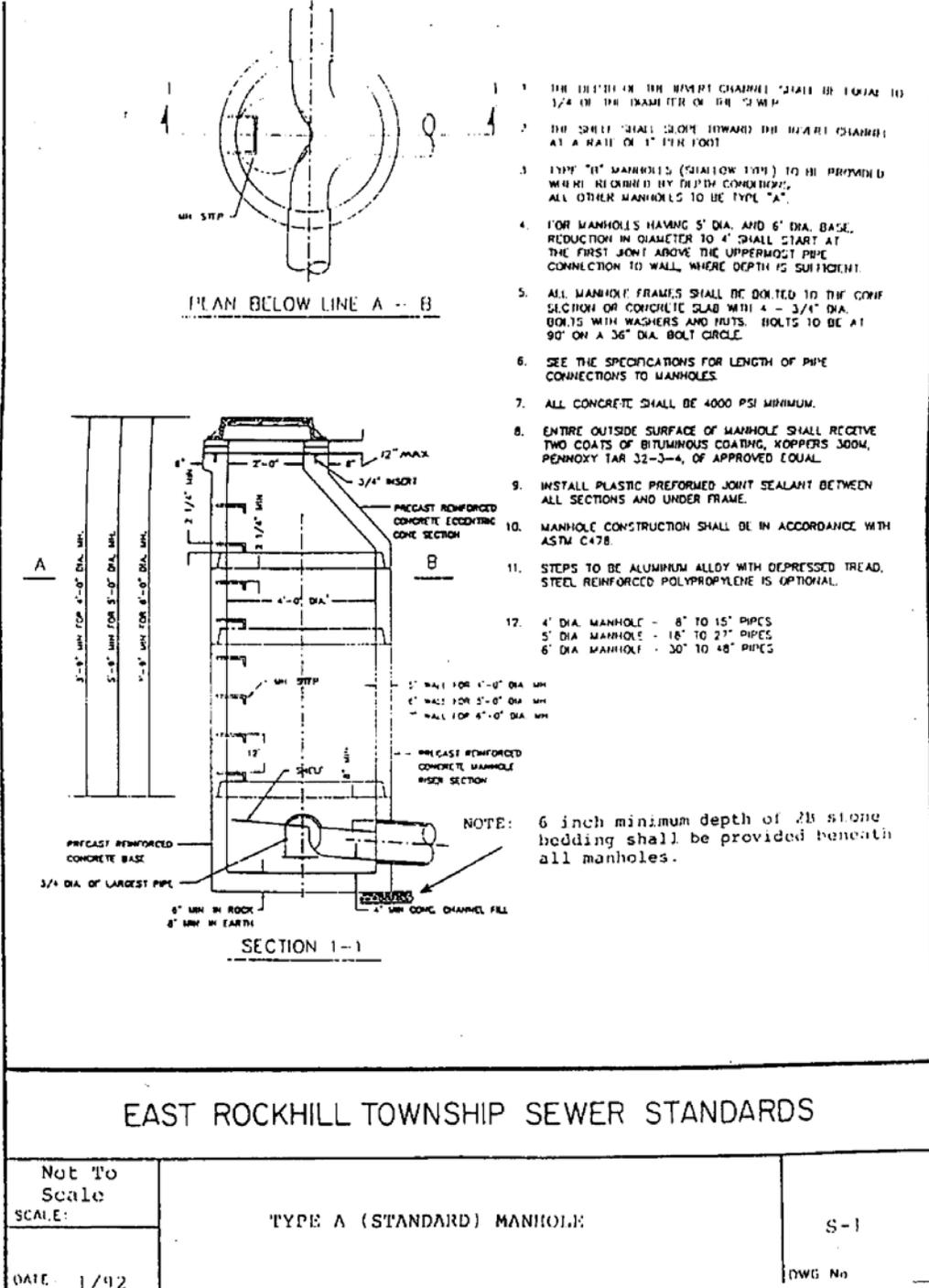


# SEWERS AND SEWAGE DISPOSAL

## 18 Attachment 2

### Township of East Rockhill

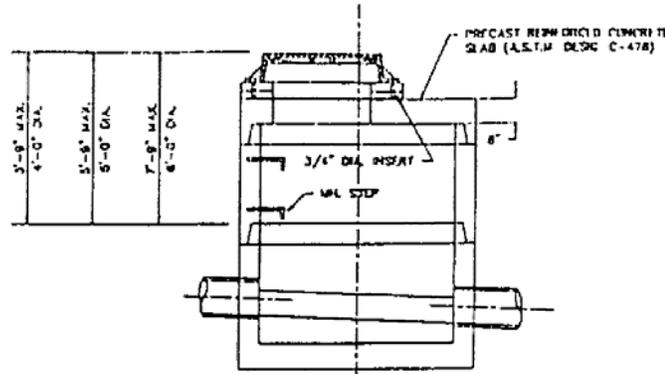
#### SEWERS AND SEWAGE DISPOSAL



### EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE:	TYPE A (STANDARD) MANHOLE	S-1
DATE: 1/92		DWG No

# EAST ROCKHILL CODE



NOTE: TYPE "B" MANHOLE TO BE SAME AS  
TYPE "A" EXCEPT AS OTHERWISE NOTED

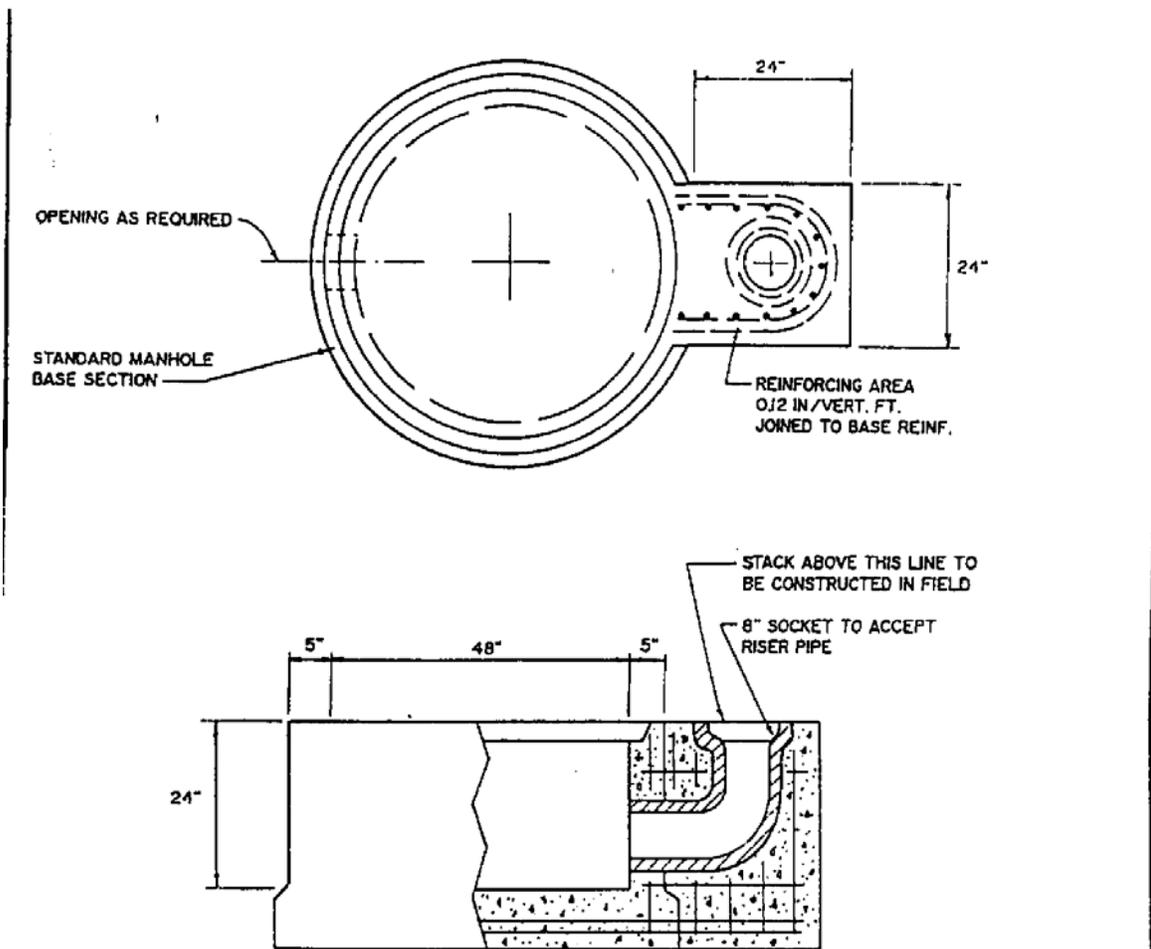
1. THE DEPTH OF THE INVERT CHANNEL SHALL BE EQUAL TO 3/4 OF THE DIAMETER OF THE SEWER.
2. THE SHELF SHALL SLOPE TOWARD THE INVERT CHANNEL AT A RATE OF 1" PER FOOT.
3. TYPE "B" MANHOLES (SHALLOW TYPE) TO BE PROVIDED WHERE REQUIRED BY DEPTH CONDITIONS. ALL OTHER MANHOLES TO BE TYPE "A".
4. FOR MANHOLES HAVING 5' DIA. AND 6' DIA. BASE REDUCTION IN DIAMETER TO 4' SHALL START AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL, WHERE DEPTH IS SUFFICIENT.
5. ALL MANHOLE FRAMES SHALL BE BOLTED TO THE CONE SECTION OR CONCRETE SLAB WITH 4 - 3/4" DIA. BOLTS WITH WASHERS AND NUTS. BOLTS TO BE AT 90° ON A 36" DIA. BOLT CIRCLE.
6. SEE THE SPECIFICATIONS FOR LENGTH OF PIPE CONNECTIONS TO MANHOLES.
7. ALL CONCRETE SHALL BE 4000 PSI MINIMUM.
8. ENTIRE OUTSIDE SURFACE OF MANHOLE SHALL RECEIVE TWO COATS OF BITUMINOUS COATING, KOPPERS 300M, PENNOXY TAR 32-3-4, OF APPROVED EQUAL.
9. INSTALL PLASTIC PREFORMED JOINT SEALANT BETWEEN ALL SECTIONS AND UNDER FRAME.
10. MANHOLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ASTM C478.
11. STEPS TO BE ALUMINUM ALLOY WITH DEPRESSED TREAD, STEEL REINFORCED POLYPROPYLENE IS OPTIONAL (SEE DETAIL S-7)
12. 4' DIA. MANHOLE - 8" TO 15" PIPES  
5' DIA. MANHOLE - 18" TO 27" PIPES  
6' DIA. MANHOLE - 30" TO 48" PIPES

NOTE: 6 inch minimum depth of 2B stone bedding shall be provided beneath all manholes.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale	TYPE B (SHALLOW) MANHOLE	S-2
1/92 DATE		HWG No

SEWERS AND SEWAGE DISPOSAL



MANHOLE BASE WITH PRECAST DROP

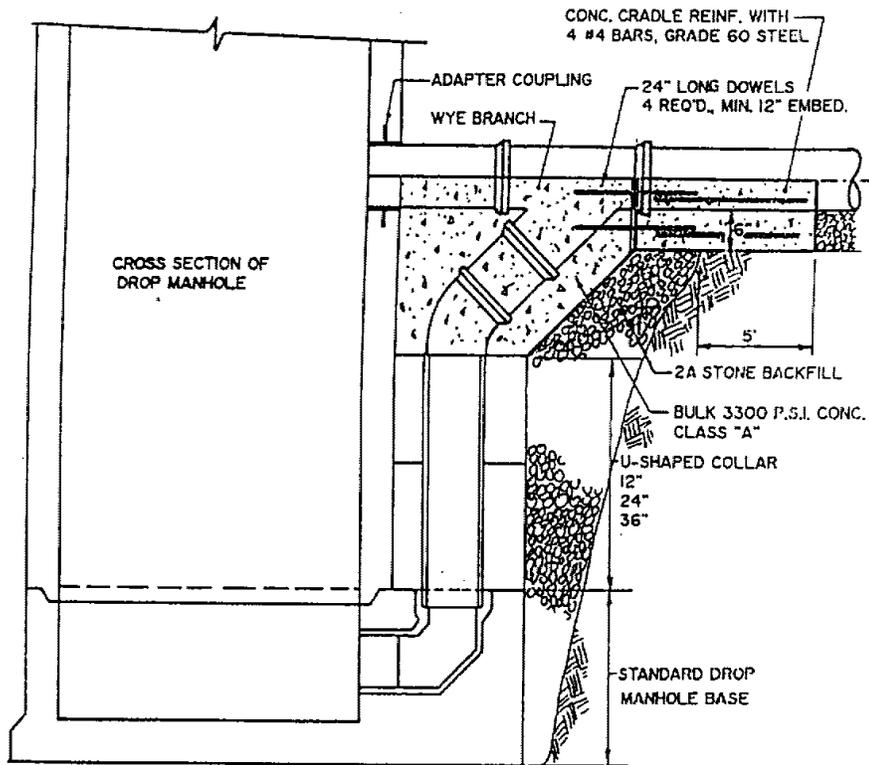
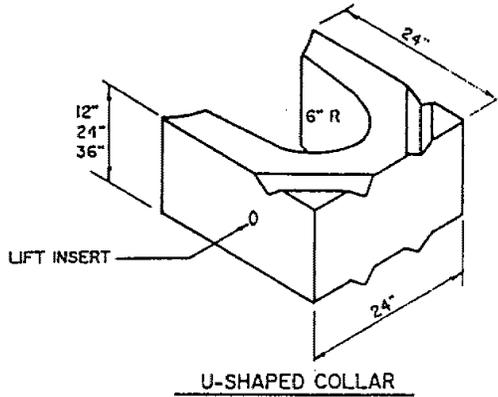
MANHOLE DESIGN SPECIFICATIONS  
 CONFORM TO PRECAST REINFORCED  
 CONCRETE MANHOLE SECTIONS -  
 A.S.T.M. DESIGNATION C-478,  
 LATEST REVISION

Note: Precast drop manholes shall be as constructed  
 by Atlantic PreCast Concrete (or equivalent).

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	PRECAST DROP MANHOLE BASE (NEW CONSTRUCTION ONLY)	S-3  DWG. No.
1/92 DATE:		

EAST ROCKHILL CODE



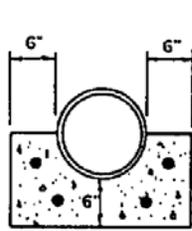
Note: Drop shall not exceed 10 feet. Drop shall be provided when difference between incoming and outgoing invert is greater than 12 inches.

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	DROP MANHOLE (NEW CONSTRUCTION ONLY)	S-4
1/92		
DATE:	18-107	DWG. No

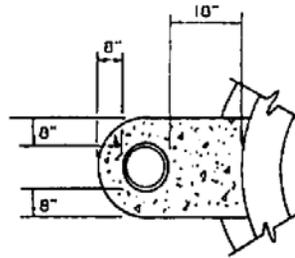
# SEWERS AND SEWAGE DISPOSAL

Note: Drop shall not exceed 10 feet. Drop shall be provided when difference between incoming and outgoing inverts is greater than 12 inches.

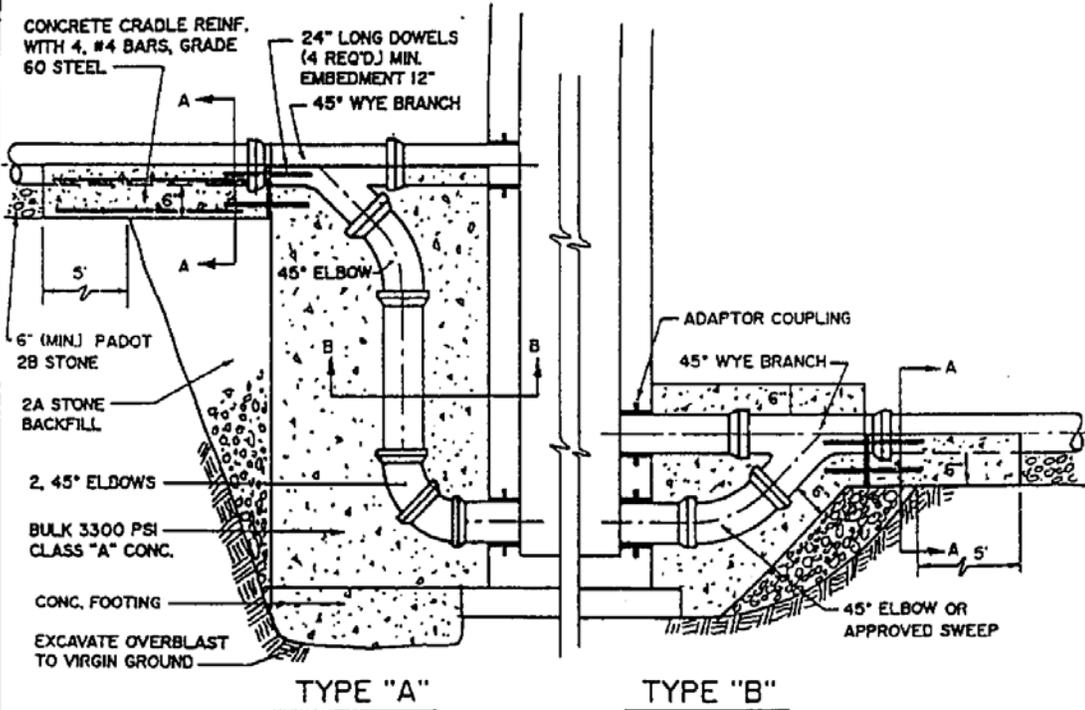


4, #4 REBAR

SECTION "A"



SECTION "B"



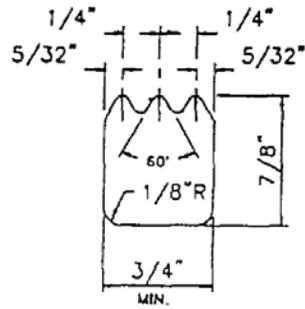
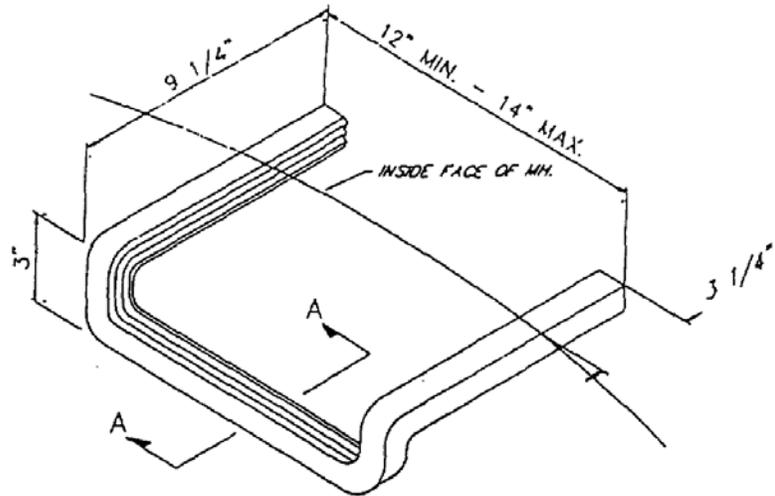
TYPE "A"

TYPE "B"

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	STANDARD TYPE A AND TYPE B FIELD CAST DROP MANHOLES (TIE-IN TO EXISTING MANHOLES ONLY)	S-5
DATE: 1/92		OWG. No.

EAST ROCKHILL CODE



SECTION A-A

- NOTES: STEPS TO BE FABRICATED OF ALUMINUM ALLOY 6061-T6
- PORTIONS OF STEPS TO BE EMBEDDED IN WALLS OF MANHOLES OR CHAMBERS TO BE DIPPED IN HEAVY BODIED BITUMINOUS PAINT, OR PROVIDE PLASTIC INSERT

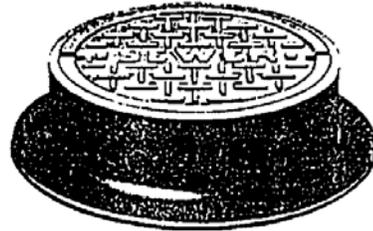
EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale	STANDARD MANHOLE LADDER RUNG REQUIREMENTS	S-6
1/92		

SEWERS AND SEWAGE DISPOSAL

**R-1723 Manhole Frame**

Heavy Duty  
 Total Weight 470 Pounds  
 Specify for R-1723  
 1 Catalog number  
 2 Solid lid if required  
 3 Lid without lettering if required



**NOTES:**

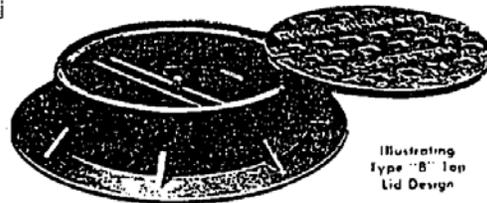
1. ALL MANHOLE FRAMES AND LIDS SHALL BE NEENAH R-1723 OR EQUAL AS APPROVED BY TOWNSHIP.
2. ALL LIDS SHALL BE ORDERED AS SOLID LIDS. VENTED LIDS ARE NOT PERMITTED.
3. REQUIRED LETTERING FOR ALL LIDS SHALL BE "ERT SEWER".
4. APPROVED ALTERNATE IS BOB WOODWARD MANHOLE FRAME AND COVER PATTERN B 776 (WT 475 LBS) WITH TWO 3 1/8 INCH LIFT RINGS.

**R-1755 Series Frost-, Watertight Frames  
 Solid Lids and Inner Lids**

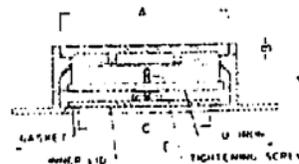
Heavy Duty  
 All units furnished with neoprene gasket, bronze tightening bolt and channel nut for king bar. Lids are provided with type I concealed watertight mechanism (see page 249 for details). Not suitable for use as a pressure manhole.

Specify  
 1 Catalog number  
 2 Security watertight plate if required. See R-1754 sheet page 4 for use and application.

Catalog No.	Dimensions in inches				Design	Wt. lbs.
	A	B	C	I		
R-1755-B	23	14 1/2	18	36	Type B	460
R-1755-C	24	15 1/2	20	35	Type C	475
R-1755-E	26	19 1/2	22	38	Type C	705
R-1755-F1	28 1/2	19 1/2	25	36	Type C	570
R-1755-G	32	19 1/2	28	46	Type B	840



Illustrating Type "B" Top Lid Design



\*Furnished with 2" center top lid  
 \*\*Base flange (Dimension I) is flattened to 5/8" at four quarter points  
 †Frame has 4 1/2" anchor holes on 33 1/2" bolt circle

**NOTES:**

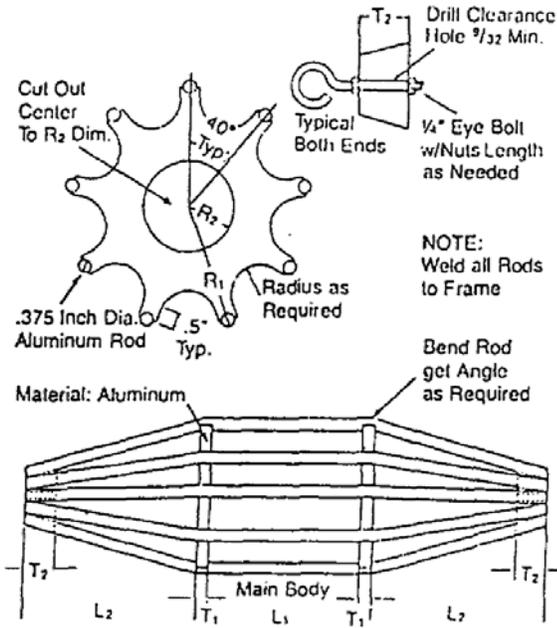
1. WATERTIGHT FRAMES SHALL BE NEENAH R-1755-F1 OR EQUAL AS APPROVED BY TOWNSHIP.
2. REQUIRED LETTERING FOR ALL LIDS SHALL BE "ERT SEWER".

**EAST ROCKHILL TOWNSHIP SEWER STANDARDS**

Not to Scale SCALE:	STANDARD SELF-SEALING MANHOLE CASTING AND STANDARD WATERTIGHT MANHOLE CASTING	S-7
1/92 DATE:		DWG. No.

EAST ROCKHILL CODE

Go/No Go Mandrel



NOTE:  
Weld all Rods  
to Frame

Bend Rod  
get Angle  
as Required

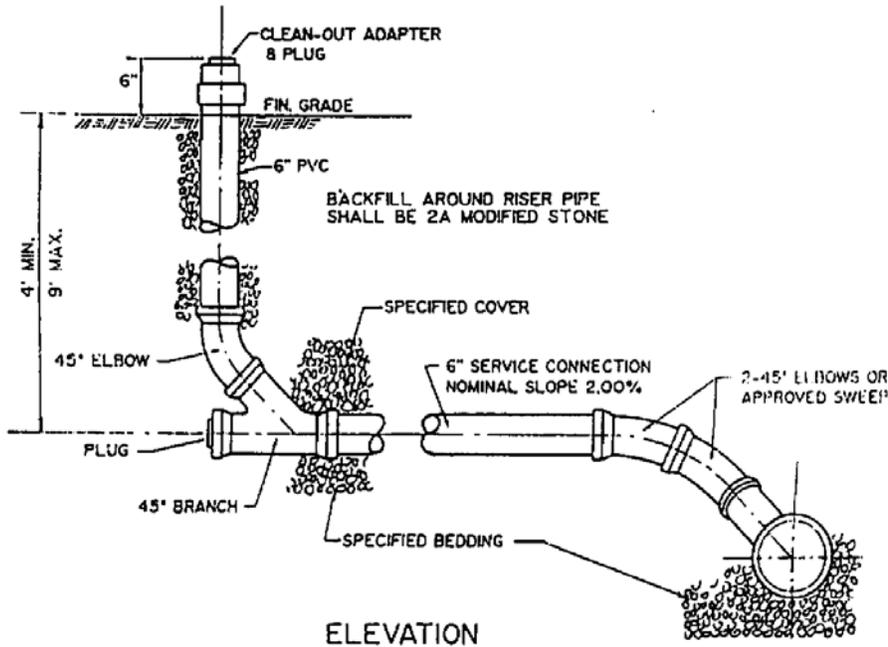
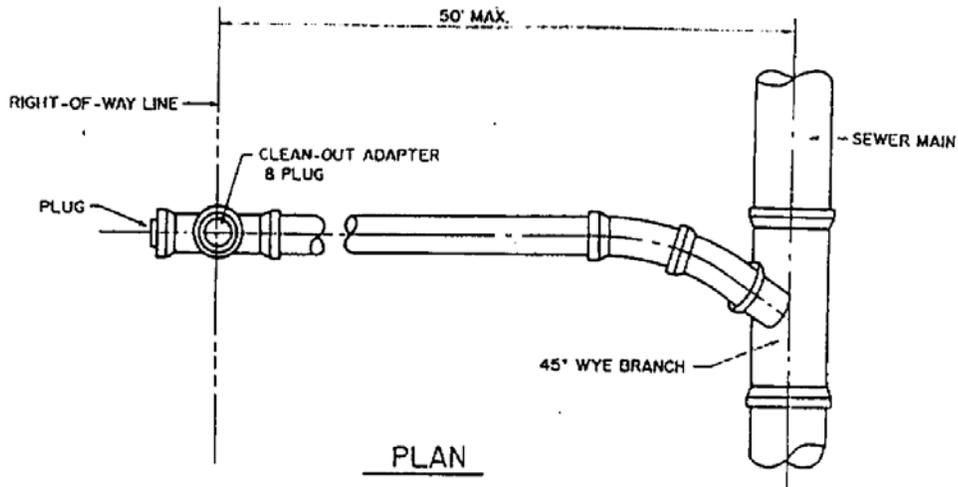
Dimensions (Inches)

Pipe Size	Base ID	L <sub>1</sub>	L <sub>2</sub>	Rod Dia.	T <sub>1</sub>	T <sub>2</sub>	R <sub>2</sub>	5% R <sub>1</sub>
6	5.853	6		.375	.375	1.0	0.75	2.78
8	7.853	6		.375	.375	1.0	1.25	3.73
10	9.811	8		.375	.357	1.0	1.50	4.66
12	11.684	8		.375	.375	1.0	1.75	5.55
15	14.295	9		.375	.375	1.0	2.00	6.79

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE	TYPICAL (GO/NO GO) HAND PULLED MANDREL (5% DEFECTION)	S-8
DATE:		

# SEWERS AND SEWAGE DISPOSAL

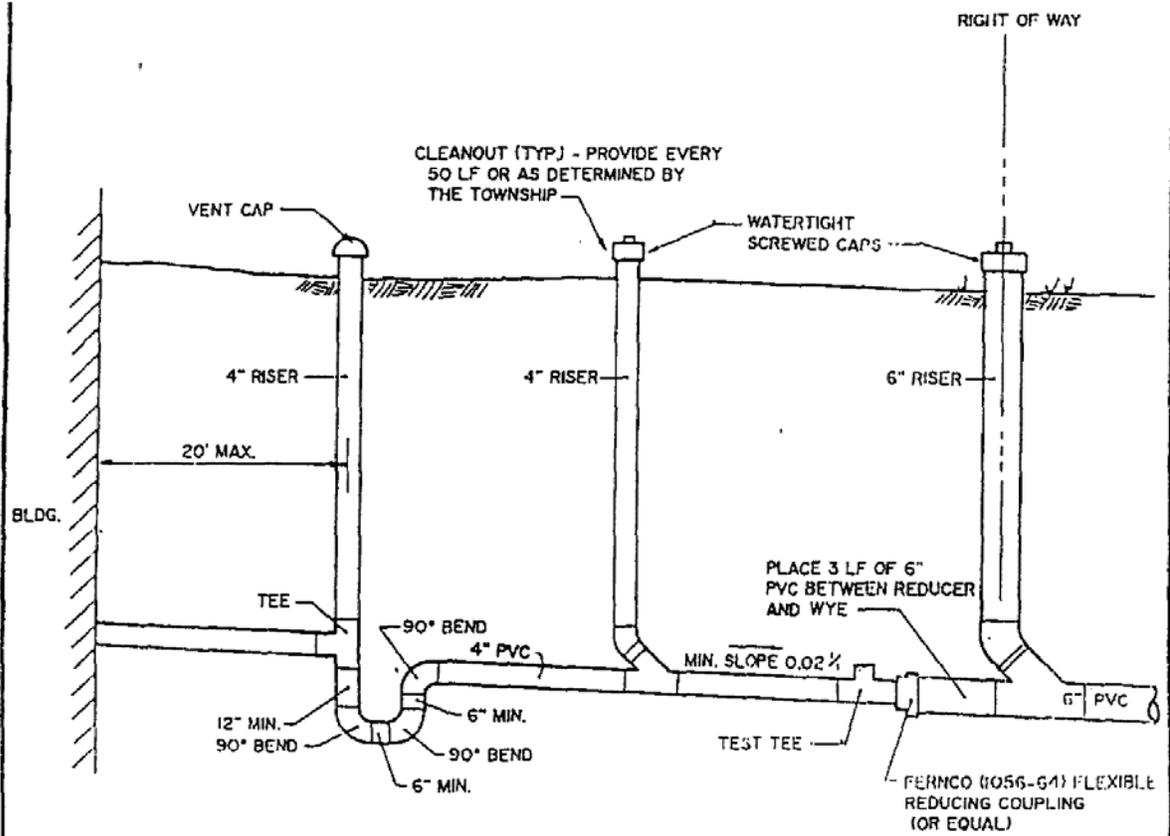


NOTE - DEEP LATERAL CONNECTIONS ARE REQUIRED WHEN INVERT OF LATERAL IS DEEPER THAN 9' AT RIGHT-OF-WAY LINE

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE: 1/92 DATE:	TYPICAL LATERAL AND CLEANOUT INSTALLATION WITHIN RIGHT-OF-WAY	S-9  DWG. No.
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EAST ROCKHILL CODE



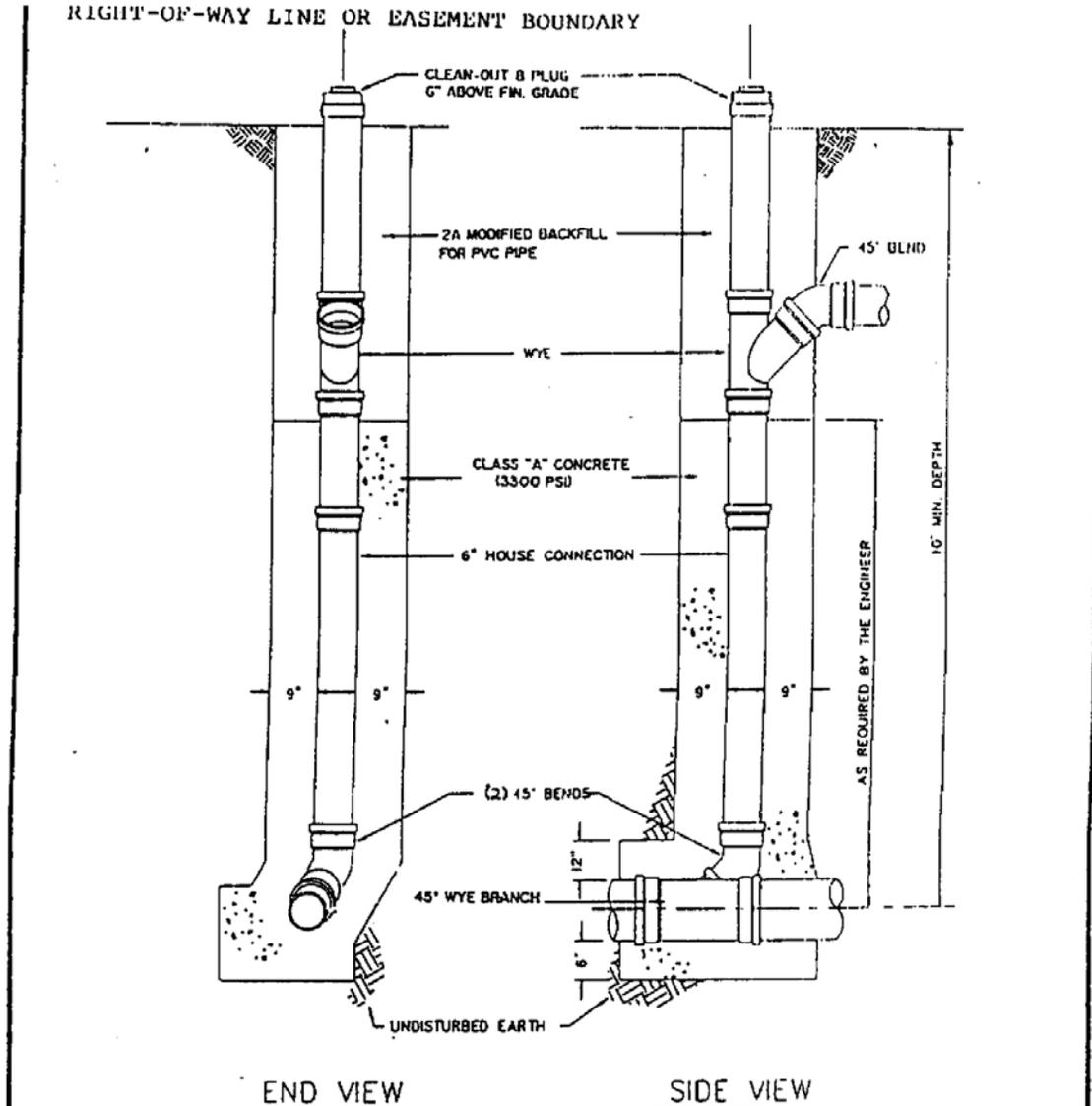
Notes:

1. Six inch bedding of 2B (AASHTO 57) stone and one foot cover of same shall be provided around all laterals within right-of-way and on-lot.
2. Backfill around all PVC riser pipes at vents and cleanouts (within right-of-way and on-lot) shall be 2A modified stone.
3. During initial installation all riser pipes shall be extended a minimum five feet above existing grade. After finish grading is performed, risers shall be cut off to a minimum height of six inches above finished grade elevation.
4. All riser pipes shall be fitted with watertight screw type caps.
5. Fernco (1056-64) reducing coupler w/0.375 rubber O-rings (or equivalent) shall be provided for reduction from 6 inch to 4 inch pipe.

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE: 1/92 DATE:	TYPICAL LATERAL/CLEANOUT CONSTRUCTION (ON-LOT)	S-10 DWG No.
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# SEWERS AND SEWAGE DISPOSAL



- NOTES: 1. Deep lateral connections shall be installed at right-of-way or easement boundary lines only.
2. Sanitary main is shown within side view for conceptual purposes only to illustrate minimum required depth for use of deep lateral connections.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE:	TYPICAL (DEEP) LATERAL CONNECTION	S- 11
1/92 DATE:		DWG. No.

# EAST ROCKHILL CODE

## R-7506 Series Floor Box Frames and Lids

Flow boxes placed in slab provide access in extension stems which operate gate valves, plug valves or sluice gates at a lower level.

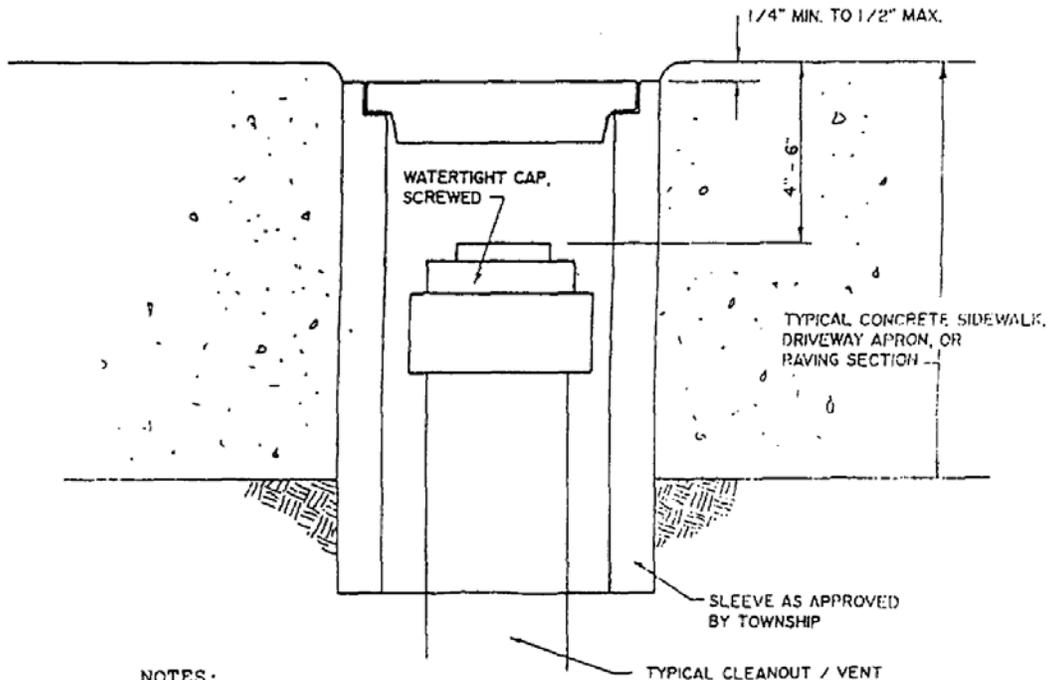
Finished with removable lid that can be drilled and tapped for pipe extension. Made in various lengths to fit slab thickness.

Specify

1. Complete catalog number
2. Length of "T" dimension
3. Size of tapped hole in cover when required

Catalog No.	Dimensions in inches				Variable
	A	B	C	T	
R-7506-A	5 1/2	10	4	2	18" MAX
R-7506-B	6	10	5	8	24" MAX
R-7506-C	7 1/2	10	6	9	20" MAX
R-7506-D	9 1/2	10	8	12	17" MAX
R-7506-E	11 1/2	10	10	13	16" MAX
R-7506-F	13 1/2	10	12	15	24" MAX

\* Manufactured to dimension required  
Specify slab thickness when ordering



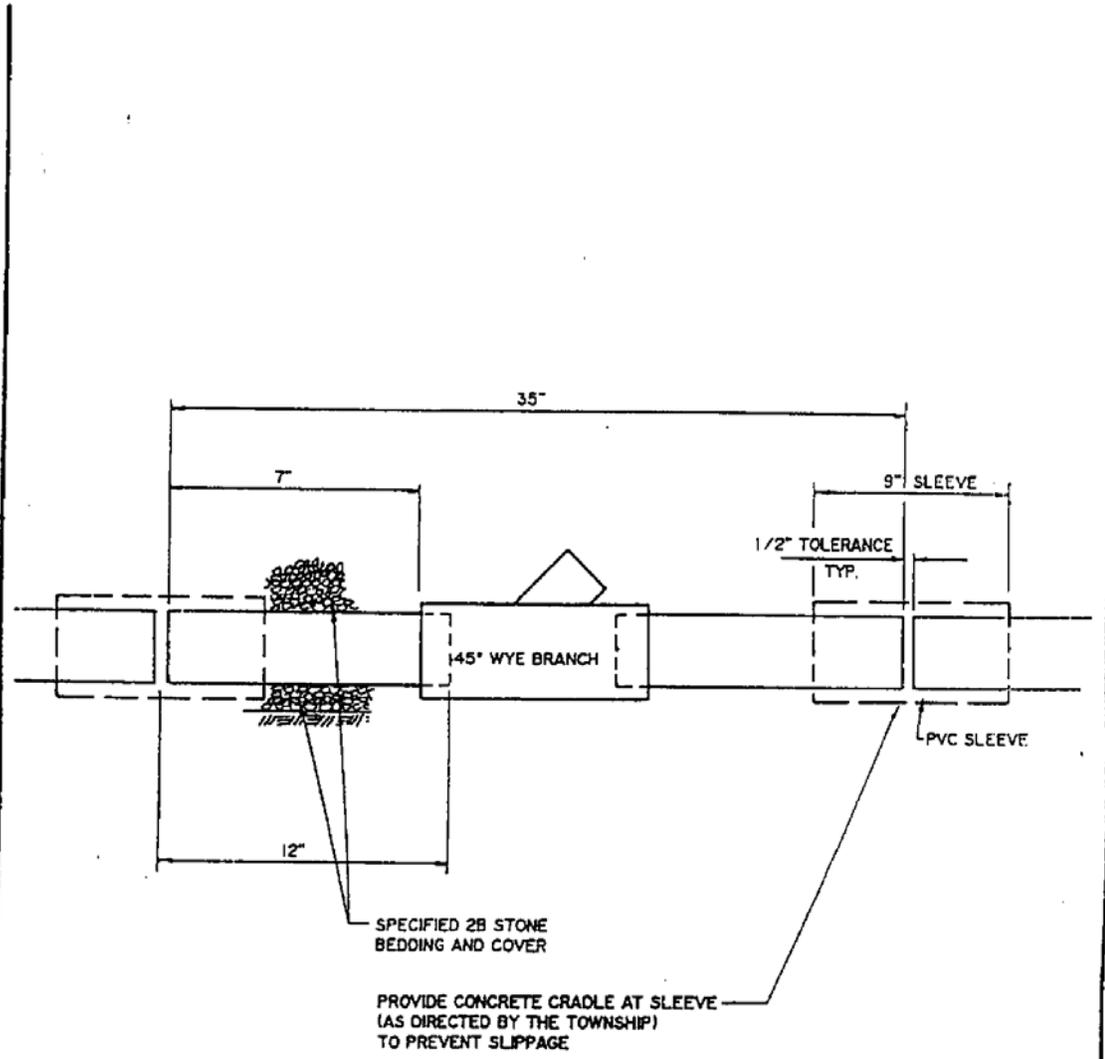
**NOTES:**

1. Sleeve shall be ductile iron casing as manufactured by NEENAH Foundry (R 7506 Series Floor Box Frames and Lids); or equal as approved by Township.
2. R-7506-D shall be provided for 4 inch risers; R-7506-E shall be provided for 6 inch risers. Length of sleeve shall be 12 inches or as approved by Township.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE	SLEEVE PROCEDURE FOR CLEANOUTS AND VENT PIPES	S-12
1/92 DATE		DWG No

SEWERS AND SEWAGE DISPOSAL



NOTE: Refer to Pipe Bedding Requirements of Details S-16 and S-17.

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

<p>Not to Scale SCALE:</p>	<p>INSTALLATION OF LATERAL CONNECTIONS (AFTER MAIN INSTALLATION)</p>	<p>S-13</p> <p>dwg. No.</p>
<p>1/92 DATE:</p>		

# EAST ROCKHILL CODE

## SIZE AND GRADING REQUIREMENTS FOR COARSE AGGREGATES (Based on Laboratory Sieve Tests, Square Openings)

AASHTO NUMBER	TOTAL PERCENT PASSING													
	4"	3 1/2"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#100	#200
1	100	90-100	25-60		0-15		0-5							
3			100	90-100	35-70	0-15	0-5							
5					100	90-100	20-55	0-10	0-5					
57					100	95-100		25-60		0-10	0-5			
67						100	90-100		20-55	0-10	0-5			
7							100	90-100	40-70	0-15	0-5			
8								100	85-100	10-30	0-10	0-5		
10									100	85-100			10-30	
2A**			100				52-100		36-70	24-50	16-38*	10-30		0-10
OGS**			100				52-100		36-65	8-40		0-12		0-5

\* Applies only for bituminous mixtures

\*\*\* For #200, see Table "1)"

\*\*PaDOT Number

Note A: A combination of No. 7 and No. 5 may be substituted for No. 57, provided that not more than 50% nor less than 30% of the combination is No. 7 size.

Note: Provide No. OGS material that is well graded from top to bottom and has a coefficient of uniformity ( $D_{60}/D_{10}$ , as defined in ASTM-D653) equal to or greater than 4.

**NOTES:**

1. The following stone classifications shall be considered equivalent:

AASHTO Number 1 - No. 4 Stone

AASHTO Number 3 - 3A Modified Stone

AASHTO Number 57 - 2B Stone

AASHTO Number 67 - No. 2 Stone

AASHTO Number 8 - 1B Stone

AASHTO Number 10 - No. 1 Stone

2. The use of slag as granular material graded to the above PennDOT Form 408 specifications is not permitted for use in sewer bedding, cover or backfilling.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE	COURSE AGGREGATE REQUIREMENTS (PENNDOT FORM 408 SPECIFICATIONS)	S-14
1/92 DATE		DWG No

# SEWERS AND SEWAGE DISPOSAL

**TABLE A - CEMENT CONCRETE CRITERIA**

CLASS OF CONCRETE	USE	CEMENT FACTOR (bags/c.y.)		MAXIMUM WATER CEMENT RATIO* (lbs/lbs)	SLUMP** RANGE (INCHES)	MINIMUM ABS. DESIGN COMPRESSIVE STRENGTH (PSI)			PROPORTIONS COARSE AGGREGATE SOLID VOLUME (Cu Ft/Cu Yd)
		Min.	Max.			DAYS			
						3	7	28	
AAA	Bridge Deck	6.75 <sup>1</sup>	8.00	0.43	1-3 <sup>1</sup>	--	3600	4500	--
AA	Paving	6.25	8.00	0.47 <sup>1</sup>	1-3 <sup>1</sup>	--	3000	3750	9.93 - 13.10
AA	Structures and Misc.	6.25	8.00	0.47 <sup>1</sup>	1-3	--	3000	3750	9.93 - 13.10
A		6.00	8.00	0.50 <sup>1</sup>	1-3	--	2750	3300	10.18 - 13.43
C		4.20	7.00	0.66 <sup>1</sup>	2-6	--	1500	2000	11.45 - 15.10
M.E.S.	Misc.	8.00	9.00	0.40 <sup>1</sup>	1-3	3000	--	3750	9.10 - 12.00

- Notes 1 and 3 pertain to Structure and Miscellaneous Concrete only.
- (1) Proportions shown in the table are shown on the reverse side of Form TR 4221-B and are controlled by class of concrete, fineness modulus of fine aggregate (PTM No. 501) and the solids percent in coarse aggregate (PTM No. 617).
  - (2) Test Procedures: Slump - PTM No. 600; Strength - PTM No. 604, Compressive.
  - (3) For use in miscellaneous or structural concrete, when the Fineness Modulus (FM) is between 2.3 and 2.5, increase the minimum cement factor for the class of concrete, 0.5 bags/c.y. This requirement may be waived after adequate strength data is available and analyzed in accordance with the mix-design section in Bulletin 5.
  - (4) When mixing bridge deck concrete with a truck mounted mobile plant, use a minimum cement factor of 7.0 bags/c.y.
  - (5) Design Class AAA Cement Concrete for Bridge Decks with a slump of 3 inches at the time of placement, plus or minus 1 inch.
  - (6) For RPS concrete paving, see Section 506.3(w)1.
  - (7) For exception, see Section 704.1(c).
  - (8) When a portion of the cement is replaced by pozzolan, use a water to cement plus pozzolan ratio by weight.

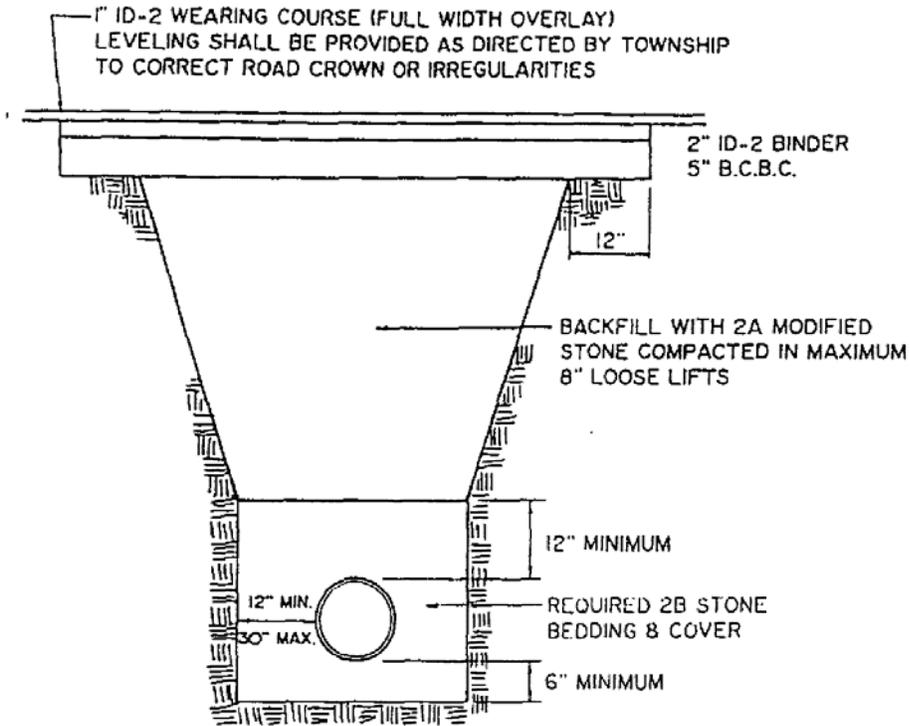
**NOTES:**

1. All materials and construction shall conform to the above PennDOT Form 408 specifications (latest edition) unless otherwise noted; or as directed by the Township.
2. Hot weather concrete work shall conform to latest ACI Code Section 305-72 "Recommended Practice for Hot Weather Concreting"; cold weather concrete work shall conform to latest ACI Code Section 306-66 "Recommended Practice for Cold Weather Concreting".

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE	PENNDOT FORM 408 CONCRETE REQUIREMENTS	S-15
1/92		(DWG No.)

EAST ROCKHILL CODE



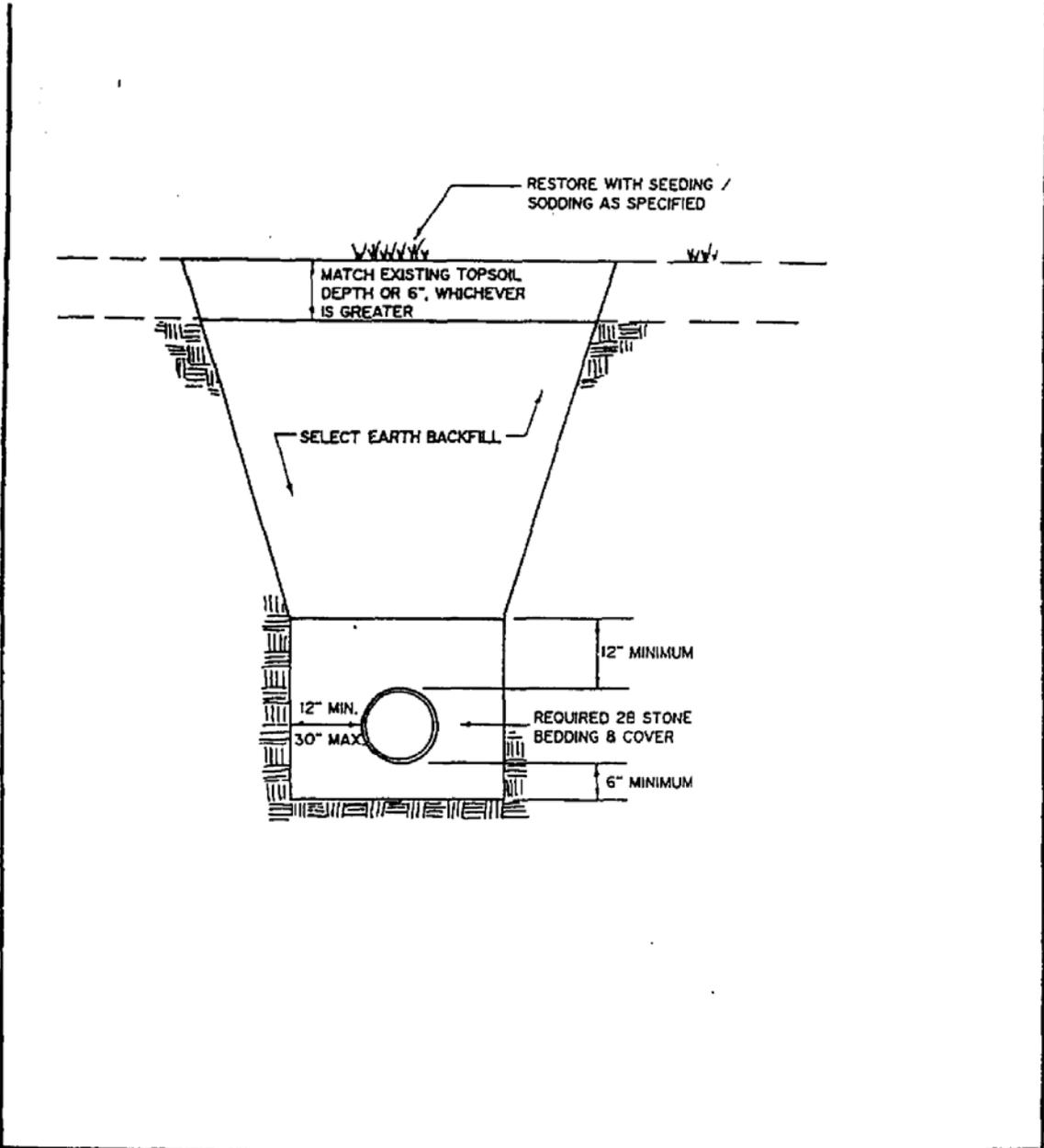
Notes:

1. Developer/Contractor shall be responsible for proper implementation of safety requirements in conformance to all Federal and State Department of Labor and Occupational Safety and Hazard Administration Regulations.
2. Backfill for new road construction may be select earth backfill when suitable material is available as determined by the Township.
3. Paving/base cross-section for new road construction shall be 8 inches of AASHTO #1 stone (ballast) with 2 inches of screenings; 1 1/2 inch ID-2 binder; 1 inch ID-2 wearing.
4. Roadway crown shall be 3/8 inch per foot.
5. 3 inch temporary patch of BCBC shall be provided and maintained for less than 30 days prior to final restoration of existing roadway or driveway. Temporary patch shall be removed with final restoration performed no more than 90 days from date of sewer installation providing testing has been satisfactorily accomplished and no settlement has occurred.

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale	PIPE BEDDING REQUIREMENTS AND TYPICAL TRENCH CROSS-SECTION WITHIN RIGHT-OF-WAY; AND BENEATH ALL EXISTING ROADWAYS AND DRIVEWAYS (PUBLIC OR PRIVATE)	S-16
SCALE		
DATE 1/92		DWG. No.

SEWERS AND SEWAGE DISPOSAL



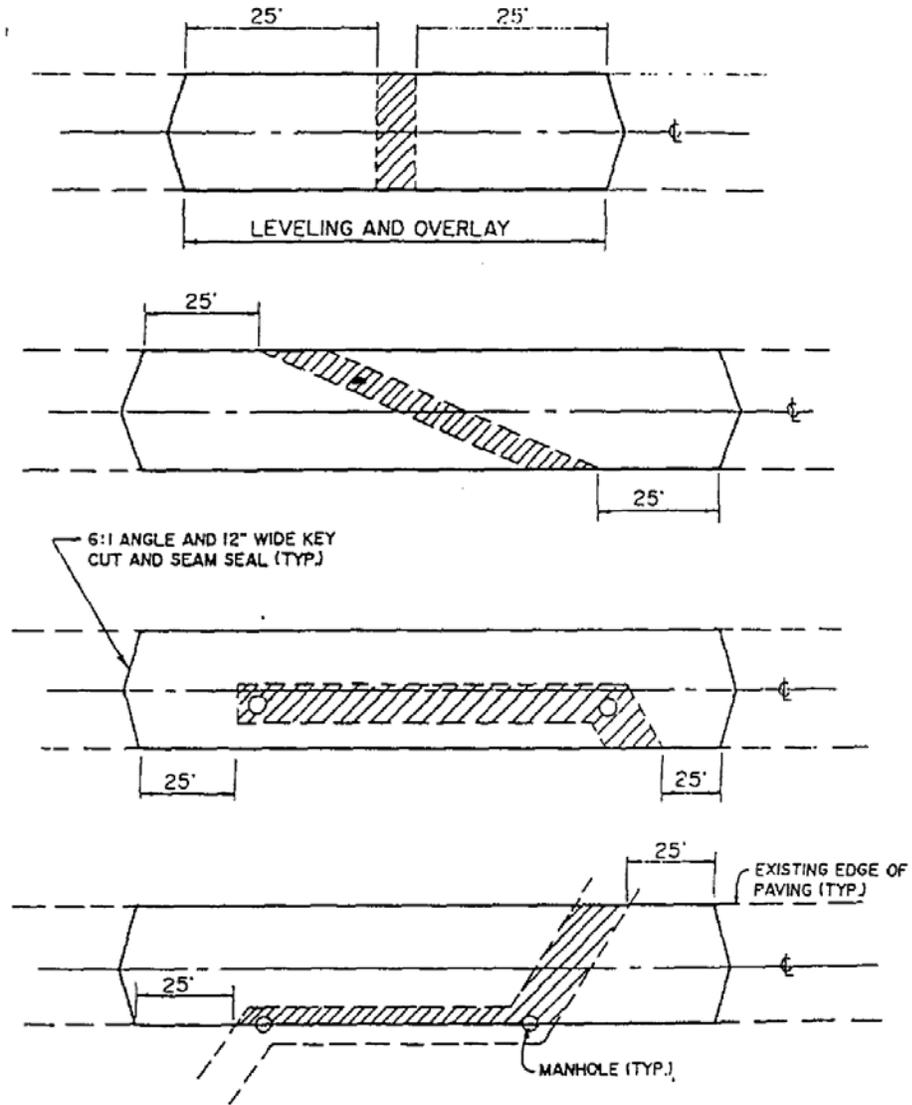
EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE:	PIPE BEDDING REQUIREMENTS AND TYPICAL TRENCH CROSS SECTION (UNDEVELOPED AREAS)	S-17.
DATE: 1/92		DWG. No.

EAST ROCKHILL CODE

NOTE: Refer to Trench Restoration Specifications of Detail Sheet S-16, Typical Paving Specifications Provided on Detail Sheet S-19.

(PLAN VIEWS)



EAST ROCKHILL TOWNSHIP SEWER STANDARDS

<p>Not to Scale SCALE: 1/92 DATE:</p>	<p>EXAMPLES OF FULL WIDTH CARTWAY OVERLAY REQUIREMENTS</p>	<p>S-18 DWG. No.</p>
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# SEWERS AND SEWAGE DISPOSAL

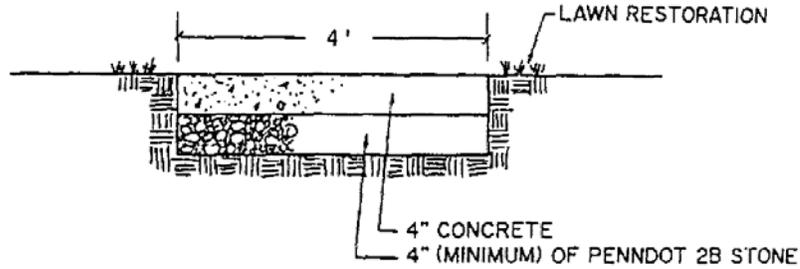
**NOTES:**

1. All construction and materials shall conform to PennDOT Form 408 specifications (latest edition) unless otherwise noted.
2. Air and surface temperature for placement of BCBC must be 35°F and rising.
3. Air and surface temperature for placement of ID-2 leveling and ID-2 wearing overlay must be 40° and rising.
4. Bituminous paving mixtures may not be placed between October 31 and April 1 unless otherwise permitted by the Township.
5. A one foot cutback (saw cut) shall be provided for BCBC and ID-2 binder placement around periphery of trench as directed by the Township.
6. Refer to all applicable specifications identified within Article VI "Restoration".

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE:	GENERAL PAVING REQUIREMENTS	S-19
DATE: 1/92		DWG. No

EAST ROCKHILL CODE

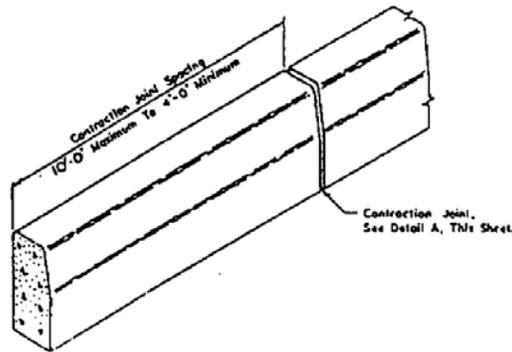
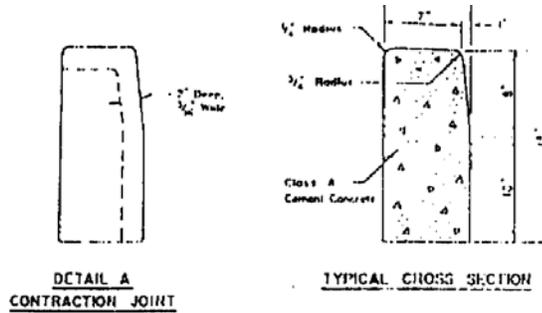


1. CONCRETE SHALL BE CERTIFIED CLASS "A" (3300 PSI) MIX
2. REFER TO APPLICABLE LAWN RESTORATION SPECIFICATIONS CONTAINED HEREIN
3. SUBGRADE SHALL BE DRY AND STABLE PRIOR TO PLACEMENT
4. SIDEWALK SHALL BE SLOPED TOWARDS THE STREET AT 1/4" PER FOOT
5. 3/8" EXPANSION MATERIAL SHALL BE PROVIDED EVERY 20 LF
6. 1/4" SCORE CONTROL JOINT SHALL BE PROVIDED EVERY 5 LF

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	TYPICAL SIDEWALK RESTORATION	S-21)
DATE:		DWG. No.

# SEWERS AND SEWAGE DISPOSAL



**NOTES:**

PLAIN CEMENT CONCRETE CURB

1. Provide 3/4 inch expansion material every 30 l.f. along straight runs; every 10 l.f. around radii at intersections; at structures; and between curbline and driveway aprons.
2. All construction and materials shall conform to PennDOT Form 408 specifications unless otherwise noted and as directed by the Township.
3. 5 foot end of curb treatments shall be provided where curbline terminates.
4. Rebar steel reinforcement shall be provided at all structures, inlets, and across curb depressions as directed by the Township.
5. Overcut subgrade shall be brought back to grade utilizing 2B stone.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE:	STANDARD CURB RESTORATION REQUIREMENTS	S-21
DATE: 1/92		DWG. No.

# EAST ROCKHILL CODE

## STANDARDS AND SPECIFICATIONS

### - Recommended Seed Mixes and Rates of Application

No.	Species	Seeding Rate (lb./acre)
1	Birdsfoot trefoil(1)	8
	Redtop	3
2	Creeping red fescue(2)	30
	Perennial ryegrass	10
3	Crownvetch	15
	Tall fescue	20
4	Birdsfoot trefoil	8
	Timothy	4
5	White clover	1
	Kentucky bluegrass	6
	Timothy	2
6	"Lathco" flatpea	20
	Tall fescue	20
	Perennial ryegrass	20

(1) Recommended for somewhat poorly and poorly drained soils in partial shade to full sunlight.

(2) Recommended for well-drained to moderately well-drained soils in heavy shade.

f: Fertilization: Liming and fertilizer for all of the listed mixes shall be applied as required to obtain a uniform erosion resistant perennial vegetative coverage or density of 70 % across all disturbed areas. The following rates (per acre) are recommended by the Department, but they may underestimate or exceed the amounts actually required for a site.

- a. 1 tons of agricultural limestone.
- b. 30 lbs. of N.
- c. 30 lbs. of P<sub>2</sub>O<sub>5</sub>.
- d. 30 lbs. of K<sub>2</sub>O.

**NOTES:**

1. The above Bucks County Conservation District recommended seeding specifications shall be utilized when specified by approved plans or as directed by the Township.
2. All erosion and sedimentation pollution control and ground stabilization shall conform to DER Title 25, Chapter 102 specifications and applicable Township Ordinance Regulations.

## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale SCALE 1/92 DATE	<b>SEEDING REQUIREMENTS                  (BUCKS COUNTY CONSERVATION DISTRICT                  SPECIFICATIONS)</b>	S-22 DWG. No.
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SEWERS AND SEWAGE DISPOSAL

Formula and Species	% by Weight	Minimum %		Max. % Weed Seed	Seeding Rate Per 1000 Sq. Yd. Pounds
		Purity	Germination		
Formula A Crownvetch ( <i>Coronilla varia</i> , var. Penngift)	100	99	70	0.10	4.0
Formula B Ryegrass, Perennial ( <i>Lolium perenne</i> var. Pennfine, Manhattan, Regal or Citation) Fescue, Pennlawn Red ( <i>Festuca rubra</i> var. Pennlawn) Bluegrass, Kentucky ( <i>Poa pratensis</i> ) (A combination of certified-Bluegrass varieties with any one variety not exceeding 25% of total)	20 30 50	98 98 90	90 85 80	0.15 0.15 0.20	21.0
Formula C Crownvetch ( <i>Coronilla varia</i> , var. Penngift) Ryegrass, Annual ( <i>Lolium multiflorum</i> )	45 55	99 95	70 90	0.10 0.15	9.0
Formula D Fescue, Kentucky 31, Tall ( <i>Festuca arundinacea</i> var. Kentucky 31) Fescue, Pennlawn Red ( <i>Festuca rubra</i> var. Pennlawn) Weeping Alkaligrass ('Fults' <i>Puccinellia distans</i> )	70 20 10	98 98 98	85 85 90	0.15 0.15 0.15	21.0
Formula E Ryegrass, Annual ( <i>Lolium multiflorum</i> )	100	98	90	0.15	10.0

NOTES:

1. The above PennDOT Form 408 seeding specifications shall be utilized when specified by approved plans or as directed by the Township.
2. All erosion and sedimentation pollution control and ground stabilization shall conform to DER Title 25, Chapter 102 specifications and applicable Township Ordinance Regulations.

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not To Scale DATE	SEEDING REQUIREMENTS (PENNDOT FORM 408 SPECIFICATIONS)	S-23
1/92		DWG. No

EAST ROCKHILL CODE

SECTION 809 – SODDING

809.1 DESCRIPTION -- This work is the furnishing, placing, and maintaining of cultivated sod on designated areas.

809.2 MATERIAL --

(a) Sod. Meeting the following requirements:

- Cultivated of predominantly Kentucky bluegrass.
- Containing not more than 10% of other fine turf species.
- Entirely free from weeds, as defined in the Pennsylvania Seed Act of 1965.
- Free from harmful insects and disease.
- Cultured in mineral soil.
- Certified by the Pennsylvania Department of Agriculture or the Department of Agriculture of the state from which sod is obtained.
- Rectangular section 12 to 24 inches wide, 2 to 6 feet long and approximately 3/4-inch thick.
- Grass height, maximum 1 1/2 inches.
- Well-moistened condition.

Net sod may be used after submitting a sample to, and obtaining acceptance from, the Engineer.

(b) Lime. Section 804.2(a)1

(c) Fertilizer. Section 804.2(a)2

(d) Water. Section 720.2

809.3 CONSTRUCTION --

(a) Sod. Place sod within 36 hours after having been cut. Do not place torn or broken sod.

(b) Temporary Storage. For sod in temporary storage, protect from drying due to sunlight or wind. Keep sod moist.

(c) Site Preparation. Prior to placing sod, complete soil preparation or top-soiling, as specified in Section 802.3. Provide a sod bed grade so that, after placing, the top of the sod is flush with the surrounding finished grade.

Apply soil supplements, as specified in Section 804.3(e), to areas to be sodded. Moisten soil prior to placing sod.

\* \* \* \* \*

- NOTES: 1. Refer to Detail Sheet S-25 for continuation of requirements.
2. Refer to all applicable PennDOT Form 408 specifications (latest edition).

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	PENNDOT FORM 408 (SECTION 809) SODDING SPECIFICATIONS	S-24
1/92 DATE:		DWG. No.

SEWERS AND SEWAGE DISPOSAL

(d) **Placing Sod.** Place sod when soil moisture and temperature conditions are suitable. Do not cut or place sod when the temperature is lower than 32F. Do not place frozen sod.

Carefully place sod by hand, with tight joints and no overlap. Break or stagger transverse joints. Do not use pitchforks or other tools which may damage the sod. Do not dump sod from vehicles. Immediately after placing, saturate sod with water to its full depth. After the initial watering, tamp the sod to close joints and ensure close contact between the sod and sod bed. Tamp to obtain a smooth, even sod surface, free from bumps and depressions. If directed, use a roller, one weighing not more than 65 pounds per foot of width, to complete firming and smoothing the sod.

When placing sod in ditches, place the strip with the longer dimension perpendicular to the flow of water. At any point where water will start flowing over a sodded area, turn the upper edge of the sod strips into the soil, then place a layer of compacted earth over this juncture to conduct the water over the sod edge. On slopes, place sod with the long axis parallel to the contour, starting at the bottom of the slope. Stagger sod joints.

In ditches and on slope areas, stake each strip of sod securely using at least one wood stake for each 2 square feet of sod. Use stakes 1/2-inch x 1 inch and with a length of 8 to 12 inches. Drive stakes flush with the top of the sod, with the wide face parallel to the slope contour.

(e) **Maintenance.** Properly maintain sodded areas until the project has been accepted. This may include repeated watering, mowing and repairs or replacement of sod in areas which fail to show a uniform growth of grass, or which are damaged in any way.

809.4 MEASUREMENT AND PAYMENT —

(a) Sodding. Square Yard

(b) **Watering and Mowing.** Initial watering and mowing at the time of sodding will be considered incidental to sodding and will not be paid for separately. Subsequent watering, requested and required for grass survival, or as otherwise directed, will be measured and paid for by 1,000(M) gallons. Subsequent directed mowing will be measured and paid for by the Acre.

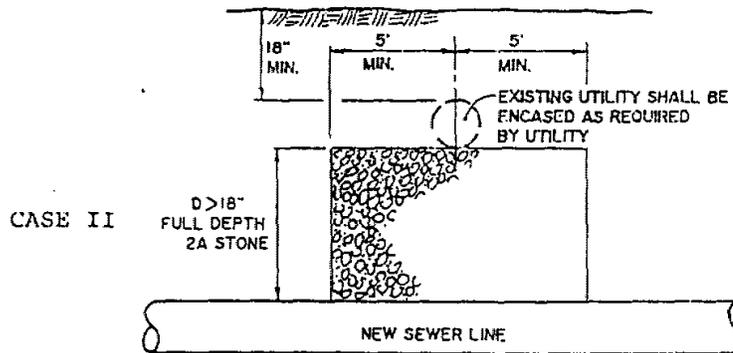
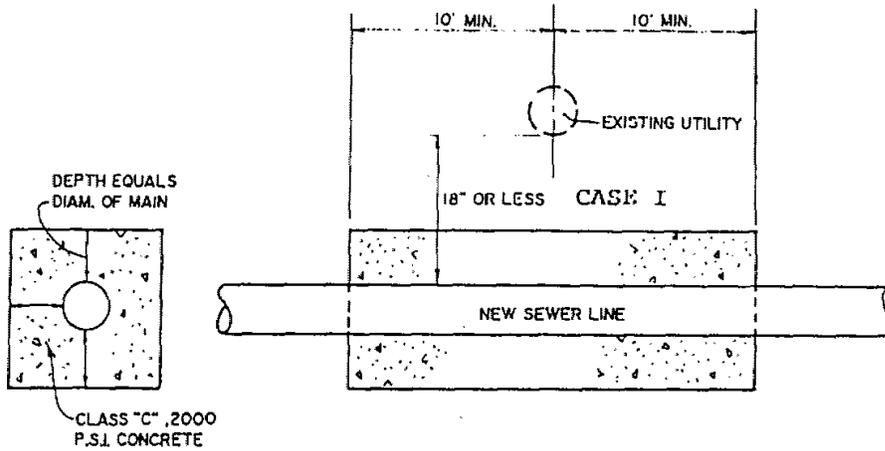
\* \* \* \* \*

- NOTES: 1. Refer to Detail Sheet S-24 for beginning of sod specifications.
2. Refer to all applicable PennDOT Form 408 specifications (latest edition).

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	PENNDOT FORM 408 (SECTION 809) SODDING SPECIFICATIONS (CONTINUED)	
1/92 DATE:		S-25 DWG No.

EAST ROCKHILL CODE

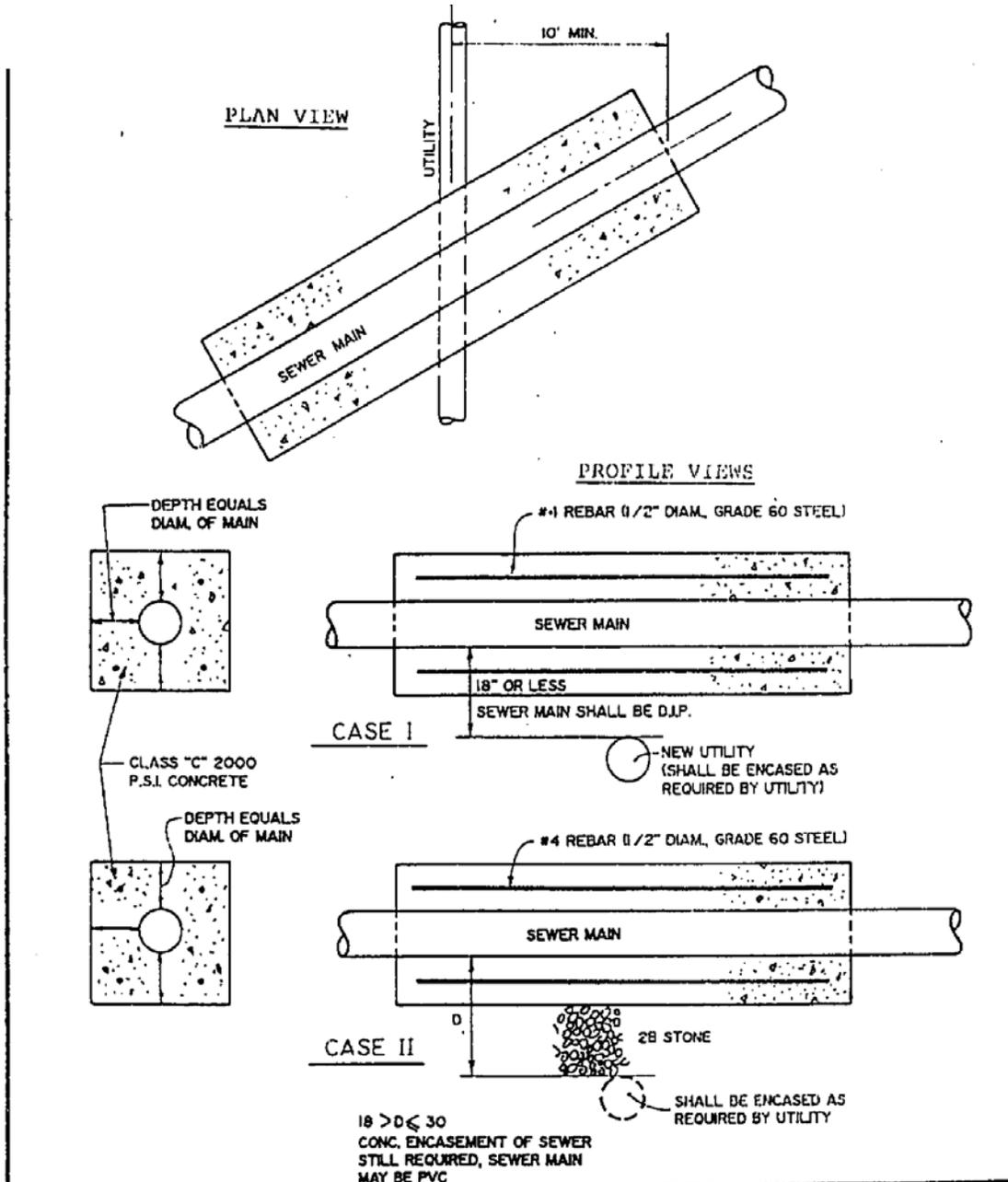


PROFILE VIEWS

EAST ROCKHILL TOWNSHIP SEWER STANDARDS

<p>Not to Scale SCALE:</p>	<p>NEW SEWER/EXISTING UTILITY CROSSING (SEWER UNDER UTILITY) CASE I AND CASE II</p>	<p>S-26</p>
<p>1/92 DATE:</p>		<p>DWG No.</p>

# SEWERS AND SEWAGE DISPOSAL

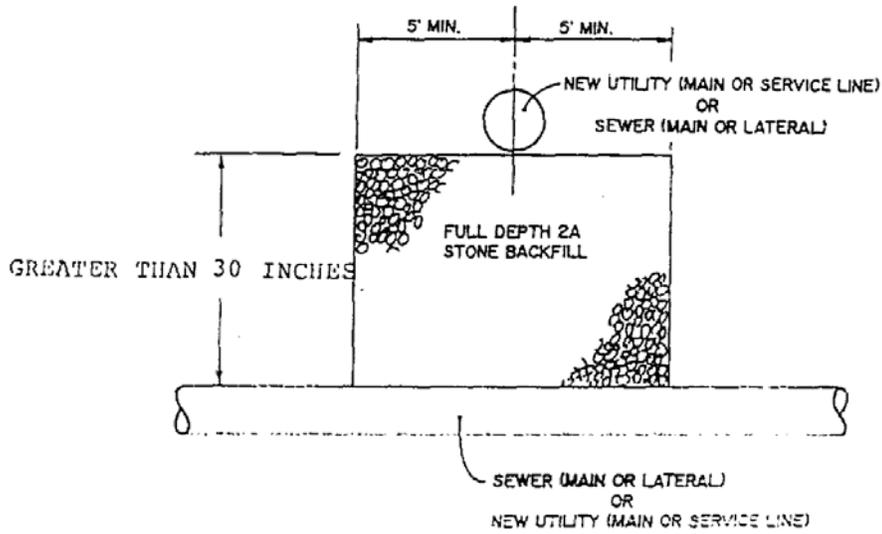


## EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE: 1/32 DATE:	NEW SEWER/UTILITY CROSSING (SEWER OVER NEW OR EXISTING UTILITY) CASE I AND CASE II VERTICAL SEPARATIONS FROM 0 TO 30 INCHES	S-27  DWG. No.
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EAST ROCKHILL CODE

PROFILE VIEW

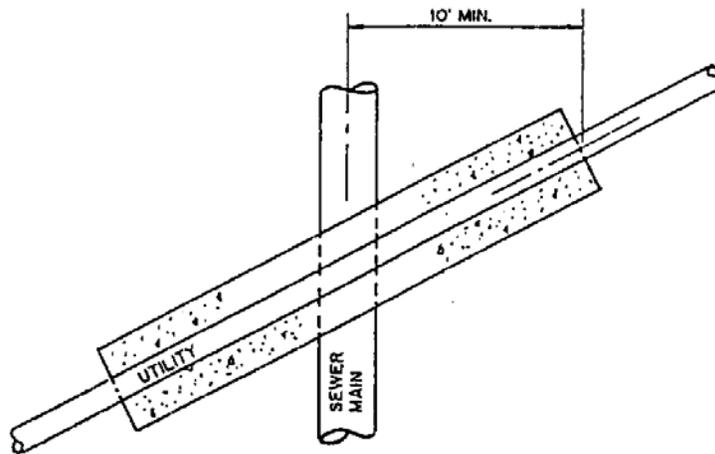


EAST ROCKHILL TOWNSHIP SEWER STANDARDS

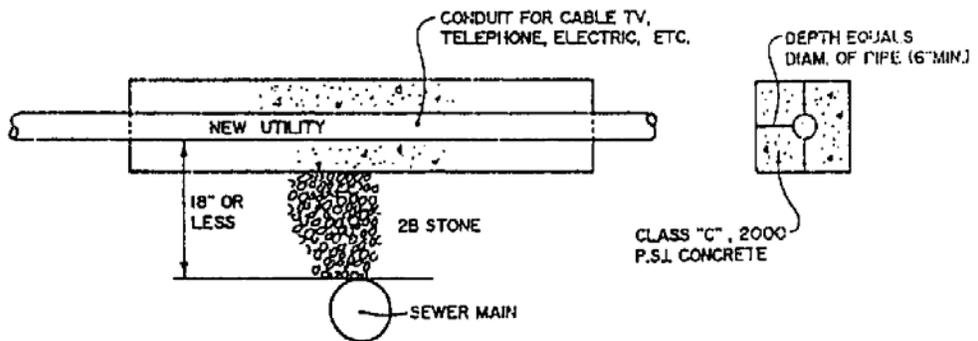
Not to Scale SCALE:	NEW SEWER/NEW UTILITY CROSSINGS VERTICAL SEPARATION GREATER THAN 30 INCHES	S-28  DWG. No.
DATE: 1/92		

SEWERS AND SEWAGE DISPOSAL

PLAN VIEW



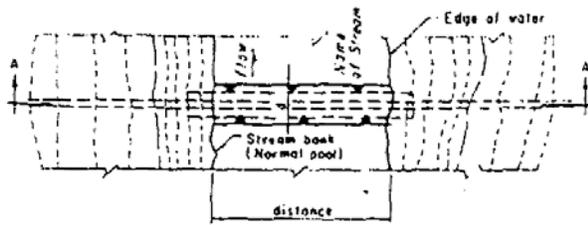
PROFILE VIEW



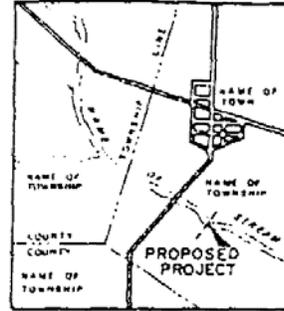
EAST ROCKHILL TOWNSHIP SEWER STANDARDS

<p>Not to Scale SCALE:</p>	<p>NEW UTILITY /SEWER CROSSING (UTILITY OVER EXISTING SEWER) VERTICAL SEPARATION 18 INCHES OR LESS</p>	<p>S-29</p>
<p>1/92</p>		

EAST ROCKHILL CODE



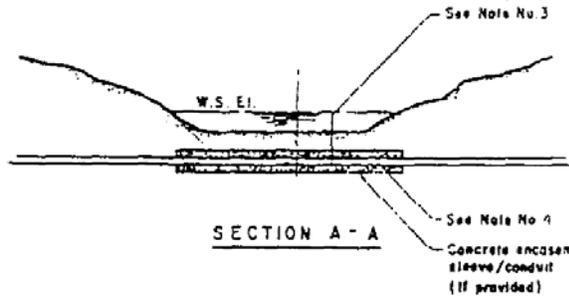
PLAN



SAMPLE LOCATION MAP

SCALE: 1" = 1/4" = 1/4 mi

NOTE: Use of U.S.G.S. quadrangle map(s) is recommended.



SECTION A-A

ENCASEMENT IN ACCORDANCE WITH ENGINEERING STANDARD

GENERAL NOTES:

1. Property lines or easements should be indicated on plans.
2. Plans shall show complete dimensions.
3. Minimum of 3' of cover over utility line or encasement/sleeve/conduit except in rock where 1' of cover shall be provided.
4. Utility line shall be installed with sufficient horizontal length to allow for future channel expansion.
5. Manholes may not be constructed within the channel.
6. 'R' denotes required Right of Way width.
7. Attach Location Map.



CONCRETE ENCASEMENT CROSS SECTION

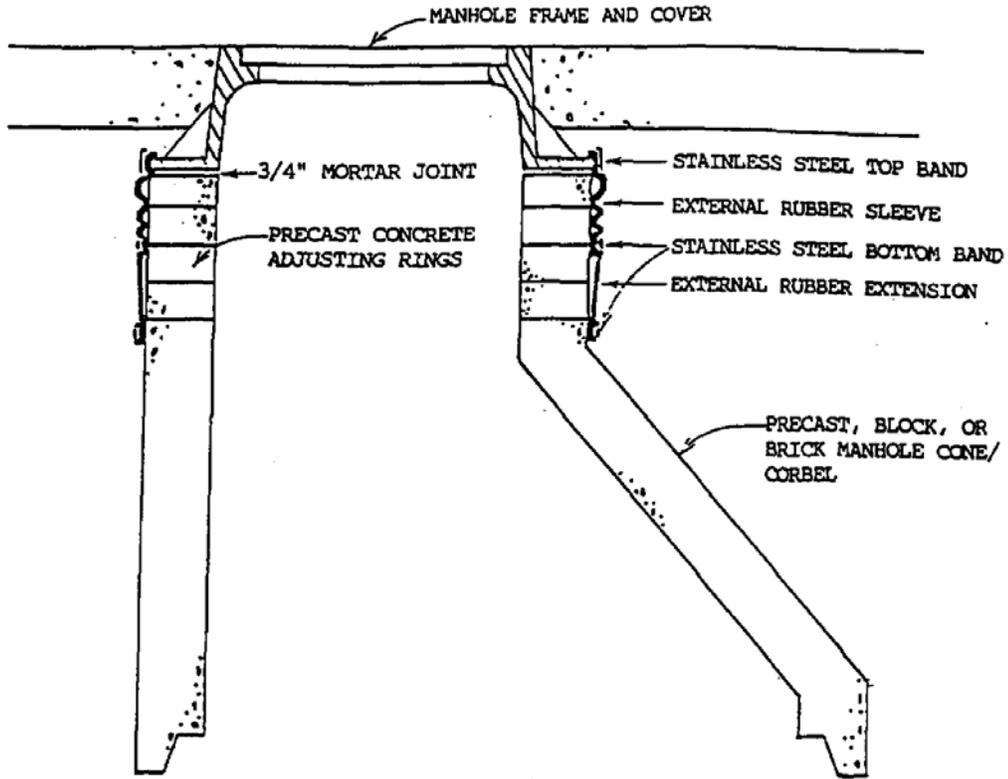
NOTES:

1. The above BDWM GP-5 Drawing 1 is provided for general reference. Refer to Section 203 for Encasement Specifications.
2. Refer to all applicable GP-5 requirements for necessary DER approvals.

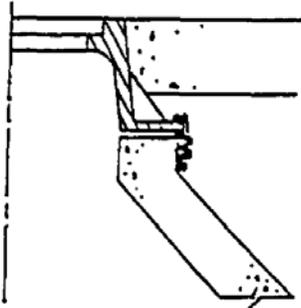
EAST ROCKHILL TOWNSHIP SEWER STANDARDS

Not to Scale SCALE:	STREAM CROSSING DETAIL Bureau of Dams and Waterway Management General Permit - 5 Drawing 1	S-30

SEWERS AND SEWAGE DISPOSAL



NARROW EXTERNAL RUBBER SEAL



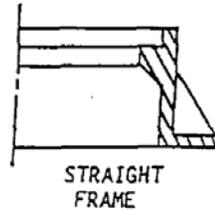
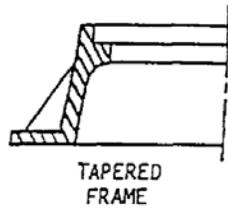
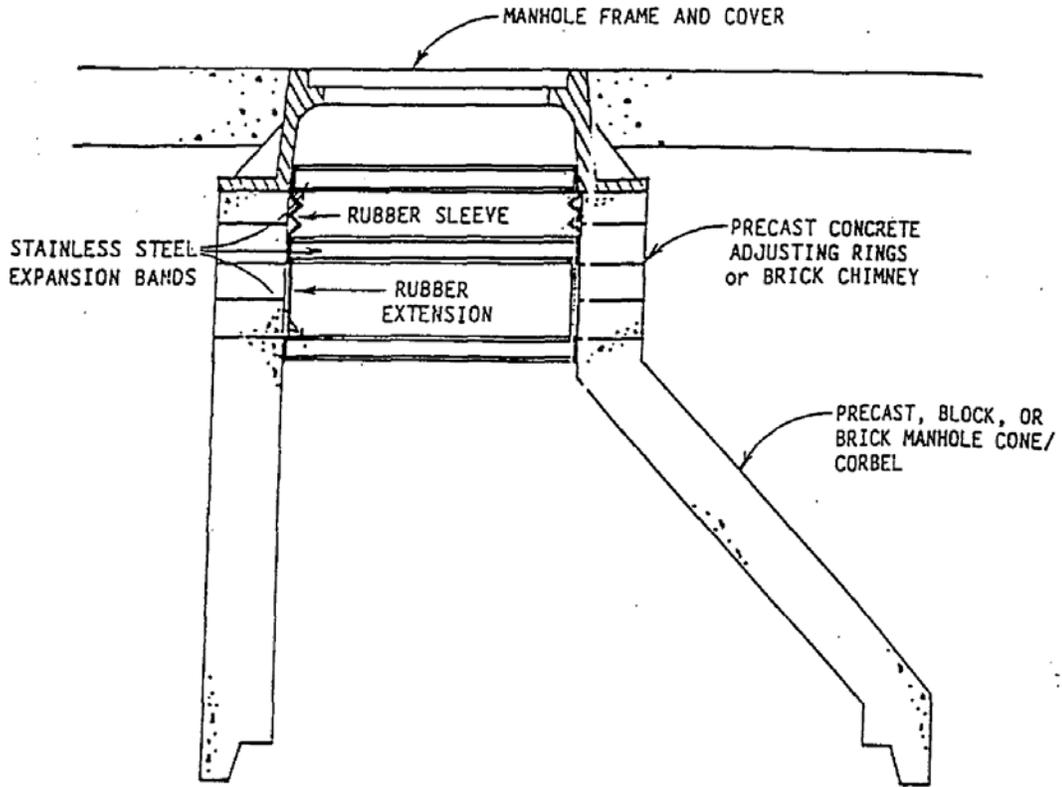
To Span Chimney Heights of:	
0 - 3"	- Narrow (6") Seal only
Over 3 - 6½"	- Standard (9") Seal only
Over 6½" - 12"	- Std. Seal + Extension
Over 12"	- Seal + Mult. Extensions

**DRAWING S-31**

EXTERNAL MANHOLE CHIMNEY SEAL

2/12/88

EAST ROCKHILL CODE

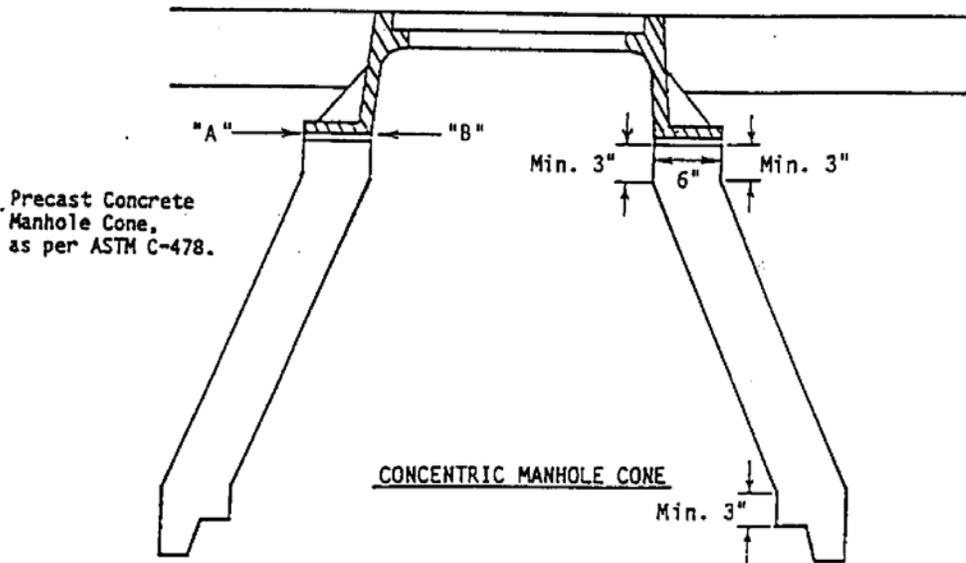
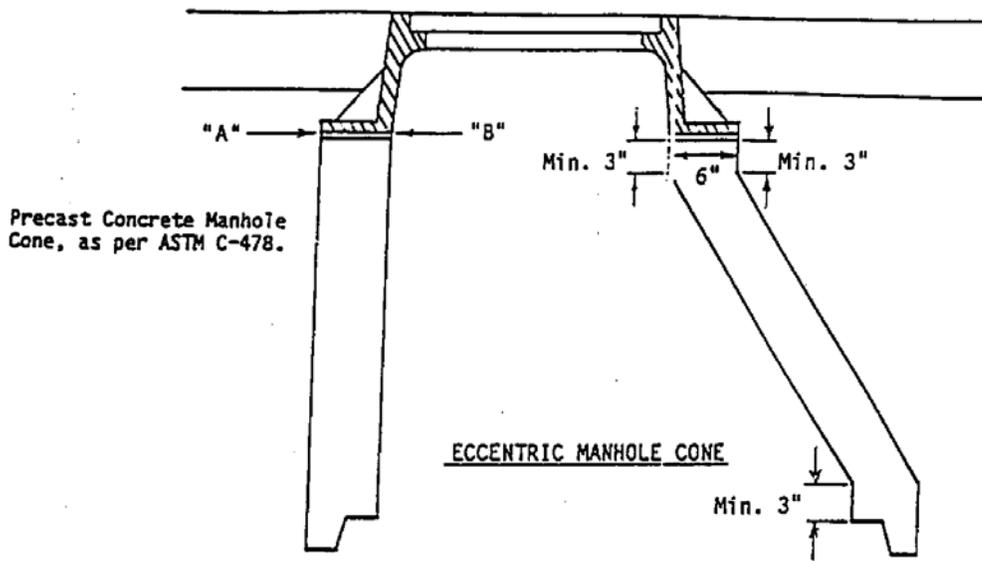


To Span Chimney Heights of:	
0 - 4½"	- Chimney Seal Only
Over 4½" - 9"	- Seal + 7" Extension
Over 9" - 12"	- Seal + 10" Extension
Over 12"	- Seal + Mult. Extensions

DRAWING S-32

INTERNAL MANHOLE CHIMNEY SEAL
2/12/88

SEWERS AND SEWAGE DISPOSAL



External Chimney Seal - Difference in outside diameter between manhole frame base flange and top of cone section shall not exceed 3". (see point "A")

Internal Chimney Seal - Difference in inside diameter between manhole frame and top of cone shall not exceed 3". (see point "B")

DRAWING S-33

NEW CONSTRUCTION  
MINIMUM CONE DIMENSIONS FOR  
MANHOLE CHIMNEY AND JOINT SEAL

2/11/88