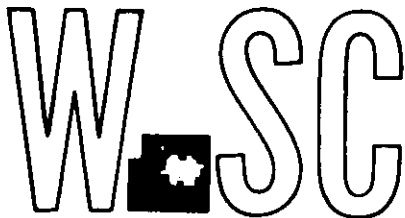
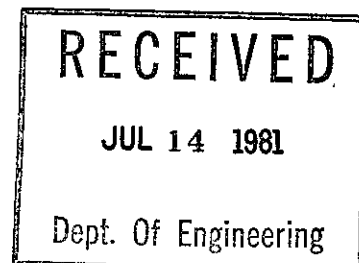


WICHITA—SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
DEPARTMENT

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561



July 13, 1981

Lowell D. High
1542 S. St. Francis
Wichita, Ks. 67211

Re: S/D 81-71 - Final plat of Sutherland 5th Addition

Dear Mr. High:

On July 9, 1981, the Subdivision Committee of the Metropolitan Area Planning Commission considered the above-referenced final plat. The action of the Committee was to defer consideration of this plat until their next meeting on July 23, 1981. The reason for the deferral was to allow you sufficient time to work with City Engineering on a final drainage plan for this addition and increase the size of the exception area.

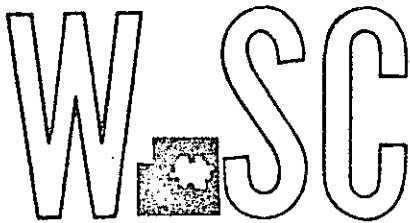
Sincerely,

Forrest L. Nagley
Forrest L. Nagley
Junior Planner

FLN:bh

cc: Robert D. Cheatum, Lynn Cheatum, Marabeth Marker, c/o 753 N. West, 67203
Chuck Sutherland, 753 N. West, 67203
X Mike Lindebak, City Engineering

WICHITA - SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
DEPARTMENT

CITY HALL - TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

RECEIVED

JUL 27 1981

Dept. Of Engineering

July 24, 1981

Lowell D. High
1542 S. St. Francis
Wichita, Ks. 67211

Re: S/D 81-71 - Final plat of Sutherland 5th Addition

Dear Mr. High:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on July 23, 1981, the above-captioned plat was considered. The action of the Committee was to recommend that this plat be approved, subject to:

- A. The applicant's lot grading plan has been approved subject to obtaining approval from the C.R.I. & P. Railroad for draining to their right-of-way.
- B. The applicant shall guarantee extension of sanitary sewer to serve this plat.
- C. The applicant shall guarantee the extension of City water to serve the proposed lot.
- D. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- E. In accordance with Article 5-101(c) of the Subdivision Regulations, closure computations shall be submitted with the final plat tracing.
- F. Recording of the plat within 30 days after approval by the Board of City Commissioners.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. The certificate will be required if petitions are submitted. Forms for the bond and irrevocable letter of credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

Lowell D. High
July 24, 1981
Page 2

This matter will be forwarded to the Planning Commission for its consideration on July 30, 1981, at 1:30 p.m. If you should have any questions concerning this matter, please call.

Sincerely,


Louise Olivarez
Senior Planner

LO:bh

cc: Chuck Sutherland, 753 N. West, 67203
Robert D. and Lynn Cheatum, Marabeth Marker, c/o 753 N. West, 67203
X Mike Lindebak, City Engineering

After dedicating the required dedications for streets along Broadway and MacArthur Road, the remaining area of the lot is:

$$\frac{1}{2} (422 + 490) 430 = 4.50 \text{ Ac.}$$

It is planned to develop this lot into storage units ~~and apartments (multi-family)~~ and also some office space. Since the development is commercial the runoff from the five year frequency should be carried to nearest storm sewer, however the storm sewer ~~is design~~ in Broadway is designed to drain runoff due to a two year frequency runoff. Therefore the parking area and the drives within the lot should be designed to store the difference between the 2 year and ~~five~~ 5-year frequency runoff. This can be easily obtained by depressing the area near the proposed grated inlets, see proposed drainage plan.

Also since the ground surface is almost level, it is proposed to develop the lot so that the West portion (Area 1) will drain to C.R. 1. & P. R.R. ditch via a double 2x2 inlet and storm sewer at southwest corner of Area 1.

Area 2 will be designed to drain to a low spot close to the existing inlet on Broadway, so a short storm water sewer could be planned to drain Area 2.

Area 3 will be designed to drain to a low spot at the south center ~~corner~~ point of the Area and then storm sewered to the inlet on MacArthur Road.

The following calculations ~~are made~~ show the runoff generated, for 2-year and 5-year frequency rainfall.

Area 1

$$\text{Drainage Area} = \frac{1}{2} (240 + 330) 430 = 2.81 \text{ ac.}$$

$$\text{Distance travelled} = 240 + 350 = 590 \text{ ft.}$$

In order to obtain adequate drainage assume 0.5% slope. Hence if top of inlet is approximately 158.0' elevation approximate elevation at north property line varies 189.75' at west to approx. 190.95 at ridge line.

$$\text{Hence Time of Conc., } T_c = \left(\frac{11.9 L^3}{H} \right)^{0.385} = 8.16 \text{ min} < 15.0 \text{ min.}$$

Consider time of concentration as 15 min.

~~$$I_2 = 4.06, I_5 = 5.21, I_{10} = 6.08, I_{100} = 8.98$$~~

$$\therefore Q_2 = 0.7 \times 4.06 \times 2.81 = 7.98 \text{ cfs}$$

$$\therefore Q_2 = 8.0 \text{ cfs.}; Q_5 = 10.2 \text{ cfs.}; Q_{10} = 12.0 \text{ cfs.}; Q_{100} = 17.7 \text{ cfs.}$$

15" pipe will be adequate to carry 8.0 cfs. at southwest corner of property, proposed slope = 0.5%

Area 2


$$\text{Drainage Area} = 182 \times 260 = 1.09 \text{ ac.}$$

$$\text{Time of concentration} = 15.0 \text{ min.}$$

$$\therefore I_2 = 4.06 \text{ in/hr.}; I_5 = 5.21, I_{10} = 6.08, I_{100} = 8.98$$

$$\therefore Q_2 = 0.7 \times 1.09 \times 4.06 = 3.1 \text{ cfs.}$$

$$\therefore Q_2 = 3.1 \text{ cfs.}; Q_5 = 4.0 \text{ cfs.}; Q_{10} = 4.6 \text{ cfs.}; Q_{100} = 6.9 \text{ cfs.}$$

Hence runoff is small enough that can be handled by the proposed storm sewer. 

Area 3:

$$\text{Drainage Area} = 170 \times 160 = 0.62 \text{ ac.}$$

Assume time of concentration = 15.0 min.

$$\therefore I_2 = 4.06 \text{ in/hr.}; \quad I_5 = 5.21; \quad I_{10} = 6.08; \quad I_{100} = 8.98.$$

$$\therefore Q_2 = 0.7 \times 0.62 \times 4.06 = 1.76 \text{ cfs.}$$

$$\therefore Q_2 = 1.76 \text{ cfs.}; \quad Q_5 = 2.26 \text{ cfs.}; \quad Q_{10} = 2.64 \text{ cfs.}; \quad Q_{100} = 3.9 \text{ cfs.}$$

Hence the storm sewer is adequate to handle this flow.