

DRAINAGE REPORT
FOR
Spring Grove Apartments

Peak Engineering Company
2860 South Circle Drive
Suite 333 Garden Valley Center
Colorado Springs, Colorado



Peak Engineering Co.
Colorado Springs, Colo.

Drainage Report
Spring Grove Apartments

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August 21, 1972

Mr. DeWitt Miller
Director of Public Works
City Hall
Colorado Springs, Colorado

Dear Mr. Miller:

Transmitted herein is the Drainage Report for the Spring Grove Apartments located in the City of Colorado Springs, El Paso County, Colorado. If any questions arise from your examination of this report, please feel free to contact us at your convenience.

Respectfully yours,



W.C. Barker, Design Engineer
Peak Engineering Company

Drainage Report Approved By: _____

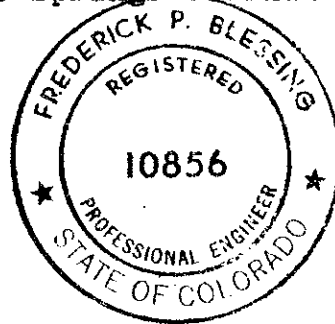
Date: _____



Peak Engineering Co.
Colorado Springs, Colo.

I, Frederick P. Blessing, a registered engineer in the state of Colorado, hereby certify that the attached Drainage Plan and Report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. I further certify that said Drainage Report is in accordance with all City of Colorado Springs ordinances, specifications and criteria.

Frederick P. Blessing
Colorado P.E. No. 10856



The developer has read and will comply with all of the requirements specified in this Report as approved by the City Engineer.

By: _____
John W. Heard



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GENERAL DESCRIPTION:

The Spring Grove Apartments are located in a portion of the southwest one quarter of Section 31, Township 14 South, Range 66 west of the 6th P.M. in the City of Colorado Springs, El Paso County, Colorado, and contains some 1.38 acres more or less. This development is bordered on the north by Van Buren Street, on the east by Tremont Street, on the west by an undeveloped tract of land and on the south by the Van Buren Ditch. The terrain is relatively flat with brush and tree ground cover and slopes toward the south and west corner of the development.

EXTERIOR DRAINAGE:

When the developed area is completed with installation of vertical type curb and gutter along the south side of Van Buren Street and the west side of Tremont Street, there will be no runoff entering the area of development. The runoff that will be developed in the area will be channeled to the Van Buren Ditch by means of a concrete "V" ditch on the south end of the development.

INTERIOR DRAINAGE:

The developed area is treated as one (1) zone. The Drainage Plan, Drawing No. 72-112, indicates both the amount and the direction of runoff within the area. It is recommended that the parking areas should have inverted crowns to channel the runoff to the outlet point located in the south and westerly portion of the developed area. All runoff will then be channeled by approximately 75' more or less of concrete lined "V" ditch to the Van Buren Ditch which flows into Monument Creek at this point. The area when developed should develop approximately 3.38 C.F.S.



CALCULATIONS

Zone	Acres	Area	L	H	Tc	Tp	Q	QP
		Sq. Mi.	Ft.	Ft.	Hrs.	Hrs.	in.	C.F.S.
I	1.377	.00215	550'	7'	.09	.544	1.8	3.38

Hydrograph:

$$QP = \frac{484 \cdot A \cdot Q}{TP}$$

$$TP = \frac{D}{2} \text{ plus } 0.6 \cdot Tc \quad D \text{ taken @ 1 Hour}$$

A = Area in Square Miles

Q = Direct runoff in inches

D = Excess period of rainfall: period of time

Tp = Time in hours from start of rise to peak rate

Tc = Time of concentration, from most distant point to point of interest



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COST ESTIMATE

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Concrete line "v" ditch	775'	L.F.	\$7.50/ft.	\$563.00

No credit of

\$563.00
1.38 acres = 407.97/acre

Drainage Fee = 735.00/Ac X 1.38 Ac = \$1014.30



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