

THE CITY OF WICHITA



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY HALL — SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501

May 29, 1980

Chris Brennenstuhl, P.E.
Professional Engineering Consultants
1440 East English
Wichita, KS 67211

Re: Oak Cliff Estates Drainage Plan

Dear Chris:

Our staff has reviewed your drainage plan for Oak Cliff Estates, and I am requesting additional information on two items.

- (1) Cross-sections or typical sections necessary when grading the channel in the southwest portion of the plat.
- (2) Alignment of storm sewer and the subsequent outfall of the sewer east of Maize Road.

The data we have reviewed appears to be satisfactory; however, I would like to see more information on the two items listed above.

If you have any questions, please advise.

Yours truly,

Steve Lackey, P.E.
Design Chief Engineer

5/27/80

General Comments: Drainage Plan; Oak Cliff Estates

1. In order to obtain the required flow through the storm sewer in the West drainage area the ditch will need to be excavated to approximate elevation 1327.0.
2. If the ditch is constructed to bottom elevation 1327.0', it needs to be shown by the developer's engineer that the floodway easement shown will be ~~sufficient~~ adequate. The ditch should be constructed up to the ^{emergency} spillway location and lined properly with riprap.
3. The design should show that for 100 year frequency storm Maple Street will not be overtopped. In fact the design should be such that the design water surface level in the ditch should be 1.0 foot below Maple Street grade.
4. No buildings should be constructed within 100 ft. of emerg. spillway discharge area which includes lots 1, 2, 3 and 4 block 18. In fact lots 1 thru 3 should not be lots at all since they are part of the floodway.
5. The northeast area drains to the Cowskin Creek. However, the storm water sewer system design shows that the FE of the sewer will 1322.50, whereas the design water surface elevation is 1323.0. If the street elevation

is 1323.5 ft. (note minimum should be 1324.0 + 1.0 ft. above design water surface elevation) there is no room for a 60" pipe! Detention would be the most logical solution to this problem.

6. If no detention is to be provided in the area to the southeast (Commercial) sufficient analysis ~~is~~ ~~is~~ showing discharge of 5-year storm is not shown. If the system is designed to handle only 2-year frequency show how the difference will be detained on site. ~~It is also not shown that the system has the capacity to handle the~~

7. The 100-year frequency study for the southeast area ~~shows~~ is based upon numerous assumptions, as a result of which it is shown that the culvert under Maize will handle the 100-year storm discharge. A backwater analysis from the Cowskin Creek itself has not been performed to show what would be the capacity of this culvert under outlet conditions.

8. The storm sewer system for the southeast area shows that between nodes 300 and 105 the hydraulic grade line is below the pipe, thus implying negative pressure. Thus flow desired may not occur.

9. The storm sewer system ^{cut} could be reduced by reworking the street grades at some places, see ~~at lines~~ the alternate alignment in red.

10. For this plat the storm sewer and drainage cost is approximately \$9200/acre. This is very high!!!