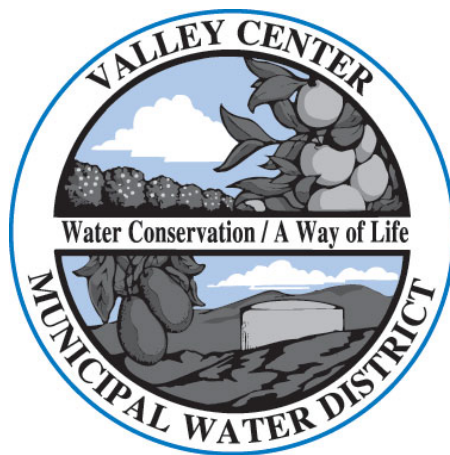


VALLEY CENTER  
MUNICIPAL WATER DISTRICT

# STANDARD DRAWINGS

## *Sewer*



**Latest Revision: OCTOBER 2021**

29300 Valley Center Road - P.O. Box 67  
Valley Center, CA 92082 (760) 735-4500

# Standard Sewer Drawings

## Table of Contents









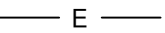
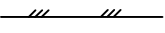

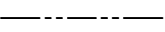


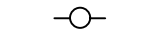
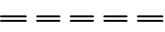
### OCTOBER 2021

#### Gravity Sewer Drawings

#### Latest Revision

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S – 2	Concrete Encasement.....	MARCH 2020
S – 3	Pipeline Separation Requirements .....	MARCH 2020
S – 4	Standard Precast Concrete Manhole (4' Dia.).....	MARCH 2020
S – 5	Standard Precast Concrete Manhole (5' Dia.).....	MARCH 2020
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## STANDARD LEGEND

	EXISTING SEWER SERVICE		SEWER SERVICE
	EXISTING SEWER MAIN		SEWER MAIN
	EXISTING FORCE MAIN		FORCE MAIN
	EXISTING SEWER MANHOLE		SEWER MANHOLE
	ELECTRICAL		EDGE OF PAVEMENT
	ELECTRICAL OVERHEAD		WATER DISTRICT BOUNDARY
	TELEPHONE		GAS LINE
	POWER POLE		STORM DRAIN OR CULVERT

APPROVED:

 3/2/2020

District Engineer Date

3/2/2020

Latest Revision Date



VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

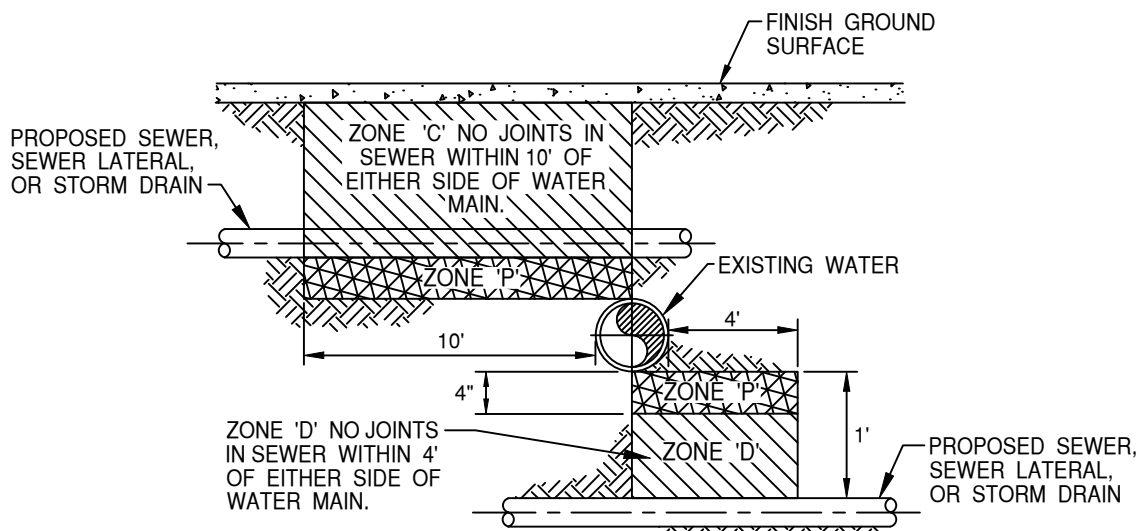
**STANDARD SYMBOLS FOR  
SEWER CONSTRUCTION DRAWINGS**

NOT TO SCALE

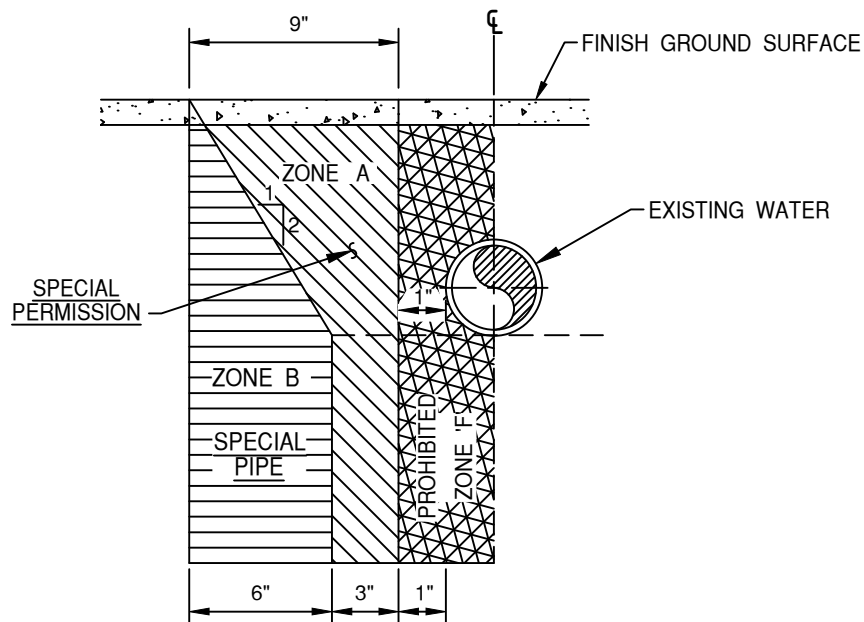
DWG. NUMBER

**S-1**





### **CROSSING (PERPENDICULAR) CONDITION**



### **NOTES:**

### **PARALLEL CONDITION**

- ZONE "A" NO SEWER SHALL BE CONSTRUCTED WITHOUT SPECIAL APPROVAL FROM STATE DEPARTMENT OF HEALTH SERVICES.
- ZONE "B" SEWER SHALL BE CONSTRUCTED OF EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS, POLYVINYL CHLORIDE PLASTIC PIPE WITH RUBBER RING JOINTS (PER ASTM D 3034), OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
- ZONE "C" & "D" SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH APPROVED COATING AND MECHANICAL JOINTS OR CONTINUOUS SECTION OF CLASS 200 (DR14 PER AWWA C-900) POLYVINYL CHLORIDE PLASTIC PIPE CENTERED OVER PIPE BEING CROSSED.
- ZONE "P" NO SEWER LINE CONSTRUCTION ALLOWED.
- UPON APPROVAL FROM DISTRICT ENGINEER HDPE FUSION WELDED PIPE MAY BE USED AS A CASING WHEN MINIMUM JOINT DISTANCE CAN NOT BE MET.
  - ANY SEPARATION LESS THAN 10 FT REQUIRES COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH AND DISTRICT APPROVAL.

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer Date

3/2/2020

Latest Revision Date



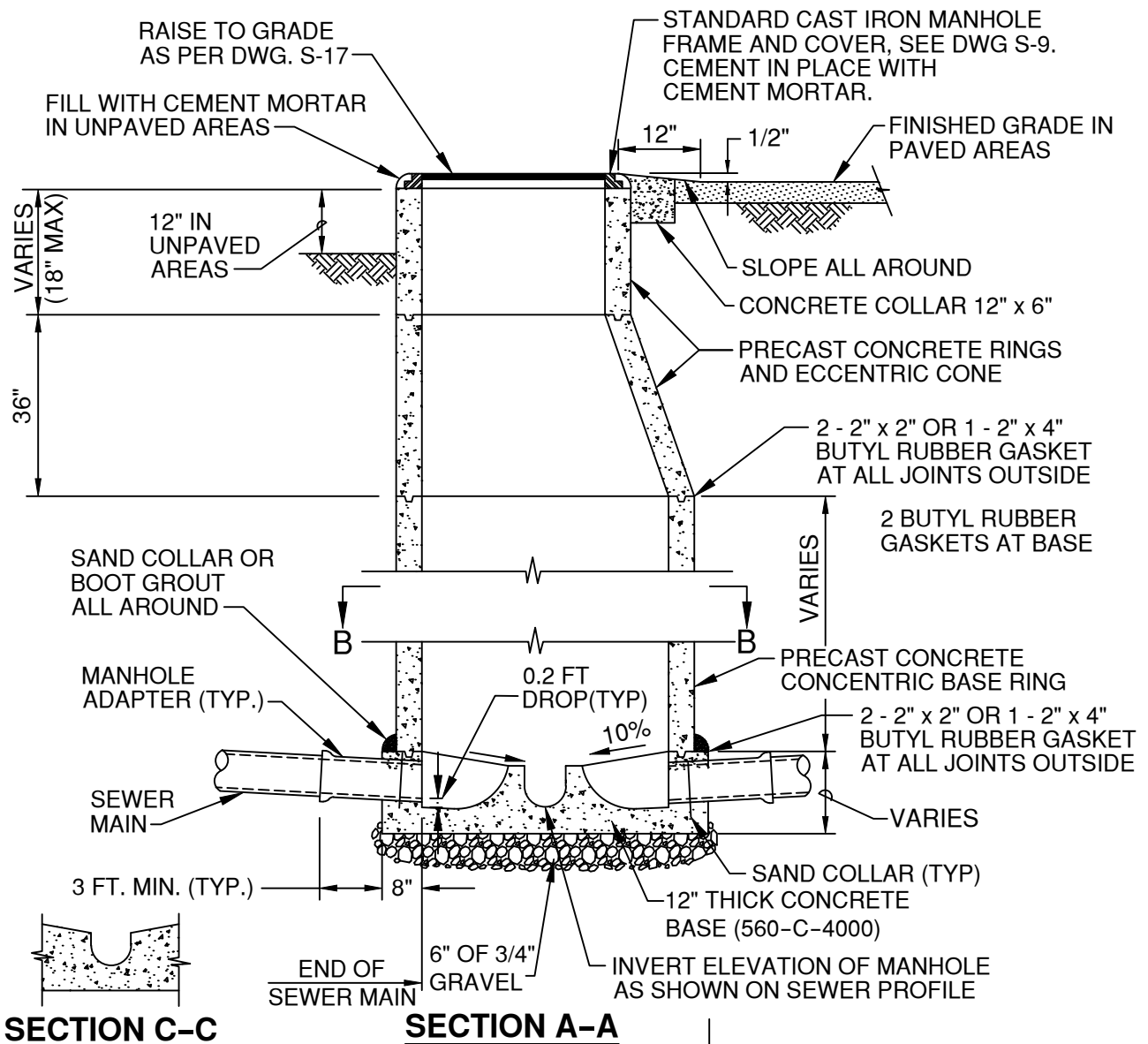
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

## **PIPELINE SEPARATION REQUIREMENTS**

NOT TO SCALE

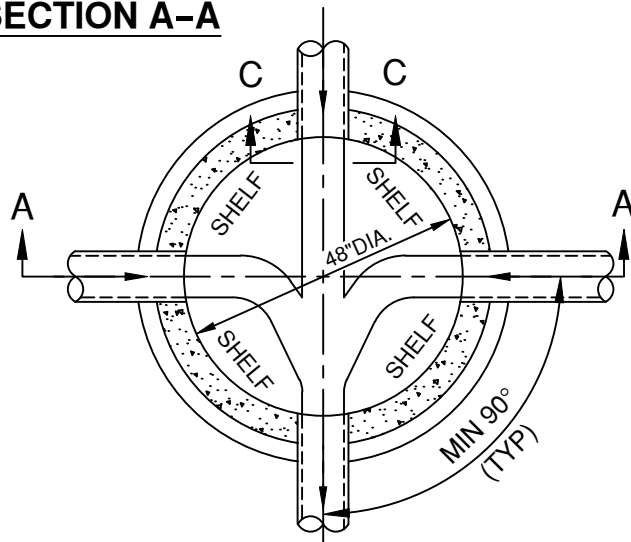
DWG. NUMBER

**S-3**



#### NOTES:

1. CONCRETE TO BE 560-C-4000.
2. ALL JOINTS SHALL BE FILLED WITH BUTYL RUBBER GASKET.
3. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478, LATEST EDITION.
4. JOINTS INTERIOR SHALL BE PATCHED WITH MORTAR AND EXTERIOR JOINTS WRAPPED W/BUTYL WRAP.
5. VERTICAL WALL OF CONE SHALL BE UPSTREAM SIDE OF MANHOLE.
6. NO MANHOLE STEPS ALLOWED.
7. EXTERIOR OF MANHOLE TO BE WATERPROOFED.
8. IF RIM ELEV. TO DOWNSTREAM INVERT ELEV. IS GREATER THAN 12 FEET, USE S-5.



#### SECTION B-B

LEGEND ON PLAN

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



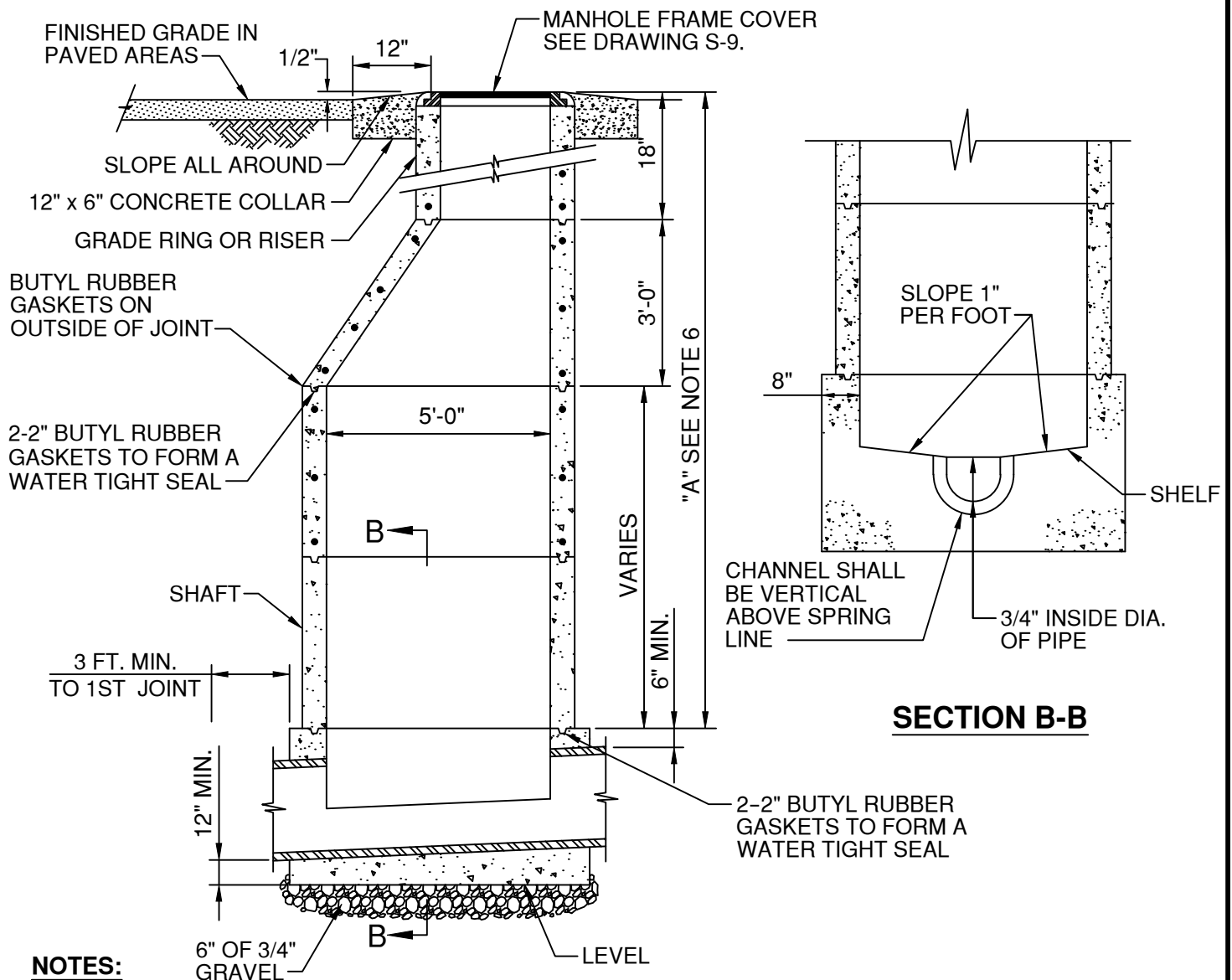
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

## STANDARD PRECAST CONCRETE MANHOLE (4' DIA.)

NOT TO SCALE

DWG. NUMBER

**S-4**



1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478.
3. VERTICAL WALL OF CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.
4. CONCRETE BASE SHALL BE 560-C-4000.
5. MH ADAPTORS SHALL BE PROVIDED FOR ALL MH CONNECTIONS.
6. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
  - A. CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THAN 3').
  - B. 6" TO 18" OF 3' DIAMETER GRADE RINGS / AND / OR RISERS.
  - C. 5' DIAMETER SHAFT VARIABLE HEIGHT.
7. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
8. PRIOR APPROVAL OF PRECAST BASE IS REQUIRED BY THE DISTRICT ENGINEER.
9. MAXIMUM ALLOWABLE CHANGE OF DIRECTION AT MH = 45°.
10. PROVIDE SPECIFIC DETAIL FOR REVIEW AND APPROVAL BY DISTRICT ENGINEER FOR MH'S WITH MORE THAN ONE INLET OR OUTLET, 18" OR LARGER.
11. EXTERIOR WALLS TO BE WATERPROOFED.

—○—  
LEGEND ON PLAN

APPROVED:

*Wally G. Hall* 3/2/2020  
District Engineer Date

3/2/2020

Latest Revision Date



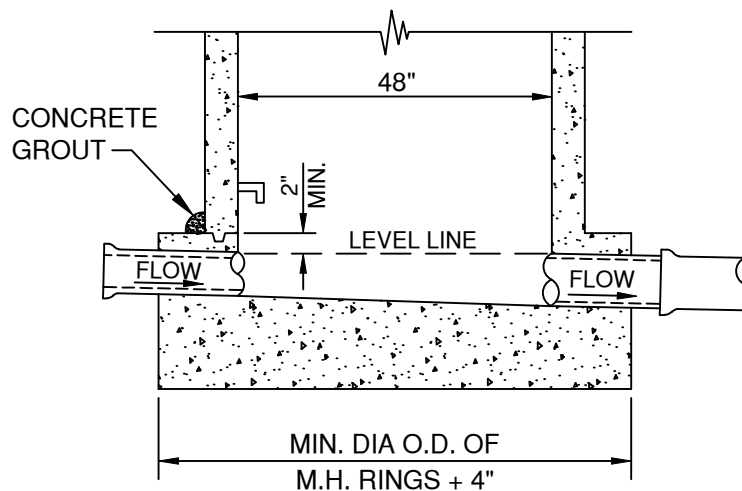
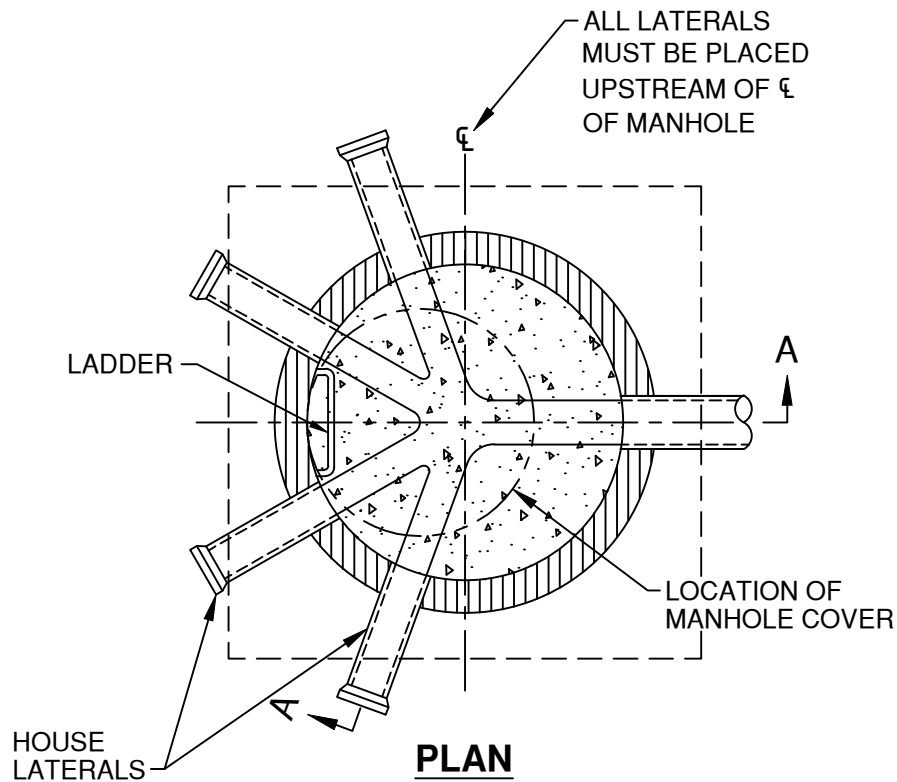
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

## STANDARD PRECAST CONCRETE MANHOLE (5' DIA.)

NOT TO SCALE

DWG. NUMBER

**S-5**



**NOTES:**

1. REFER TO STANDARD DRAWINGS OF MANHOLES FOR DETAILS PERTAINING TO MANHOLES ONLY.
2. THE TOP 1/2 DIAMETER OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE. BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.
3. THE MAXIMUM NUMBER OF LATERALS INTO A TERMINUS MANHOLE SHALL BE LIMITED TO FOUR.
4. TERMINUS MANHOLES WITH HOUSE LATERALS ARE NOT TO BE USED EXCEPT WITH SPECIAL WRITTEN APPROVAL BY DISTRICT ENGINEER.

○ ————  
LEGEND ON PLAN

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

**TERMINUS MANHOLE**

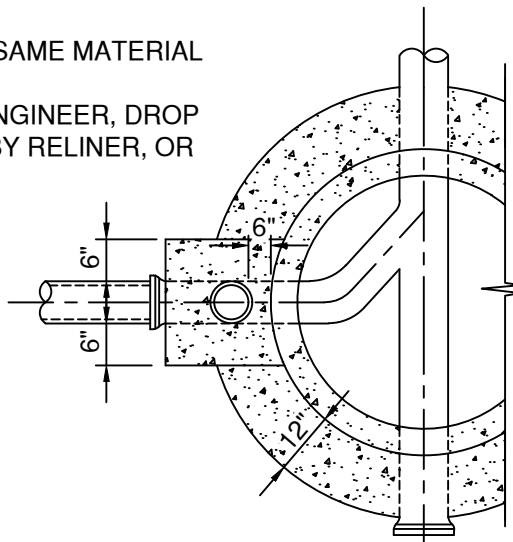
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DWG. NUMBER

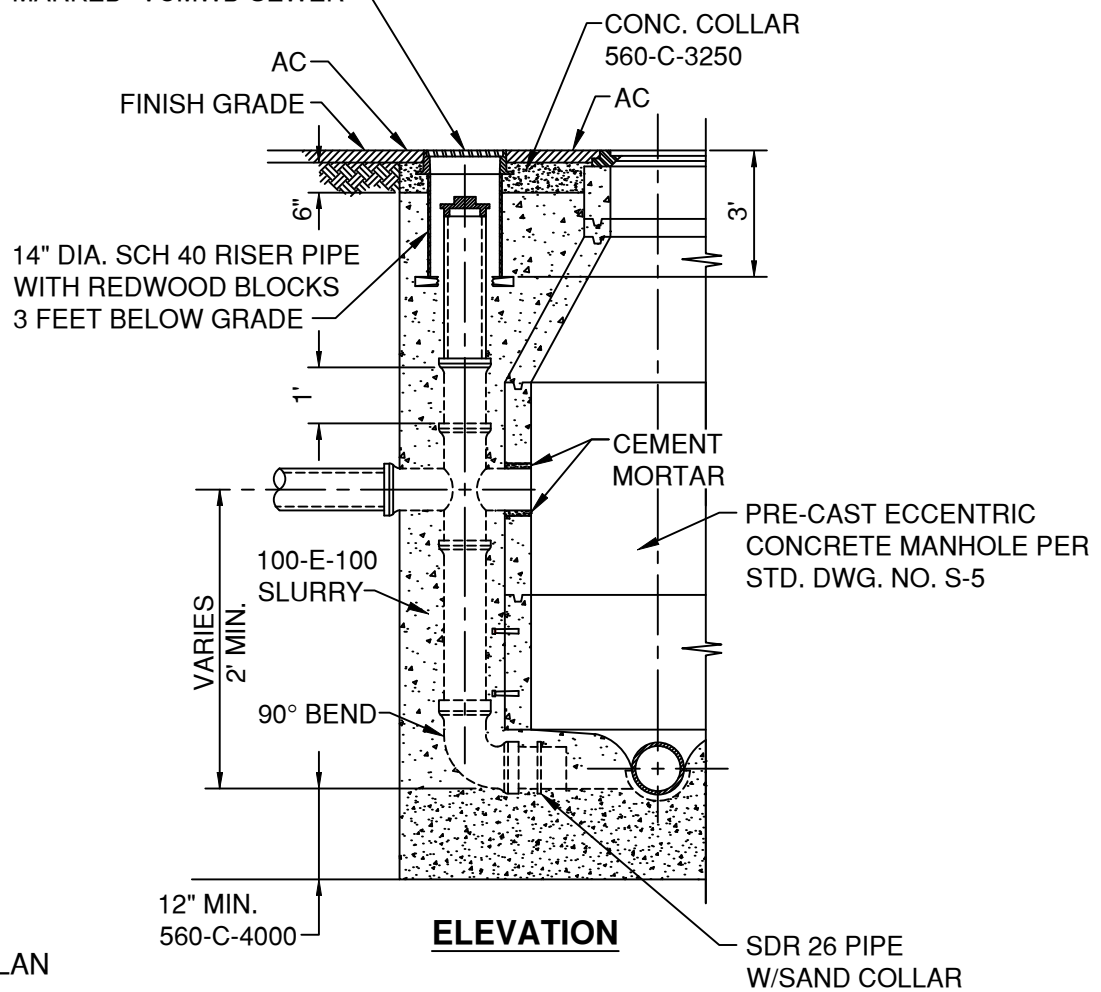
**S-6**

**NOTES:**

1. ALL PIPES AND FITTINGS SHALL BE SAME MATERIAL AS MAIN LINE.
2. UPON APPROVAL FROM DISTRICT ENGINEER, DROP MANHOLE MAY BE INTERNAL TYPE BY RELINER, OR EQUAL.



FRAME AND COVER SOUTH  
BAY FOUNDRY NO. 1257  
MARKED "VCMWD SEWER"

**PLAN VIEW**

APPROVED:

*Wally G. H.* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



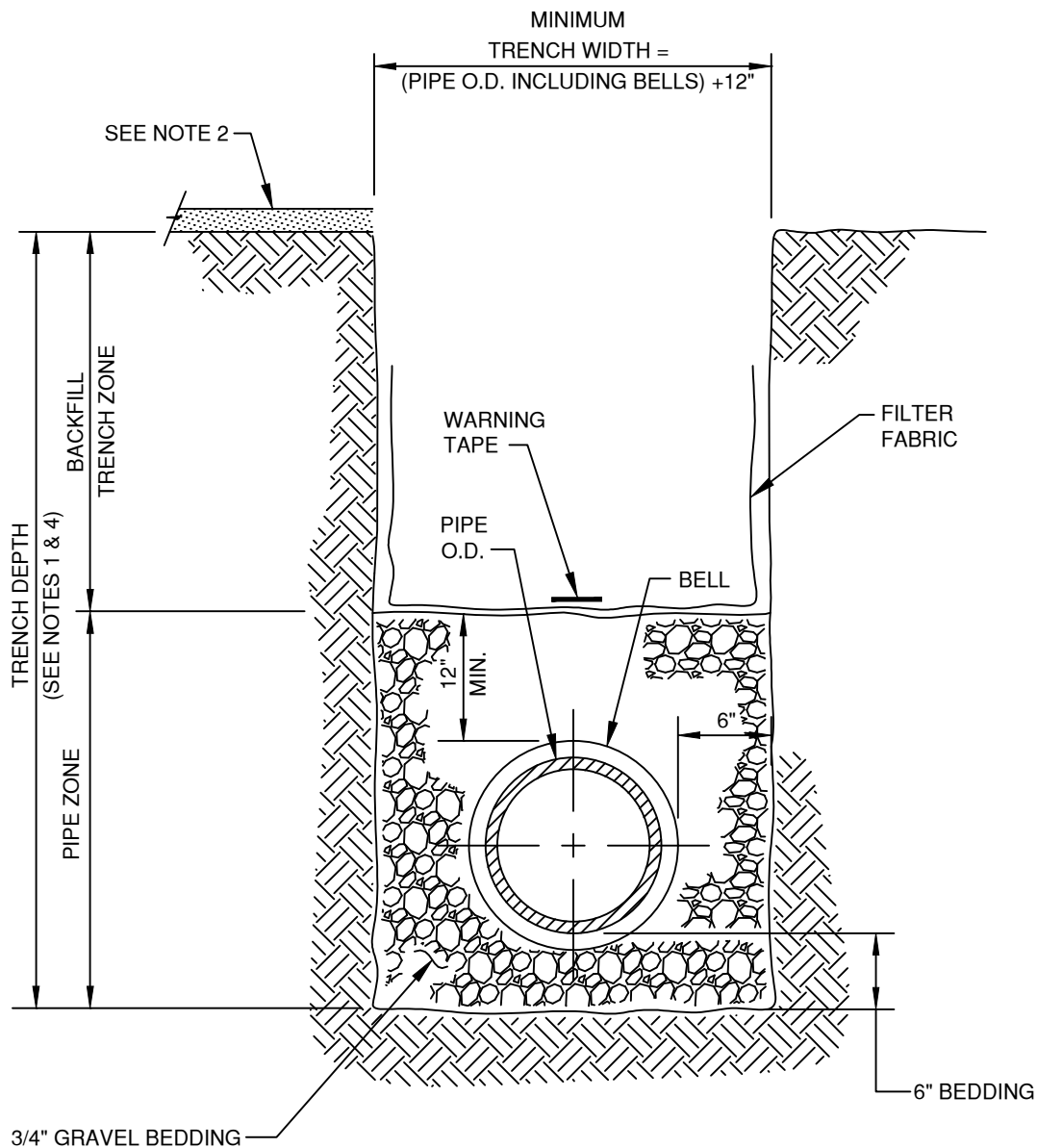
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

**STANDARD PRECAST CONCRETE  
DROP MANHOLE**

NOT TO SCALE

DWG. NUMBER

**S-7**



#### NOTES:

1. REFER TO BACKFILLING SECTION OF THE SPECIFICATIONS FOR DETAILS.
2. PAVING OR PAVEMENT REPAIR TO BE DONE IN ACCORDANCE WITH SDRSD G-24A.
3. EXCAVATE BELL HOLES AT EACH PIPE JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT.
4. ON CITY, COUNTY OR STATE RIGHT OF WAYS, ITS AGENCY STANDARDS SHALL APPLY.

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



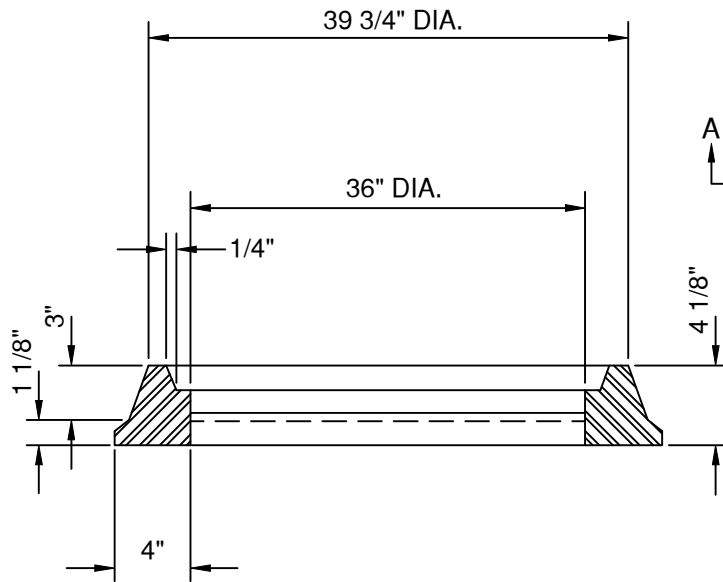
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

## STANDARD PIPE ZONE AND TRENCH BACKFILL

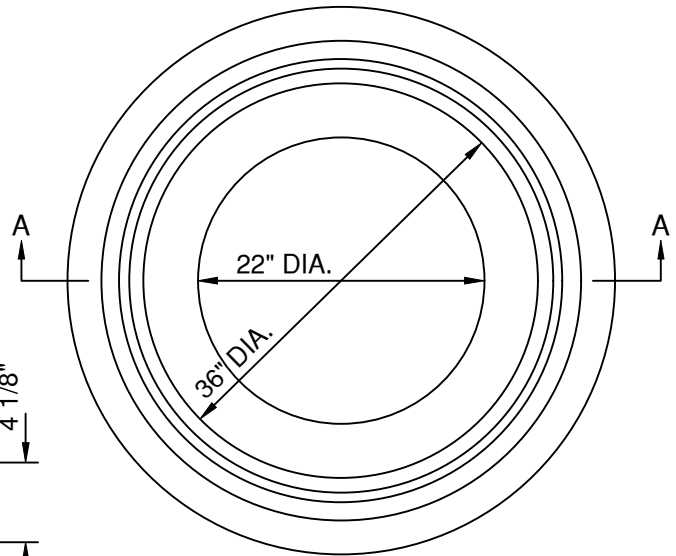
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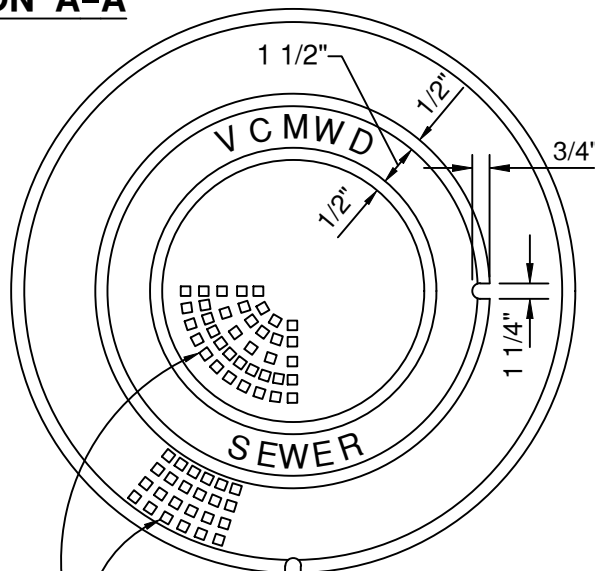
**S-8**



**SECTION A-A**

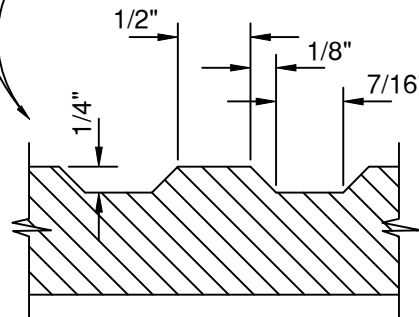


**FRAME**



**NOTE:**

1. LOCKING FRAMES AND COVERS ARE REQUIRED IN REMOTE AREAS OR AS DETERMINED BY THE DISTRICT ENGINEER.



**COVER**

APPROVED:

*Wally P. [Signature]* 5/16/19

District Engineer

Date

5/16/2019

Latest Revision Date



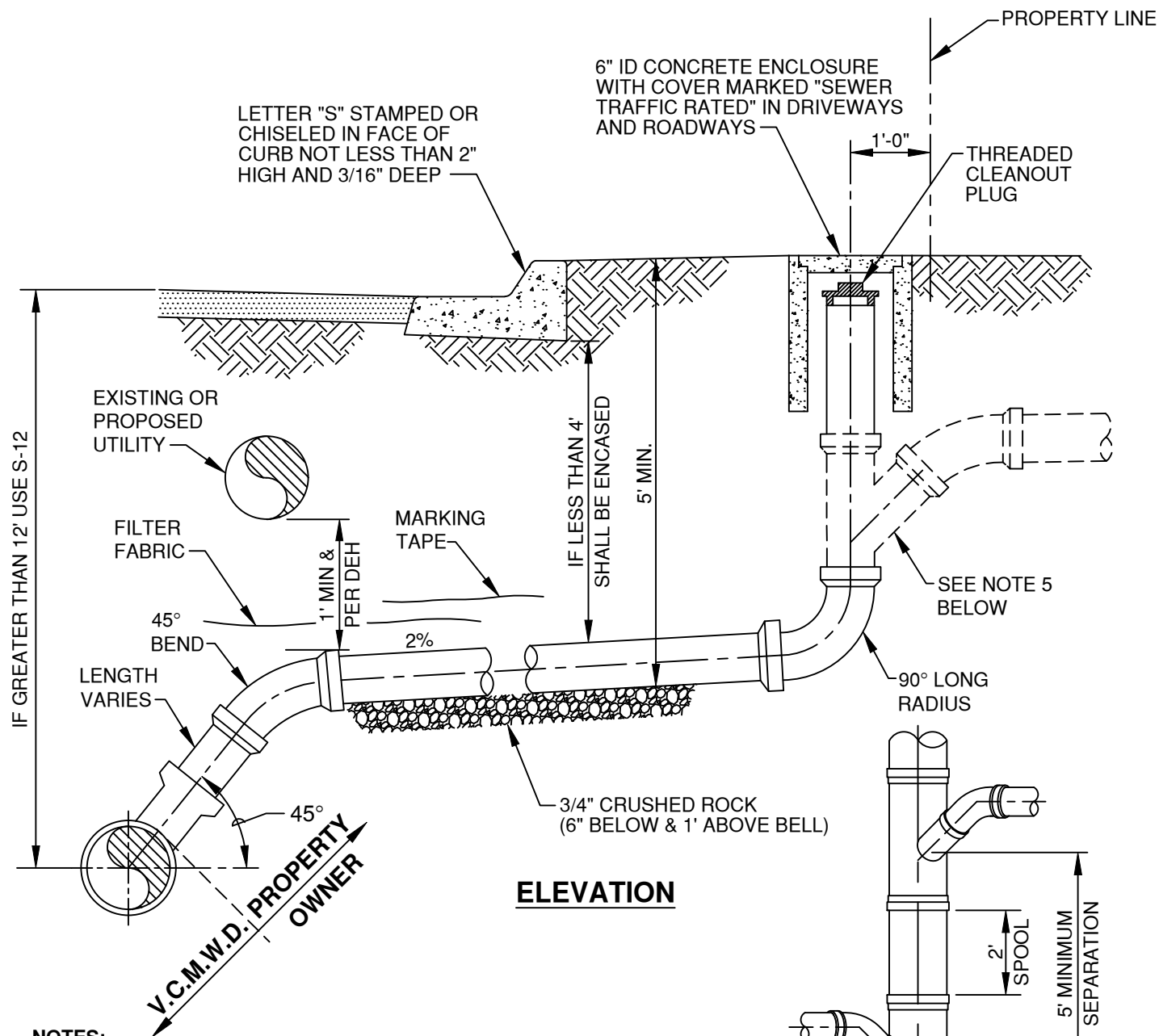
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

**36" MANHOLE FRAME AND  
TWO CONCENTRIC COVERS**

NOT TO SCALE

DWG. NUMBER

**S-9**



## ELEVATION

## PLAN

### NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. SEWER LATERAL SHALL MAINTAIN 2% SLOPE FROM PL TO DROP TO MAIN. DROP TO MAIN WILL VARY AS NEEDED, 1.2' MIN.
3. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE COMPRESSION TYPE OR APPROVED SOLVENT WELD.
4. LATERAL INSTALLATION ON EXISTING MAINS SHALL FOLLOW S-13.
5. WYE CONNECTION TO BE INSTALLED BY PRIVATE PLUMBER AFTER AIR TEST HAS BEEN COMPLETED. CONNECTION TO BE INSPECTED BY THE DISTRICT.
6. SEWER LATERAL INFORMATION SHALL BE PROVIDED IN SEWER LATERAL TABLE.

DETAIL SHOWING THE MANNER OF CONNECTING OPPOSITE LATERALS TO A SEWER MAIN. TWO CONNECTIONS SHALL NOT BE MADE IN THE SAME LENGTH OF PIPE.

LEGEND ON PLAN

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



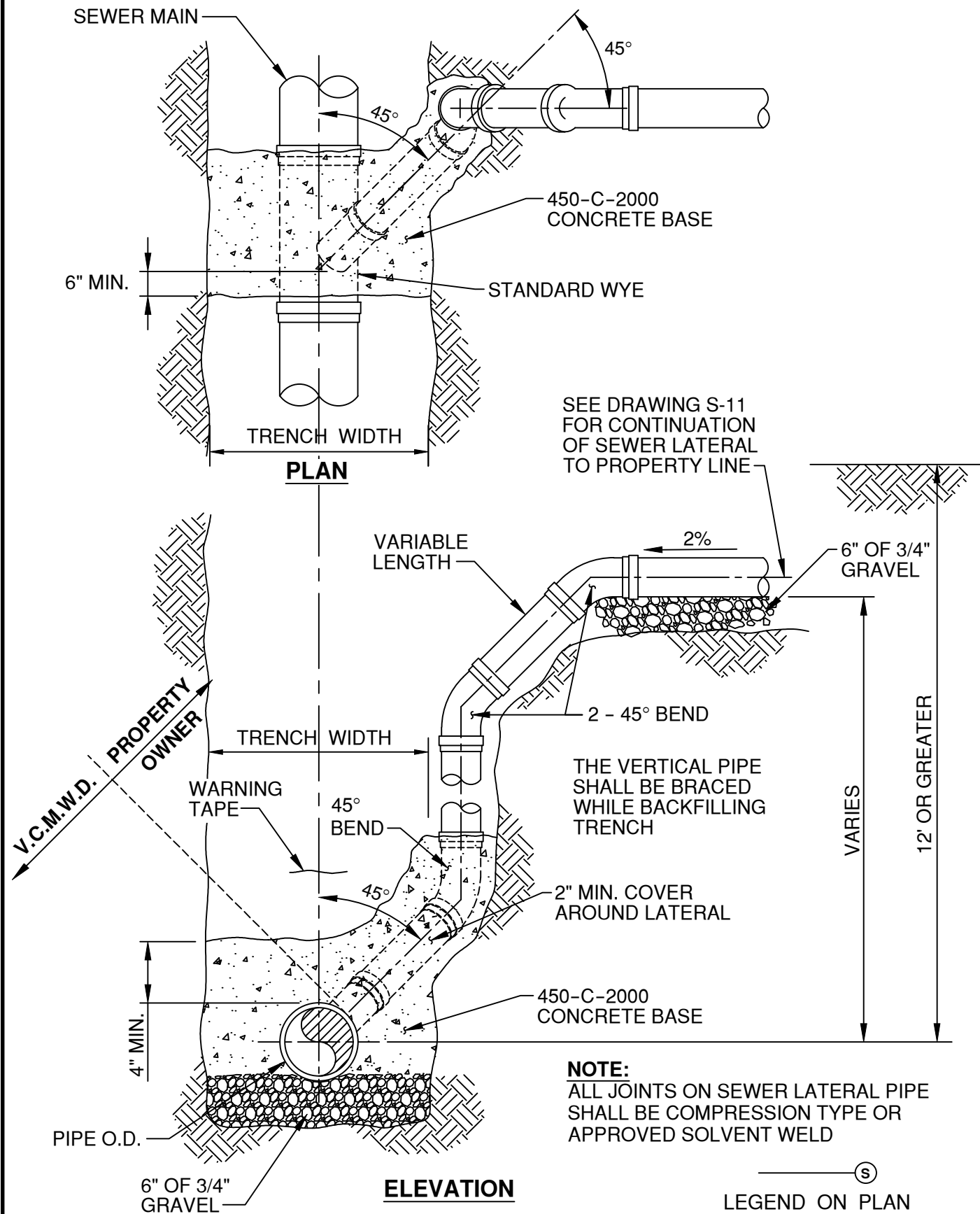
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

**NEW INSTALLATION  
PVC SEWER LATERAL**

NOT TO SCALE

DWG. NUMBER

**S-11**



APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



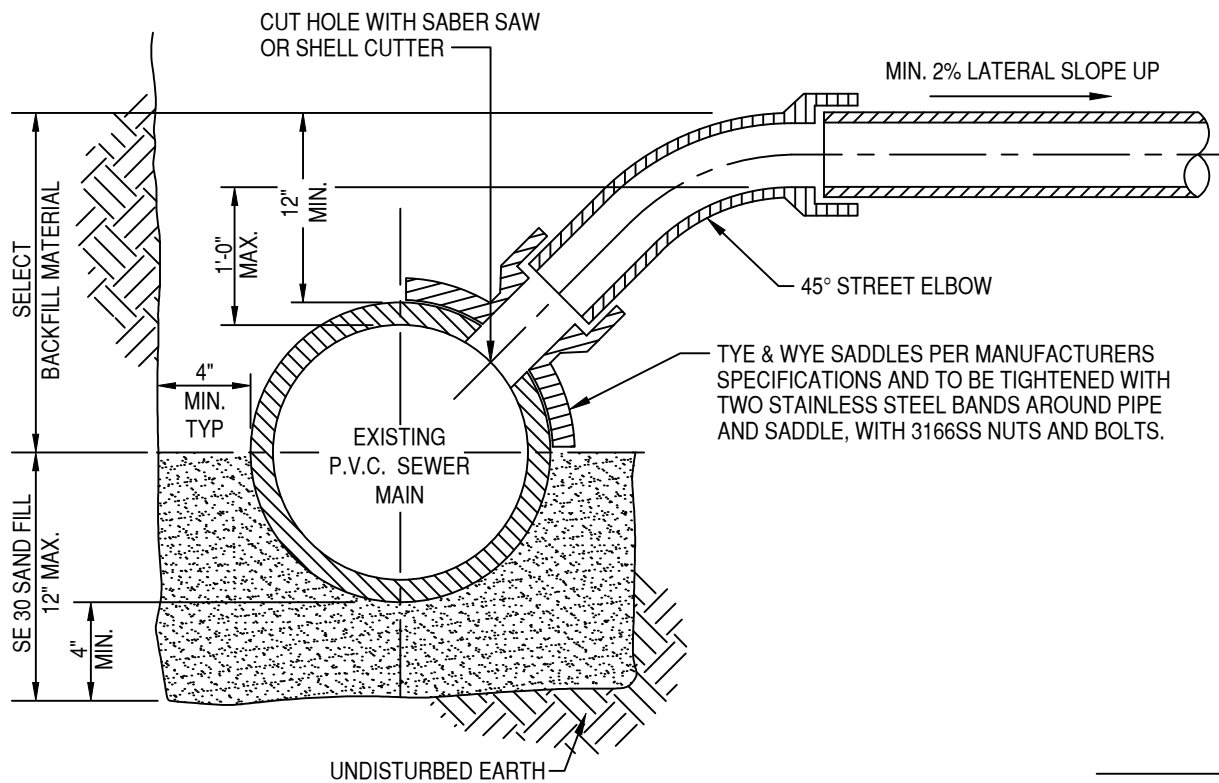
VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

## DEEP CUT SEWER LATERAL

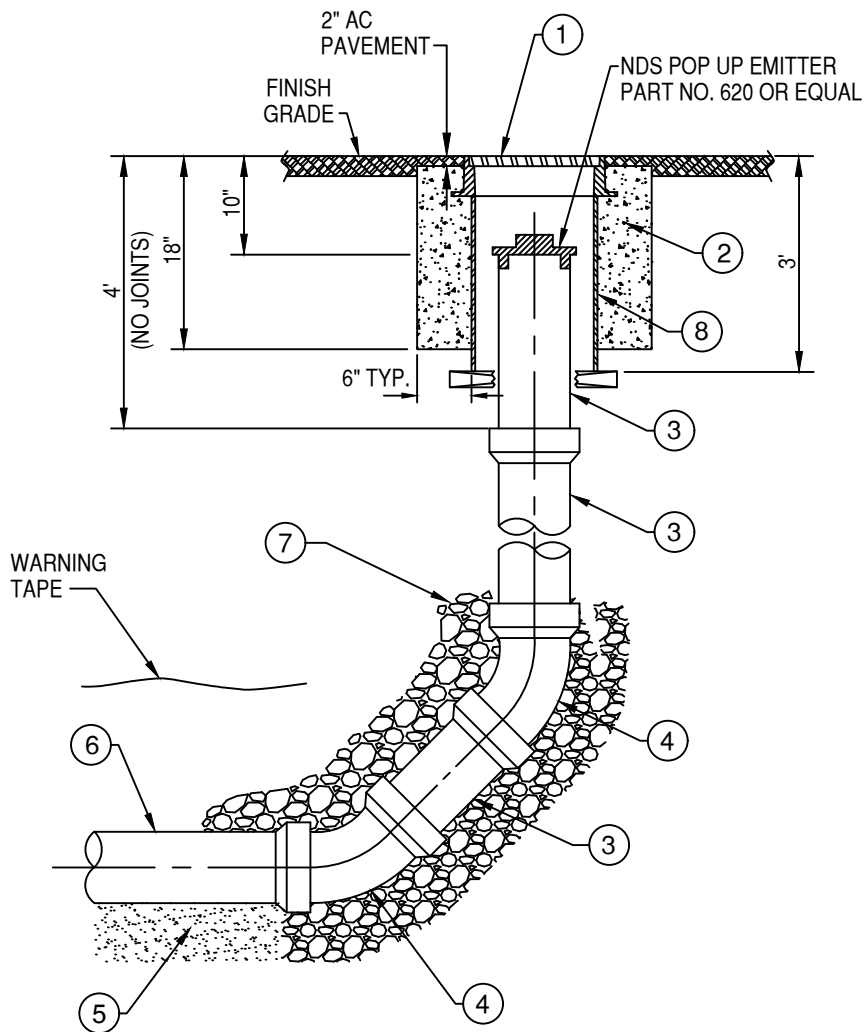
NOT TO SCALE

DWG. NUMBER

**S-12**




VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING



# NOTES:

- CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS.
- CLEANOUT PIPE TO BE SAME MATERIAL AND SIZE AS SEWER MAIN.
- BACKFILL TO TOP OF 45° BEND WITH 3/4" CRUSHED ROCK.


  
LEGEND ON PLAN

NO.	DESCRIPTION	NO.	DESCRIPTION
1	SBF 1257 CLEANOUT BOX COVER MARKED "VCMWD SEWER"	5	SE 30 SAND PIPE BEDDING
2	CONCRETE RING, 3250 PSI	6	SEWER MAIN
3	SIZE x REQUIRED LENGTH PVC PIPE	7	3/4" CRUSHED ROCK (SEE NOTE 3)
4	45° ELBOW	8	14" DIA. SCH 40 RISER PIPE, WITH REDWOOD BLOCKS

APPROVED:

 11.20.2021



VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

NOT TO SCALE

DWG. NUMBER

SEWER CLEANOUT

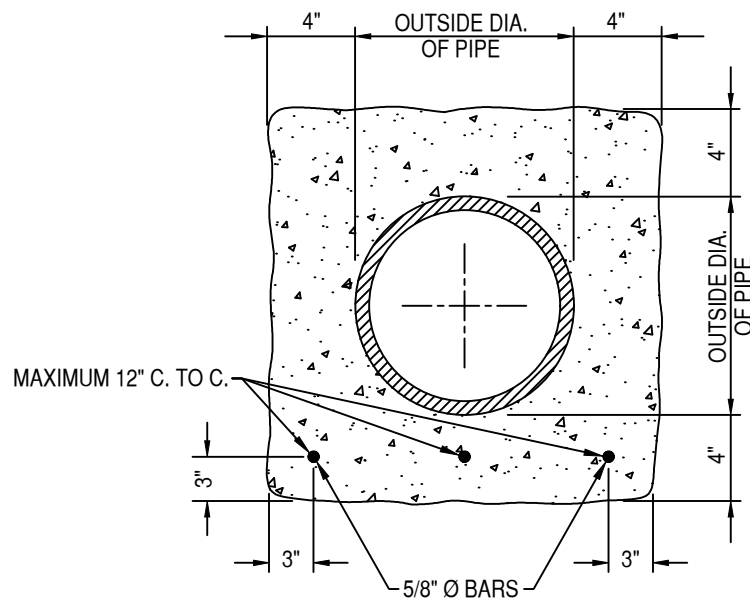
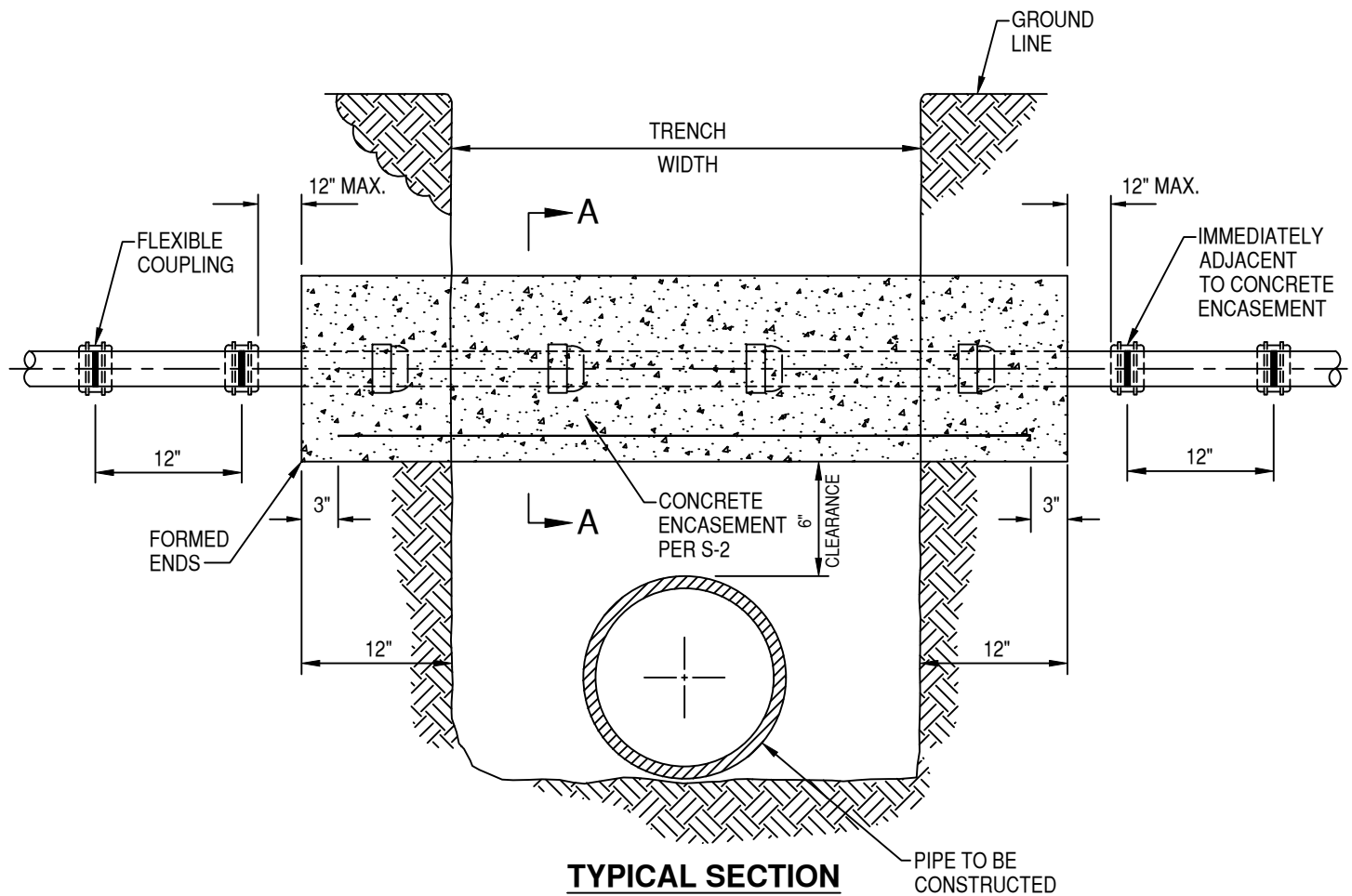
S-14

District Engineer

Date

10/20/2021

Latest Revision Date



APPROVED:  
*Wally P. [Signature]* 5/16/19  
 District Engineer Date  
 5/16/2019  
 Latest Revision Date



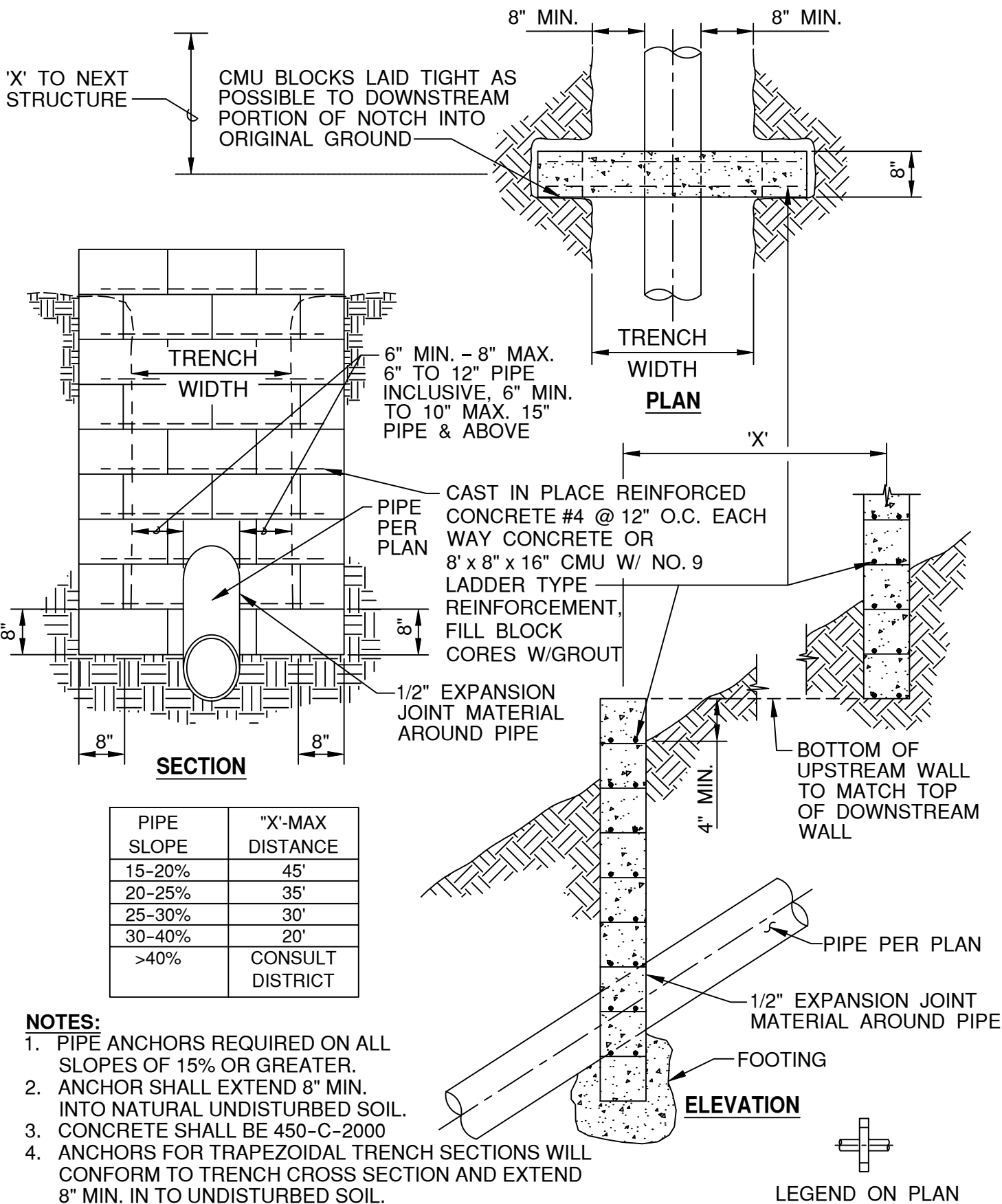
VALLEY CENTER MUNICIPAL WATER DISTRICT  
 STANDARD DRAWING

## SUPPORT FOR UNDERCUT

NOT TO SCALE

DWG. NUMBER

**S-15**



APPROVED:

*Wally P. ...* 5/16/19

District Engineer

Date

5/16/2019

Latest Revision Date



VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

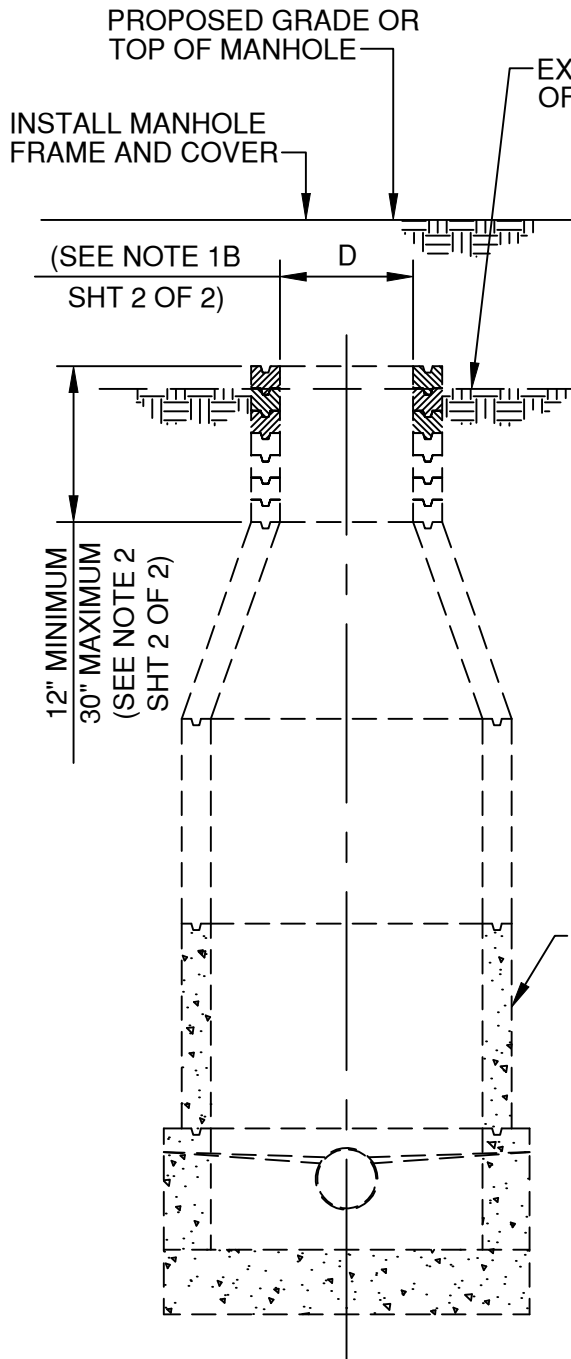
## STANDARD CUTOFF WALL (ANCHOR)

NOT TO SCALE

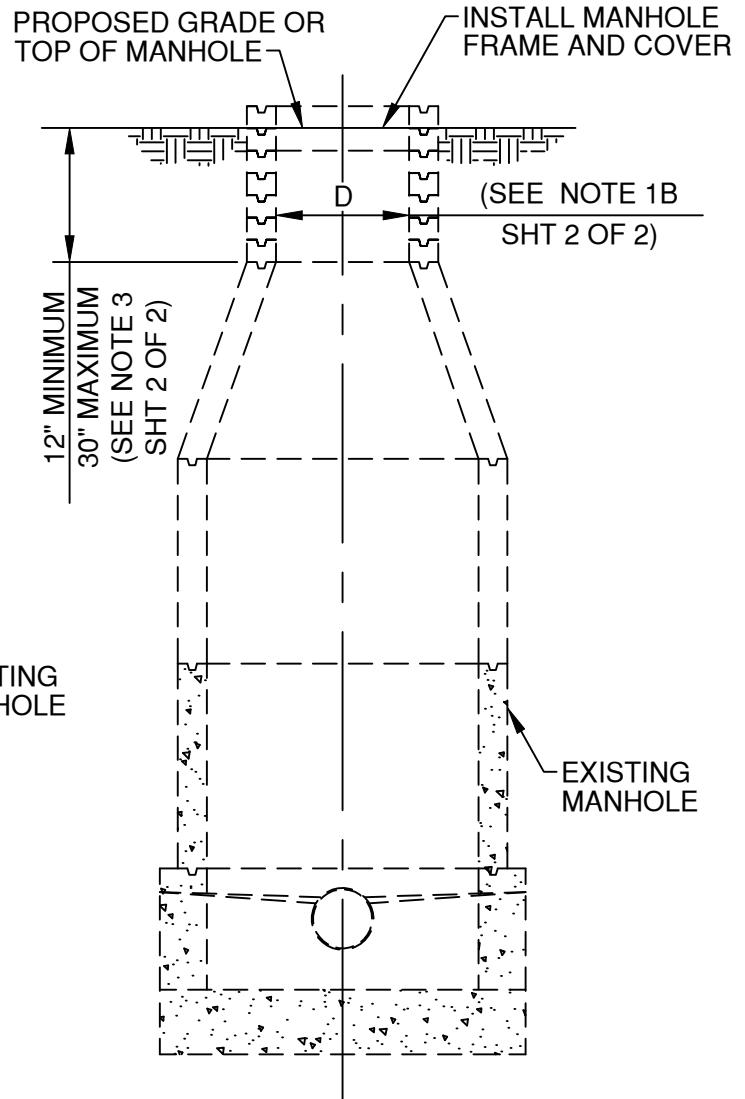
DWG. NUMBER

**S-16**

**SEE SHT 2 OF 2 FOR SEWER MANHOLE ADJUSTMENT NOTES**



**RAISING EXISTING  
PRECAST CONCRETE  
SEWER MANHOLES**



**LOWERING EXISTING  
PRECAST CONCRETE  
SEWER MANHOLES**

**PRECAST CONCRETE SEWER MANHOLES**

<p>APPROVED:</p> <p><i>Wally Allen</i> 3/2/2020</p> <p>District Engineer Date</p> <p>3/2/2020</p> <p>Latest Revision Date</p>	<p align="center">  <b>VALLEY CENTER MUNICIPAL WATER DISTRICT</b>  <b>STANDARD DRAWING</b> </p> <p align="center"><b>SEWER MANHOLE ADJUSTMENT</b></p>	<p align="center">NOT TO SCALE</p> <p align="center">DWG. NUMBER</p> <p align="center"><b>S-17</b></p> <p align="center">SHT 1 of 2</p>
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**NOTES:**

1. GENERAL
  - A. DIMENSION "D" SHALL BE THE SAME AS THE SIZE OF MANHOLE FRAME AND COVER TO BE USED.
  - B. THE CONTRACTOR MAY REUSE THE EXISTING MANHOLE FRAME AND COVER, UNLESS DAMAGED BY HIM DURING HIS CONSTRUCTION OPERATIONS OR WHEN OTHERWISE INDICATED ON THE PROJECT PLANS. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH IDENTICAL NEW ITEMS AT NO EXPENSE TO THE AGENCY.
2. RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES
  - A. PRECAST CONCRETE MANHOLES TO BE RAISED LESS THAN 3 INCHES MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING MANHOLE, PROVIDING THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED DOES NOT EXCEED 3 INCHES.
  - B. WHERE THE PRECAST CONCRETE MANHOLE IS TO BE RAISED 3 INCHES OR MORE, OR WHERE THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED WOULD EXCEED 3 INCHES, GRADE RINGS SHALL BE UTILIZED. CLASS "D" MORTAR MAY BE USED FOR FINAL ADJUSTMENT, BUT NOT MORE THAN 3 INCHES IN HEIGHT. WHERE RAISING THE MANHOLE WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING MORE THAN 30 INCHES IN HEIGHT, REMOVE THE REDUCER AND THE UPPER SEGMENT OF THE SHAFT. INSTALL ADDITIONAL RINGS OR PIPE TO THE LOWER SEGMENT OF THE SHAFT AND REINSTALL THE REDUCER AND GRADE RINGS AS REQUIRED.
  - C. RAISE MANHOLE FRAME(S) AFTER FINAL PAVING HAS BEEN COMPLETED.
3. LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES
  - A. REMOVE SUFFICIENT GRADE RINGS TO LOWER THE MANHOLES AS REQUIRED. APPLY CLASS "D" MORTAR TO A HEIGHT NOT EXCEEDING 3 INCHES FOR ADJUSTMENT TO FINAL GRADE.
  - B. WHERE REMOVAL OF GRADE RINGS WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING LESS THAN 12 INCHES IN HEIGHT, REMOVE THE REDUCER AND SUFFICIENT SECTIONS OF THE LOWER SEGMENT OF THE SHAFT AND REINSTALL ANY NECESSARY SEGMENT OF THE LOWER SHAFT, THE REDUCER, AND THE GRADE RINGS TO CONFORM TO THE REQUIREMENTS OF THIS PLAN.
  - C. EXISTING GRADE RINGS NEED NOT BE REMOVED IF EXISTING MORTAR IS REMOVED AND AT LEAST 1 1/2 INCHES OF MORTAR MAY BE PLACED ON TOP OF THE EXISTING GRADE RINGS TO RESEAT THE FRAME.

APPROVED:

*Wally G. Hall* 3/2/2020

District Engineer

Date

3/2/2020

Latest Revision Date



VALLEY CENTER MUNICIPAL WATER DISTRICT  
STANDARD DRAWING

**SEWER MANHOLE ADJUSTMENT  
NOTES**

NOT TO SCALE

DWG. NUMBER

**S-17**

SHT 2 of 2