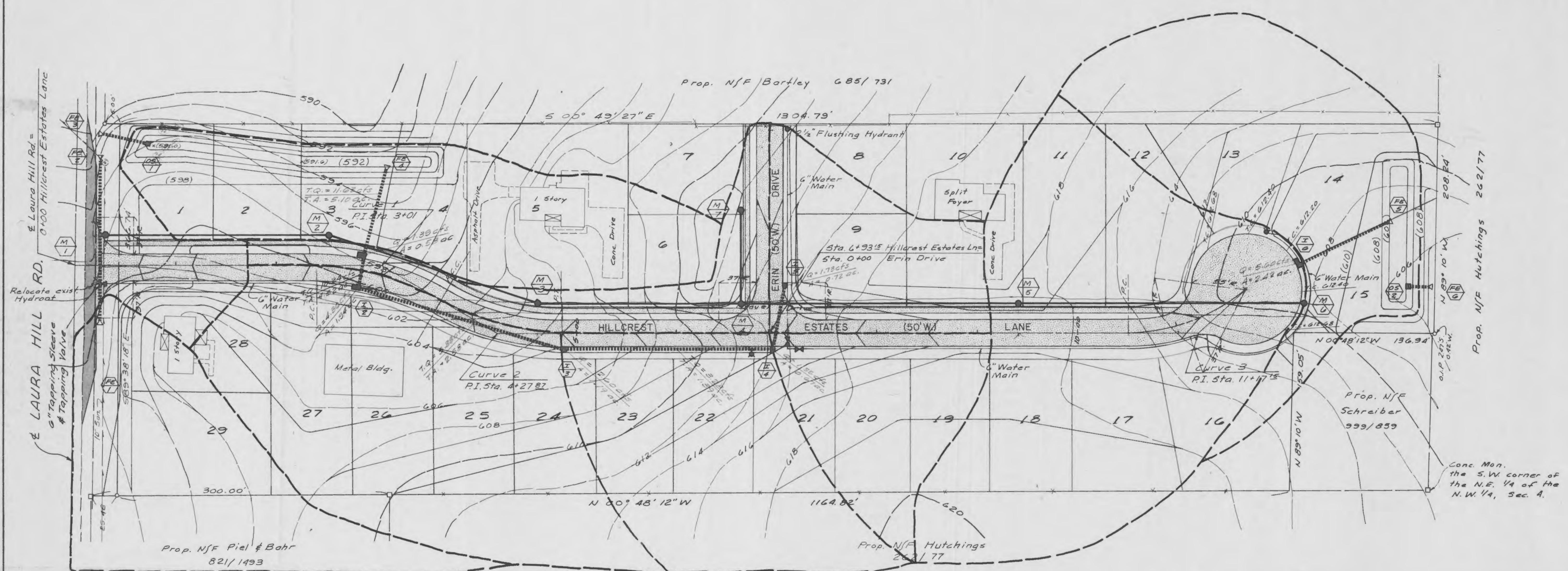


Scale: 1"=50'



CURVE DATA

1. $\Delta = 28^\circ 14' 51''$ R = 263.29' T = 66.00' L = 123.81'
2. $\Delta = 29^\circ 24' 45''$ R = 240.26' T = 63.06' L = 123.34'
3. $\Delta = 41^\circ 33' 28''$ R = 181.85' T = 69.00' L = 131.90'

LEGEND

EXISTING	DESCRIPTION	PROPOSED
--- 608 ---	CONTOUR	(608)
-----	STORM SEWER	-----
-----	INLET	-----
-----	SANITARY SEWER	-----
○	MANHOLE	○
-----	CONCRETE	-----
-----	ASPHALT	-----
	TO BE REMOVED	(T.B.R.)
	NOT TO SCALE	N.T.S.
+	POWER POLES	+
⊕	FIRE HYDRANT	⊕
⊕	WATER VALVE	⊕
-----	WATER MAIN	-----
-----	FLARED END SEC.	-----
-----	SINGLE CURB INL.	-----
-----	DOUBLE CURB INL.	-----

DETENTION BASIN 'A'

Outfall Structure (OS-1) Calc.
Tributary Area = 5.54 Ac.
Max. Flow = 5.54 x 1.7 = 7.54 cfs.

Slot discharges - orifice rectangular
 $Q = C A \sqrt{2gH}$
 $Q = 0.6 \frac{8 \times 18}{12} \sqrt{2 \times 32.2 \times (2.2)}$
 $Q = 7.30 \text{ cfs} < 7.54 \text{ cfs}$

Storage - Basin 'A'
Rectangular - 300' x 20'
Provide 1.5' Avg depth
Storage = 300 x 20 x 1.5 = 10,800 c.f.

TOTAL DETENTION REQUIRED:
Sub. V. 204, Area = 15.28 Ac.
Required Detent. Volume =
10.48 (2.4-1.7) 10,200 = 13,172 c.f.

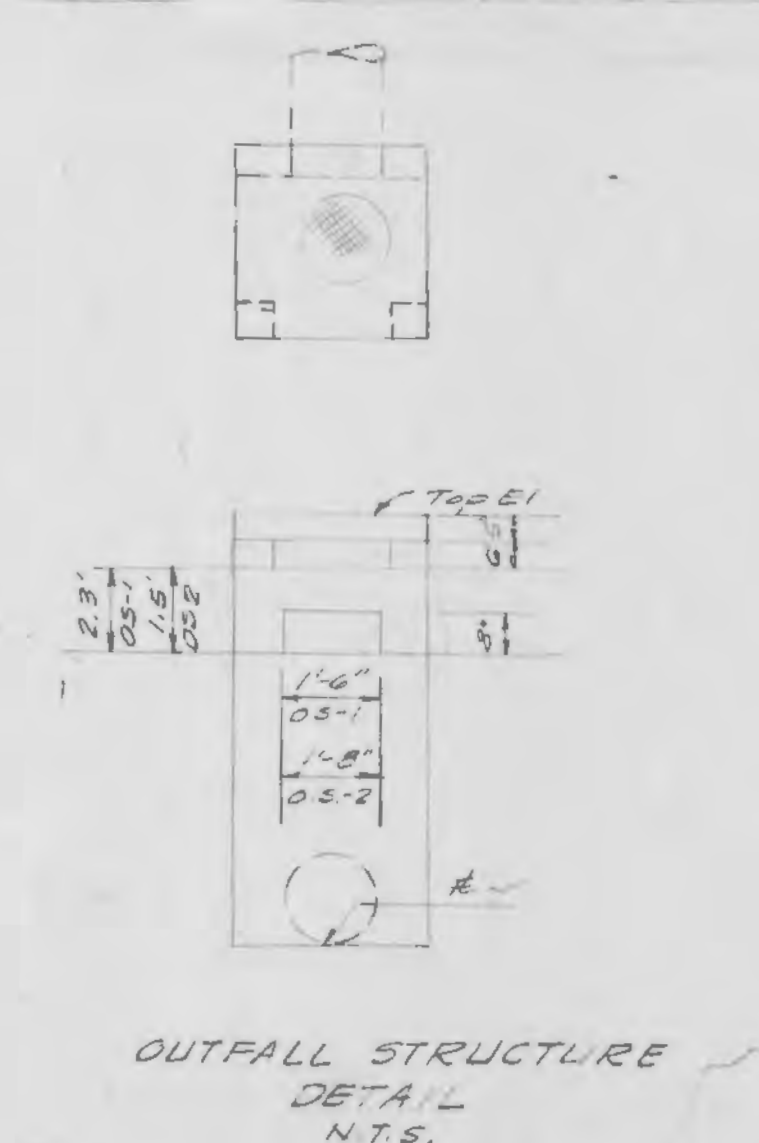
Storage Provided:
Basin 'A' = 10,800 c.f.
Basin 'B' = 4,200 c.f.
Total = 15,000 c.f. > 13,205 c.f. ok

DETENTION BASIN 'B'

Outfall Structure (OS-2) Calc.
Tributary Area = 4.02 Ac.
Max. Flow = 4.02 x 1.7 = 6.83 cfs.

Slot discharges - orifice rectangular
 $Q = C A \sqrt{2gH}$
 $Q = 0.6 \frac{8 \times 20}{12} \sqrt{2 \times 32.2 \times (1.9)}$
 $Q = 6.55 \text{ cfs} < 6.83 \text{ cfs}$

Storage - Basin 'B'
Rectangular - 140' x 20'
Provide 1.5' depth
Storage = 140 x 20 x 1.5 = 4,200 c.f.



B.M. R.R. Spike in power pole at intersection of Laura Hill Road & Laura Hill Drive U.S.G.S. Elev. 591.77

HILLCREST ESTATES
DEVELOPER: HILLCREST ENTERPRISE

DRAINAGE PLAN

ALLAN E. HEMMINGHAUS, P.E.
ENGINEERING SERVICES
P.O. Box 1208 St. Louis, Missouri
(314) 831-2570

Design	Sheet No.
Drawn	
Checked	
Scale	
1" = 50'	
Date 1/15/84	of 4

Revised 1/15/84