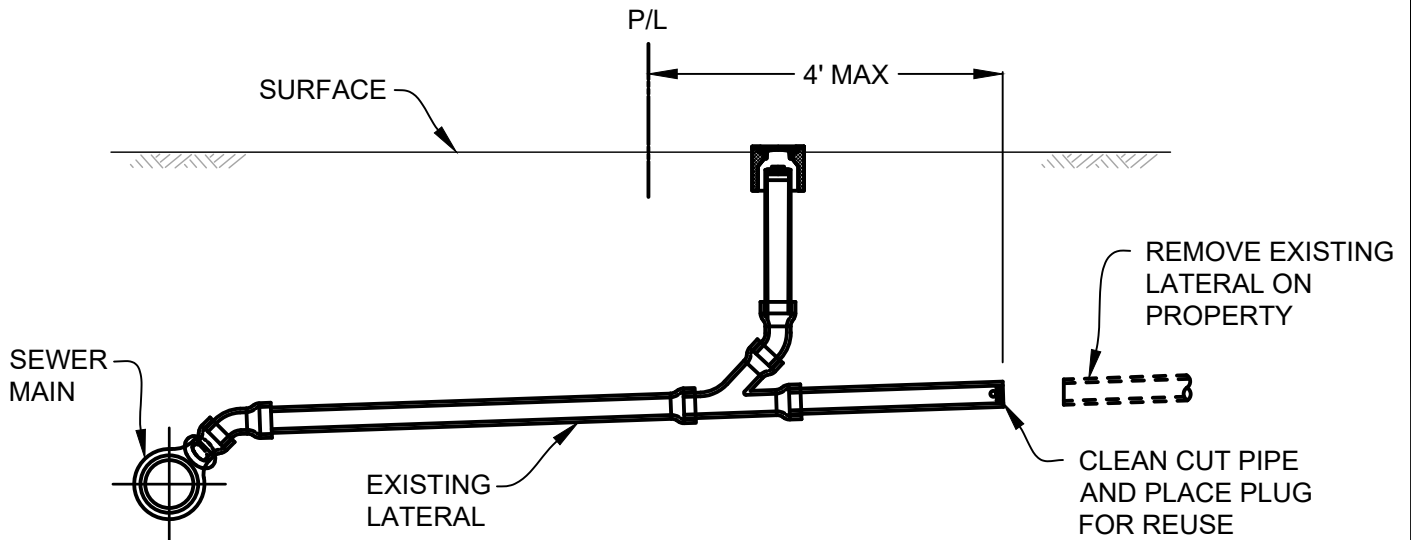
JUNE 2017  
DATE

## ABANDONED MANHOLE

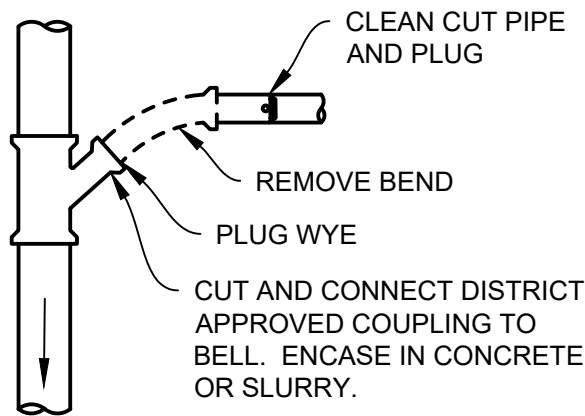
STANDARD  
DRAWING

REVISIONS

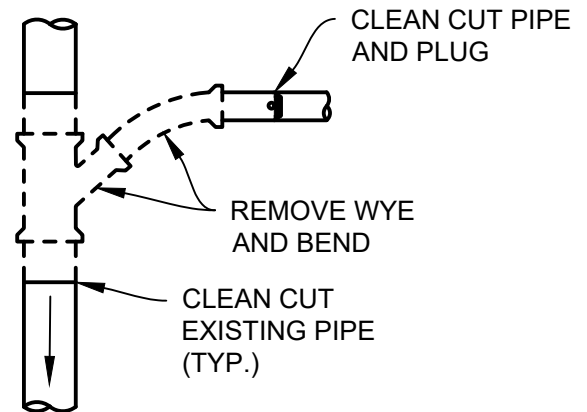
NO. 10.0



LATERAL DISCONNECTION AT PROPERTY LINE FOR REUSE



DETAIL "A"



DETAIL "B"

LATERAL DISCONNECTION AT SEWER MAIN

CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT NO OTHER PROPERTIES ARE CONNECTED TO THE LATERAL PRIOR TO DISCONNECTION.
2. CONTRACTOR TO VERIFY THE CONDITION OF THE EXISTING LATERAL USING CCTV PRIOR TO ABANDONING IN PLACE. DISTRICT TO APPROVE THE LOCATION OF ABANDONMENT.
3. THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE WYE AT THE SEWER MAIN FOR INSPECTION BY A DISTRICT REPRESENTATIVE. IF THE MAIN AND WYE ARE DEEMED IN GOOD CONDITION, PLUG WYE AS SHOWN IN DETAIL "A". IF THE MAIN IS IN GOOD CONDITION AND THE WYE IS IN POOR CONDITION, REMOVE WYE AND SECTION OF PIPE AS SHOWN IN DETAIL "B". IF BOTH ARE IN POOR CONDITION, NOTIFY THE DISTRICT.
4. REPLACEMENT PIPE SHALL BE PVC SDR 35 AND DIAMETER SHALL MATCH EXISTING SEWER MAIN PIPE INVERT. COUPLING SHALL BE DISTRICT APPROVED.
5. IF SEWER MAIN IS CONCRETE ENCASED OR CRADLED, ANY PORTION REMOVED BY CONTRACTOR SHALL BE REPLACED ENTIRELY TO THE SATISFACTION OF THE DISTRICT'S REPRESENTATIVE.
6. CONTRACTOR SHALL SUPPLY ADDRESS OF ABANDONED LATERAL AND DISTANCE AS MEASURED FROM THE DOWNSTREAM MANHOLE.



JUNE 2017  
DATE

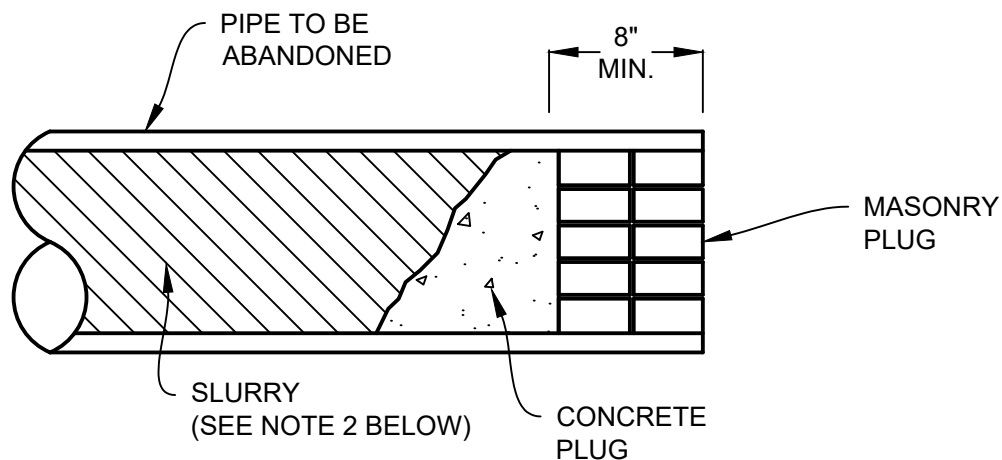
DIANE GABRIEL  
GENERAL MANAGER

## ABANDONED SEWER LATERAL

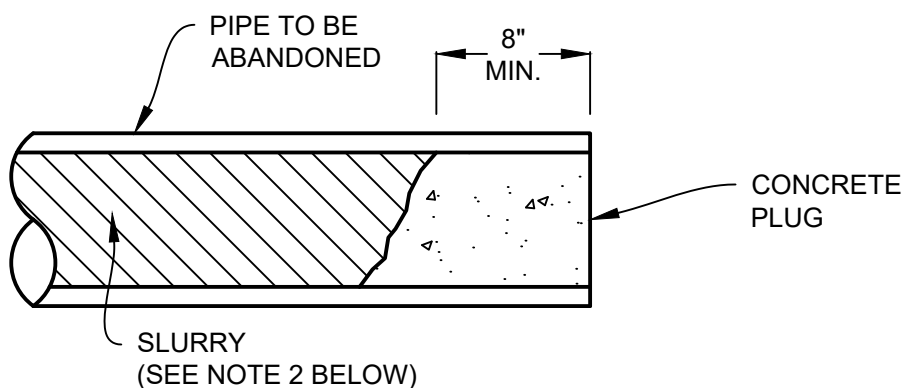
STANDARD  
DRAWING

REVISIONS

NO. 11.0



12" DIAMETER PIPE AND LARGER



PIPES LESS THAN 12" DIAMETER

CONSTRUCTION NOTES:

1. PIPE PLUGS SHALL BE INSTALLED TO THE SATISFACTION OF THE DISTRICT.
2. ABANDONED MAINS SHALL BE FILLED COMPLETELY WITH 1 SACK SLURRY.



JUNE 2017  
DATE

DIANE GABRIEL  
GENERAL MANAGER

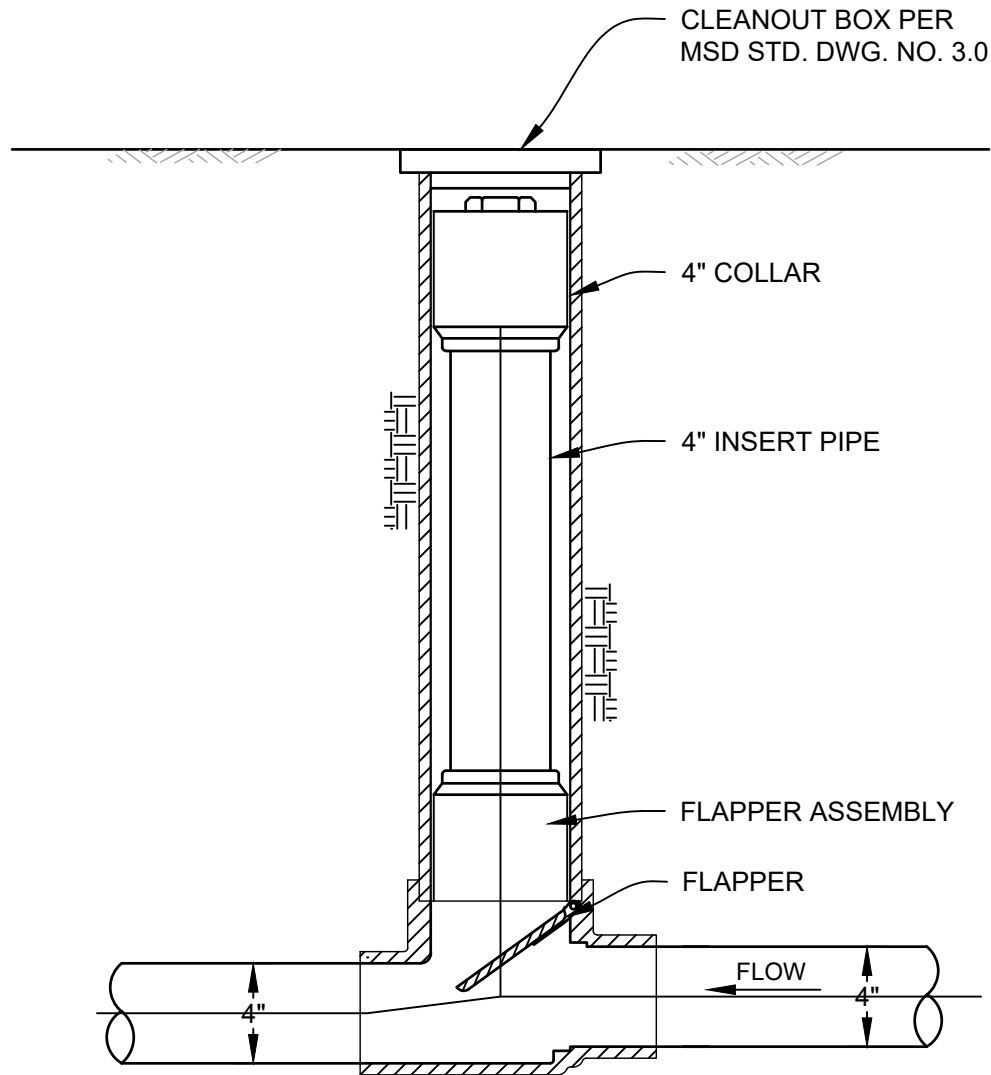
# ABANDONED PIPE PLUG

STANDARD  
DRAWING

REVISIONS

NO. 12.0





**CONSTRUCTION NOTES:**

1. USE OF A BACKWATER VALVE MUST BE APPROVED BY THE DISTRICT PRIOR TO INSTALLATION.
2. A BACKWATER VALVE WILL BE REQUIRED WHENEVER THE FINISH FLOOR ELEVATION OF THE LOWEST FLOOR THAT HAS PLUMBING FIXTURES IS LOWER IN ELEVATION THAN THE UPSTREAM RIM MANHOLE OR CLEANOUT ON THE SEWER MAIN TO WHICH THE LATERAL CONNECTS.
3. A BACKWATER VALVE REQUIRES DISTRICT APPROVAL IF THE DIFFERENCE IN FINISH FLOOR ELEVATION AND THE RIM ELEVATION OF THE UPSTREAM MANHOLE IS GREATER THAN 1 FOOT.
4. THE BACKWATER VALVE SHALL BE INSTALLED AT THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER, UNLESS OTHERWISE AUTHORIZED BY THE DISTRICT.



DIANE GABRIEL  
GENERAL MANAGER

JUNE 2017  
DATE

## BACKWATER VALVE

STANDARD  
DRAWING

REVISIONS

NO. 13.0