

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

3 May 1999

Diane Hoelzer, PE Mark Goodwin & Associates, PA PO Box 90606 Albuquerque, NM 87199

EAGLE ROCK ESTATES, UNIT III (C18/D39B). ENGINEER'S CERTIFICATION RE: FOR FINAL PLAT APPROVAL. CERTIFICATION DATED 4-12-99

Dear Ms. Hoelzer:

Based upon the information provided in your 4-12-99 submittal, the referenced project is approved for Final Plat.

If I can be of further assistance, feel free to contact me at 768-2766.

Sincerely,

Scott Davis

PWD, Hydrology Div.

Andrew Garcia c:

file

==== THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER :

# <u>M</u>

## D. Mark Goodwin & Associates, P.A. Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199 (505) 828-2200 FAX 797-9539

e-mail: dmg@swcp.com

PROJECT 6	gle Rock III
SUBJECT_H	Idnology Addendum DLH. DATE
BY	DCH. DATE
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	SHEETOF

Onsite Area = 6.3135 ac. = .009865 sqmi (ref. 12-28-97)

single family n= 4/6 units / 6.55 acres = 7.0

Tr. D = 7 (72+5(7)).5 = 64.15

Tr B = 17.925

Tr C = 17.925

Q100 (revised) = 26.0 cfs Vol = 0.940 ac-ft.

Q100 (previous) = 24.6 cfs Vol = .871 ac-ft.

D=53.2

Area (acres) Oprevious Oveused

SB-1 1.554 6.1 65

SB-1 1.554 G.1 G.5 SB-2 1.982 7.7 8.1 SB-3 2.762 10.8 11.4  $\overline{24.6}$   $\overline{26.0}$ 

 $V_{10} = V_{360} + A_D \left( \frac{P_{10DAY} - P_{360}}{12} \right)$  (onsite, Eugle Rock, N.Lovisiana)  $V_{10} = (.94 + .029 + .071) + [6.31(.642) + .18 (.755) + .429(.80)]$  $\left( \frac{49 - 2.6}{12} \right) = 1.04 + (4.53(.19166).71.91 \text{ Ac-Ft.} = \text{Reg'd.Vol.}$ 

Design Volume = 127×86 = 10,922 = A, (14'depth) = 71×30 = 2130 = Az

Volume = \frac{1}{3}(14)(2130+10,922+\frac{1}{2130\times10922}) = 83,418 CF = 1.915 A.F.

## AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =10/27/1998

INPUT FILE = eagle3r.dat

USER NO.= M\_GOODWN.I01

			PEAK	RUNOFF	RUN	TIME TO	CFS	PAGE = 1
	HYDRO	AREA	DISCH	VOLUME	OFF	PEAK	PER	
COMMAND	ID NO.	(SQ MI)	(CFS)	(AC-FT)	(INCH)	(HRS)	ACRE	NOTATION
START					TIN	1E= .00		
RAINFALL TYPE= 1					RAI	N 6 = 2.45	0	
COMPUTE NM HYD	100.00 - 1	.00987	26.02	.940	1.78749	1.500	4.122 PE	R IMP = 64.20
COMPUTE NM HYD	101.00 - 1	.00028	.80	.029	1.92318	1.500	4.447 PE	R IMP= 75.50
COMPUTE NM HYD	102.00 - 1	.00064	1.80	.066	1.92318	1.500	4.386 PE	R IMP= 75.50
COMPUTE NM HYD	103.00 - 1	.00115	3.25	.120	1.95560	1.500	4.422 PE	R IMP= 78.20
COMPUTE NM HYD	104.00 - 1	.00067	1.92	.071	1.97721	1.500	4.475 PE	ER IMP= 80.00
FINISH								



March 17, 1998

Diane Hoelzer, P.E.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: Revised Grading and Drainage Plan for Eagle Rock Estates Unit III (C18/D39B) Submitted for Preliminary Plat and Grading Permit Approval, Engineer's Stamp Dated 3/6/98.

Dear Ms. Hoelzer:

Based on the information provided in the submittal of March 9, 1998, the above referenced revised plan is acceptable for Preliminary Plat approval provided that it is approved at DRB.

Prior to Rough Grading permit release, the easement must be in place for the off-site grading just northwest of the site.

The submittal for the Letter of Map Revision to remove the existing floodplain is still in review at FEMA pending further analysis. The Final Plat, therefore, must indicate that the entire subdivision is encumbered with a FEMA floodplain.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.

City/County Floodplain Administrator

c: DRB #97-487

Mark Pagels, Sr., Sunset West

□ File



D. Mark Goodwin & Associates, P.A.	PROJECT <u>Eagle Bock Unit 3</u> SUBJECT <u>Dakland Ave, Pond.</u>
Consulting Engineers	
P.O. BOX 90606, ALBUQUERQUE, NM 87199 (505) 828-2200 FAX 797-9539	BYDLHDATE 3-6-98 CHECKEDDATEDATE
e-mail: dmg@swcp.com	SHEET / OF 2
Oakland Ave. Temporary Retention	in Pond Calcs.
+	-
DEVELOPED CONDITIONS"	
Dakland Lot, Olivine	
Tr. D +29 (620 + 3993 36(85)	= 25033 SF (78.2%)
Tr. B (6/620) 2400 1/0(85)	= 6970 SF + (21.8%)
+ + + + + + + + + + + + + + + + + + +	3,20,03,5F = .001/4/8:5.M.
USE IN AHIYMO	Image: 1
	H/VM-0 + + + + + + + + + + + + + + + + + + +
7A; C = 10.4%	25UUT: 0 = 3,25cfs
TR. D + 78.21.	1
- Area = .001148	<del>┃</del> <del>┃</del> <del>┃</del> <del>┃</del> <del>┃</del> 
ONDEVELOPED CONDITIONS	
Dakland +	
Tr. A 35(620)	-=-2-1,-7.00-SF -(100-%)-
	= .000778 S:M.
USE IN ATTUMO	
TR, A = 100%	· · · · · · · · · · · · · · · · · · ·
Area = .000778's.mi.	
AHYMO RESULT: Q=.85cfs	+
+ + V+= : 0245AF +	÷ ,
Betention Volume Calc.	
	+ + + +
Vio = 1360 + Ap (P100 = P360)	The second secon
Tr.D = 25033 SF = 5747 acres	
	++++
V10 = (.1.197 - 0245) AF + 5747A	
+ = .0952 AF + : 1101+ = .2053	AF OF RETAINED DOWNE
	+ + + + + + + + + + + + + + + + + + +
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# <u>M</u>

## D. Mark Goodwin & Associates, P.A. Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199 (505) 828-2200 FAX 797-9539

e-mail: dmg@swcp.com

PROJECT_	Eagle Rock Unit 3 Oakland Ave Pond
SUBJECT_	Oakland Ave Pond
BY	OCH DATE 3-6-98
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+ Botho	of Pond m-of Pon = 3.0 F	3 (Dept	1.0 Area	2+B+	733.65F 733.65F	
+ Reg'd		= .2054 = .2053	07. Cu. At.	<b>7</b>	3733.6 + 2	2292.
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					+ - +	

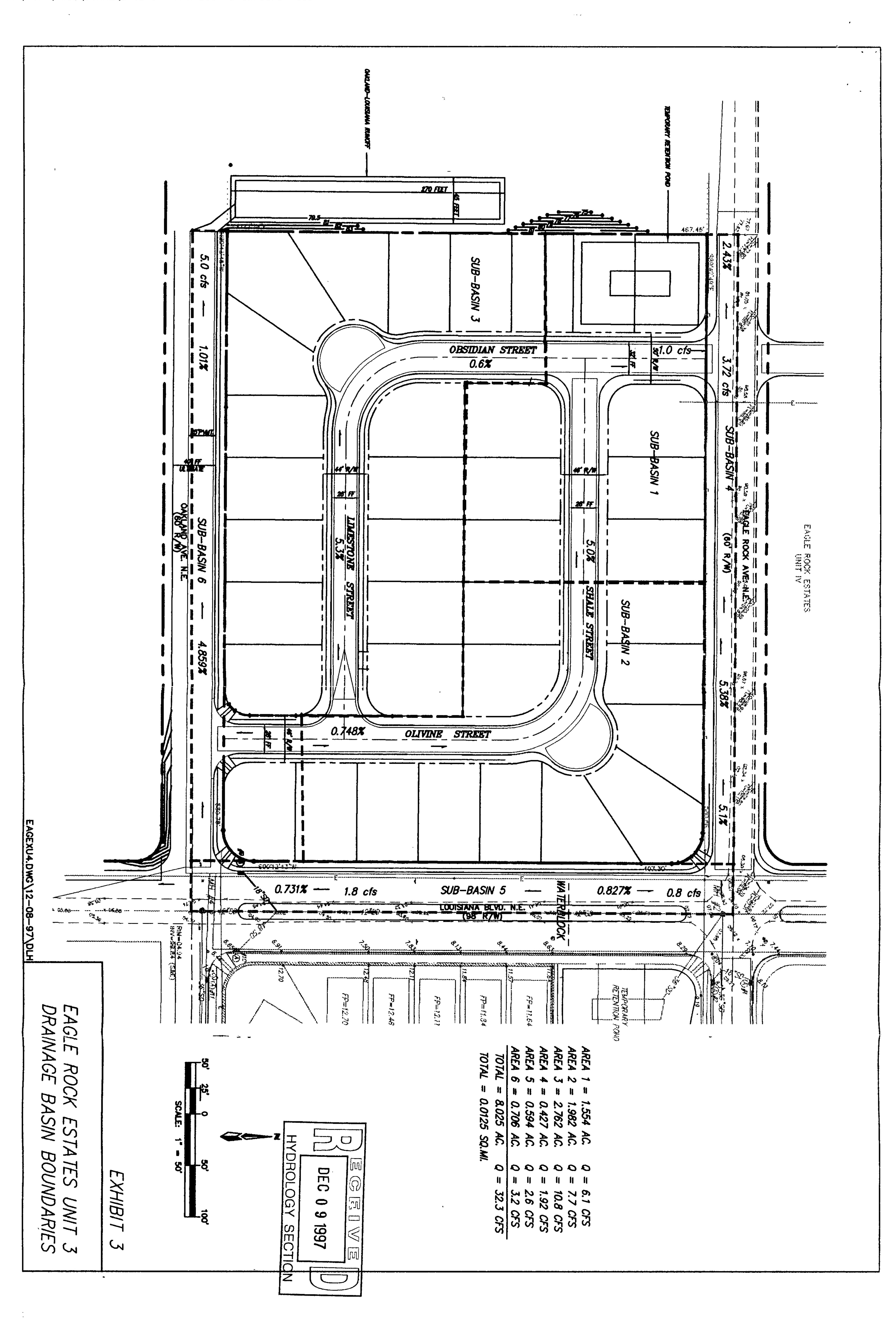
TABLE 2: SUMMARY OF INLET CALCULATIONS

## EAGLE ROCK ESTATES UNIT 3

LOCATION	CURB	WIDTH ft.	SLOPE %	Q cfs	DEPTH ft	EG ft	Q INLET cfs	#/TYPE of INLETS	REMAIN Q (cfs)
Limestone Street	MTB	26' FF	5.3	5.4	0.17	0.39	N/A		
Shale Street	MTB	28' FF	5.0	7.7	0.23	0.37	N/A		
Obsidian Street	STD	32' FF	0.6	24.6	0.51	0.63	6.4	2 DBLA	11.80
Obsidian Street	STD	32' FF	0.6	11.8	0.42	0.48	3.6	2 SGL C	4.60
Obsidian Street	STD	32' FF	0.6	4.6	0.31	0.36	1.8	2 SGL C	1.00
Oakland Ave	STD	40' FF	4.86	5.0	0.29	.59	N/A		
Oakland Ave	STD	40' FF	1.01	5.0	.37	.46	N/A		
Louisiana Ave	STD	31'	0.731	1.8	.28	.33	1.8	1 SGL A	0
Eagle Rock Ave	STD	40' FF	5.38	2.72	.24	.48	N/A		
Eagle Rock Ave	STD	40' FF	2.43	3.72	.29	.45	3.2	1 SGL A	.52

MTB = Mountable Curb STD = Standard Curb

f\\eaglerck\inlet3.cal



PROJECT <u>Eagl</u> SUBJECT	e Rock Unit III
BY	
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Onsite Retention Ponch Volume (100-yr 10 day storm)

VIO = V360 + Ao · (P100-P360) (Incl. Eagle Rock Aug & N. Louisiana Bludi)

V360 (onsite) = [.42(.234) + 1.29(.234) + 2.36(.532)] 6.313 ac. +

V360 (Eagle Rock) [.92(.10) + 1.29(.10) + 2.36(.80)] .427ac +

V560 (Louisiana) [.92(.1225) + 1.29(.1225) + 2.36(.755)] .179ac.

= (11.1908 in-ac. + .9005 in-ac. + .3674 in ·ac.) .12

= 1.038 ac. ft

AD = 6.313 (.532) + .427 (.80) + .179(.755) = 3.8350cres

V10 DAY = 1.038 ac. ft + 3.835 ac. ft (4.9-2.6) = 1.773 ac. ft.

V10 DAY = 1.773 AF

Offsite Retention Pond Volume (100-yr 10 day storm) (Louisiana Blud+S.Oakland Alle)

V360 (5. Louisians) = [,92 (.1225) + 1.29 (.1225) + 2.36 (.755)].415 V360 (Oakland) = [,92 (.109) + 1.29 (.109) + 2.36 (.782)],734 = (.8518 + 1.531) ÷12 = .1985 ac-ft.

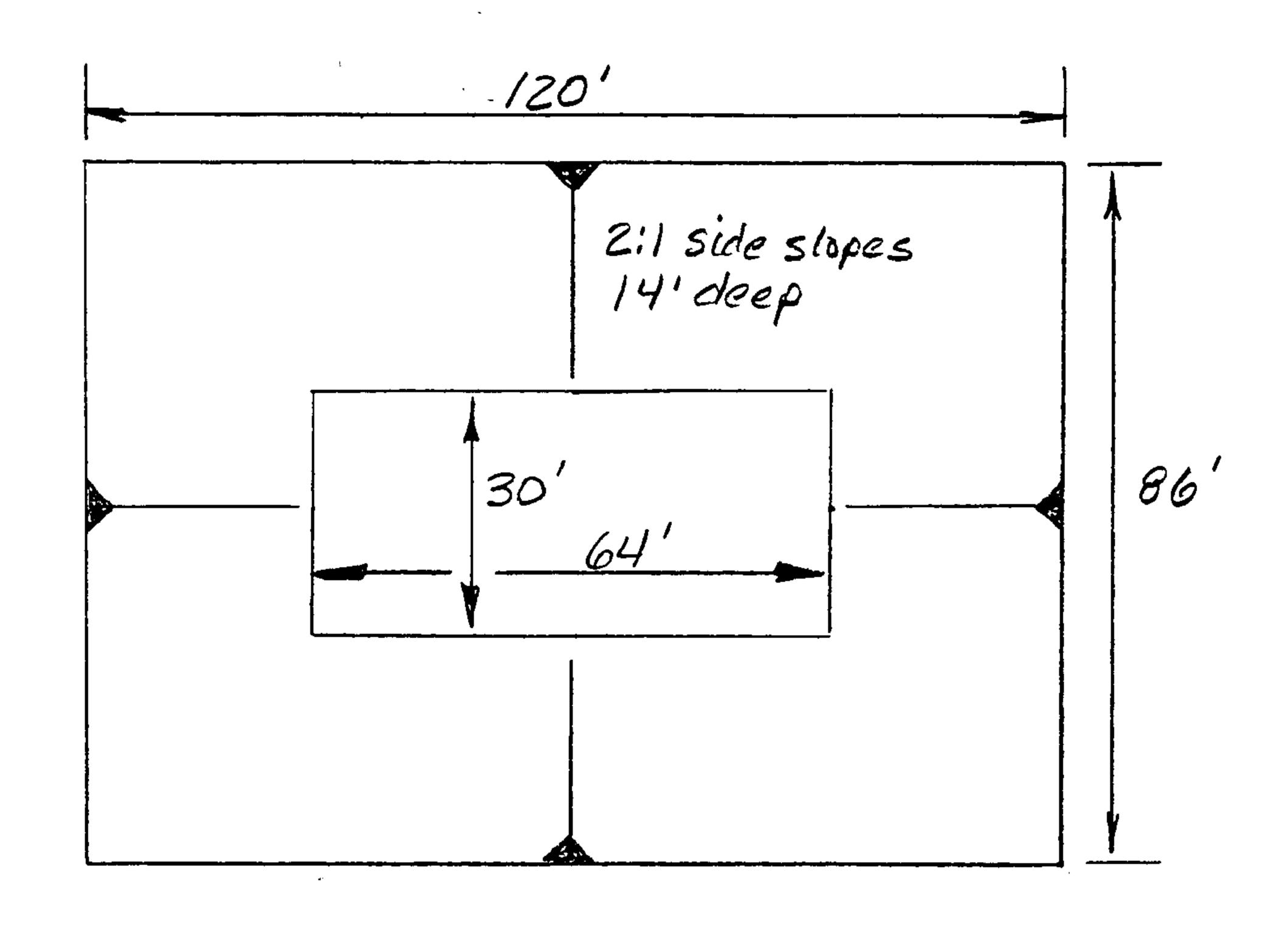
AD = ,755 (.415) + .782 (.734) = ,8873 acres

VIODAY = .1985 ac-A+.8873 (4.9-2.6) = VIODAY = .3685 AF



PROJECT Gg/e SUBJECT	Rock Unit III
	DATE
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#### Onsite Retantion Pond



Design Volume =  $\frac{1}{3}$  (Depth) (A, +Az +  $\sqrt{A_1 \cdot A_2}$ ) A1 = 64 × 30 = 1920 SF A2 = 120 × 86 = 10320 SF Vol. Design =  $\frac{1}{3}$  (14) (1920 + 10320 +  $\sqrt{1920 \cdot 10320}$ ) Vol. Design = 77892.9 CF = 1.788 AF Vol. Reg'd = 1.773 AF

D. Mark Goodwin & Associates, P.A. Consulting Engineers and Surveyors
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PROJECT GO	e Rock Unit III
SUBJECT	
BY	DATE
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	SHEETOF

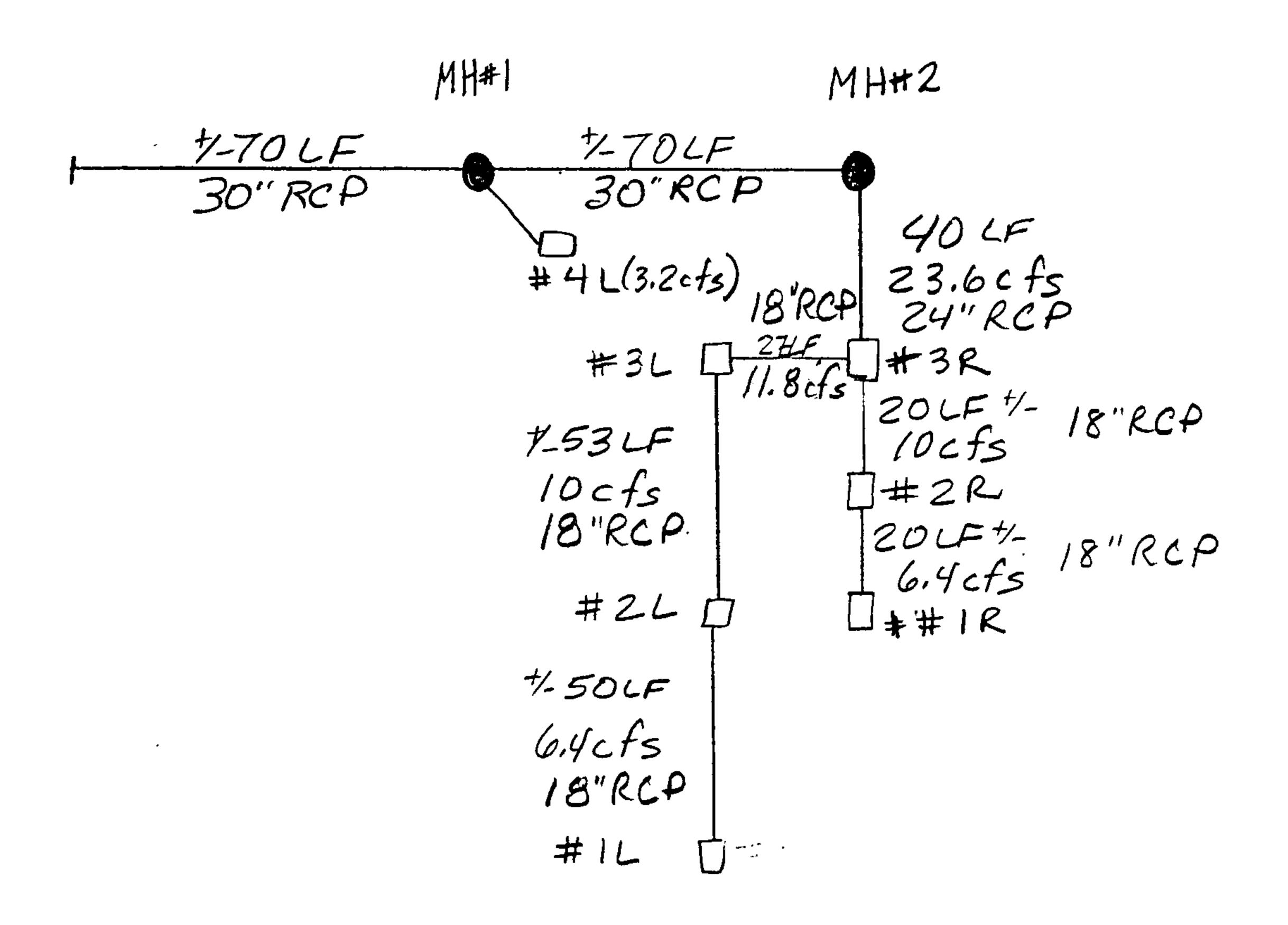
Offsite Retantion Pond

<u> </u>	
3:1 side slopes 1.5' cleep	45'

Design Volume = 
$$\frac{1}{3}$$
 (Depth) (A, + Az +  $\overline{A}$ , ×Az)  
A, (bottom) =  $\overline{Z}$ 61 ×  $\overline{Z}$ 6 =  $\overline{Q}$ 396 SF  
Az(top) =  $\overline{Z}$ 70 ×  $\overline{Y}$ 5 =  $\overline{Z}$ 150 SF  
Vol. Design =  $\frac{1}{3}$  (1.5) ( $\overline{Q}$ 396+ $\overline{Z}$ 150+ $\overline{Q}$ 396- $\overline{Z}$ 150)  
Vol. Design =  $\overline{Z}$ 6115 SF  
Vol. Design =  $\overline{Z}$ 70 AF

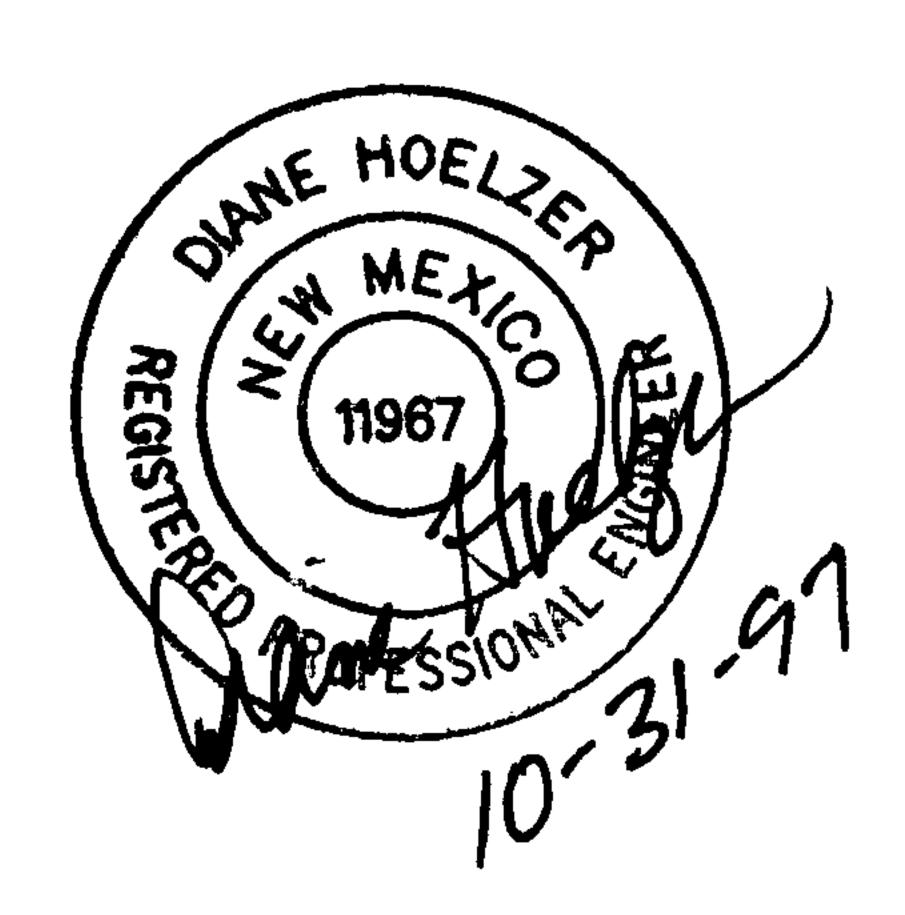
	D. Mark Goodwin & Associates, P.A.
<u> </u>	D. Mark Goodwin & Associates, P.A. Consulting Engineers and Surveyors

PROJECT	Storm Drai	n Unit III
SUBJECT	Prel. Calcs	n Uni+III
BY	_	DATE 12-5-97
	)	DATE
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	SLOPE	4	Depth	
#14-#24	1.0%	6.4cfs	.95	18"RCP
# 24 - # 34	1.0%	10 c.f.s	1.5	19"RLP
# 3L-# 3R	1.0%	11.8 c.fs	Prossure	18"RCP
# 1R-#2R	1.0%	6.4cfs	,95'	18" RCP
#2R-#3R	1.0 %	10cfs	1.5'	18"RCP
#3R-MH2	1.5%	23.6cfs	1.6'	24"RCP
MH2-MH1	3.5 %	47.2 cfs	1.55'	30"RCP
MH1-END	3.5 %	53.1cfs	1.71	30"RCP

# DRAINAGE REPORT for EAGLE ROCK ESTATES UNIT 3



OCTOBER 1997

D. MARK GOODWIN & ASSOCIATES -

#### I. LOCATION AND DESCRIPTION

The proposed Eagle Rock Estates Unit 3 is comprised of approximately 6.55 acres and is located in North Albuquerque Acres just west of the proposed Eagle Rock Estates Unit 2 (Figure 1). Proposed development includes the infrastructure to support the development of 36 single family residential homes.

The topographic relief in the area is in an westerly direction at a slope of approximately 3.5 percent.

The FEMA map indicates that all of the site is within the 100-year floodplain (Figure 2). AMAFCA has submitted a LOMR to FEMA to remove the floodplain based on the dike constructed at Wyoming and Louisiana. To date, AMAFCA has not heard from FEMA.

#### II. DRAINAGE DESIGN CRITERIA AND PREVIOUS REPORTS

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. A master drainage management plan for this area in North Albuquerque Acres which included the Unit 3 property was prepared and approved by Hydrology this year and was called the <u>Eagle Rock Subdivision Conceptual Drainage Master Plan Report</u>, (C18/D39) dated April, 1997 with supplemental information dated June 12, 1997. The results for their "existing drainage conditions" analysis were assumed still valid for purposes of this report. Their proposed interim and future drainage conditions presented in their report are being modified in this submittal because the project limits for the Eagle Rock Estates have been changed since the time of their approved plan.

#### III. EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions, runoff flows in a westerly direction through the site in one well defined arroyo. Offsite flows enter the site from the east. Flows in Eagle Rock Avenue to the north continue in a westerly direction within and along side the street section.

#### IV. FUTURE DRAINAGE CONDITIONS

#### A. INTERIM CONDITIONS

For the interim condition a temporary retention pond will be constructed on two lots in the northwest corner of Unit 3 and will retain a minimum of 1.58 acre-feet. The pond will have 2:1 side slopes and be protected by a 2" thick gravel mulch, will be 14.0 feet deep and will be fenced. All the onsite drainage will be intercepted by a series of inlets at the north end of Obsidian Street. A storm drain in Eagle Rock Avenue will be built from the Obsidian Street intersection west to the property line for the future connection into the proposed storm drain system in Eagle Rock Avenue. For the interim condition, the storm drain runoff will be diverted into the temporary retention pond. A waterblock at the Olivine/Oakland intersection will prevent offsite flows from entering the site.

#### 1. Louisiana Blvd. and Oakland Avenue

Offsite flows generated east of the proposed Louisiana Blvd. centerline will be intercepted by the inlets in Louisiana Blvd. at Modesto Avenue and Oakland Avenue and by the temporary retention ponds in Unit 1 and 2. Any nuisance flows not intercepted will be prevented from crossing over Louisiana Blvd. by the crown section and instead will be directed south or north along the Louisiana Blvd. east flowline. Most of the offsite flows generated in the west half of Louisiana Blvd. will be directed south and then west along Oakland Avenue. Since Oakland Avenue west of Louisiana Blvd. does not presently exist,

2

all offsite flows in Oakland will be intercepted by the offsite Oakland-Louisiana temporary retention Pond along Unit 3 west property boundary as shown on the grading and drainage plan.

#### 2. Eagle Rock Avenue

Offsite runoff in Eagle Rock Avenue adjacent to Unit 3 will continue to flow in a westerly direction following the same historical flow pattern. Eagle Rock Avenue is currently paved all the way to San Pedro Avenue. The proposed arterial Louisiana Blvd. crown section will prevent any offsite flows in Eagle Rock east of Louisiana Blvd. from crossing over Louisiana Blvd. Offsite flows in Eagle Rock Avenue east of Louisiana Blvd. will be intercepted by inlets in Eagle Rock at Louisiana Blvd.

#### B. ULTIMATE CONDITIONS

For the ultimate drainage conditions, the onsite temporary retention pond will disappear when the downstream storm drain improvements have been built. The temporary Oakland-Louisiana Retention pond will disappear when the adjacent property owner develops his/her site. At that time when development of their property occurs, these offsite flows will need to be addressed.

# TABLE 1 EXISTING CONDITIONS HYDROLOGIC CHARACTERISTICS AND 100-YEAR FLOW RATES

BASIN	AREA SQ.MI.	% A	% B	% C	% D	TP HRS	V100 AC-FT	Q100 CFS
101	.0094	85	0	5	10	.13	.41	12.8
102	.0247	85	0	5	10	.13	1.07	33.5
103	.0112	85	0	5	10	.13	.49	15.2
201	.0254	85	0	5	10	.13	1.10	34.4
202	.0179	85	0	5	10	.13	.78	24.3
203	.005	85	0	5	10	.13	.22	6.8 .
204	.0095	85	0	5	10	.13	.41	12.9

TABLE 2
SUMMARY OF INLET CALCULATIONS

#### Eagle Rock Estates, Unit 3

LOCATION	CURB	WIDTH ft.	SLOPE %	Q cfs	DEPTH ft	EG ft	Q INLET cfs	#/TYPE of INLETS	REMAIN Q (cfs)
Limestone Street	MTB	26' FF	5.3	5.4	0.17	0.39	N/A		
Shale Street	MTB	28' FF	5.0	7.7	0.23	0.37	N/A		
Obsidian Street	STD	32' FF	0.6	24.6	0.51	0.63	6.4	2 DBLA	11.80
Obsidian Street	STD	32' FF	0.6	11.8	0.42	0.48	3.6	2 SGL C	4.60
Obsidian Street	STD	32' FF	0.6	4.6	0.31	0.36	1.8	2 SGL C	1.00

Louisiana and Eagle Rock

MTB = Mountable Curb STD = Standard Curb

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to Eagle Racke

# D. Mark Goodwin & Associates, P.A. Consulting Engineers and Surveyors

PROJECT Eggle SUBJECT Reten	Rock - Unit 3 tron Pond Calcs.
BY DLH	DATE 10-16
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Retention Pond Volume For 10 day storm

$$V_{10DAY} = V_{360} + A_D \cdot \left( \frac{P_{100} - P_{360}}{12} \right)$$
  
 $V_{360} = .92(.234) + 1.29(.234) + 2.36(.532)$ 

Retention Fond For Oakland and Louisiana (Offsite)

# D. Mark Goodwin & Associates, P.A. Consulting Engineers and Surveyors

PROJECT <u>Cagl</u>	e Rock Unit 3
SUBJECT <u>LAND</u>	TREATMENT
BY	DATE
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(.73469 AL.)

Eagle Rock Unit 3 OFFSITE

NORTH LOUISIANA

PAV (37)(160) = 5920 (75.5)

TR.B (12)(160) = 1920 (24.5)

7840 SF = .00028 SQM1

SOUTH LOUISIANA

PAU (37) (364) = 13468 (75.5)

TR.B (12) (364) = 4368 (24.5)

17,836 SF = .00064 SQMI

OAKLAND + LOT 13-PI OLIVINE

DAV(29)(620) + 3993 + 36(85) = 25033 = ,782

TR.B (6) (620) + 2400 (10 (85) = 6910 = .218

21,7005F + 63935F + 3,9105F = 320035F = 001148

10,303 SF = .2365

EAGLE ROCK

PAV (24) (620) = 14880 (803)

TR.B (6) (620) = 3720 (20%)

18,600 SF = .00067

ONSITE 6.55 ac. -. 2365ac. = 6.3135 Ac. = .009865 SQM; SINGLE FAMILY N = 36 UNITS/6.55 AC = 5.5

 $Tr. D = 7[5.5^2 + 5(5.5)]^{.5} = 53.2\%$ 

Tr. B = 23.4%

Tr. C = 23.4%

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 (MON/DAY/YR) =10/28/1997

USER NO.= M\_GOODWN.I01

RUN DATE

INPUT FILE = eagle3.dat

					PEAK	RUNOFF		TIM	E TO	CFS	
	HYDRO	GRAPH ID	)	AREA	DISCH	VOLUME	RUNOF	F PE	CAK	PER	
COMMAND	IDENTIF	ICATION		(SQ MI)	(CFS)	(AC-FT)	(INCHES	) (HO	URS)	ACRE	
								_			
START						TIN	ME = .0	0			
RAINFALL TY	PE=1						RAIN	6= 2.	450		
COMPUTE NM	HYD	100.00 -	1	.00987	24.64	.871	1.65541	1.500	3.903 F	PER IMP=	53.20
COMPUTE NM	HYD	101.00 -	1	.00028	.80	.029	1.92318	1.500	4.447 I	PER IMP=	75.50
COMPUTE NM	HYD	102.00 -	1	.00064	1.80	.066	1.92318	1.500	4.386 I	PER IMP=	75.50
COMPUTE NM	HYD	103.00 -	1	.00115	3.25	.120	1.95560	1.500	4.422 I	PER IMP=	78.20
COMPUTE NM		104.00 -	1	.00067	1.92	.071	1.97721	1.500	4.475 I	PER IMP=	80.00
FINISH											

## CITY OF ALBUQUERQUE



April 3, 2007

Mr. Larry Read, P.E. Larry Read & Associates, Inc 2430 Midtown Pl. NE Ste. C Albuquerque, NM 87107

Re: Pond Recovery, 6800 Limestone Ave. NE,

Approval of Permanent Certificate of Occupancy (C.O.)

Engineer's Stamp dated 2/13/2006 (C-18/D039B)

Certification dated 03/30/2007

Based upon the information provided in your submittal received 3/30/2007, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

P.O. Box 1293

If you have any questions, you can contact me at 924-3982.

Sincerely,

Albuquerque

Timothy Sims

Plan Checker-Hydrology, Planning Dept.

New Mexico 87103

Development and Building Services

www.cabq.gov

C: CO Clerk-Katrina Sigala

File

## CITY OF ALBUQUERQUE



March 14, 2006

Larry D. Read, PE Larry Read & Associates 2430 Midtown Place NE, Ste C Albuquerque, NM 87107

Re: Eagle Rock Estates Unit 3 Pond Recovery (Limestone) Grading Plan Engineer's Stamp dated 2-13-06, (C18/D39B)

Dear Mr. Read,

P.O. Box 1293

Based upon the information provided in your submittal dated 2-13-06, the above referenced plan is approved for Grading Permit, SO#19 Permit and Preliminary Plat. Prior to Final Plat signoff by City Engineer, please submit an Engineer's certification of this grading plan and provide acceptance of the modification to the sidewalk culvert in Oakland.

Albuquerque

If you have any questions, please contact me at 924-3986.

New Mexico 87103

www.cabq.gov

Sincerely,

Brackley A. Sunham.
Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

C: Ed Elwell, DMD file