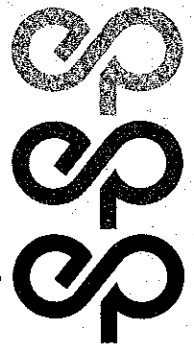


FINAL DRAINAGE STUDY
FOR REPLAT OF LOTS
47 & 48
PINE TERRACE PHASE NO. 9

ENGINEERING PROFESSIONALS INC.
Fort Collins • Colorado Springs



FINAL DRAINAGE STUDY
FOR REPLAT OF LOTS
47 & 48
PINE TERRACE PHASE NO. 9

Prepared for:

DAVID R. SELLON & COMPANY

225 East Cheyenne Mountain Boulevard
Colorado Springs, Colorado 80906

November 27, 1989



November 27, 1989

Gary Haynes
City of Colorado
Department of Public Works
Engineering Division
30 South Nevada Avenue, Suite 403
Colorado Springs, Colorado 80903

**RE: REPLAT OF LOTS 47 & 48, FOR PHASE NO. 9 PINE TERRACE
DRAINAGE STUDY**

Dear Gary:

Enclosed are copies of the Final Drainage Study for Lots 47 & 48 Phase No. 9 Pine Terrace which is a modification to the Pine Terrace Phases Two, Three and Four Drainage Report prepared by KKBNA, Inc. The plan and report being submitted for approval.

If there are any questions or if we may be of further assistance, please feel free to call at any time.

Sincerely yours,

ENGINEERING PROFESSIONALS, INC.

Andrew W. McCord, P.E.

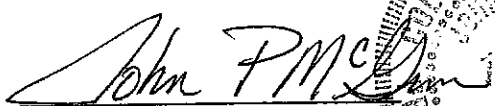
Enclosure -- As stated


AWM^c/mg

ENGINEERING PROFESSIONALS INC.

ENGINEERS STATEMENT

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the City/County for drainage reports and said report is in conformity with the Master Plan of the Drainage Basin. I accept responsibility for any liability caused by the negligent acts, errors, or omissions on my part in preparing this report.

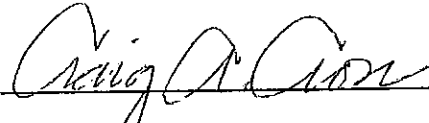

Registered Engineer #19534



DEVELOPERS STATEMENT

I, the developer, have read and will comply with all of the requirements specified in this drainage report and plan.


DAVID R. SELTON AND COMPANY

By 
Title Construction Manager

225 East Cheyenne Mountain Blvd.
Colorado Springs, Colorado 80906

CITY OF COLORADO SPRINGS

Filed in accordance with Section 15-3-906 of the Code of the City of Colorado Springs, as amended.


City Engineer

11-29-89
Date

SCOPE

The intent of this report is to update the preliminary and final drainage study for Pine Terrace Phases 2, 3, & 4 prepared by KKBNA, Inc. and filed with the City of Colorado Springs. This report addresses the replatting of Lots 47 and 48, Pine Terrace Phase 4, to be titled Pine Terrace Phase 9.

PROJECT DESCRIPTION

The original plat defines Lots 47 and 48 as building envelopes. This replat will define the lot as the face of the building foundation where buildings exist. Also building locations have been adjusted to avoid natural topographic features such as boulders and trees. Basin boundaries of the previous report remain the same. No additional storm runoff is generated by this replatting and storm water flows will maintain the same routing as designated by the KKBNA Drainage Report. All drainage facilities and streets within Pine Terrace are and will be privately owned and maintained.

HYDROLOGY

The original study was prepared using the "weighted Q" method as outlined in "Procedures for Determining Peak Flows in Colorado" by SCS, March 1980. Basin boundaries remain the same as those of the previous report. This report has converted the original runoff calculation to current El Paso County/City of Colorado Springs Drainage Criteria standards as shown on the attached computations.

A slight increase in stormwater runoff is due to the changes in criteria, but will not have an adverse affect on downstream facilities.

FLOOD PLAIN STATEMENT

This replat is not located in an area presently mapped by the City of Colorado Springs FEMA flood plain study. As stated in the KKBNA, Inc. report the development is not within the 100 year floodplain of any flowing stream.

STORM ROUTING

The resulting 10-and 100-year storm flows are small and will easily be confined to the streets and small swales graded around the buildings. The runoff will accumulate at the inlets shown via the streets or will flow to the swale paralleling the 78 inch CMP along the North property line. An existing 36 inch CMP will carry the runoff under Hermitage Drive. Eventually, all surface runoff will flow into the two 48 inch CMPs at the golf course.

All drainage facilities and streets within Pine Terrace will be privately owned and maintained.

SUMMARY

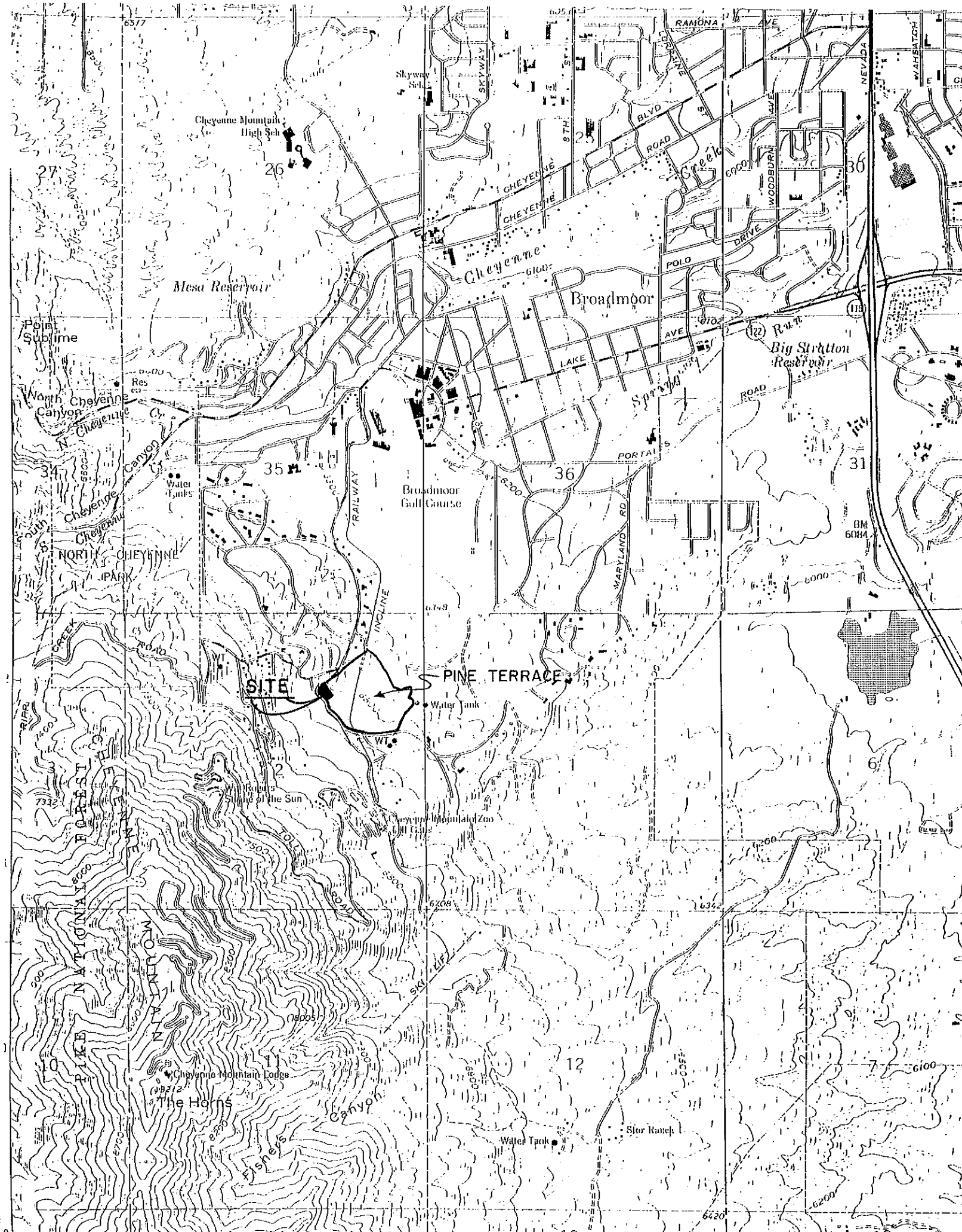
The changes made by this replat pertain only to Lots 47 and 48 as shown on the attached drainage plan and have no adverse affect on the previously approved drainage report. Sizing for downstream inlets & pipes was based on runoff from the entire developed area and there are no additional public improvements anticipated. No Drainage Fees will be required.

ECONOMIC ANALYSIS

No improvements are required.

Conversion to Current Drainage Criteria
Rational Method

<i>Basin</i>	<i>Area (Acres)</i>	<i>C10</i>	<i>C100</i>	<i>Time of Concentration (minutes)</i>	<i>Rainfall Intensity</i>		<i>Runoff</i>	
					<i>i10 (in/hr)</i>	<i>i100 (in/hr)</i>	<i>Q10 (cfs)</i>	<i>Q10 (cfs)</i>
L2.9	2.00	0.45	0.50	1.8	6.00	9.00	5.40	9.00
L2.10	1.50	0.45	0.50	3	6.00	9.00	4.05	6.75



Cheyenne Mountain High Sch

Mesa Reservoir

Cheyenne

Broadmoor

Big Stratton Reservoir

Broadmoor Golf Course

SITE

PINE TERRACE

NATIONAL FOREST
PINE

Cheyenne Mountain Lodge

The Horns

Canyon

Star Ranch

DRAINAGE MAP
REPLAT OF LOTS 47 & 48 PINE TERRACE PHASE 9

- PHASE BOUNDARY
- BASIN BOUNDARY
- L2.9** BASIN DESIGNATION
- 5 YEAR PEAK FLOW
- 100 YEAR PEAK FLOW

SCALE: 1" = 100'

