PRELIMINARY & FINAL
DRAINAGE REPORT & PLAN

ROCKRIMMON VISTA

November, 1994

LWA Project No. 93159

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DRAINAGE PLAN (ENVELOPE)

Leigh Whitehead & Associates, Inc.
ENGINEERS, SURVEYORS & PLANNERS

606 SOUTH TEJON STREET
COLORADO SPRINGS, CO 80903-4070
TELEPHONE 719-636-5179 / FAX 719-636-5199

November, 1994
LWA Project No. 93159

City of Colorado Springs
Stormwater & Subdivision
Engineering Division
101 W. Costilla, Suite 122
Colorado Springs, CO 80903

RE: Rockrimmon Vista

Gentlemen:

In accordance with the requirements of the City of Colorado Springs Subdivision Ordinance, a drainage report has been prepared for Rockrimmon Vista.

This report has been prepared under the current City of Colorado Springs Drainage Criteria.

Seven (7) complete copies of the drainage report and development plan are hereby transmitted for your review and approval. If there are any questions or comments concerning this report, please contact the undersigned.

Sincerely,

Leonard A. Beasley
Project Engineer

11-28-94
Date

Reviewed By: David Whitehead
David Whitehead, P.E.

November, 1994
Drainage Report
Rockrimmon Vista
LWA Project No. 93159

ENGINEER'S STATEMENT:

The attached drainage report was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the City 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 any negligent acts, errors, or omissions on my part in preparing this report.

David J. Whitehead, P.E. (Colo. 25118)

11-28-94

DEVELOPER'S STATEMENT:

The Developer has read and will comply with all the requirements specified in this drainage report and plan.

By: _____

Address: 102 E. Pikes Peak Ave #600 COS

CITY OF COLORADO SPRINGS:

Filed in accordance with Section 15-3-906 of the Code of the City of Colorado Springs, 1980, as amended.

City Engineer

12/1/94
Date

Conditions:

November, 1994
L.W. Project No. 93159

FLOODPLAIN STATEMENT

To the best of my knowledge and belief, Rockrimmon Vista is not located in a F.E.M.A. designated 100 year floodplain.

DAVID J. WHITEHEAD, P.E. (Colo. 25118)

PROJECT DESCRIPTION
ROCKRIMMON VISTA

Rockrimmon Vista is located in the northwesterly portion of Colorado Springs in the Northeast Quarter, Section 13, Township 13 South, Range 67 West of the 6th P.M. The subdivision is north of Rockrimmon Blvd. and south of Tamarron Drive. The site is laid out using the extensions of Fence Post Drive and Ursa Lane.

The proposed improvements are for 75 single family lots. The site is zoned P.U.D., and is located in the "Rockrimmon North Drainage Basin", containing 13.20 acres.

EXISTING CONDITIONS

The property is currently unimproved. The surrounding area on the north, east and west are currently improved with single family residences. The south has a small portion improved with single family residences. The ground cover across the site are native grasses. The soils are of the Razor Clay Loam, which has a slow permeability rate that gives this soil a hydrologic group "C" classification. The site slopes in a easterly direction with moderate to severe slopes. To the east is Rockrimmon Creek which flows in a south - southeasterly direction. This creek is a designated F.E.M.A. 100 year floodplain. This floodplain is shown on the attached drainage plan, and does not encroach onto Rockrimmon Vista.

BASIN CHARACTERISTICS/PROPOSED IMPROVEMENTS

All runoff computations were completed using the rational method. A summary of the runoff calculations are in the rear of this report. The subdivision was divided into four (4) onsite basins, and three (3) offsite, basins. These basins (A, B, C, D, OS1, OS2 and OS3) are indicated on the enclosed drainage plan.

Basin "A" flows are directed to Fence Post Dr. and collected at a low point in the westerly cul-de-sac. These flows will be conveyed to an existing drainage ditch through a city standard 5' D-10-R curb inlet and a 15" plastic pipe. This curb inlet and pipe is sized to handle both the 10 year peak flow of 7.4 cfs and the 100 year peak flow of 14.0 cfs.

Basin "B" also directs flows to the streets and these flows are collected in a low point in the cul-de-sac just east of the previous mentioned cul-de-sac. The peak flows of 6.2 cfs and 10.8 cfs for the 10 year and 100 year storm respectively will be directed to an existing drainage ditch. These flows will be collected in a city standard 5' D-10-R curb inlet and conveyed in a 15" plastic pipe.

Basin "C" flows will be directed to the streets and conveyed through the street system to the easterly end of Fence Post Drive. Peak flows of 18.7 cfs for the 10 year storm and 34.8 cfs for the 100 year storm then will be conveyed by rock rip-rap to the existing ditch. Flow depth for the 100 year storm at DP-2 is 0.44'. This depth is 0.06 below top of curb and 0.01' above the crown. This depth will not create a hazard for emergency vehicles.

Basins "C5" and "D" will require rear yard drainage swales. Basin C5 will outlet to Ursa Lane through a city standard curb chase opening. Basin "D" swale will outlet into an existing swale west of the most westerly cul-de-sac. Calculations for the curb inlet, curb chase, street capacities, and the rock rip-rap pads are in the back of this report.

OFFSITE CHARACTERISTICS

The flows entering the site are from developed properties. Basin OS-3 flows are directed northerly and collected in the proposed swale along the rear lot lines in basin C5. All other offsite flows OS-1 and OS-2 are directed to the street system. These flows will be conveyed through the street system to the easterly end of Fence Post Drive. No other offsite flows enter the site. The future location of the dam, reservoir and emergency spillway is shown on the attached drainage plan. The reservoir location was determined by the high water elevation of 6305.6 which was provided by the City of Colorado Springs Stormwater and Subdivision Department. These future improvements will not encroach on to this development.

FACILITIES

Improvements consist of two 15" plastic pipes, two 5' D-10-Rs, one city standard curb opening, and rock rip-rap erosion protection. These facilities are needed to convey public flow to the existing drainage ditches adjacent to the site.

DRAINAGE FEES/PROPOSED FACILITIES

The site lies within the north Rockrimmon Drainage Basin, code #12. The current fees for the basin are $2,633.00/acre for drainage fees. There are no bridge fees. The drainage and bridge fee obligation along with the proposed facilities are as follows:

Drainage Fee (13.20 acres @ $2,633.00/acre)	$34,755.60
Bridge Fee (13.20 acres @ $0.00)	$ .00
Fee Obligation	$34,755.60

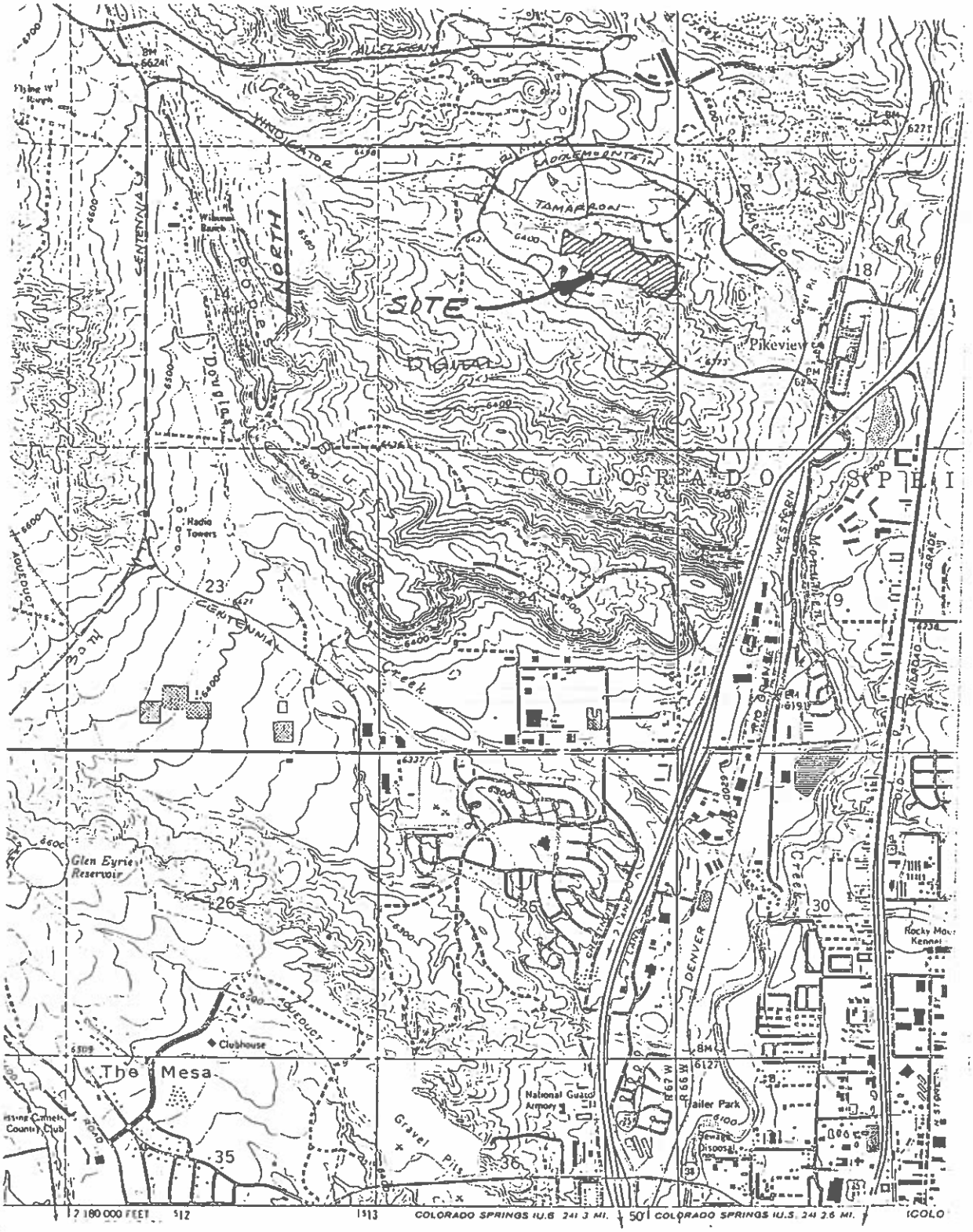
PROPOSED PUBLIC FACILITIES (Reimbursable)

15" HDPE (260 L.F. @ $15.00 LF)	$ 3,900.00
City Std. 5' D-10-R (2 @ $1,000.00 ea.)	$ 2,000.00
City Std. Curb Opening (1 @ 500.00)	$ 500.00
Grouted Rip-Rap (10 CY @ $125.00/yd.)	$ 1,250.00
Sub-Total	$ 7,650.00
Engineering/Contingencies @ 10%	$ 765.00
Total	$ 8,415.00

Drainage / Bridge Fees	$34,755.60
Public Facilities	- $ 8,415.00
TOTAL FEE OBLIGATION	**$26,340.60**

PROPOSED PUBLIC FACILITIES (Non-Reimbursable)

Rip-Rap (75 CY @ $50.00/yd.)	$ 3,750.00
Cut-Off Wall (1 @ $1,000.00 ea.)	$ 1,000.00
Sub-Total	$ 4,750.00
Engineering/Contingencies @ 10%	$ 475.00
Total	$ 5,225.00



LOCATION MAP

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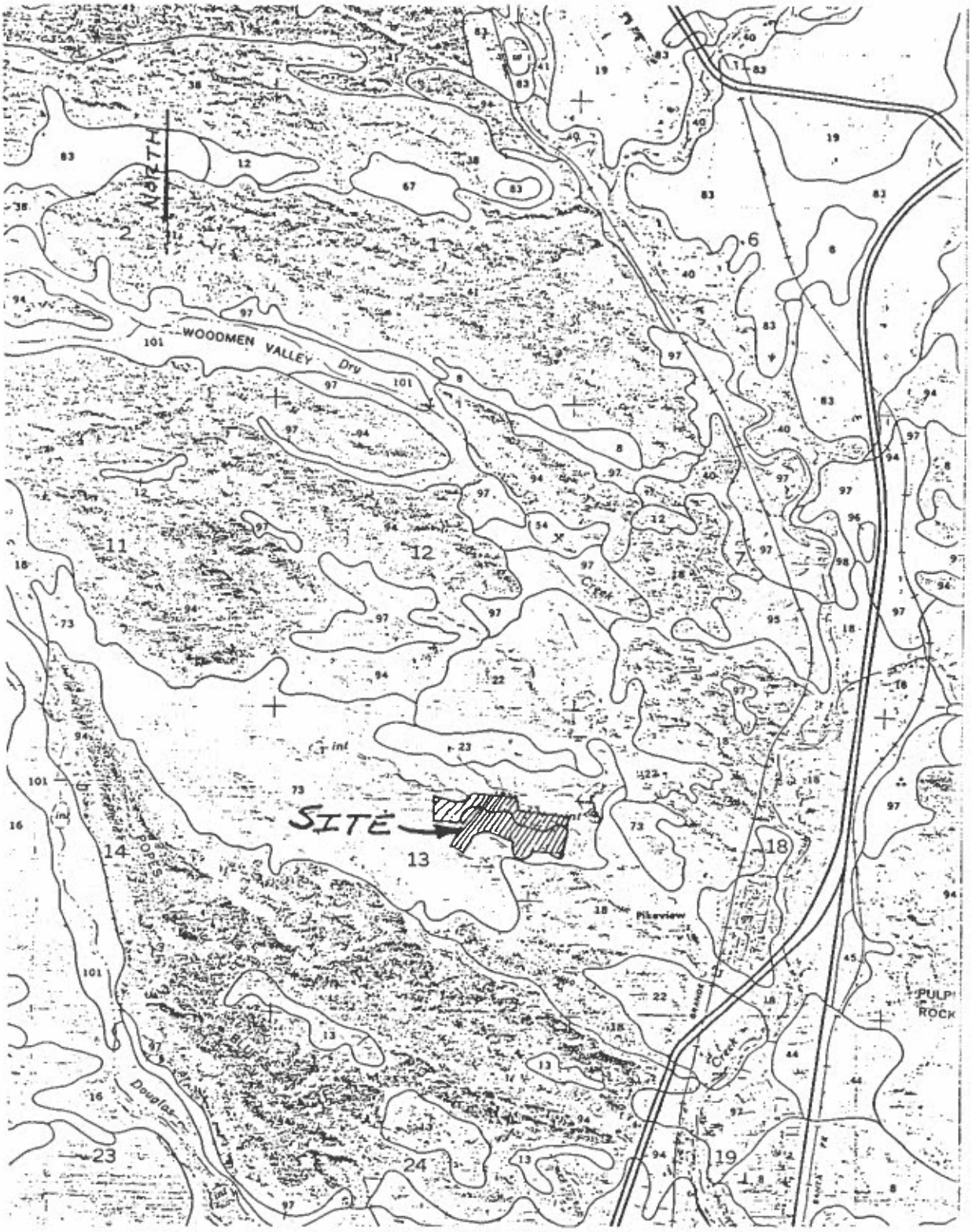
CONSULTING CIVIL ENGINEERS & SURVEYORS
606 SOUTH TEJON STREET
COLORADO SPRINGS, CO 80903-4070



SOILS MAP

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TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth	Hardness	
					In		
Manvel:							
50	C	None	---	---	>60	---	High.
Manzanola:							
51, 52, 53	C	None to rare	---	---	>60	---	Moderate.
Midway:							
54	D	None	---	---	10-20	Rippable	Moderate.
Nederland:							
55	B	None	---	---	>60	---	Moderate.
Nelson:							
[1]56:							
Nelson part	B	None	---	---	20-40	Rippable	Low.
Tassel part	D	None	---	---	10-20	Rippable	Low.
Neville:							
57	B	None	---	---	>60	---	High.
[1]58:							
Neville part	B	None	---	---	>60	---	High.
Rednun part	C	None	---	---	>60	---	Moderate.
Nunn:							
59	C	None	---	---	>60	---	Moderate.
Olney:							
60, 61	B	None	---	---	>60	---	Moderate.
[1]62:							
Olney part	B	None	---	---	>60	---	Moderate.
Vona part	B	None	---	---	>60	---	Moderate.
Paunsaugunt:							
[1]63:							
Paunsaugunt part	D	None	---	---	10-20	Hard	Moderate.
Rock outcrop part	D	---	---	---	---	---	---
Penrose:							
[1]64:							
Penrose part	D	None	---	---	10-20	Rippable	Low.
Manvel part	C	None	---	---	>60	---	High.
Perrypark:							
65	B	None	---	---	>60	---	Moderate.
Peyton:							
66, 67	B	None	---	---	>60	---	Moderate.
[1]68, [1]69:							
Peyton part	B	None	---	---	>60	---	Moderate.
Pring part	B	None	---	---	>60	---	Moderate.
Pits, gravel:							
70	A	---	---	---	---	---	---
Pring:							
71, 72	B	None	---	---	>60	---	Moderate.
Razor:							
73, 74	C	None	---	---	20-40	Rippable	Moderate.

See footnote at end of table.

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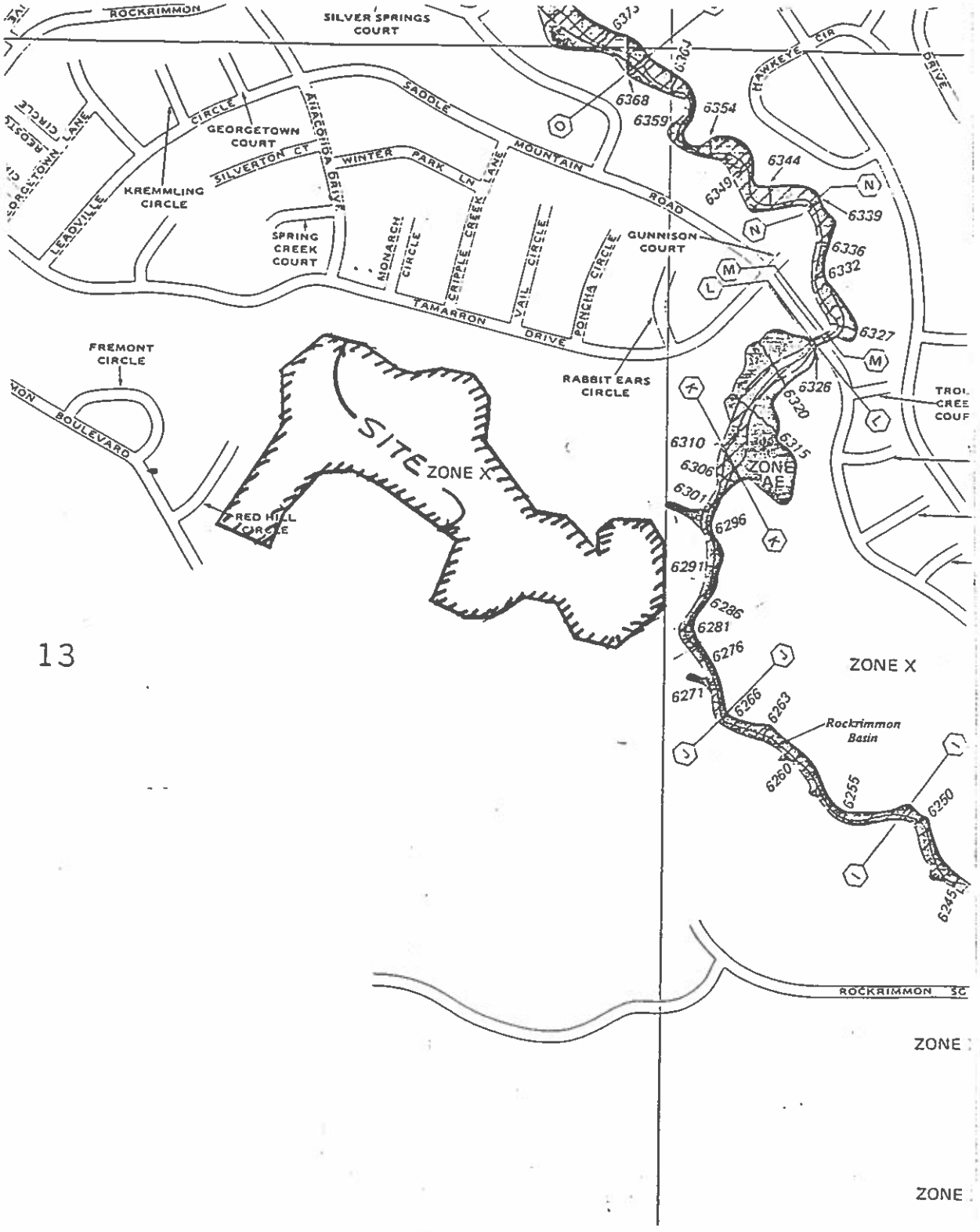

FEMA MAP

PLATE No. 080060-161

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COLORADO SPRINGS, CO 80903-4070

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A	No base flood elevations determined.
ZONE AE	Base flood elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE A99	To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
ZONE V	Coastal flood with velocity hazard (wave action); no base flood elevations determined.
ZONE VE	Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X	Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X	Areas determined to be outside 500-year flood plain.
ZONE D	Areas in which flood hazards are undetermined.

———	Flood Boundary
— — — —	Floodway Boundary
- - - - -	Zone D Boundary
	Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
~~513~~~	Base Flood Elevation Line; Elevation in Feet*
(D)——(D)	Cross Section Line
(EL 987)	Base Flood Elevation in Feet Where Uniform Within Zone*
RM7 X	Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Areas of special flood hazard (100-year flood) include Zones A, A1-30, AE, AH, AO, A99, V, V1-30 AND VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Coastal base flood elevations apply only landward of the shoreline.

Elevations reference marks are described in the Flood Insurance Study Report.

For adjoining map panels see separately printed Map Index

MAP REPOSITORY
Colorado Springs
Planning Department, P.O. Box 1575,
30 South Nevada Avenue, Suite 301,
Colorado Springs, Colorado 80901
(Maps available for reference only, not for distribution.)

INITIAL IDENTIFICATION:
FEBRUARY 1, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
APRIL 4, 1978

FLOOD INSURANCE RATE MAP EFFECTIVE:
DECEMBER 18, 1986

FLOOD INSURANCE RATE MAP REVISIONS:
Map revised March 2, 1989 to change special flood hazard areas, base flood elevations, and to incorporate previously issued letters of map revision and map amendment

Leigh Whitehead & Associates, Inc.
CONSULTING CIVIL ENGINEERS & SURVEYORS
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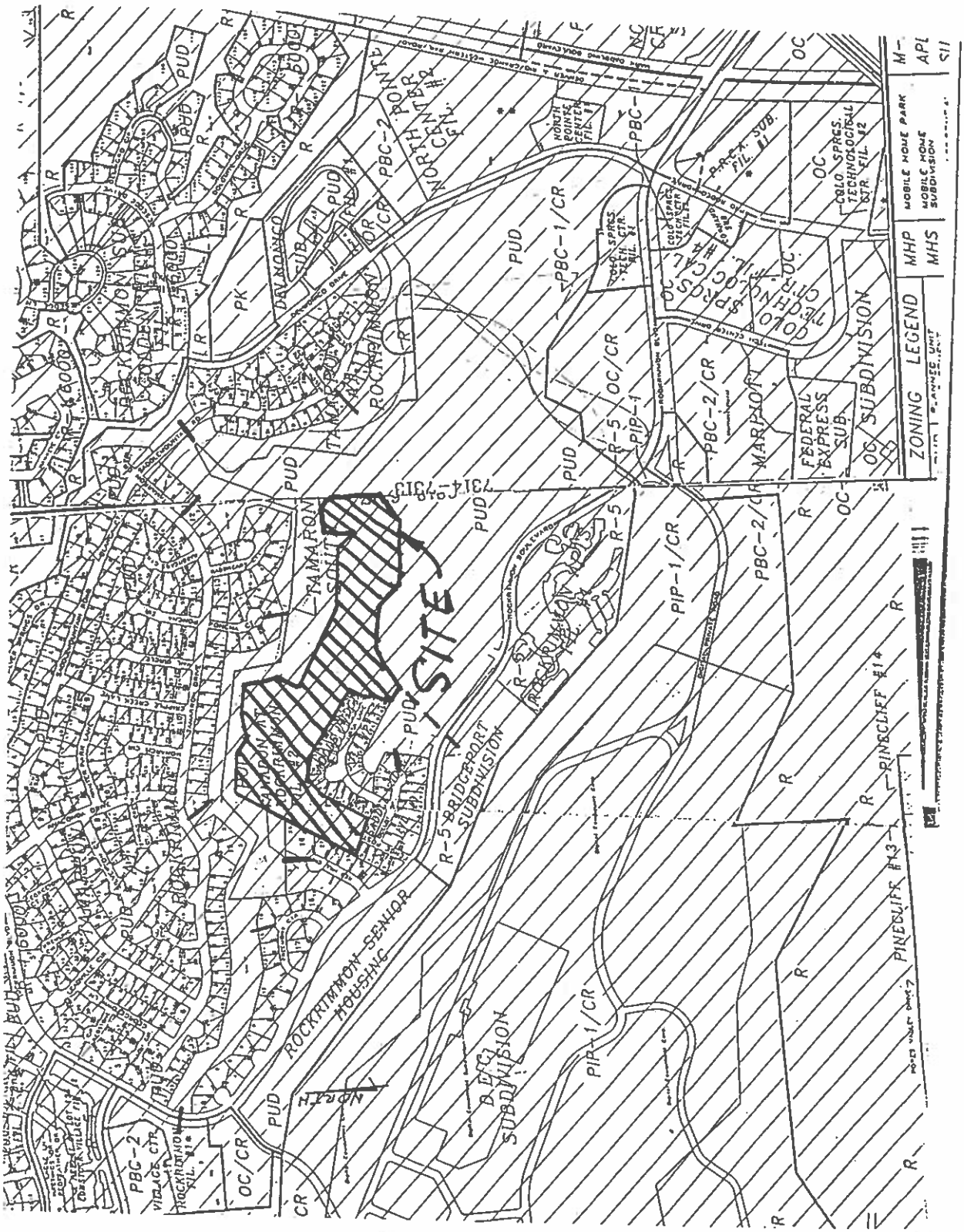

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ROCKRIMMON VISTA
RUNOFF COMPUTATIONS
RATIONAL METHOD

LEIGH WHITEHEAD & ASSOCIATES. INC.
606 SOUTH TEJON STREET
COLORADO SPRINGS, CO 80903
(719) 636 – 5179

TABLE A – DEVELOPED RUNOFF
INDIVIDUAL BASINS

LW 93159

11–Oct–94

BASIN	AREA (acres)	SOIL TYPE	C10	C100	BASIN LENGTH	BASIN SLOPE	Tc–10 (min)	Tc–100 (min)	I10 (in/hr)	I100 (in/hr)	Q10 (cfs)	Q100 (cfs)	COMMENTS
A	2.30	C	0.70	0.8	140	2.86	10	8	4.6	7.6	7.4	14.0	
B	1.5	C	0.70	0.8	60	5.00	5	4	5.9	9.0	6.2	10.8	
C–1	1.10	C	0.70	0.8	100	2.00	8	7	4.9	8.2	3.8	7.2	
C–6	2.20	C	0.70	0.8	1375	4.00	9	7	4.9	7.8	7.5	13.7	
D	0.7	C	0.7	0.8	550	5.1	10	8	4.6	7.8	2.3	4.4	
OS–1	1.40	C	0.70	0.8	530	6.10	6	5	5.5	8.9	5.4	10.0	
OS–2	2.30	C	0.70	0.8	745	4.70	9	7	4.9	8.3	7.9	15.3	
OS–3 & C	2.80	C	0.70	0.8	115		15	11	3.9	6.7	7.6	15.0	
OS–2 & C	2.60	C	0.70	0.8	220	3.00	9	7	4.8	7.9	8.7	16.4	
OS–1 & C	2.00	C	0.70	0.8	300	3.33	8	6	5.1	8.4	7.1	13.4	

ROCKRIMMON VISTA
RUNOFF COMPUTATIONS
RATIONAL METHOD

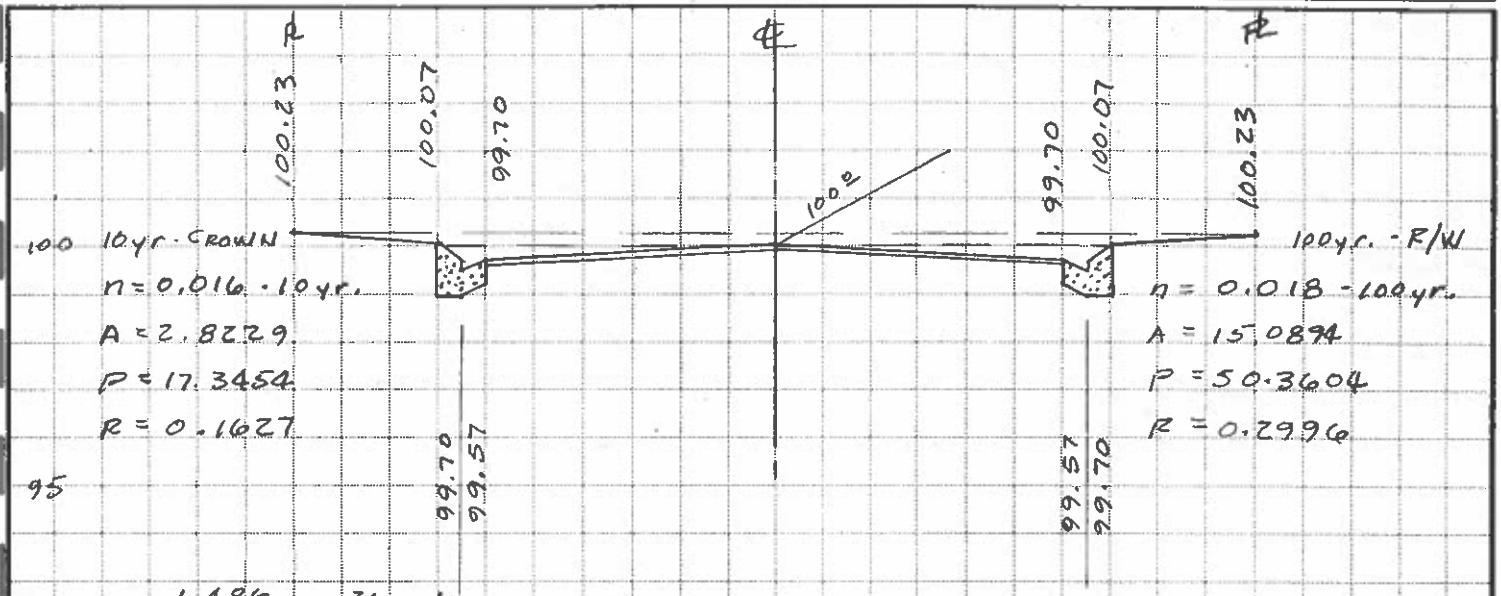
LEIGH WHITEHEAD & ASSOCIATES. INC.
606 SOUTH TEJON STREET
COLORADO SPRINGS, CO 80903
(719) 636 – 5179

TABLE B – DEVELOPED RUNOFF
DESIGN POINTS LW 93159 11–Oct–94

BASIN	AREA (acres)	SOIL TYPE	C10	C100	BASIN LENGTH	BASIN SLOPE	Tc–10 (min)	Tc–100 (min)	I10 (in/hr)	I100 (in/hr)	Q10 (cfs)	Q100 (cfs)	COMMENTS
DP–1	5.40	C	0.70	0.8			16	11	3.8	6.7	14.4	28.9	
DP–2	5.8	C	0.70	0.8			8	10	4.6	7.5	18.7	34.8	

LEIGH WHITEHEAD & ASSOCIATES, INC.
Engineers, Surveyors & Planners
606 South Tejon Street
COLORADO SPRINGS, COLORADO 80903
Phone (719) 636-5179

JOB ROCKRIMMON #93159
SHEET NO. 1 OF 1
CALCULATED BY LAB DATE 1-21-94
CHECKED BY _____ DATE _____
~~SCALE~~ ST. CAPACITIES



$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$

$\frac{1.486}{0.016} \times 2.82 \times 0.16^{2/3} \times S^{1/2}$

Q_{10} CAP. = $78.1472 \times S^{1/2}$

78.1472	×	$0.058^{1/2}$	= 18.8
78.1472	×	$0.060^{1/2}$	= 19.1
"	×	$0.0194^{1/2}$	= 10.9
"	×	$0.0467^{1/2}$	= 16.9
"	×	0.0433	= 16.3
"	×	0.0422	= 16.0
"	×	0.0275	= 13.0
"	×	0.0493	= 17.4
"	×	0.0486	= 17.2

$\frac{1.486}{0.018} \times 15.09 \times 0.30^{2/3} \times S^{1/2}$

Q_{100} CAP. = $557.7360 \times S^{1/2}$

557.7360	×	$0.058^{1/2}$	= 134.3
"	×		= 136.6
"	×		= 77.7
"	×		= 120.5
"	×		= 116.1
"	×		= 114.6
"	×		= 92.5
"	×		= 123.8
"	×		123.0

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JOB ROCKRIMMON #93159
SHEET NO. 1 OF 1
CALCULATED BY LAB DATE 1-24-94
CHECKED BY _____ DATE _____
~~SCALE~~ RIP-RAP

REF.: DENVER DRAINAGE CRITERIA MANUAL

$L = (1/(2 \tan\theta))(A_t/Y_t - W)$ SOIL = CLAY LOAM (73)

$Q_{100} = 14.0$ cfs, $D = 12"\phi$

$W = 1.0'$

$A_t = Q/V = 14.0/4.0 = 3.5$

$Y_t = 0.78$

EXP. FACTOR $= Y_t/D = 0.78/1.0 = 0.78$

$= 0.30$

$L = (1/0.30)(3.5/0.78 - 1.0) = 11.6'$ ∴ USE 12'

TAN = 59°

TYPE "L" RIP-RAP (14 ∅ 0.78)

$d_{50} = 9" \times 1.75 = \underline{16"}$ THICK

4" TYPE I W/ 4" TYPE II GRANULAR BEDDING

12' x 5' x 16" Thick (d_{50}) TYPE "L"

BASINS (A) & (B)

RT CRAFT PRESS incorporated

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606 South Tejon Street
COLORADO SPRINGS, COLORADO 80903
Phone (719) 636-5179

JOB ROCKRIMMON #93159
SHEET NO. 2 OF 2
CALCULATED BY LAB DATE 10-10-94
CHECKED BY _____ DATE _____
~~SCALE~~ RIP-RAP

REF: DENVER DRAINAGE CRITERIA MANUAL

$L = \left(1/(2\tan\theta)\right)\left(A_t/Y_t - W\right)$ SOIL = CLAY LOAM (73) (30' Wide Street = 6.19 ft)

$Q_{100} = 34.8$ cfs, $d_{50} = 18"\ \phi$ W = 2.5' Equiv.

$A_t = Q/V = 34.8/5.6 = 6.21$

$Y_t = 0.44$

$\frac{A_t}{Y_t} - W = \frac{6.21}{0.44} - 2.5 = 11.61$

$Y_t/D = 0.44/2.5 = 0.18$

$Q/WH^{1.5} = 34.8/6.19^{1.5} = 2.26$

$2\tan\theta = 1.45$ (From fig. 5-10)

$L = \left(1/1.45\right)\left(\frac{6.21}{0.44} - 2.5\right) =$

$(0.69)(14.11 - 2.5) =$

$0.69 \cdot 11.61 = 8.01$

$L = 8.0$ ∴ Use 10'

V = 5.6 @ Street; V = 3.7 @ R.P.-RAP

AVE "V" = 4.7 < 5.5 ∴ USE ROCK TYPE H

Type H $d_{50} = 18"\ \phi$

18" × 2 = 36" Thick

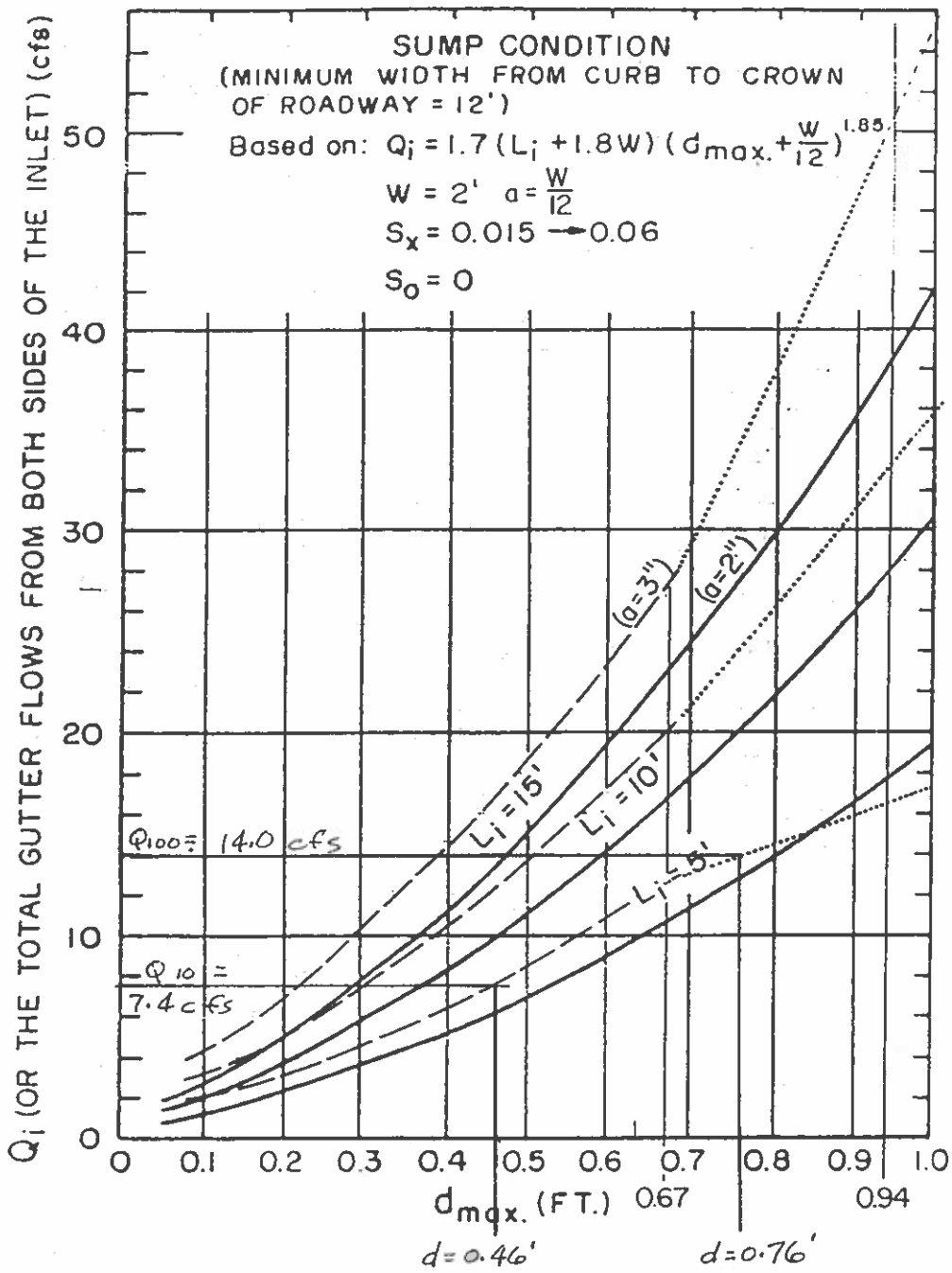
4" Type I, W/ 6" Type II Granular Bedding.

@ END OF FENCE POST DRIVE (DP-2)

35'W × 10'L TYPE H ROCK RIP-RAP PAD
$d_{50} = 18"\ \phi$, 36" THICK, 4" TYPE I & 6" TYPE II GRANULAR BEDDING

BY CRAFT PRESS

BASIN "A" 5' D10-R, W/ 3" DEPRESSION



REFERENCE : Izzard, Carl. f., Report presented at the Annual Meeting of the National Transportation Board, January 1977; Simplified Method For Design of Curb-opening Inlets

——— (As Modified by El Paso County, per Type R Inlet)

Note: Depth of ponding measured at curb above depressed area ; a = 3", For $d \leq .67$

$Q_i = (1.7 L_i + 6.12)(d_{max} + .25)^{1.85}$; $Q_i = 3.60 L_i (d - .08)^{.5}$ For $d \geq .94$; Note : No Clogging Factor

9/30/90

HDR Infrastructure, Inc.
A Centerra Company

The City of Colorado Springs / El Paso County
Drainage Criteria Manual

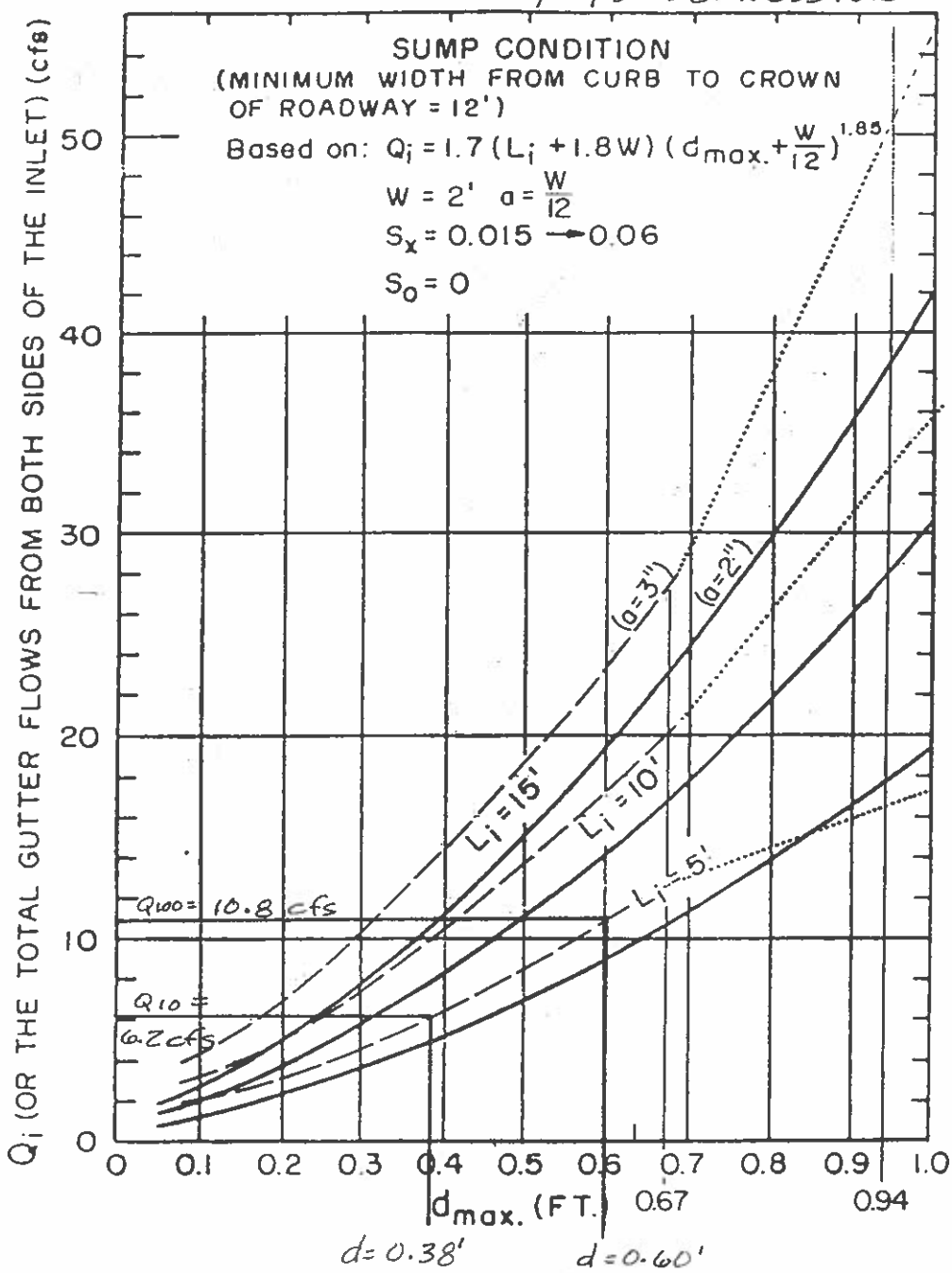
Date: OCT. 1987

Figure: 7-11

Sump Capacity for Curb-opening Inlets

BASIN "B"

5' D10-R, W/3" DEPRESSION



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9/30/90

HDR Infrastructure, Inc.
A Centerra Company

The City of Colorado Springs / El Paso County
Drainage Criteria Manual

Sump Capacity for Curb-opening Inlets

Date: OCT. 1987

Figure: 7-11

10/10/94

7.0' WIDE CURB CHASE, 10 YR. "Q"

Open Channel Flow for Rectangular Channel

Input Quantities

	Bottom Width:	7.0000	ft
	Manning's n:	0.0130	
	Channel Slope:	2.0000	%
	Flow Rate:	14.4000	cfs
Calculated	Depth of Flow:	0.2993	ft

Calculated Quantities

Area Of Flow:	2.0954	sf
Wetted Perimeter:	7.5987	ft
Hydraulic Radius:	0.2758	ft
Velocity:	6.8722	ft/s
Critical Slope:	0.3700	%
Froude Number:	2.2135	
Critical Depth:	0.5084	ft

HHCalc, Version 7.0s
Eagle Point, 4131 WestMark Drive, Dubuque, IA, 52002, 1-800-678-6565

B

10/10/94

7.0' WIDE CURB CHASE, 100 YR. "Q"

Open Channel Flow for Rectangular Channel

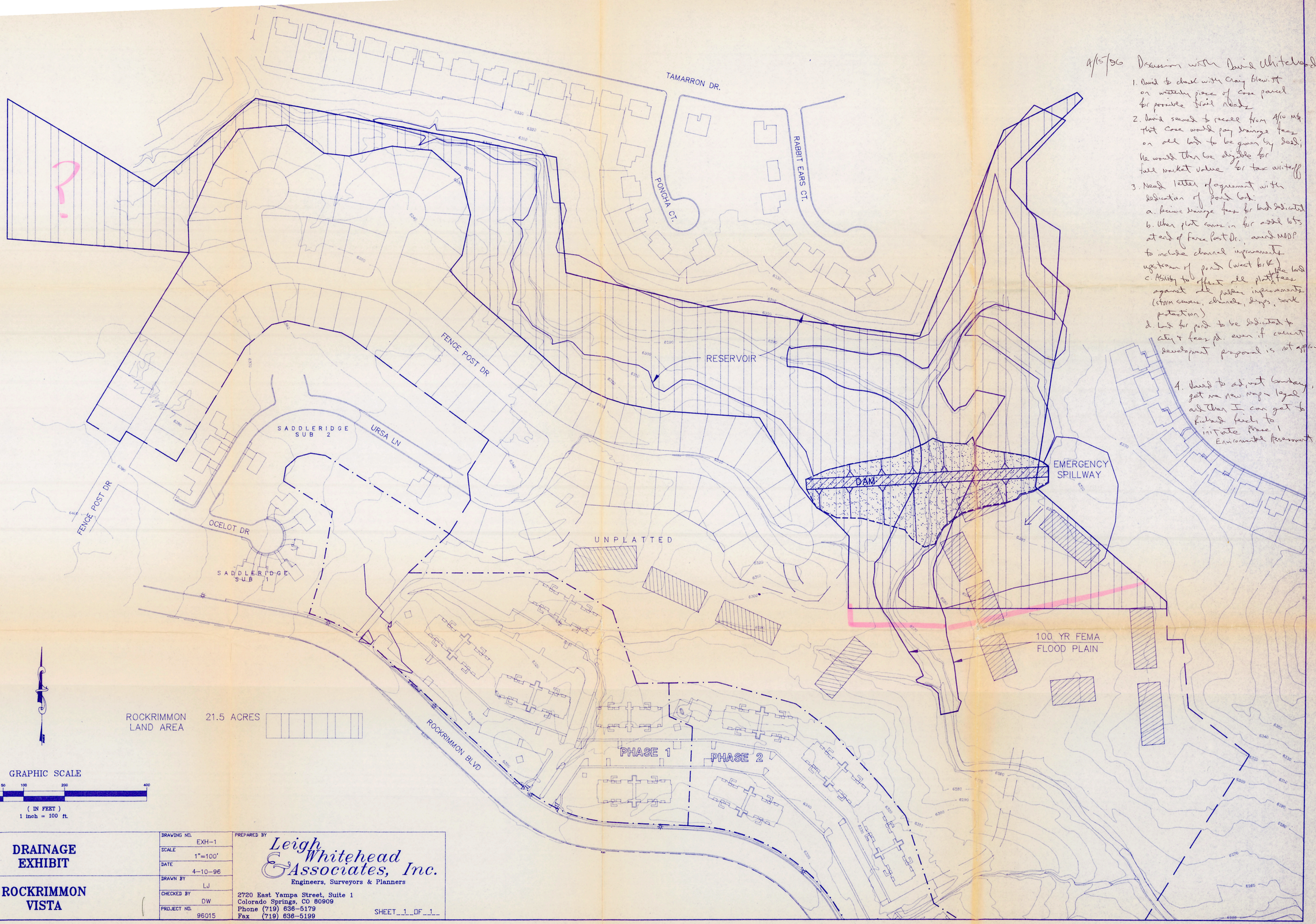
Input Quantities

	Bottom Width:	7.0000	ft
	Manning's n:	0.0130	
	Channel Slope:	2.0000	%
	Flow Rate:	28.9000	cfs
Calculated	Depth of Flow:	0.4618	ft

Calculated Quantities

Area Of Flow:	3.2324	sf
Wetted Perimeter:	7.9235	ft
Hydraulic Radius:	0.4079	ft
Velocity:	8.9408	ft/s
Critical Slope:	0.3490	%
Froude Number:	2.3187	
Critical Depth:	0.8089	ft

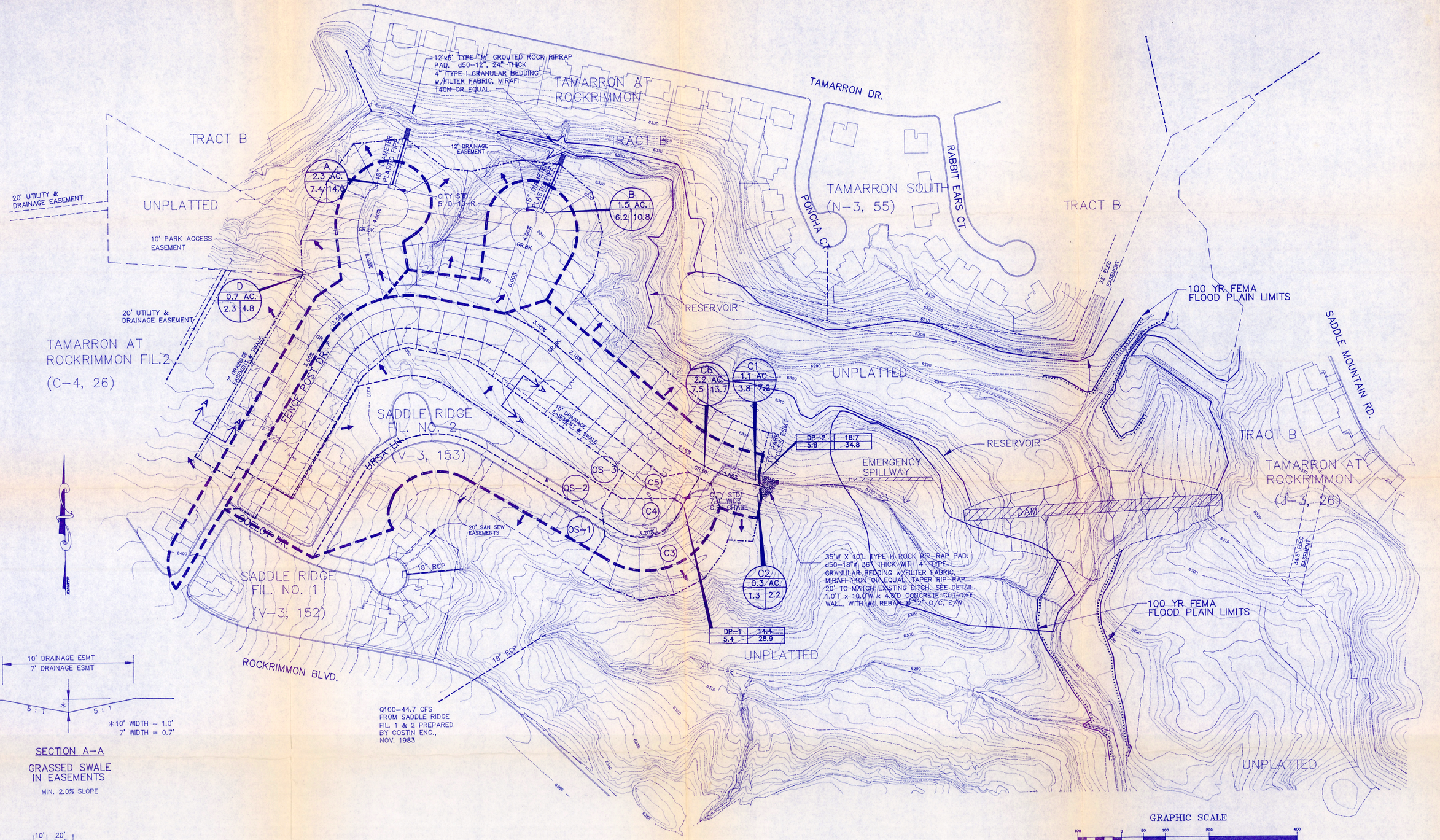
HHCalc, Version 7.0s
Eagle Point, 4131 WestMark Drive, Dubuque, IA, 52002, 1-800-678-6565

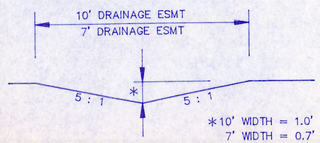


4/15/96 Discussion with David Whitehead

1. David to check with Craig Blewitt on waterway piece of Cone parcel for possible trail needs
2. David seemed to recede from 3/10 mtg that Cone would pay drainage fees on all land to be given by Saddleridge. He would then be eligible for full market value for tax write-off
3. Need letter of agreement with dedication of Pond Lot.
   a. Waive drainage fees for land dedicated
   b. When plat comes in for added lots at end of Fence Post Dr., amend MDDP to include channel improvements upstream of pond (west to E. line of Lot 1)
   c. Ability to offset all plat fees against add'l public improvements (storm sewers, channels, drops, bank protection)
   d. Lot for pond to be dedicated to city + fees pd. even if current development proposal is not approved.
4. David to submit contract, get new regs legal advice I can get to Richard Farell to initiate Phase I Environmental Assessment.

SHEET TITLE: **DRAINAGE EXHIBIT**	DRAWING NO. EXH-1	PREPARED BY: Leigh Whitehead & Associates, Inc. Engineers, Surveyors & Planners	
PROJECT: **ROCKRIMMON VISTA**	SCALE 1"=100'	2720 East Yampa Street, Suite 1 Colorado Springs, CO 80909 Phone (719) 636-5179 Fax (719) 636-5199	
	DATE 4-10-96		
	DRAWN BY LJ		
	CHECKED BY DW		
	PROJECT NO. 96015		SHEET 1 OF 1

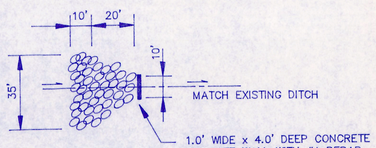




SECTION A-A

GRASSED SWALE IN EASEMENTS

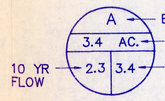
MIN. 2.0% SLOPE



RIP-RAP DETAIL

NTS

DESIGN POINT — DP - 1 — 14.4 — 10 YR Q
AREA — 5.6 — 28.9 — 100 YR Q

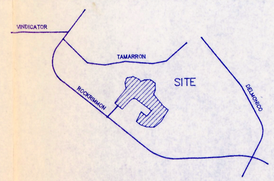


LEGEND

LEGEND

DRAINAGE BASIN = NORTH ROCKRIMMON
CONTOUR INTERVAL = 2'

SURFACE FLOW
BASIN BOUNDARY
SUB-BASIN BOUNDARY



VICINITY MAP

SHEET TITLE	DRAINAGE PLAN
PROJECT	ROCKRIMMON VISTA
DRAWING NO.	DRAINAGE
SCALE	1" = 100'
DATE	11-28-94
DRAWN BY	LJ
CHECKED BY	
PROJECT NO.	93159

PREPARED BY
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