

SEWER NOTES

- Construction of all sanitary sewer lines, structures, and pavement replacement shall conform to the requirements of the Virginia Department of Transportation (VDOT) "Road and Bridge Standards and Specifications" and the Commonwealth of Virginia/State Board of Health (VDH) "Sewage Handling and Disposal Regulations" latest editions, as minimum standards, as well as those of the City of Roanoke. See details.
- Pipe and fittings shall be Polyvinyl Chloride (PVC) SDR-35 and shall conform to ASTM D-3034. Bedding shall be class "B" minimum.
- Pipe shall be connected to manholes through precast openings and joined with either a flexible boot adapter or a pipe seal gasket.
- Minimum depth of cover on all gravity sewer lines shall be three (3.0) feet.
- Residential service connections shall be made with a four (4) inch pipe through a wye or tee-wye branch fitting and shall be installed on a minimum grade of one-quarter (1/4) inch per one (11) foot from the sewer main or manhole to the property or easement line where a cleanout shall be placed and the service lateral plugged/capped until extension.
- Future service connections shall be field marked by a treated, solid wooden (2"x4") marker three (3) feet long set vertically plumb with the end of the capped extension. The tops of the markers shall be painted yellow and set flush with the finish grade. The location and invert depth of the service connection shall be shown on the "as-built" plans.

SEDIMENT TRAP FOR INDIVIDUAL LOTS
Design Criteria

The sediment trap must have an initial storage volume of 47 cubic yards per acre of drainage area, measured from the low point of the trap to the crest of the trap outlet. Required volume for typical lot:

$$A = (60' \times 130') / 43560 \text{ SF/Ac} = 0.179 \text{ Ac}$$

$$V = 0.179 \text{ Ac} \times 47 \text{ CY} = 8.37 \text{ CY}$$

$$= 12 \text{ CY} \times 27 \text{ CF/CY} = 324 \text{ CF}$$

For a natural basin, the volume may be approximated as follows: $V = 0.4 \times A \times D$

where,

V = storage volume in CF

A = surface area of the flooded area at the crest of the outlet, in SF

D = maximum depth, measured from the trap's low point to the crest of the outlet, in feet

Outlet

The outlet for the sediment trap will consist of a crushed stone section of the embankment located at the low point in the basin. The minimum length of the outlet shall be 6 feet times the drainage area in acres. Required minimum: $6 \text{ LF} \times 0.179 \text{ Ac} = 1.07 \text{ LF}$ (Use 2 LF min.). The crest of the outlet must be at least 1.0 foot below the top of the embankment, to insure that the flow will travel over the stone and not the embankment. The outlet shall be constructed of VDOT No. 1 size stone.

Embankment Cross-Section (See Detail & Table)

The maximum height of the sediment trap embankment shall be 5 feet as measured from the low point. Minimum top widths (W) and outlet heights (H_o) for various embankment heights (H) are shown in Table 1.25a. Side slopes of the embankment (whether cut or fill) shall be 2:1 or flatter.

Removal

Sediment traps shall be removed for the contributing drainage area is stabilized. Finish grade and stabilize disturbed area immediately after removal.

Construction Specifications

- The Contractor shall be responsible for constructing sediment traps on each lot prior to land disturbance on said lot. These traps shall be constructed to the design criteria stated above.
- The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. To facilitate cleanout, the W area shall be cleared.
- Fill material for the embankment shall be free of roots or other woody vegetation, organic material, large stones, and other objectionable material. The embankment should be compacted in 8-inch layers by traversing with construction equipment.
- The embankment shall be placed so that it intercepts the runoff from all disturbed area on the lot.
- The earthen embankment shall be seeded with temporary or permanent vegetation (see Std. & Spec. 1.65 and 1.66) within 15 days of construction.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the upslope drainage area has been stabilized.

Maintenance

- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the volume of the trap. Sediment removed from the basin shall be deposited in a suitable area and in a manner that it will not erode.
- The structure shall be inspected regularly to insure that it is structurally sound and has not been damaged by erosion or construction equipment. The height of the outlet shall be checked to insure that its center is at least one foot below the top of the embankment.

Table 1.25a

MINIMUM TOP WIDTH (WHICH FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (feet))

H	H _o	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

Source: Va SWCC



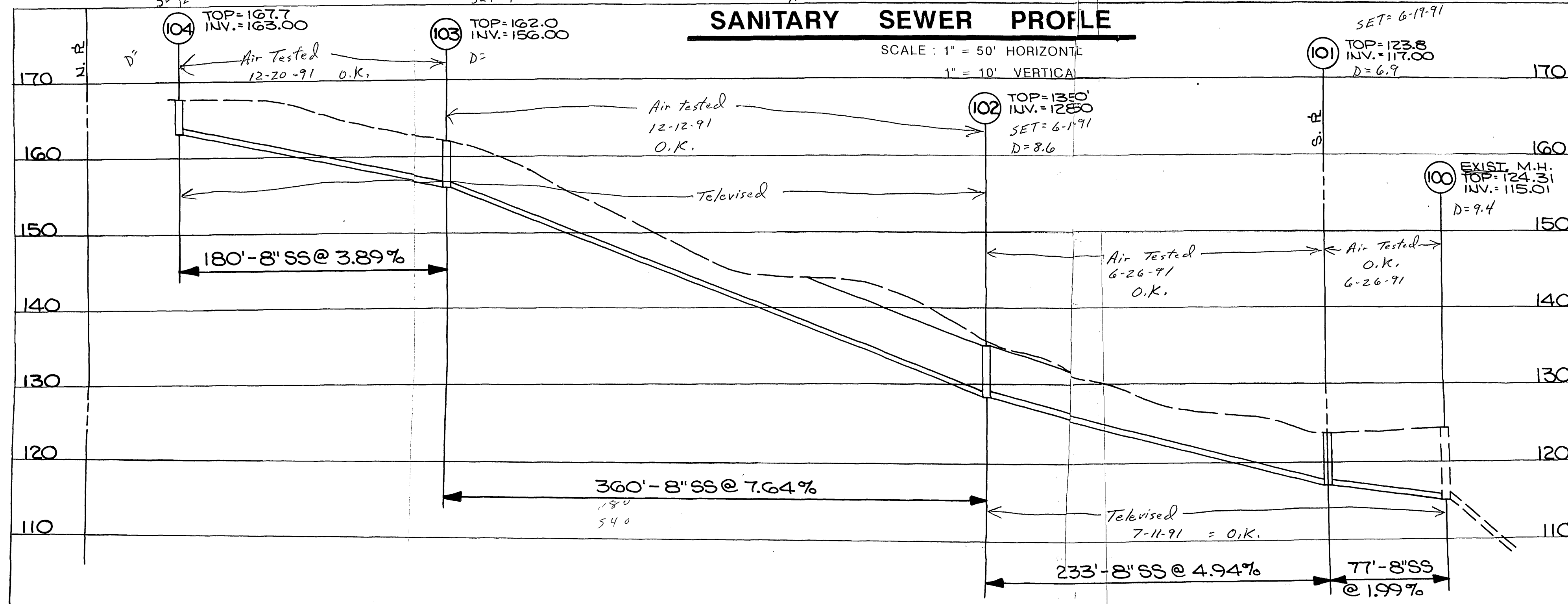
WATER NOTES

- Water main construction and services through meters will be done by the City of Roanoke Water Department at standard rates.
- All connections to meter boxes shall be done by the City of Roanoke Water Department at standard rates.
- Water service pipe shall be Type K, hard drawn, copper tubing.
- Minimum clear cover over all water pipe shall be three (3) feet.

SOURCE: EXISTING UTILITIES TAKEN FROM
CITY OF ROANOKE WATER AND
SEWER MAPS.

SANITARY SEWER PROFILE

SCALE: 1" = 50' HORIZONTAL
1" = 10' VERTICAL



REVISIONS	BY
12/15/89	E.J.
1/9/90	E.J.
3/7/90	E.J.

CJR ESTATES
SITUATE ON OLD MOUNTAIN ROAD
CITY OF ROANOKE, VIRGINIA
UTILITY PLAN

SPECTRUM
ENGINEERS, P.C.
325 Mountain Avenue, Roanoke, Virginia 24016, 703-345-8020

E. Prawn
J. Joyner
CHECKED
G. Straughn
11/13/89
SCALE 1"=50'
JOB NO. 89066
SHEET
C-3
OF SHEETS