



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

23 April 1999

Mr. Steve Crawford
Crawford Development Services
3634 Highway 47
Peralta, NM 87042

RE: DALE SEYMOUR DEVELOPMENT (G14/D58) DRAINAGE SUBMITTAL FOR
BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED 3-29-99

Dear Mr. Crawford:

Based upon the information provided in your 3-29-99 submittal, the referenced project is approved for Building Permit.

Please attach a copy of this approved plan to the construction plans prior to sign off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the D.P.M. checklist will be required.

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

Sincerely,

Scott Davis
PWD, Hydrology Div.

c: Andrew Garcia
file

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Dale Seymour Development ZONE ATLAS/DRNG. FILE #: G-14/D58
 DRB #: _____ EPC #: _____ WORK ORDER #: _____
 LEGAL DESCRIPTION: Lot 2A, Block 2 of the Amended & Supplemental Plat of Gentry Addition
 CITY ADDRESS: 4th Street / Claremont Ave, NW
 ENGINEERING FIRM: Crawford Development Services CONTACT: Steve Crawford
 ADDRESS: 3634 Highway 47 Peralta, NM 87042 PHONE: 865-6442
 OWNER: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 ARCHITECT: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 SURVEYOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 CONTRACTOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☒ OTHER Drainage Plan Amendment

PRE-DESIGN MEETING:

- ☐ YES
☒ NO
☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

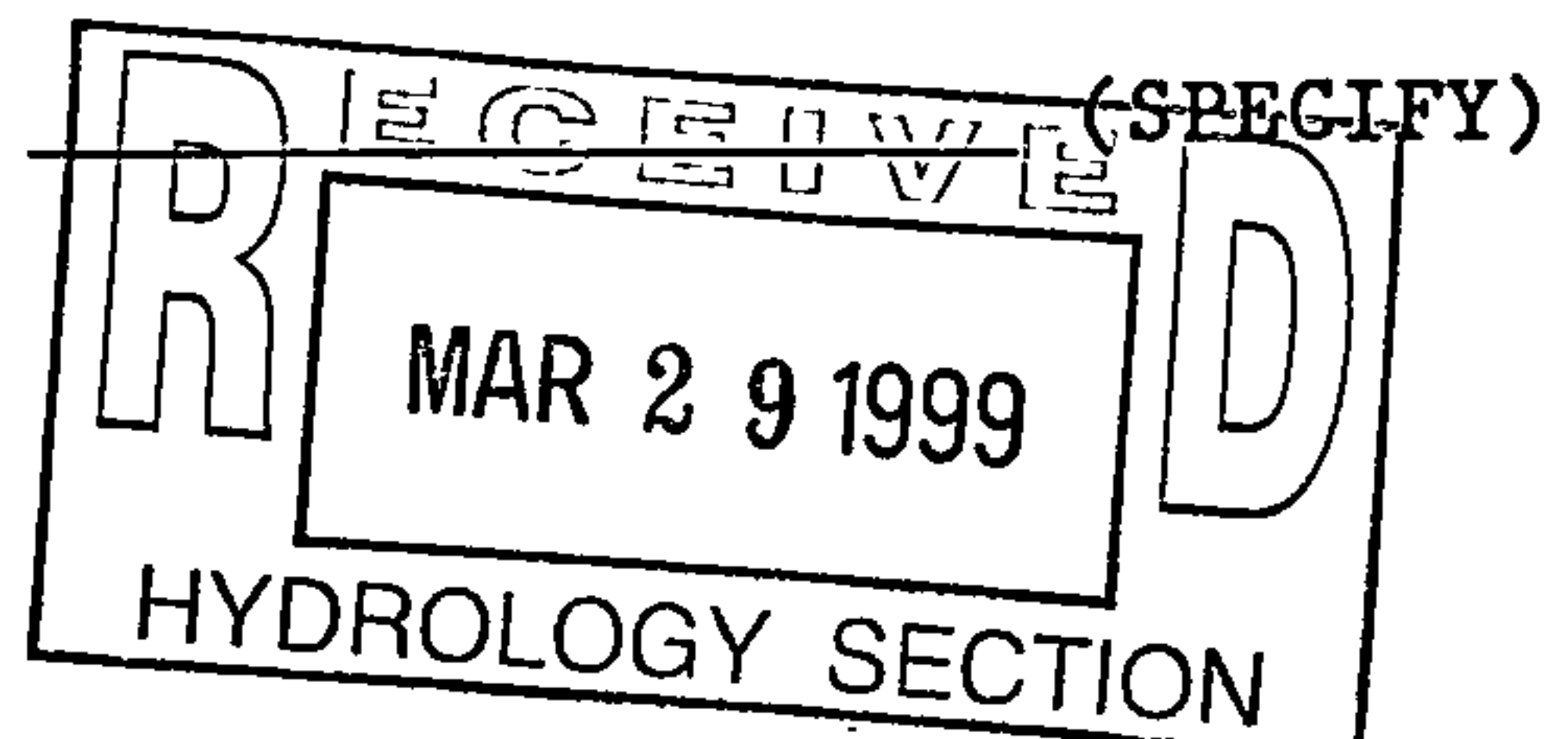
- ☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☒ FOUNDATION PERMIT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ SUBDIVISION CERTIFICATION
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED:

BY:

March 29, 1999

[Signature]



CRAWFORD DEVELOPMENT SERVICES

3634 Highway 47, Peralta, NM 87042

(505)865-6442

March 29, 1999

HAND DELIVERED

TO: Hydrology Division
Public Works Department
City of Albuquerque
Plaza Del Sol Building
600 2nd Street, NW
Albuquerque, NM 87103

RE: Amendment to Drainage Plan for Dale Seymour Development (G-14/D58)

To Whom It May Concern:

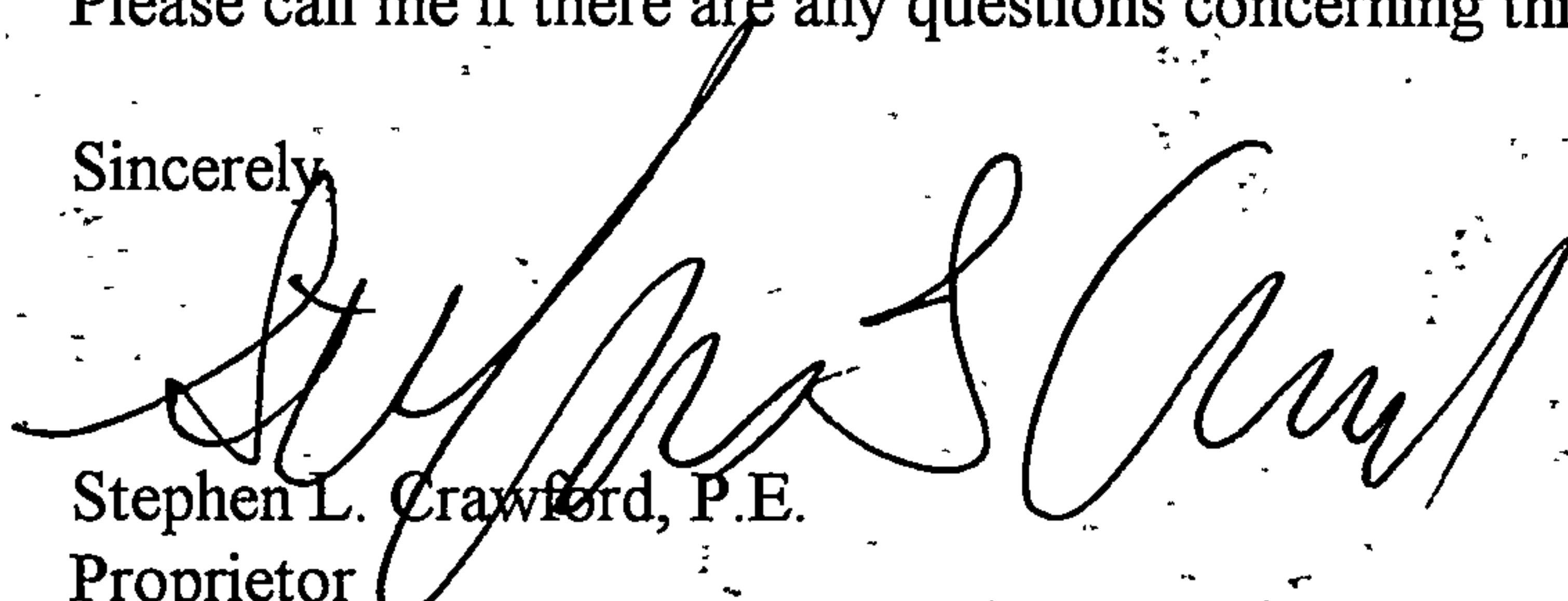
The enclosed grading plan shows Revision 1 to the approved drainage plan for the project site. The revision adds a building to an area that was originally constructed with asphalt paving.

A field inspection was made on March 19th, 1999 and the site appears to have been constructed in accordance with the approved drainage plan. The north half of the roof of the existing building (being the southerly portion of Basin 3) was reconstructed to be a shed roof draining to the south side of the existing building and is shown as Basin 3b on the revised plan. The point of discharge for the roof's runoff is unchanged (it still drains to the onsite 12" PVC storm drain).

There is no change in the site's runoff as a result of the proposed building being constructed over an existing asphalt paved area. The roof drainage from the existing building that is west of the proposed building will be collected into a roof drain system that will convey it through the proposed building to the east for discharge towards the onsite valley gutter as per the original pattern of drainage.

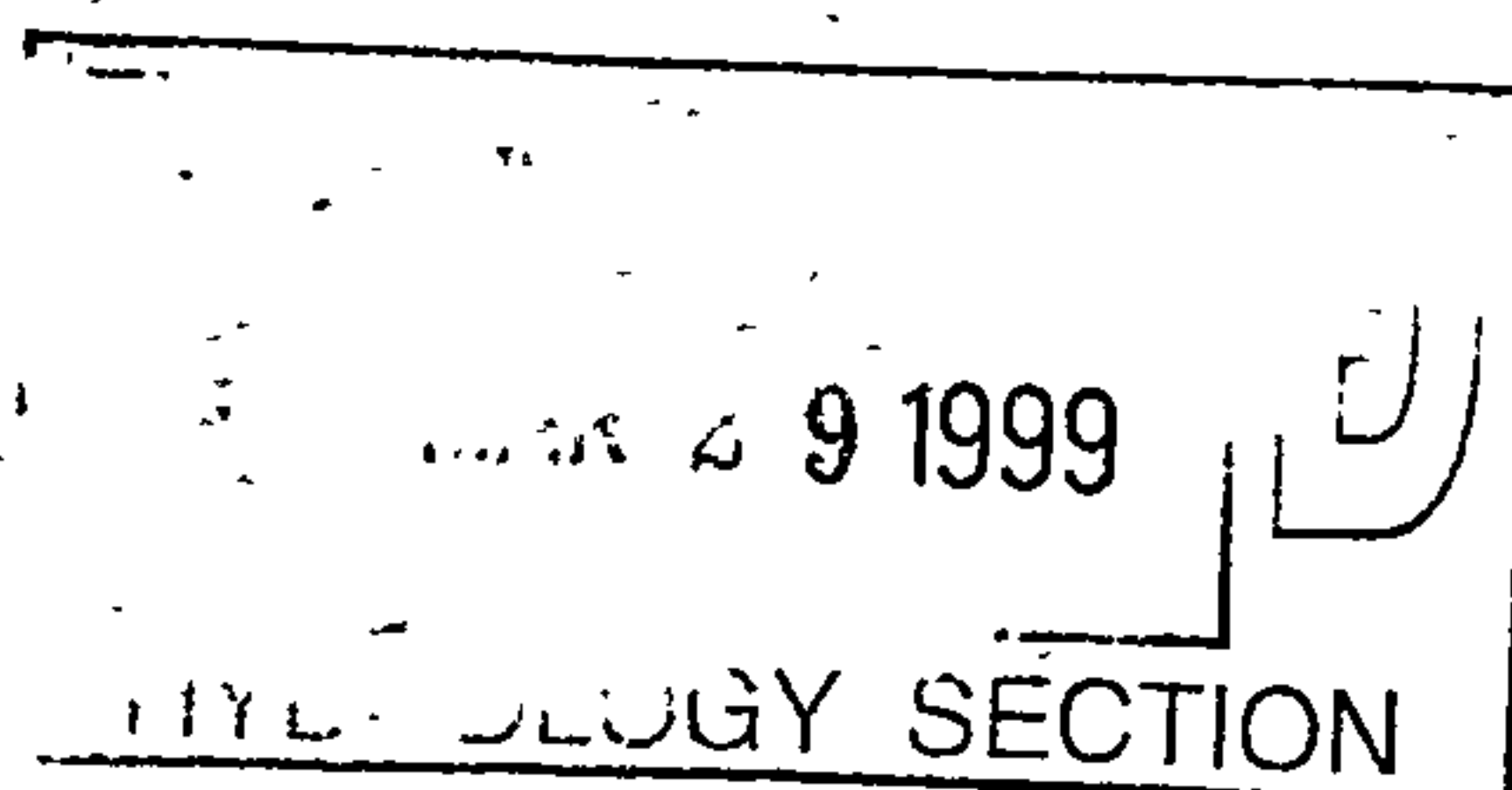
Please call me if there are any questions concerning this drainage plan amendment.

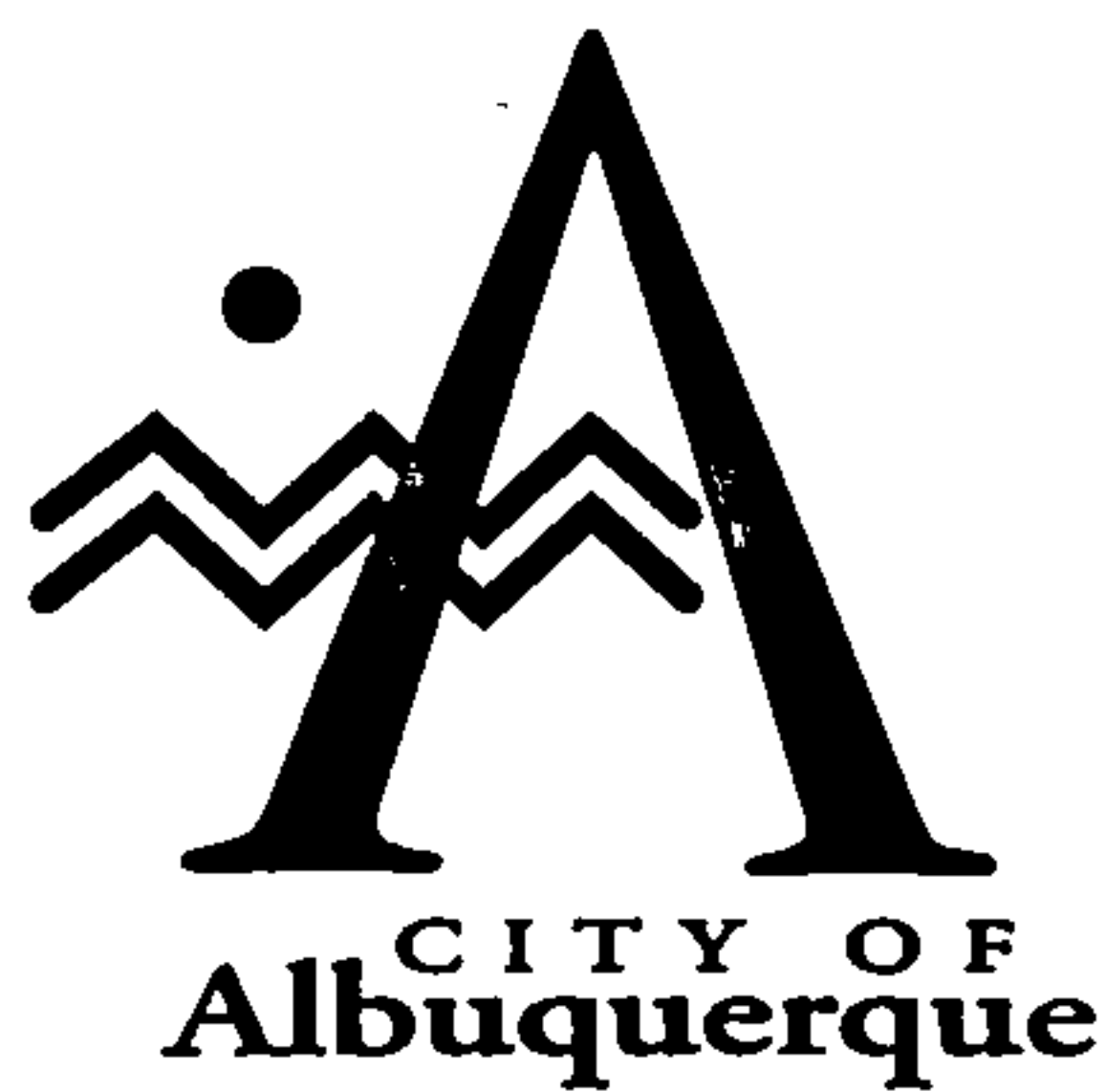
Sincerely,


Stephen L. Crawford, P.E.
Proprietor

slc:slc
99002m01.doc

Enclosures: Revised Grading Plan





October 7, 1996

Martin J. Chávez, Mayor

Stephen Crawford
Crawford Development Services
21 Llano Road
Los Lunas, NM 87031

RE: Revised Drainage Plan for Dale Seymour Development (G14-D58) Revision dated 9/4/96.

Dear Mr. Crawford:

Based on the information provided on your September 6, 1996 re-submittal, the above referenced site is approved for Building Permit and S.O. 19.

Please attach a copy of this approved plan to the construction plans prior to sign off by Hydrology.

Also, a separate permit is required for construction within City R/W. A copy of this approval letter must be in hand when applying for the excavation permit.

Prior to Certificate of Occupancy release, Engineer Certification per the D.P.M. checklist will be required.

Please be advised that in future submittals that involve S.O. 19 processing, please include the COA specification drawing number (for example DWG. 2237).

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

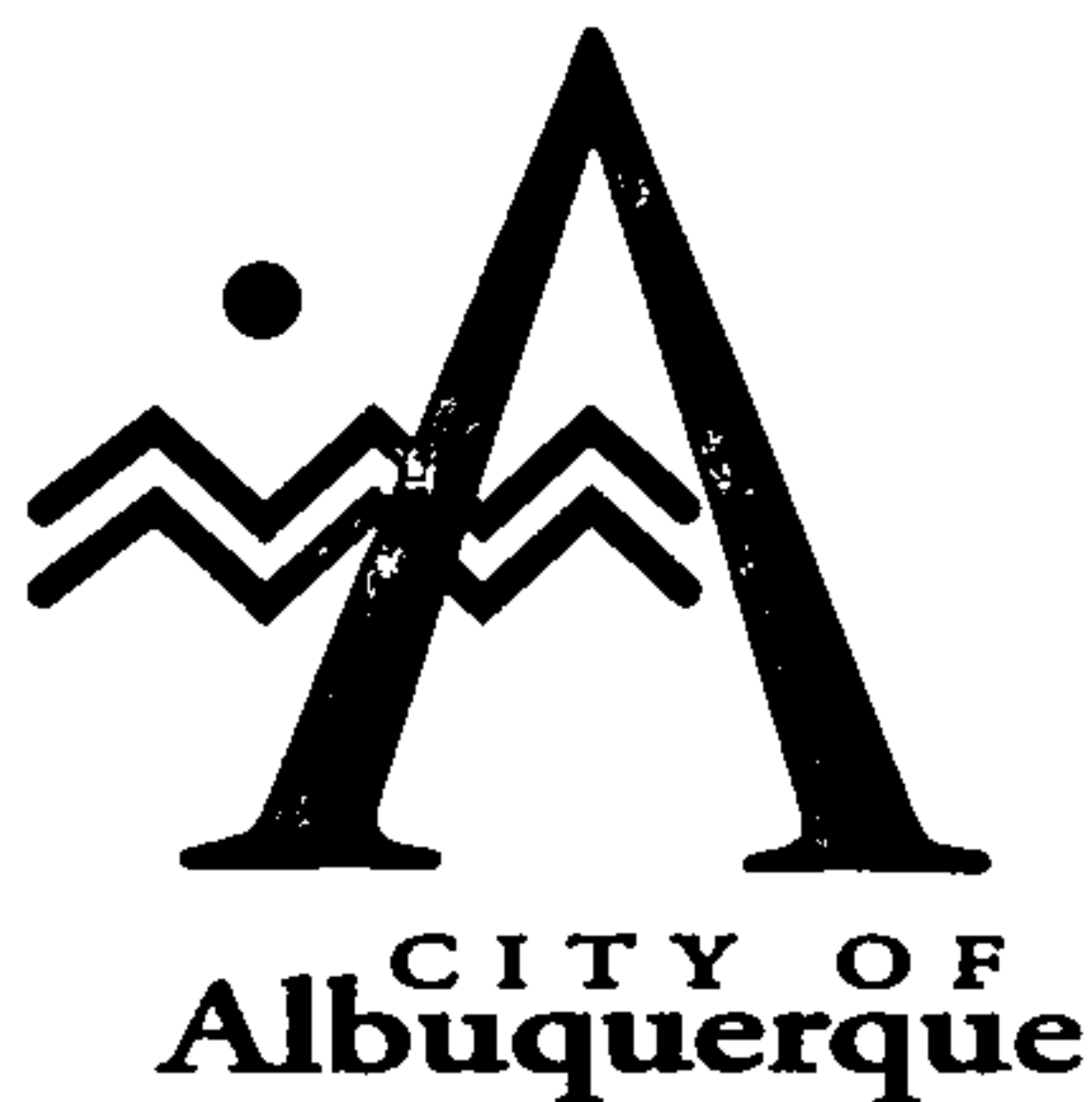
Bernie Montoya CE
Engineering Associate

C: Andrew Garcia

File

Good for You. Albuquerque!





August 19, 1996

Martin J. Chávez, Mayor

Stephen Crawford
Crawford Development Services
21 Llano Road
Los Lunas, NM 87031

RE; DRAINAGE PLAN FOR DALE SEYMOUR DEVELOPMENT (G14-D58)
ENGINEER STAMP DATED 7/23/96.

Dear Mr. Crawford:

Based on the information provided on your July 24, 1996 submittal, listed are some concerns that will need to be addressed prior to final approval:

1. Unclear as to how you propose to drain the ponding area through the proposed 12" pvc pipe. Do you propose an inlet?
2. Bench Marks:
 - a. ACS benchmark used location & elevation.
 - b. T.B.M. must be permanently marked.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
/ File

Good for You, Albuquerque!



DRAINAGE INFORMATION SHEET

PROJECT TITLE: Dale Seymour Development ZONE ATLAS/DRNG. FILE #: G14/H14 ^{D58}

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Lot 2A, Block 2 of the amended + Supplemental Plat of Gentry Addition Sec 8,

CITY ADDRESS: 4th St and Clement NW T10N, R3E, NMPM, Alb, Bern Co. NM

ENGINEERING FIRM: Crawford Development Services CONTACT: John Dipollino

ADDRESS: 3634 Ag. 47, Peralta, NM 87042 PHONE: 865-6442

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☒ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION
- ☐ OTHER _____

PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
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- ☐ GRADING PERMIT APPROVAL
- ☒ PAVING PERMIT APPROVAL
- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ SUBDIVISION CERTIFICATION
- ☒ OTHER SO 19 (SPECIFY)

DATE SUBMITTED

BY:

9/7/96

John Dipollino

SEP - 6 1996

Crawford
Development
Services

3634 Highway 47
Peralta, NM 87042
FAX: 869-0050
865-6442

September 4, 1996

Bernie J. Montoya, CE
COA Hydrology
P.O. Box 1293
Albuquerque, NM 87103

RE: DRAINAGE PLAN FOR DALE SEYMOUR DEVELOPMENT (G14-D58)
ENGINEER STAMP DATED 7/23/96.

Dear Mr Montoya,

This letter is in response to your comments on the Dale Seymour Project dated August 19, 1996, a copy of which is attached for your convenience.

The northern inlet of the 12" PVC pipe is in a sump located in a landscaping area in the parking lot. The inlet of the pipe is 12" below the edge of the valley gutter to allow free flow into the pipe for nuisance flows and is completely submerged during peak discharge.

The temporary bench mark is a chiseled "X" in the curb at the intersection of 4th St. and Claremont St. with an elevation of 4965.10. The ACS benchmark is "NM47-12" and is located in the median strip on 2nd St., north of Phoenix Ave, 2.5 miles from the intersection of Central Ave with an elevation of 4967.90.

I am also submitting a revised grading plan for the project. You will note that the building in basin B-2 has been removed and that two of the entrances to the project have been returned to their original configuration. The third entrance, the northern most, is still being replaced with sidewalk. You will also note that the configuration of the water block between the easterly discharging and westerly discharging drainage basins has changed slightly. This change was incorporated in order to maintain the volume of runoff in the respective basins.

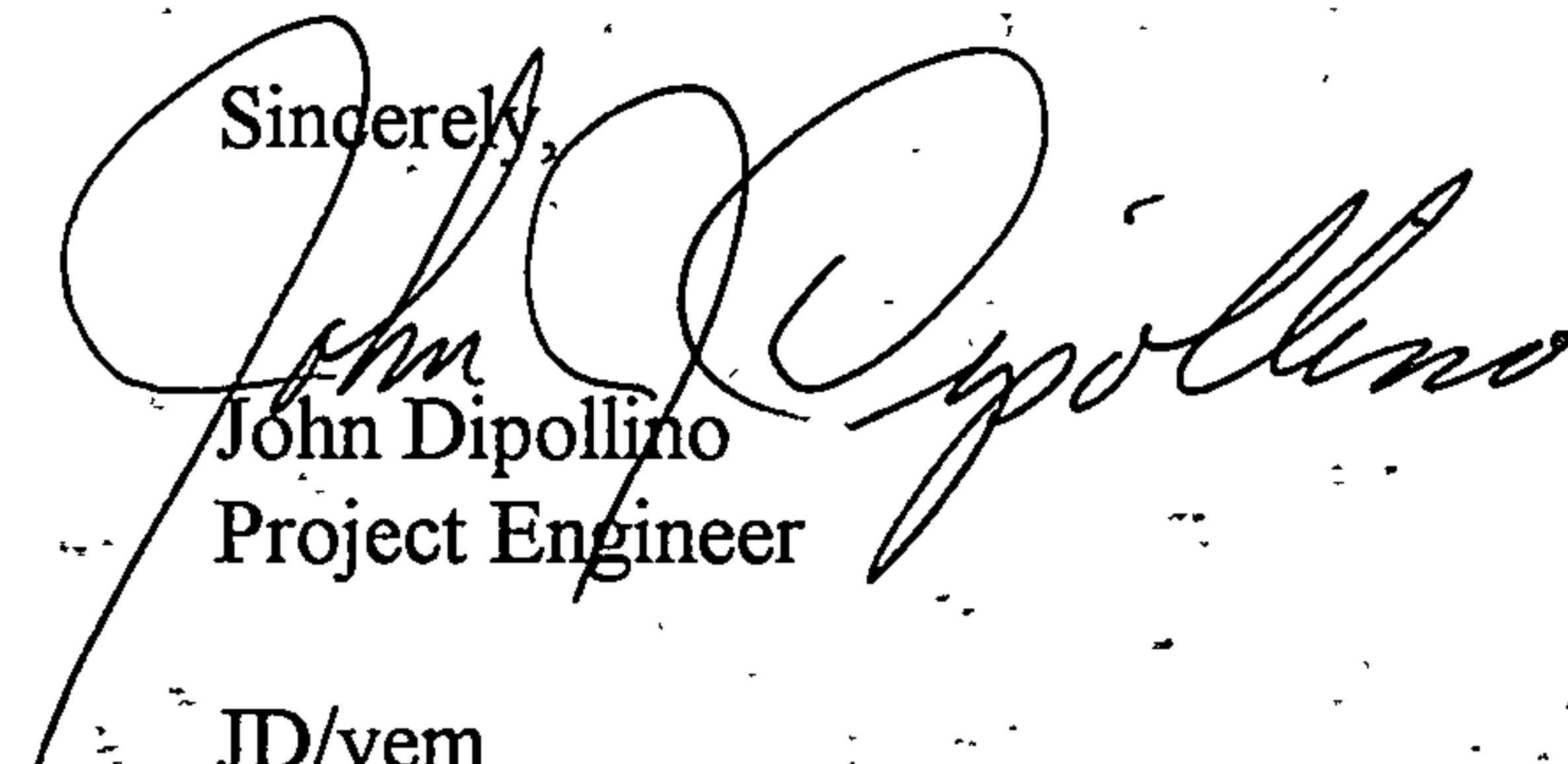
The removal of the proposed building and the return of the entrances to their existing configuration will have no impact on this project or the areas surrounding the project.

SEP - 6 1996

I am also attaching 2 copies of the revised grading plan to replace those originally submitted for use in processing the SO 19.

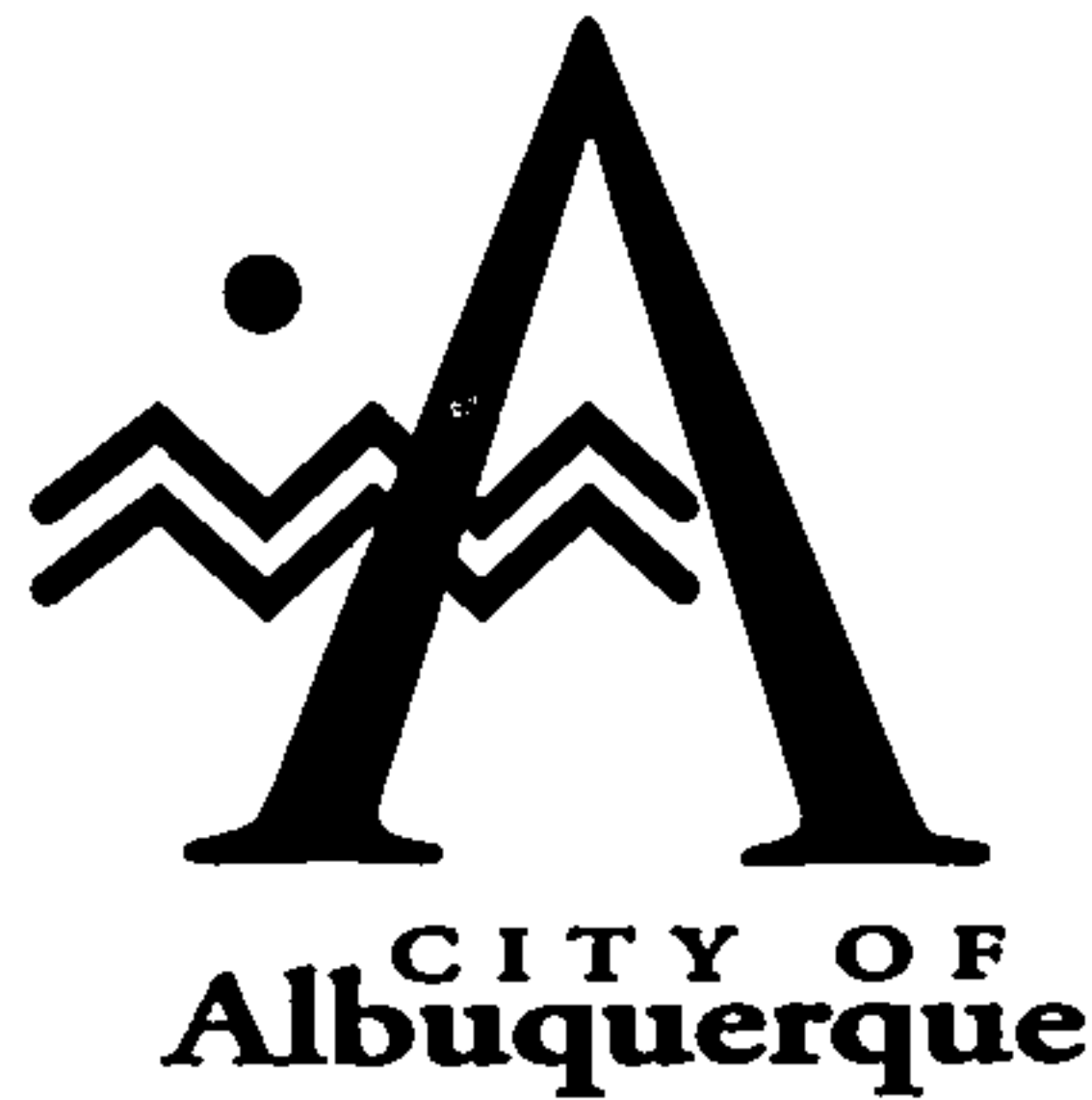
If you have any further questions concerning this project, please call me.

Sincerely,



John Dipollino
Project Engineer

JD/vem
96010101.wpd



August 19, 1996

Martin J. Chávez, Mayor

Stephen Crawford
Crawford Development Services
21 Llano Road
Los Lunas, NM 87031

RE; DRAINAGE PLAN FOR DALE SEYMOUR DEVELOPMENT (G14-D58)
ENGINEER STAMP DATED 7/23/96.

Dear Mr. Crawford:

Based on the information provided on your July 24, 1996 submittal, listed are some concerns that will need to be addressed prior to final approval:

1. Unclear as to how you propose to drain the ponding area through the proposed 12" pvc pipe. Do you propose an inlet?
2. Bench Marks:
 - a. ACS benchmark used location & elevation.
 - b. T.B.M. must be permanently marked.

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Sincerely,


Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
File

Good for You, Albuquerque!



DRAINAGE INFORMATION SHEET

PROJECT TITLE: Dale Seymour Development ZONE ATLAS/DRNG. FILE #: G14/1117 ⁰⁵⁸

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Lot 2A, Block 2 of the amended + Supplemental Plat of Gentry Addition Sec 8,

CITY ADDRESS: 4th St and Claremont NW T10N, R3E, NMPM, Alb., Barn Ct. NM

ENGINEERING FIRM: Crawford Development Services CONTACT: John Dipollino

ADDRESS: 3634 Hwy. 47, Peralta, NM 87042 PHONE: 865-6442

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- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION
- ☐ OTHER _____

PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

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- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ SUBDIVISION CERTIFICATION
- ☒ OTHER SO 19 (SPECIFY)

DATE SUBMITTED:

BY:

7/24/96
John Dipollino

JUL 24

DRAINAGE PLAN

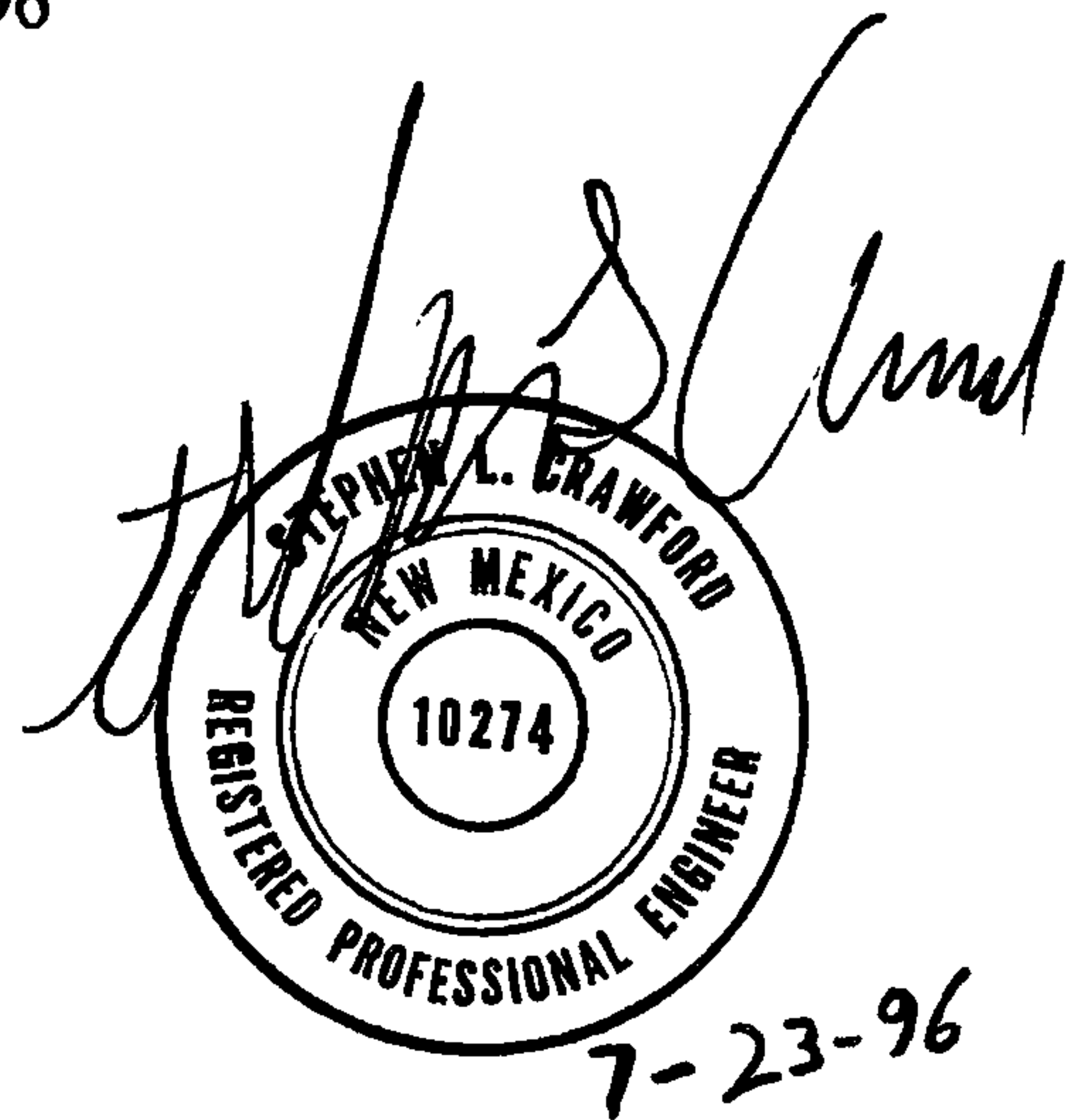
for the

DALE SEYMOUR DEVELOPMENT

4TH AND CLAREMONT, NE
ALBUQUERQUE, NEW MEXICO

JULY, 1996

Crawford
Development
Services
Founded 1989



Stephen L. Crawford, P.E.



21 LLANO ROAD, LOS LUNAS, NM 87031

865-6442

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APPENDICES

APPENDIX A	AHYMO Calculations for Existing Conditions
APPENDIX B	Miscellaneous Hydraulic Calculations
APPENDIX C	AHYMO Calculations for Proposed Conditions

MAP POCKET	Grading and Drainage Plan
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DRAINAGE PLAN

I. SITE LOCATION:

The site is located at the north east quadrant of the intersection of 4th St. and Claremont NW. (See vicinity map on grading plan, CG.2). The site was formerly known as Lots 2 and 3 of Block 2 of the Amended and Supplementary Plat of Gentry Addition. These lots have been replatted to Lot 2a, Block 2 of the Amended and Supplementary Plat of Gentry Addition.

II. PROPOSED PROJECT:

The proposed project consists of expanding the mini storage facilities currently occupying the property. The project will require the demolition of some existing structures, regrading of the property, construction of new storage facilities and paving of the site. A new detention pond on the former Lot 3, which will meter the flows into the existing storm drain system on Claremont NW, will also be constructed.

III. OFF-SITE DRAINAGE:

There is no off-site drainage that is pertinent to this site.

IV. EXISTING CONDITIONS:

To analyze the existing conditions, the property has been subdivided into four drainage basins labeled B-1 through B-4 on the drainage plate located in the map pocket at the back of this report. Basin B-1 currently drains to the west to 4th St. via three driveway openings and an onsite storm drain located in the south west corner of the paved parking area. The peak discharge from Basin B-1 is 2.06 cfs. Per a drainage covenant issued in 1981, Basins B-2, B-3, and the northern portion of B-4 were to drain to a retention pond on the eastern end of former Lot 2. This retention pond was never constructed. This has caused Basins B-2 and B-4 to drain to the south to Claremont and Basin B-3 to drain to the north across the adjacent property to a drainage ditch. The peak discharge to the north is 0.65 cfs and the total peak discharge to the south is 2.80 cfs. Peak discharge for the basins was calculated using the AHYMO computer program. A copy of the program output is provided in APPENDIX A.

V. PROPOSED CONDITIONS:

Under proposed conditions, Basin B-2 is redirected to 4th St. The flows from Basins B-1 and B-2 will be combined and will discharge to 4th St. The slight increase in run-off from basin B-2 is being negated by the addition of a landscaped area in Basin B-1 at the northwest corner of the site. The existing driveway openings onto 4th St. will be replaced by a single driveway opening at the southwest corner of the former Lot 2. The drainage for Basins B-3 and B-4 will be routed through a detention pond in Basin B-4 which will meter the discharge into the existing storm drain system on Claremont St. As the basis for the pond and discharge calculations, I made the following assumptions: 1) the existing pond area will be vacated and the covenant on said pond released; 2) the run-off from Basin B-3, which currently flows to the north, will be redirected to the detention pond on site; 3) the total peak discharge will be mitigated to 2.80 cfs (the existing flow tributary to Claremont); 4) during the 100 year storm, the water surface elevation in Claremont is at the top of curb elevation, i.e. 4964.04, at the storm drain inlet; 5) the 12" PVC pipe used to convey the run-off from the pond sump to the storm drain inlet will be completely submerged during peak discharge. Calculations for pond volumes, orifice and pipe flow head losses and emergency overflow weir depth are provided in APPENDIX B. Calculations for pond routing and for peak run-off under developed conditions were performed using the AHYMO computer program. A copy of the program output is provided in APPENDIX C.

VI. SUMMARY / CONCLUSIONS:

The proposed project will have no effect on the drainage tributary to 4th St and a positive effect on the existing drainage on Claremont St. The detention pond in Basin B-4 will serve to reduce the existing flow rate of 2.8 cfs by approximately 11 percent to a developed flow rate of 2.5 cfs. In light of the condition of the existing storm drain system in Claremont, this is a valuable improvement. In addition, these renovations will correct the problem with the cross lot drainage to the north of the site.

APPENDIX A

RUN DATE (MON/DAY/YR) =07/22/1996

USER NO. = DAGGETTK.S94

		FROM	TO			PEAK	RUNOFF	TIME TO	CFS	PAGE =	1
	HYDROGRAPH	ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	PEAK	PER		
COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTATION	
*S	DALE SEYMOUR DEVELOPMENT										
START										TIME=	.00
*S	EXISTING CONDITIONS, 100 YEAR 6 HOUR STORM										
RAINFALL	TYPE=	2								RAIN24=	2.750
*S	BASIN DESIGNATION = BASIN B-1, EXISTING CONDITIONS										
COMPUTE NM HYD	B1	-	1	.00069	2.06	.093	2.51715	1.500	4.674	PER IMP=	100.00
*S	BASIN DESIGNATION = BASIN B-2, EXISTING CONDITIONS										
COMPUTE NM HYD	B2	-	3	.00004	.08	.002	1.12613	1.500	3.543	PER IMP=	.00
*S	BASIN DESIGNATION = ON-SITE BASIN B-3, EXISTING CONDITIONS										
COMPUTE NM HYD	B3	-	5	.00025	.65	.025	1.86338	1.500	4.054	PER IMP=	53.00
*S	BASIN DESIGNATION = ON-SITE BASIN B-4, EXISTING CONDITIONS										
COMPUTE NM HYD	OS-B4	-	7	.00128	2.73	.086	1.26524	1.500	3.327	PER IMP=	10.00
ADD HYD	100.00	3& 7	10	.00132	2.80	.088	1.26132	1.500	3.333		
FINISH											

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994

RUN DATE (MON/DAY/YR) = 07/22/1996

START TIME (HR:MIN:SEC) = 07:58:12 USER NO. = DAGGETTK.S94

INPUT FILE = 96010EX.DAT

*S DALE SEYMOUR DEVELOPMENT

START TIME=0.0

*

*S EXISTING CONDITIONS, 100 YEAR 6 HOUR STORM

*

RAINFALL TYPE=2 RAIN QUARTER=0 RAIN ONE=2.01
RAIN SIX=2.35 RAIN DAY=2.75 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0024	.0049	.0075	.0102	.0130	.0158
.0188	.0219	.0252	.0286	.0321	.0358	.0397
.0439	.0482	.0529	.0578	.0631	.0689	.0751
.0836	.0930	.1201	.1842	.2944	.4649	.7103
1.0460	1.3107	1.4303	1.5302	1.6176	1.6959	1.7667
1.8313	1.8906	1.9452	1.9955	2.0421	2.0851	2.0946
2.1034	2.1115	2.1191	2.1262	2.1330	2.1394	2.1455
2.1513	2.1569	2.1622	2.1673	2.1723	2.1771	2.1817
2.1862	2.1905	2.1948	2.1989	2.2028	2.2067	2.2105
2.2142	2.2178	2.2213	2.2248	2.2282	2.2315	2.2347
2.2379	2.2410	2.2440	2.2470	2.2500	2.2529	2.2557
2.2585	2.2613	2.2640	2.2666	2.2693	2.2719	2.2744
2.2769	2.2794	2.2818	2.2842	2.2866	2.2889	2.2913
2.2935	2.2958	2.2980	2.3002	2.3024	2.3046	2.3067
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2.3719	2.3736	2.3752	2.3768	2.3785	2.3801	2.3817
2.3833	2.3849	2.3865	2.3881	2.3897	2.3913	2.3929
2.3944	2.3960	2.3976	2.3991	2.4007	2.4022	2.4038
2.4053	2.4068	2.4084	2.4099	2.4114	2.4129	2.4144
2.4159	2.4174	2.4189	2.4204	2.4219	2.4234	2.4248
2.4263	2.4278	2.4292	2.4307	2.4322	2.4336	2.4350
2.4365	2.4379	2.4394	2.4408	2.4422	2.4436	2.4450
2.4464	2.4478	2.4493	2.4506	2.4520	2.4534	2.4548
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2.4843	2.4856	2.4869	2.4882	2.4895	2.4908	2.4921
2.4934	2.4946	2.4959	2.4972	2.4984	2.4997	2.5010
2.5022	2.5035	2.5047	2.5060	2.5072	2.5085	2.5097
2.5109	2.5122	2.5134	2.5146	2.5158	2.5170	2.5183
2.5195	2.5207	2.5219	2.5231	2.5243	2.5255	2.5267
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2.5523	2.5534	2.5545	2.5556	2.5568	2.5579	2.5590
2.5601	2.5612	2.5623	2.5635	2.5646	2.5657	2.5668
2.5679	2.5690	2.5701	2.5711	2.5722	2.5733	2.5744
2.5755	2.5766	2.5776	2.5787	2.5798	2.5809	2.5819

2.5830	2.5841	2.5851	2.5862	2.5872	2.5883	2.5893
2.5904	2.5914	2.5925	2.5935	2.5946	2.5956	2.5966
2.5977	2.5987	2.5997	2.6008	2.6018	2.6028	2.6038
2.6049	2.6059	2.6069	2.6079	2.6089	2.6099	2.6109
2.6119	2.6129	2.6139	2.6149	2.6159	2.6169	2.6179
2.6189	2.6199	2.6209	2.6219	2.6229	2.6238	2.6248
2.6258	2.6268	2.6278	2.6287	2.6297	2.6307	2.6316
2.6326	2.6336	2.6345	2.6355	2.6364	2.6374	2.6384
2.6393	2.6403	2.6412	2.6421	2.6431	2.6440	2.6450
2.6459	2.6469	2.6478	2.6487	2.6497	2.6506	2.6515
2.6524	2.6534	2.6543	2.6552	2.6561	2.6571	2.6580
2.6589	2.6598	2.6607	2.6616	2.6625	2.6634	2.6644
2.6653	2.6662	2.6671	2.6680	2.6689	2.6698	2.6707
2.6715	2.6724	2.6733	2.6742	2.6751	2.6760	2.6769
2.6778	2.6786	2.6795	2.6804	2.6813	2.6821	2.6830
2.6839	2.6848	2.6856	2.6865	2.6874	2.6882	2.6891
2.6900	2.6908	2.6917	2.6925	2.6934	2.6942	2.6951
2.6959	2.6968	2.6976	2.6985	2.6993	2.7002	2.7010
2.7019	2.7027	2.7035	2.7044	2.7052	2.7061	2.7069
2.7077	2.7085	2.7094	2.7102	2.7110	2.7119	2.7127
2.7135	2.7143	2.7151	2.7160	2.7168	2.7176	2.7184
2.7192	2.7200	2.7209	2.7217	2.7225	2.7233	2.7241
2.7249	2.7257	2.7265	2.7273	2.7281	2.7289	2.7297
2.7305	2.7313	2.7321	2.7329	2.7337	2.7344	2.7352
2.7360	2.7368	2.7376	2.7384	2.7392	2.7399	2.7407
2.7415	2.7423	2.7431	2.7438	2.7446	2.7454	2.7462
2.7469	2.7477	2.7485	2.7492	2.7500		

*S BASIN DESIGNATION = BASIN B-1, EXISTING CONDITIONS

COMPUTE NM HYD ID=1 HYD NO=B1 DA=0.00069 SQ MI
 PER A=0 PER B=0 PER C=0
 PER D=100 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.7933 CFS UNIT VOLUME = .9958 B = 526.28 P60 = 2.0100
 AREA = .000690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=10

HYDROGRAPH FROM AREA B1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.1	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.5	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51715 INCHES = .0926 ACRE-FEET
 PEAK DISCHARGE RATE = 2.06 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*

*S BASIN DESIGNATION = BASIN B-2, EXISTING CONDITIONS

*

COMPUTE NM HYD ID=3 HYD NO= B2 DA=0.000035 SQ MI
PER A=0 PER B=0 PER C=100
PER D=0 TP=0.13 RAIN=-1

K = .104786HR TP = .130000HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = .10326 CFS UNIT VOLUME = .8927 B = 383.55 P60 = 2.0100
AREA = .000035 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=10

HYDROGRAPH FROM AREA B2

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	.500	.0	1.000	.0	1.500	.1	2.000	.0

RUNOFF VOLUME = 1.12613 INCHES = .0021 ACRE-FEET
PEAK DISCHARGE RATE = .08 CFS AT 1.500 HOURS BASIN AREA = .0000 SQ. MI.

*

*S BASIN DESIGNATION = ON-SITE BASIN B-3, EXISTING CONDITIONS

*

COMPUTE NM HYD ID=5 HYD NO=B3 DA=0.00025 SQ MI
PER A=0 PER B=0 PER C=47
PER D=53 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .53640 CFS UNIT VOLUME = .9809 B = 526.28 P60 = 2.0100
AREA = .000133 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .104786HR TP = .130000HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = .34667 CFS UNIT VOLUME = .9658 B = 383.55 P60 = 2.0100
AREA = .000118 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=10

HYDROGRAPH FROM AREA B3

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	.6	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.1	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 1.86338 INCHES = .0248 ACRE-FEET
PEAK DISCHARGE RATE = .65 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

*S BASIN DESIGNATION = ON-SITE BASIN B-4, EXISTING CONDITIONS

COMPUTE NM HYD ID=7 HYD NO= OS-B4 DA=0.00128 SQ MI
PER A=0 PER B=0 PER C=90
PER D=10 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .51818 CFS UNIT VOLUME = .9809 B = 526.28 P60 = 2.0100
AREA = .000128 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .104786HR TP = .130000HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = 3.3988 CFS UNIT VOLUME = .9977 B = 383.55 P60 = 2.0100
AREA = .001152 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=10

HYDROGRAPH FROM AREA OS-B4

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.7	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.4	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 1.26524 INCHES = .0864 ACRE-FEET
PEAK DISCHARGE RATE = 2.73 CFS AT 1.500 HOURS BASIN AREA = .0013 SQ. MI.

ADD HYD ID=10 HYD=100 ID I=3 ID II=7
PRINT HYD ID=10 CODE=10

PARTIAL HYDROGRAPH 100.00

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.8	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.4	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0

3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 1.26132 INCHES = .0885 ACRE-FEET
PEAK DISCHARGE RATE = 2.80 CFS AT 1.500 HOURS BASIN AREA = .0013 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 07:58:13

APPENDIX B

Hydraulic Calculations

Assume: Street is fall to top of curb in 100 yr. storm. TC Elev = 4964.04

Elev. of over flow wier = 4964.92

Maximum available head = 0.88'

Use 12" PVC (90') from sump to Storm inlet.

Friction losses:

Orifices $\Rightarrow H = \left(\frac{Q}{CA}\right)^2 / 2g$ $C = 0.6$ Q (from AHJMO 194 calculations) = 2.8 cfs (see attached printout)

$$H = 0.5482$$

Pipe $\Rightarrow S_f$ using manning's equation, $N = 0.010$ for PVC

$$S = QN / 1.49 R^{2/3}$$

$$S = .0036$$

$$\text{Total Friction loss in pipe} = .0036 \times 90 = 0.3272$$

$$\text{Total Friction loss in system} = 0.3222 + 0.5482 = 0.875'$$

Overflow wier $\Rightarrow$ Maximum Q from 100 yr 6 hr. storm is 4.3 cfs. Length of weir = 24'

$$Q = 2.7 L H^{3/2} \Rightarrow H = 0.164'$$

At complete pond outlet failure, maximum water surface elevation = 4965.08

Pond Calculations

Pond volume was determined by calculating the surface area of the pond @ various elevations. The average end method was then used to calculate volume.

At elevation 64.9 $\Rightarrow$ area = 494.7 sq ft
64.6 $\Rightarrow$ = 315.5 sq ft
64.3 $\Rightarrow$ = 714 sq ft

Volume @ 64.9 $\Rightarrow$.0404 ac ft
64.6 $\Rightarrow$.0179 ac ft
64.3 $\Rightarrow$.0011 ac ft

The pond discharge @ each elevation was calculated by combining the surface equation with Manning equation to get: $H_1 + H_2 = Q^2 \left(\frac{1}{48(1.48)^2} + \frac{L}{C_2^2} \right)$
where $C_2 = 1.486 R^{3/4} / n$

The resulting calculations show that $Q =$

1.52 cfs	@	64.3
2.23 "	@	64.6
2.80 "	@	64.9

This data was then input to the HYMOC 199 program to determine maximum water surface elevations and maximum discharge.

The HYMOC calculations are attached.

APPENDIX C

RUN DATE (MON/DAY/YR) =07/22/1996
USER NO.= DAGGETTK.S94

DALE SEYMOUR DEVELOPMENT											
START										TIME=	.00
*S TEMPORARY DETENTION POND DESIGN											
*S DEVELOPED 100 YEAR CONDITIONS, 24 HOUR											
RAINFALL TYPE= 2										RAIN24=	2.750
*S BASIN DESIGNATION = BASIN B-1, DEVELOPED CONDITIONS											
COMPUTE NM HYD	OS-B1	-	1	.00069	2.06	.093	2.51715	1.500	4.674	PER IMP= 100.00	
*S BASIN DESIGNATION = BASIN B-2, DEVELOPED CONDITIONS											
COMPUTE NM HYD	B2	-	3	.00004	.11	.005	2.51715	1.500	5.038	PER IMP= 100.00	
ADD HYD	100.00	1& 3	10	.00073	2.18	.096	2.49290	1.500	4.692		
*S BASIN DESIGNATION = BASIN B-3, DEVELOPED CONDITIONS											
COMPUTE NM HYD	B3	-	5	.00025	.75	.034	2.51715	1.500	4.712	PER IMP= 100.00	
*S BASIN DESIGNATION = BASIN B-4, DEVELOPED CONDITIONS											
COMPUTE NM HYD	B4	-	7	.00128	3.82	.172	2.51716	1.500	4.668	PER IMP= 100.00	
ADD HYD	200.00	5& 7	20	.00153	4.58	.205	2.51680	1.500	4.675		
*S DETENTION POND DATA											
ROUTE RESERVOIR	100.00	20	9	.00153	2.61	.205	2.51680	1.650	2.666	AC-FT= .033	
FINISH											

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 07/22/1996
START TIME (HR:MIN:SEC) = 07:56:04 USER NO.= DAGGETTK.S94
INPUT FILE = 96010PD.DAT

*S DALE SEYMOUR DEVELOPMENT
START TIME=0.0
*
*S TEMPORARY DETENTION POND DESIGN
*S DEVELOPED 100 YEAR CONDITIONS, 24 HOUR
* FILE =96010PD.DAT

RAINFALL TYPE=2 RAIN QUARTER=0 RAIN ONE=2.01
 RAIN SIX=2.35 RAIN DAY=2.75 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.050000 HOURS						END TIME =	24.000000 HOURS					
.0000	.0024	.0049	.0075	.0102	.0130	.0158							
.0188	.0219	.0252	.0286	.0321	.0358	.0397							
.0439	.0482	.0529	.0578	.0631	.0689	.0751							
.0836	.0930	.1201	.1842	.2944	.4649	.7103							
1.0460	1.3107	1.4303	1.5302	1.6176	1.6959	1.7667							
1.8313	1.8906	1.9452	1.9955	2.0421	2.0851	2.0946							
2.1034	2.1115	2.1191	2.1262	2.1330	2.1394	2.1455							
2.1513	2.1569	2.1622	2.1673	2.1723	2.1771	2.1817							
2.1862	2.1905	2.1948	2.1989	2.2028	2.2067	2.2105							
2.2142	2.2178	2.2213	2.2248	2.2282	2.2315	2.2347							
2.2379	2.2410	2.2440	2.2470	2.2500	2.2529	2.2557							
2.2585	2.2613	2.2640	2.2666	2.2693	2.2719	2.2744							
2.2769	2.2794	2.2818	2.2842	2.2866	2.2889	2.2913							
2.2935	2.2958	2.2980	2.3002	2.3024	2.3046	2.3067							
2.3088	2.3109	2.3129	2.3150	2.3170	2.3190	2.3209							
2.3229	2.3248	2.3267	2.3286	2.3305	2.3323	2.3342							
2.3360	2.3378	2.3396	2.3414	2.3431	2.3449	2.3466							
2.3483	2.3500	2.3517	2.3534	2.3551	2.3569	2.3586							
2.3602	2.3619	2.3636	2.3653	2.3669	2.3686	2.3703							
2.3719	2.3736	2.3752	2.3768	2.3785	2.3801	2.3817							
2.3833	2.3849	2.3865	2.3881	2.3897	2.3913	2.3929							
2.3944	2.3960	2.3976	2.3991	2.4007	2.4022	2.4038							
2.4053	2.4068	2.4084	2.4099	2.4114	2.4129	2.4144							
2.4159	2.4174	2.4189	2.4204	2.4219	2.4234	2.4248							
2.4263	2.4278	2.4292	2.4307	2.4322	2.4336	2.4350							
2.4365	2.4379	2.4394	2.4408	2.4422	2.4436	2.4450							
2.4464	2.4478	2.4493	2.4506	2.4520	2.4534	2.4548							
2.4562	2.4576	2.4589	2.4603	2.4617	2.4630	2.4644							
2.4658	2.4671	2.4685	2.4698	2.4711	2.4725	2.4738							
2.4751	2.4765	2.4778	2.4791	2.4804	2.4817	2.4830							
2.4843	2.4856	2.4869	2.4882	2.4895	2.4908	2.4921							
2.4934	2.4946	2.4959	2.4972	2.4984	2.4997	2.5010							
2.5022	2.5035	2.5047	2.5060	2.5072	2.5085	2.5097							
2.5109	2.5122	2.5134	2.5146	2.5158	2.5170	2.5183							
2.5195	2.5207	2.5219	2.5231	2.5243	2.5255	2.5267							
2.5279	2.5291	2.5303	2.5314	2.5326	2.5338	2.5350							
2.5361	2.5373	2.5385	2.5396	2.5408	2.5420	2.5431							
2.5443	2.5454	2.5466	2.5477	2.5488	2.5500	2.5511							
2.5523	2.5534	2.5545	2.5556	2.5568	2.5579	2.5590							
2.5601	2.5612	2.5623	2.5635	2.5646	2.5657	2.5668							
2.5679	2.5690	2.5701	2.5711	2.5722	2.5733	2.5744							
2.5755	2.5766	2.5776	2.5787	2.5798	2.5809	2.5819							

2.5830	2.5841	2.5851	2.5862	2.5872	2.5883	2.5893
2.5904	2.5914	2.5925	2.5935	2.5946	2.5956	2.5966
2.5977	2.5987	2.5997	2.6008	2.6018	2.6028	2.6038
2.6049	2.6059	2.6069	2.6079	2.6089	2.6099	2.6109
2.6119	2.6129	2.6139	2.6149	2.6159	2.6169	2.6179
2.6189	2.6199	2.6209	2.6219	2.6229	2.6238	2.6248
2.6258	2.6268	2.6278	2.6287	2.6297	2.6307	2.6316
2.6326	2.6336	2.6345	2.6355	2.6364	2.6374	2.6384
2.6393	2.6403	2.6412	2.6421	2.6431	2.6440	2.6450
2.6459	2.6469	2.6478	2.6487	2.6497	2.6506	2.6515
2.6524	2.6534	2.6543	2.6552	2.6561	2.6571	2.6580
2.6589	2.6598	2.6607	2.6616	2.6625	2.6634	2.6644
2.6653	2.6662	2.6671	2.6680	2.6689	2.6698	2.6707
2.6715	2.6724	2.6733	2.6742	2.6751	2.6760	2.6769
2.6778	2.6786	2.6795	2.6804	2.6813	2.6821	2.6830
2.6839	2.6848	2.6856	2.6865	2.6874	2.6882	2.6891
2.6900	2.6908	2.6917	2.6925	2.6934	2.6942	2.6951
2.6959	2.6968	2.6976	2.6985	2.6993	2.7002	2.7010
2.7019	2.7027	2.7035	2.7044	2.7052	2.7061	2.7069
2.7077	2.7085	2.7094	2.7102	2.7110	2.7119	2.7127
2.7135	2.7143	2.7151	2.7160	2.7168	2.7176	2.7184
2.7192	2.7200	2.7209	2.7217	2.7225	2.7233	2.7241
2.7249	2.7257	2.7265	2.7273	2.7281	2.7289	2.7297
2.7305	2.7313	2.7321	2.7329	2.7337	2.7344	2.7352
2.7360	2.7368	2.7376	2.7384	2.7392	2.7399	2.7407
2.7415	2.7423	2.7431	2.7438	2.7446	2.7454	2.7462
2.7469	2.7477	2.7485	2.7492	2.7500		

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*S BASIN DESIGNATION = BASIN B-1, DEVELOPED CONDITIONS

*

COMPUTE NM HYD ID=1 HYD NO= OS-B1 DA=0.00069 SQ MI
 PER A=0 PER B=0 PER C=0
 PER D=100 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.7933 CFS UNIT VOLUME = .9958 B = 526.28 P60 = 2.0100
 AREA = .000690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=10

HYDROGRAPH FROM AREA OS-B1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.1	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.5	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51715 INCHES = .0926 ACRE-FEET
 PEAK DISCHARGE RATE = 2.06 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*
*S BASIN DESIGNATION = BASIN B-2, DEVELOPED CONDITIONS
*

COMPUTE NM HYD ID=3 HYD NO= B2 DA=0.000035 SQ MI
PER A=0 PER B=0 PER C=0
PER D=100 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .14169 CFS UNIT VOLUME = .9239 B = 526.28 P60 = 2.0100
AREA = .000035 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=10

HYDROGRAPH FROM AREA B2

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.000	.0	2.000	.0	3.000	.0		
.500	.0	1.500	.1	2.500	.0				

RUNOFF VOLUME = 2.51715 INCHES = .0047 ACRE-FEET
PEAK DISCHARGE RATE = .11 CFS AT 1.500 HOURS BASIN AREA = .0000 SQ. MI.

ADD HYD ID=10 HYD=100 ID I=1 ID II=3
PRINT HYD ID=10 CODE=10

PARTIAL HYDROGRAPH 100.00

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.2	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.5	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.49290 INCHES = .0964 ACRE-FEET
PEAK DISCHARGE RATE = 2.18 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*
*S BASIN DESIGNATION = BASIN B-3, DEVELOPED CONDITIONS
*

COMPUTE NM HYD ID=5 HYD NO= B3 DA=0.00025 SQ MI
PER A=0 PER B=0 PER C=0
PER D=100 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 1.0121 CFS UNIT VOLUME = .9878 B = 526.28 P60 = 2.0100
 AREA = .000250 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=10

HYDROGRAPH FROM AREA B3

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	.8	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.2	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.0	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51715 INCHES = .0336 ACRE-FEET
 PEAK DISCHARGE RATE = .75 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

*
 *S BASIN DESIGNATION = BASIN B-4, DEVELOPED CONDITIONS
 *
 COMPUTE NM HYD ID=7 HYD NO= B4 DA=0.00128 SQ MI
 PER A=0 PER B=0 PER C=0
 PER D=100 TP=0.13 RAIN=-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 5.1818 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 2.0100
 AREA = .001280 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=10

HYDROGRAPH FROM AREA B4

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	3.8	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	.9	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51716 INCHES = .1718 ACRE-FEET
 PEAK DISCHARGE RATE = 3.82 CFS AT 1.500 HOURS BASIN AREA = .0013 SQ. MI.

ADD HYD ID=20 HYD=200 ID I=5 ID II=7
PRINT HYD ID=20 CODE=10

PARTIAL HYDROGRAPH 200.00

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	4.6	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	1.1	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51680 INCHES = .2054 ACRE-FEET
PEAK DISCHARGE RATE = 4.58 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

*
*S DETENTION POND DATA
*

ROUTE RESERVOIR	ID=9 HYD=100 INFLOW ID=20 CODE=10
OUTFLOW	STORAGE ELEVATION
0.0	0.0 63.0
1.52	.0011 64.3
2.23	.0179 64.6
2.80	.0404 64.9

* * * * *

TIME	INFLOW	ELEV	VOLUME	OUTFLOW
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)
.00	.00	63.00	.000	.00
.50	.00	63.00	.000	.00
1.00	.00	63.00	.000	.00
1.50	4.58	64.64	.021	2.31
2.00	1.12	64.48	.011	1.95
2.50	.13	63.11	.000	.13
3.00	.05	63.04	.000	.05
3.50	.03	63.03	.000	.03
4.00	.03	63.02	.000	.03
4.50	.03	63.02	.000	.03
5.00	.03	63.02	.000	.03
5.50	.03	63.03	.000	.03
6.00	.03	63.03	.000	.03
6.50	.03	63.03	.000	.03
7.00	.03	63.03	.000	.03
7.50	.03	63.03	.000	.03
8.00	.03	63.03	.000	.03
8.50	.03	63.02	.000	.03
9.00	.03	63.02	.000	.03

9.50	.03	63.02	.000	.03
10.00	.03	63.02	.000	.03
10.50	.03	63.02	.000	.03
11.00	.03	63.02	.000	.03
11.50	.02	63.02	.000	.02
12.00	.02	63.02	.000	.02
12.50	.02	63.02	.000	.02
13.00	.02	63.02	.000	.02
13.50	.02	63.02	.000	.02
14.00	.02	63.02	.000	.02
14.50	.02	63.02	.000	.02
15.00	.02	63.02	.000	.02
15.50	.02	63.02	.000	.02
16.00	.02	63.02	.000	.02
16.50	.02	63.02	.000	.02
17.00	.02	63.02	.000	.02
17.50	.02	63.02	.000	.02
18.00	.02	63.02	.000	.02
18.50	.02	63.02	.000	.02
19.00	.02	63.02	.000	.02
19.50	.02	63.02	.000	.02
20.00	.02	63.01	.000	.02
20.50	.02	63.01	.000	.02
21.00	.02	63.01	.000	.02
21.50	.02	63.01	.000	.02
22.00	.02	63.01	.000	.02
22.50	.02	63.01	.000	.02
23.00	.02	63.01	.000	.02
23.50	.02	63.01	.000	.02
24.00	.02	63.01	.000	.02

PEAK DISCHARGE = 2.611 CFS - PEAK OCCURS AT HOUR 1.65

MAXIMUM WATER SURFACE ELEVATION = 64.800

MAXIMUM STORAGE = .0329 AC-FT INCREMENTAL TIME=.050000HRS

PRINT HYD ID=9 CODE=10

PARTIAL HYDROGRAPH 100.00

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
.500	.0	5.500	.0	10.500	.0	15.500	.0	20.500	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
1.500	2.3	6.500	.0	11.500	.0	16.500	.0	21.500	.0
2.000	2.0	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.500	.1	7.500	.0	12.500	.0	17.500	.0	22.500	.0
3.000	.0	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.500	.0	9.500	.0	14.500	.0	19.500	.0		

RUNOFF VOLUME = 2.51680 INCHES = .2054 ACRE-FEET

PEAK DISCHARGE RATE = 2.61 CFS AT 1.650 HOURS BASIN AREA = .0015 SQ. MI.

FINISH