

EMS 1st Addition Drainage Plan

10-2-95
CMB

From soil survey of Sedgwick County, KS.

Soil Type = F₆ = Hydrological Soil^m
Group B

Site (existing) grades from Hillside Ave. to the east to existing channel formed by K-96 to the North & R.R. R.C.C. to the South. Channel flow is from the north (new box) to the south (R.R. Box).

Plot Area = 3.0 Acres.

From FEMA Firm MAP # 200326 0010 B

BFE = 1339.5 (Interpolated)

This elevation line is shown on drainage plan.

New building and parking areas = 0.30 Ac.

For proposed site; calculate C factor

Grossed area = 3 Ac - 0.3 Ac = 2.7 Acres

Imperv. area = 0.3 Ac

$$C_s = \frac{2.7 \text{ Ac} (0.26) + 0.3 \text{ Ac} (0.95)}{3} = \frac{0.987}{3} = 0.33 = C_s$$

"B" Type soil - lawn, 5% Bldgs

$$C_{100} = \frac{2.7 \text{ Ac} (0.45) + 0.3 \text{ Ac} (0.95)}{3} = \frac{1.50}{3} = 0.50 = C_{100}$$

$$\begin{aligned} \therefore C_{Tc} &= 15 \text{ min} \\ i_5 &= 4.56''/\text{mi} \\ i_{100} &= 7.37''/\text{mi} \end{aligned}$$

$$Q_5 = (3.0 \text{ Ac}) (0.33) (4.56) = 4.5 \text{ cfs}$$

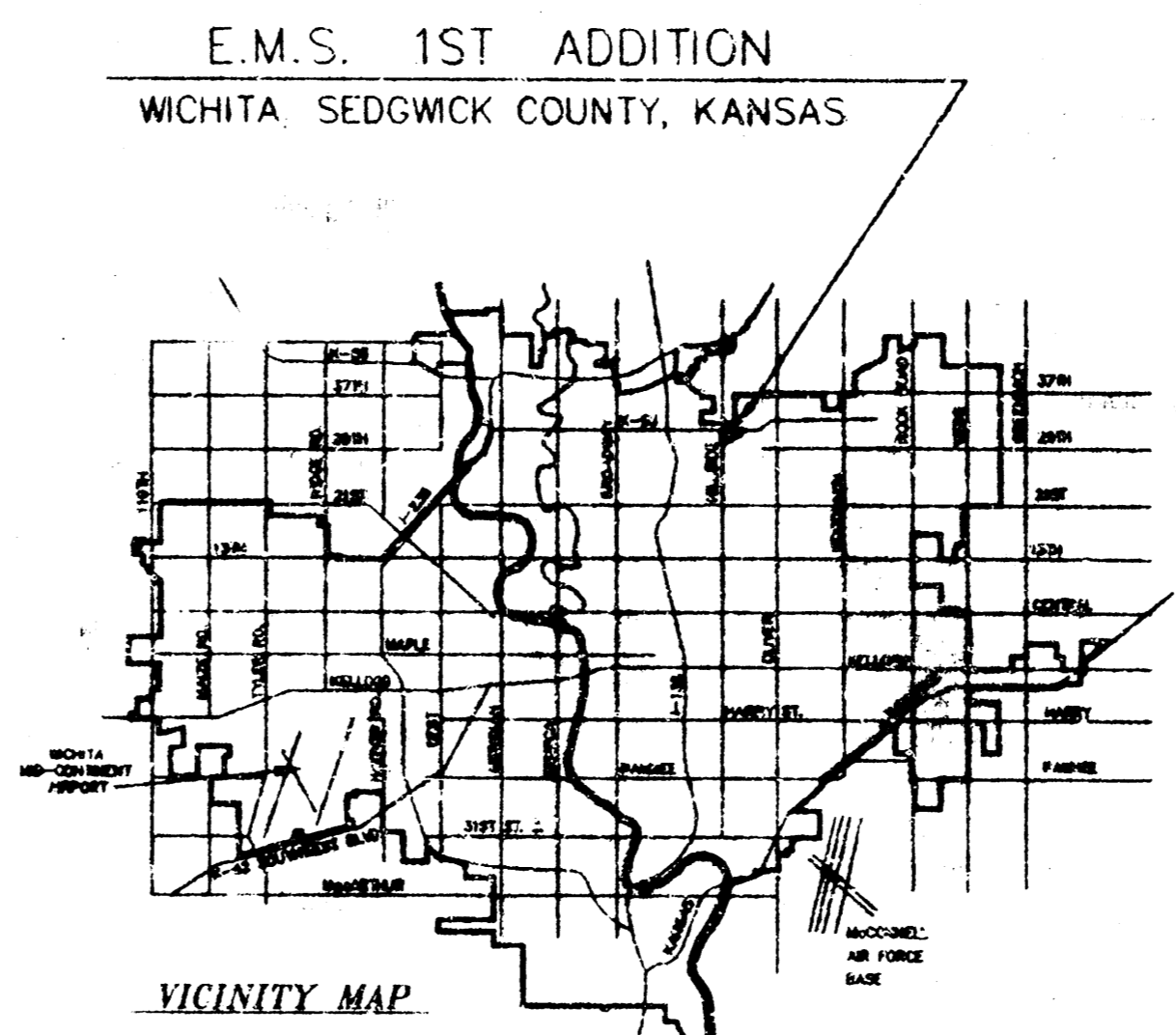
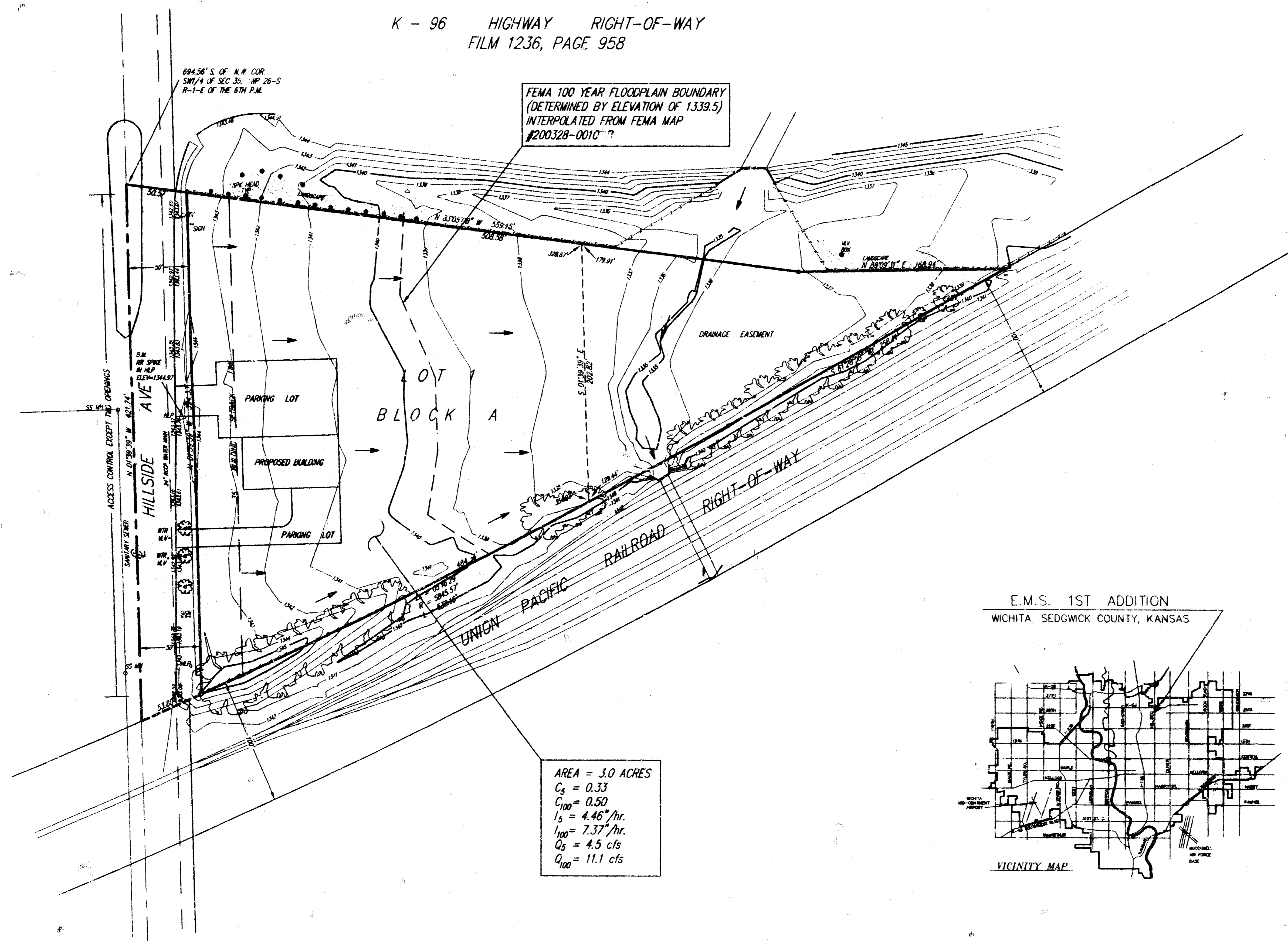
$$Q_{100} = (3.0 \text{ Ac}) (0.50) (7.37) = 11.1 \text{ cfs}$$

Paved areas must be collected and drained via inlet to SWS pipe.

DRAINAGE PLAN E.M.S. 1ST ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

A tract of land in the SW1/4 of Sec. 35, Twp. 26-S, R-1-E of the 6th P.M., Sedgwick County, Kansas, lying south of K-96 Highway right-of-way and north of the Union Pacific Railroad right-of-way.



Min Pad = 1340.5

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|---|----------------|---|-----------------|----------|----------|
| DRAINAGE PLAN -- E.M.S. 1ST ADDITION | | | | | |
| | | 924 NORTH MAIN WICHITA, KANSAS 67203 316-254-8008 FAX 316-254-8022 | | REVISION | |
| SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING | | | | | |
| PROJECT NUMBER | | | | | |
| DRAWN CMB | CHECKED CMB | DESIGN CMB | DATE 10-4-95 | UTILITY | ROAD JOB |