

DRAINAGE INFORMATION SHEET

M9/D19A

PROJECT TITLE:	El Rancho Grande I Units 4A & 4B	ZONE ATLAS#:	M-9 & N-9
DRB#:	EPC#	WORKORDER#:	
LEGAL DESCRIPTION:	A Tract of Land situate within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, projected Section 4, Township 9 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of Parcel 7B, El Rancho Grande I filed in the office of Bernalillo County Clerk on March 24, 2000, Volume 2000C, Folio 90, together with Parcels 7A-1C		
CITY ADDRESS:			
ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	James D. Hughes, PE
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	Curb, Inc.	CONTACT:	Bo Johnson
ADDRESS:	6301 Indian School Rd. NE, Albuquerque, NM 87110	PHONE:	881-9190
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldrich
ADDRESS:	P.O. Box 30701, Albuquerque, NM 87190	PHONE:	884-1990
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

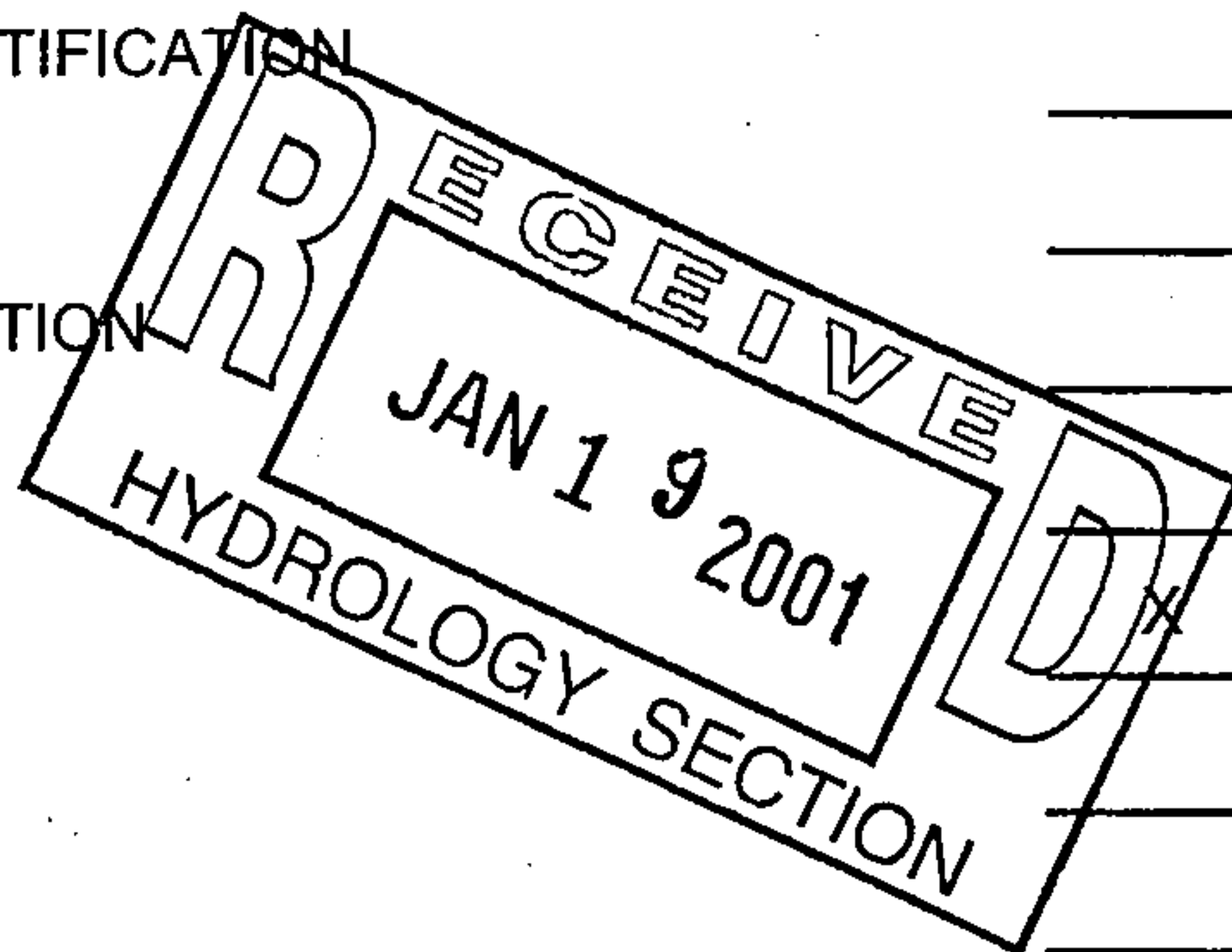
- ☒ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☒ EROSION CONTROL
- ☐ ENGINEER'S CERTIFICATION
- ☐ OTHER
- ☐ EASEMENT VACATION

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
- ☐ CERTIFICATION OF OCCUPANCY APPROVAL
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ OTHER
- ☐ RELEASE OF FINANCIAL GUARANTY
- ☐ TRAFFIC CIRCULATION LAYOUT



DATE SUBMITTED:

BY:

1-19-01

James D. Hughes
James D. Hughes, PE

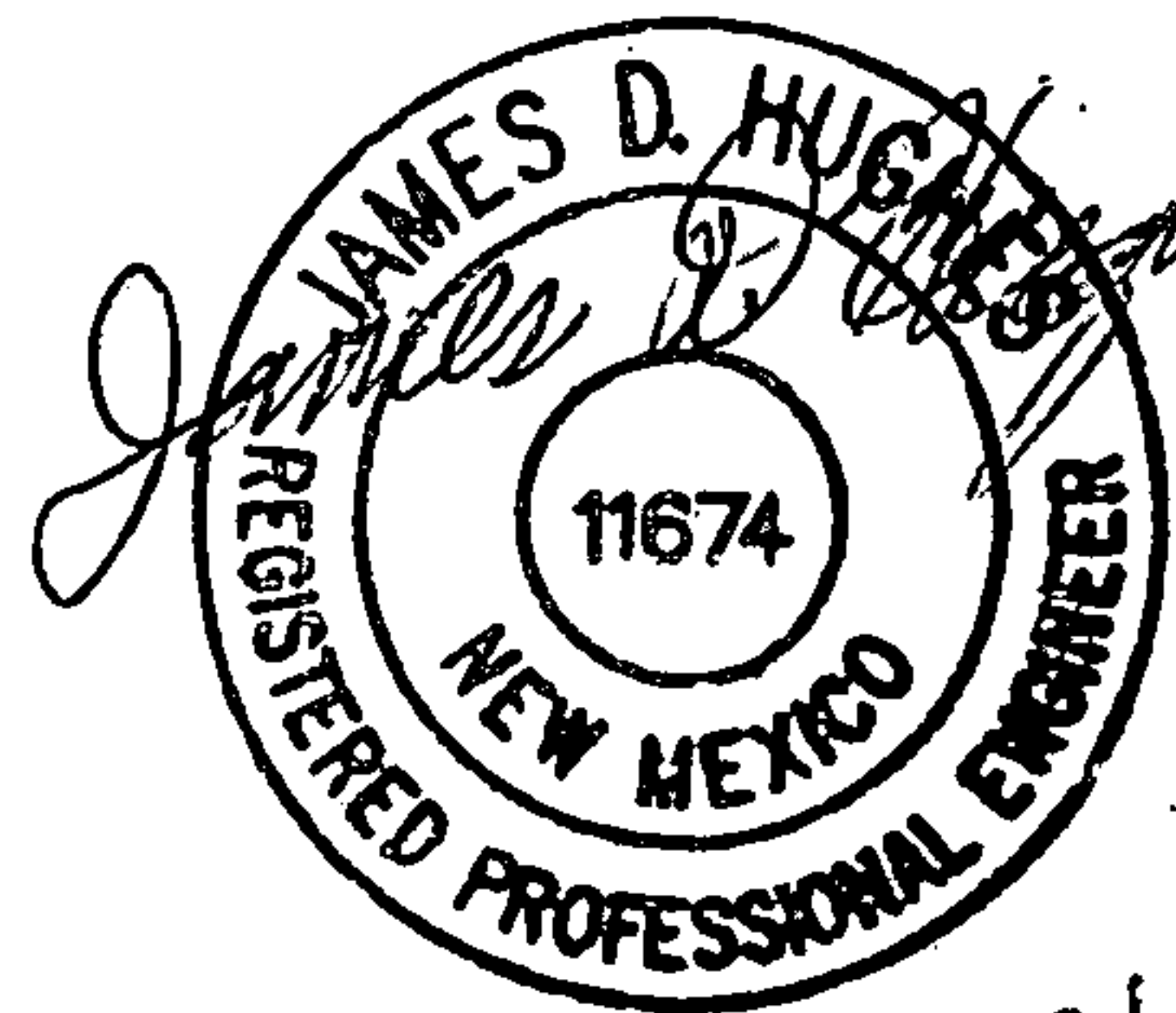
DRAINAGE REPORT
FOR
EL RANCHO GRANDE UNITS 4A & 4B

Prepared for

Curb, Inc.
6301 Indian School Rd. NE
Albuquerque, NM 87110

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199



January 2001

1-19-01
3-2-01

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PURPOSE

The primary purpose of this report is to demonstrate the adequacy of the proposed drainage to allow this 33.9 acre site to be subdivided into about 183 single-family, detached, residential lots (Zoned RLT) in two units, and so associated public drainage infrastructure can be constructed and turned over to the City of Albuquerque for maintenance.

EXISTING CONDITIONS

The project comprises an on-site area of about 33.9 acres and an off-site area of 79 acres to the west and to the south including 15 acres of commercial, a 6.0 acre park and about 30 acres of future residential land that will drain through this site and about 28 acres south of Blake Road, all undeveloped lands lying within the Rio Bravo Sector Development Plan. The Sector Development Drainage Master Plan was revised by URS Griener Woodward Clyde in March 2000 and conforms with the AMOLE/HUBBLE Drainage Management Plan. Drainage west of this study is cut off by the Amole Arroyo.

Previously approved projects north of Gibson Blvd. are currently under construction and will divert drainage from the north in a storm sewer in Gibson Blvd. to a City maintained pond that is also under construction at the southwest corner of the intersection of Gibson Blvd. and Unser Blvd. Gibson Blvd. prevents off-site drainage from entering this site from the north.

This project is bounded on the east by Unser Blvd., and an existing Mobile Home Park east of that. The immediately proposed development is bounded on the south by Blake Road, though the hydrology in this report extends further south to the edge of the Amole Arroyo. Under existing conditions most of this project is diverted south in the Unser Blvd. Right-of-Way to Blake Road though that will change with this development, thus improving drainage in Blake Road.

PROPOSED MANAGEMENT PLAN

The north half of this site will drain to the existing pond at Unser and Gibson Intersection and the south half of the site will drain south in Unser Blvd. to the Amole Arroyo. The Amole Arroyo cuts off drainage from the west and this masterplan anticipates developed flows from the off-site area between this site and the Amole Arroyo.

The pond at Unser and Gibson will discharge through the existing 42" RCP which drains through the Mobile Home Park to the Amole del Norte Diversion Channel. Increased storage volume in the pond will accommodate the increased area draining to that pond without significantly changing the down stream peak flows in the 42" RCP and the Amole del Norte Channel.

The south half of this site will surface drain to the southeast corner where all drainage will be collected in storm sewer and will be freely discharged via future storm sewer in Unser Blvd. to the Amole Arroyo, in accordance with the previously approved master plans for the Rio Bravo Sector Drainage Plan and the AMOLE HUBBLE Drainage Plan. The Blake Road and Unser Blvd. inlet spacing will limit the 10 year spread of flow such that one lane will remain open in each direction.

The future storm sewer in Unser Blvd. between Blake Road and the Amole Arroyo will not be constructed at this time. Instead this development will build a Temporary Retention Pond south of Blake Road sized for the 100 year, 10 day volume from developed conditions both on-site and off-site from north of Blake. Additional temporary diversion of undeveloped off-site flows will occur by constructing a street on the west edge of the immediately proposed development.

The 29 acre commercial tract north of Gibson (see Basin #103 on off-site basin map) had an allowable discharge of 99.26 cfs established by earlier reports. The 15.38 acre commercial area south of Gibson will now discharge at a rate of 65.87 cfs and the pond on the north commercial tract will be larger than previously planned so the combined peak discharge from the two commercial tracts will not exceed the originally planned 99.26 cfs.

Table 1 - Summary of Hydrology

Description	Basin ID	Area	Area Sq. Mi.	Land Treatment				Hr. Tp	100YR Peak Flow		100YR Volume		10YR Peak Flow	
				A	B	C	D		Incrum.	Cumm.	6 hr	10 day	Incrum.	Cumm.
School Existing	101	20.9	0.0327	0	25	25	50	0.13	72.46	—	2.462	3.751	42.31	—
⁽¹⁾ 3.7 du/ac Existing	102 ⁽¹⁾	34.63	0.0541	0	24	20	56	0.27	82.42	122.89	4.254	6.646	48.68	68.39
⁽³⁾ 5.4 du/ac Existing	103	31.96	0.0499	0	25	20	55	0.17	99.23	208.87	3.889	6.057	58.63	118.71
⁽³⁾ 5.4 du/ac	104	34.07	0.0532	0	25	20	55	0.22	91.59	—	4.146	6.457	6.28	94.12
⁽²⁾ Commercial Existing	105	23.2	0.0363	0	0	10	90	0.14	96.87	47.06	3.658	6.233	63.10	36.51
Gibson Blvd.	111	2.87	0.0045	0	35	0	65	0.13	10.41	144.63	0.367	0.597	54.06	—
⁽³⁾ Commercial	106	15.38	0.0240	0	0	10	90	0.13	65.87	196.59 ⁽⁴⁾	2.418	4.125	42.96	127.15
⁽³⁾ 5.4 du/ac	107	32.05	0.0501	0	25	20	55	0.13	113.50	—	3.905	6.079	67.15	190.19
Pond In	108	2.9	0.0045	0	0	20	80	0.13	11.93	509.84	0.430	0.716	7.66	307.99
Pond Out	—	—	—	—	—	—	—	—	—	109.71	—	—	—	83.69
Unser @ Gibson	109	5.6	0.0088	0	35	0	65	0.13	12.95	111.82	0.457	0.906	7.81	84.74
Unser @ Gibson	110	1.1	0.0018	0	35	0	65	0.13	4.17	112.87	0.147	0.235	2.52	85.16
⁽³⁾ Park	302	6.71	0.0105	0	70	10	20	0.13	17.61	17.61	0.546	0.712	8.48	8.48
⁽³⁾ 5.4 du/ac	205	22.39	0.0350	0	25	20	55	0.13	79.30	96.91	2.728	4.247	46.91	55.39
Unser Blvd.	204	3.3	0.0052	0	35	0	65	0.13	19.18	116.09	0.678	0.943	11.57	66.96
Blake Road	203	1.9	0.0030	0	15	0	85	0.13	7.86	123.95	0.287	0.486	5.02	71.98
⁽³⁾ 5.4 du/ac Future	202	22.9	0.0358	0	25	20	55	0.13	81.11	205.06	2.790	4.343	47.99	119.97
Unser Blvd.	201	3.8	0.0059	0	35	0	65	0.13	13.64	218.70	0.482	0.787	8.23	128.20

⁽¹⁾ Rear yard ponding areas are subtracted from total area (61.5 ac) @ 40% impervious and weighted impervious is based on composite calculations for 17 subareas as presented in the previously approved report for El Rancho Grande Units 1, 2 and 3 (see Basin Map and Composite Calcs).

⁽²⁾ Area currently zoned commercial, but will have limited discharge due to downstream capacity constraints.

⁽³⁾ Land treatments match the "Revision to the Master Drainage Plan for the Rio Bravo Sector Development Plan" March 2000.

⁽⁴⁾ The pond on Tract 12 (Basin #105) is sized such that 100 YR peak flows combined do not exceed 204.7 cfs as used in the original HGL calculations for the storm sewer in Gibson east of Barbados.

100 YEAR PRECIPITATION (From Figures D, E and F, and Eq. 28 of DPM 22.2)

$P_{60} = 1.90"$, $P_{360} = 2.22"$, $P_{1440} = 2.67"$, $P_{10 \text{ days}} = 10.0 - [24.9 / (2.67)^{1.4}] = 3.70"$

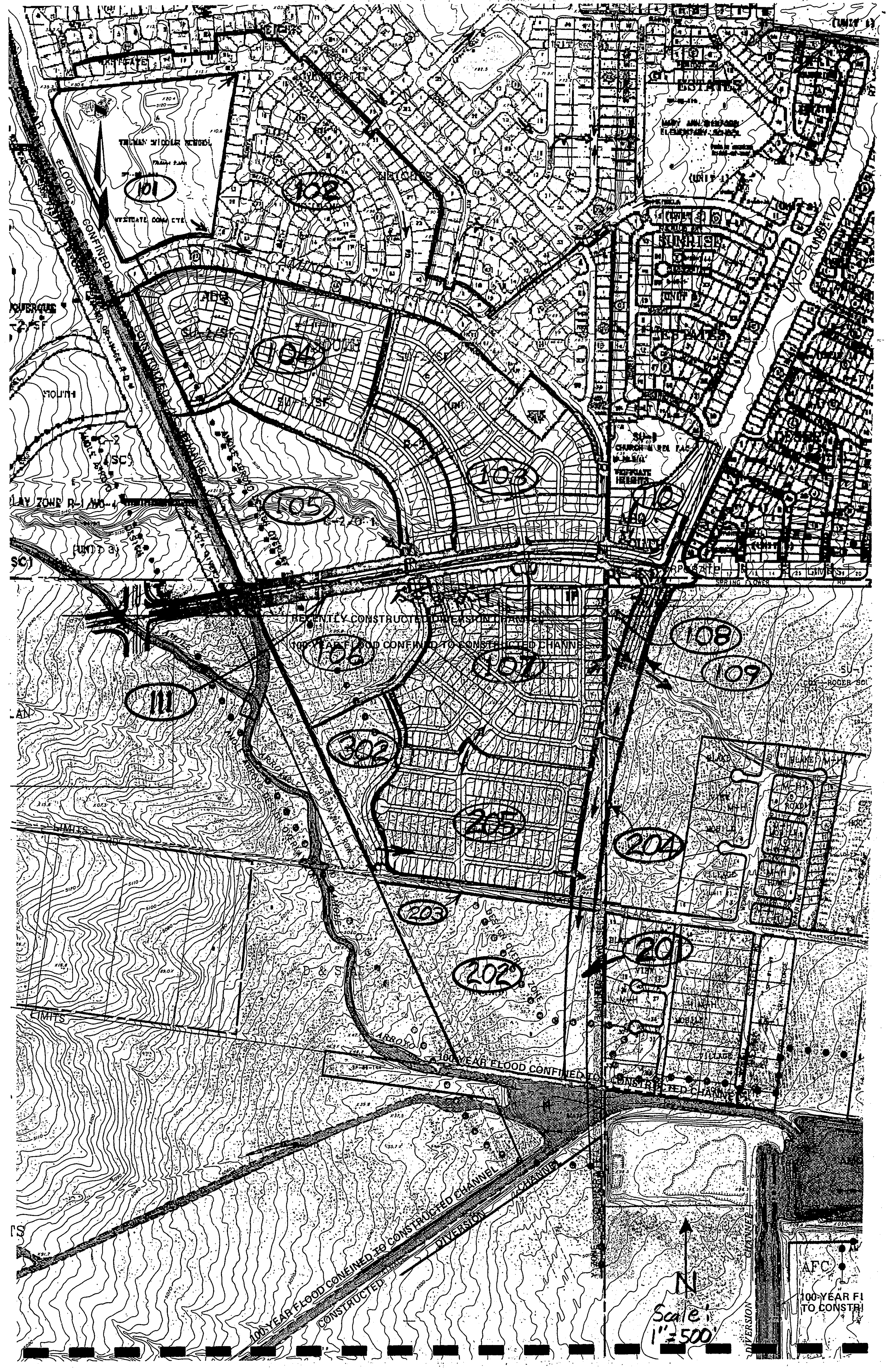


TABLE 2 — STREET DRAINAGE CAPACITIES

Basin No.	Area Ac.	% of Total	100 Year Flow (cfs)		Contributing Basins	Curb Type/Slope	Flow Depth ft ⁽¹⁾	Velocity fps	Energy Depth ft ⁽²⁾	Location
			Increment.	Cumm.						
A	8.47	55.04%	36.26							
B	6.92	44.96%	29.61	29.61	B	Std. 40'/1.29%	0.49	3.5	0.68	Stampede Rd. 15+00
Total A & B	15.38		65.87							
C	4.13	12.88%	14.61	14.61	C	Roll 26'/1.30%	0.33	2.9	0.46	Bay Mare Ave. 16 + 00
				14.61	C	Std. 32'/1.4%	0.39	3.0	0.53	Mustang Ridge Dr. 14 + 00
D	4.39	13.69%	15.54	15.54	D	Roll 26'/2.3%	0.30	3.6	0.50	Winter Sage Rd. 16 + 00
				30.15	C & D	Std. 32'/1.4%	0.48	3.9	0.72	Mustang Ridge Rd. 76+00
E	3.68	11.50%	13.05	13.05	E	Roll 26'/2.3%	0.30	3.5	0.49	Black Stallion Rd. 36+50
F	4.95	15.46%	17.54	17.54	F	Roll 26'/2.3%	0.33	3.8	0.55	Spotted Pony Ave. 46+00
				17.54	F	Std. 26'/1.1%	0.44	2.9	0.57	Spotted Pony Ave. 47+00
				30.59	E & F	Std. 32'/1.4%	0.48	3.9	0.72	Mustang Ridge Dr. 18+00
G	2.60	8.10%	9.20	34.28	A thru G	Std. 26'/2.88%	0.45	5.0	0.84	Fence Post Rd. 13+00
H	2.58	8.05%	9.14	9.14	H	Roll 26'/1.0%	0.30	2.4	0.39	North Wind Dr.

Basin No.	Area Ac.	% of Total	100 Year Flow (cfs)		Contributing Basins	Curb Type/Slope	Flow Depth ft ⁽¹⁾	Velocity fps	Energy Depth ft ⁽²⁾	Location
			Increment.	Cumm.						
I	2.52	7.86%	8.92	8.92	I	Roll 26'/2.59%	0.25	3.4	0.43	Winter Sage Rd. 19+50
				18.06	H & I	Std. 26'/1.0%	0.43	3.0	0.57	North Wind Dr. 24+50
J	3.99	12.45%	14.13	8.30	Part of J	Roll 26'/2.45%	0.25	3.3	0.42	Black Stallion Rd. 31+50
				14.13	J	Std. 26'/0.5%	0.45	2.1	0.52	North Wind Dr. 29+00
K	3.21	10.01%	11.36	6.60	Part of K	Roll 26'/1.12%	0.27	2.4	0.36	Spotted Pony Ave. 51+50
				25.49	J & K	Std. 26'/0.5%	0.54	2.7	0.65	North Wind Dr. 26+00
Total C-K	32.05		113.50							
L	3.03	13.54%	10.74	10.74	L	Roll 26'/2.16%	0.28	3.3	0.45	Stony Creek Rd. 13+50
				10.74	L	Std. 40'/2.33%	0.34	3.3	0.51	Mustang Ridge Dr. 27+00
M	3.54	15.80%	12.53	12.53	M	Roll 26'/1.93%	0.30	3.3	0.47	Spring Sage Rd. 14+50
N	4.27	19.05%	15.11	38.38	L, M & N	Std. 26'/2.27%	0.48	4.9	0.85	Spring Sage Rd. 20+50
O	4.26	19.04%	15.10	15.10	O	Roll 26'/2.8%	0.29	3.9	0.53	Stony Creek Dr. 20+00
				53.48	L, M, N & O	Std. 26'/1.00%	0.62	4.3	0.91	Summer Sage Dr. 24+50

Basin No.	Area Ac.	% of Total	100 Year Flow (cfs)		Contributing Basins	Curb Type/Slope	Flow Depth ft ⁽¹⁾	Velocity fps	Energy Depth ft ⁽²⁾	Location
			Increment.	Cumm.						
P	3.05	13.63%	10.81	28.42	P + Park	Std. 26'/3.30%	0.44	5.2	0.86	Trotter Rd. 14+00
Q	2.88	12.86%	10.20	38.62	P, Q + Park	Std. 26'/1.40%	0.55	4.5	0.86	Trotter Rd. 20+00
R	1.36	6.07%	4.81							
Total L-Q	22.39		79.30							
203	—	—	7.86	7.86	203	Std. 48'/1.91%	0.31	2.9	0.44	Blake Rd. 21+50
204	—	—	19.18	19.18	204	Std. 48'/2.8%	0.38	4.1	0.64	Unser Blvd. 99+00
10 Yr Flows ⁽³⁾										
107	—	—	11.57	5.79	Half of 107	Std. 48'/0.59%	0.35	1.8	0.40	Unser Blvd.
203	—	—	5.02	5.02	203	Std. 48'/1.91%	0.27	2.7	0.38	Blake Rd. 21+50
204	—	—	7.81	7.81	204	Std. 48'/2.8%	0.29	3.3	0.46	Unser Blvd. 99+00

* 100 year surface flow after inlet interception is accounted for (see inlet calcs).

⁽¹⁾ Flow depths are taken from Plate 22.3 D-1 and 22.3 D-2 of the DPM and reduced by 3/4" for roll curb types to account for the difference in gutter depression. Allowable depths may not exceed curb heights which are 0.33' for roll curb and gutter and 0.67' for standard curb and gutter.

⁽²⁾ Energy depth is calculated as flow depth plus energy head. Allowable depths are 0.20' above top of curb.

⁽³⁾ 10 yr flow depth in Unser and Blake should be less than 0.35' to limit the spread of water to 13'.



SCALE: 1" = 300'

ONSITE BASIN MAP

Basin #102 Composite Calculations

BASIN ID	HYD ID	AREA (SQ MI)	AREA (ACRES)	IMPERVIOUS (%)	IMPERVIOUS AREA
A	101	.01513	9.68	60	5.81
B-1	102	.00439	2.81	62	1.74
B-2	103	.00138	0.88	53	0.47
B-3	104	.00247	1.58	46	0.73
C-1	105	.00450	2.88	51	1.47
C-2	106	.00150	0.96	11	0.11
C-3	107	.00152	0.97	80	0.78
C-4	108	.00142	0.91	48	0.44
C-5	109	.00306	1.96	57	1.12
C-6	110	.00202	1.29	57	0.74
C-7	111	.00206	1.32	47	0.62
D-1	112	.00284	1.82	51	0.93
D-2	113	.00081	0.52	34	0.18
D-3	114	.00083	0.53	38	0.20
E-1	115	.00150	0.96	56	0.54
OS-1	116	.00120	0.77	22	0.17
OS-2	117	.00748	4.79	70	3.35
TOTAL		0.05411	34.63	56	19.37

O.S.-2
4.79 AC.

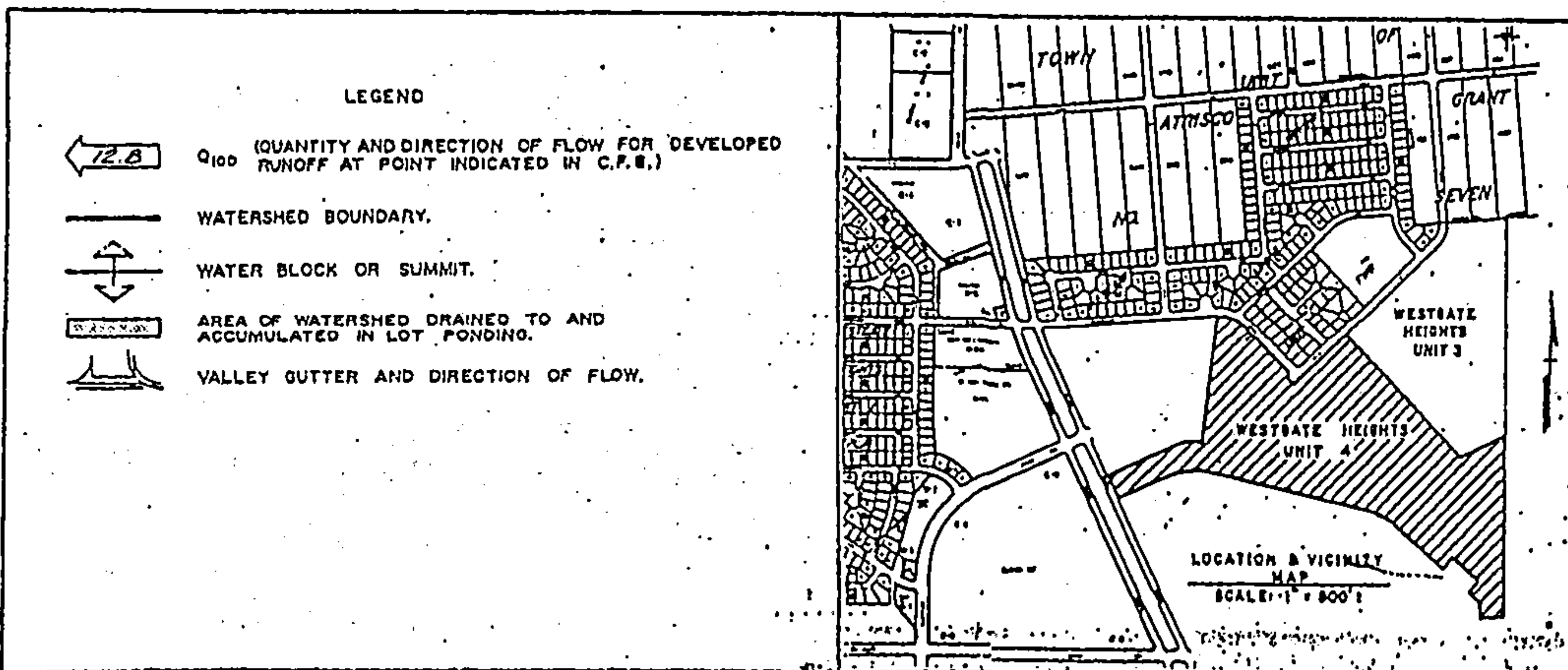
O.S.-1
3.92 AC.

O.S.-3
19.01 AC.

O.S.-4
2.01 AC.

SCALE IN FEET
1"=100'

Basin 102
Map



30.77 7.69 80 2.0 38.46
30.77 30.77 50 50 61.54
61.54 38.46

M 9-09

DATE BY: _____		REVISIONS	
DESIGNED BY: _____		DRAWN BY: _____	
CHECKED BY: _____		APPROVED BY: _____	
JOB NO. 2130011 MURRAY-McCORMICK, INC. ENVIRONMENTAL DESIGN ENGINEERING PLANNING SURVEYING			
DATE 1-8-78		SCALE 1"=100'	

Figure 4
WESTGATE HEIGHTS
UNIT NO. 4
DEVELOPED DRAINAGE
CHARACTERISTICS

CAPACITIES OF INLETS

STAMPEDE ROAD INLETS SOUTH OF BAY MARE AVENUE

INLETS #1, 2, 3 AND 4

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the single grate facing the street is 3.25'± and the depth is 0.745'* at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.912'*. From the weir equation:

$$\begin{aligned} \text{(Front)} \quad Q_{cap} &= 3.0 \times 3.25' \times 0.745^{1.5} = 6.27 \text{ cfs} \\ \text{(Sides)} \quad Q_{cap} &= 3.0 \times 4.0' \times 0.912^{1.5} = 10.45 \text{ cfs} \\ \text{(Total)} \quad Q_{cap} &= 6.27 \text{ cfs} + 10.45 \text{ cfs} = 16.72 \text{ cfs} \end{aligned}$$

* Note: These depths assume standard 8" curb with the right-of-way 10' behind the curb and 0.20'.

The 100 year flow to the sump inlets is 29.61 cfs. There are 4 sump inlets with a combined capacity of 66.88 cfs thus providing a safety factor that would allow 56% of the inlets to clog without exceeding the normal design criteria. For HGL calculations each inlet is assumed to take one fourth of the 100 year flow (7.40 cfs). An emergency overflow is not required since the inlets will accommodate two times the 100 year flow but Bay Mare Avenue may act as an emergency outlet.

UNSER BLVD. SOUTH OF GIBSON BLVD.

INLETS #5 & 6

The 10 year flow is 7.81 cfs total, with half 3.9 cfs on each side of the road and that is approaching the sump inlets half (1.95 cfs) from the north and the other half (1.95 cfs) from the south, each at about 0.30' depth where the street slope is 0.50% or 0.59%. The maximum spread of water is 13' so the allowable depth is 0.35'* at the normal curb flow line, 0.22'* at the lip of gutter where the length of a single grate is 3.25', and an average depth of 0.387'* along the two 2' long (4' total) sides of a grate. The 10 year capacity of a single grate is then given by the weir equation.

$$\begin{aligned} \text{(Front)} \quad Q_{cap} &= 3.0 \times 3.25' \times 0.22^{1.5} = 1.01 \text{ cfs} \\ \text{(Sides)} \quad Q_{cap} &= 3.0 \times 4.0' \times 0.387^{1.5} = 2.89 \text{ cfs} \\ \text{(Total)} \quad Q_{cap} &= 1.01 \text{ cfs} + 2.89 \text{ cfs} = 3.90 \text{ cfs} \end{aligned}$$

* Note: These depths assume a 10 year spread of water limited to 13' at a 2% cross slope and 1 ½" fall across the 2' wide gutter on standard curb and gutter.

One inlet on each side of the road will prevent the 10 year spread of water from exceeding 13' and each inlet will intercept half of the 100 year flow (12.95 cfs total, 6.43 cfs each) where the capacity of each inlet is about 16.13 cfs at 0.85' depth. So emergency overflow is not needed since the inlets have capacity for more than two times the 100 year flow.

MUSTANG RIDGE DRIVE NORTH OF FENCE POST ROAD

INLETS #9 & 10

The 30.15 cfs at 1.4% slope flows at 0.48' depth. The first pair of Type "A" inlets (#9 & 10) will intercept 6.4 cfs each, per plate 22.3 D-5. This leaves 17.35 cfs by-pass flow at 0.41' depth approaching the intersection.

MUSTANG RIDGE DRIVE SOUTH OF FENCE POST ROAD

INLETS #11 & 12

Mustang Ridge Drive (32' FF) carries 30.59 cfs at 1.4% slope with a depth of 0.48'. The pair of Type "A" inlets (#11 & 12) will intercept 6.4 cfs each, per plate 22.3 D-5. This leaves 17.79 cfs by-pass flow which joins the 17.35 cfs by-pass from Inlets #9 and 10 for a total flow of 35.14 cfs at the intersection of Fence Post Road.

MUSTANG RIDGE DRIVE SUMP INLET
AT INTERSECTION OF FENCE POST ROAD
INLETS #13 & 14

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent crown elevation (0.40' above normal flow line elevation). The length of the single grate facing the street is 3.25'± and the depth is 0.28'* at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.447'*. From the weir equation:

$$\begin{aligned} \text{(Front)} \quad Q_{cap} &= 3.0 \times 3.25' \times 0.28'^{1.5} = 1.44 \text{ cfs} \\ \text{(Sides)} \quad Q_{cap} &= 3.0 \times 4.0' \times 0.447'^{1.5} = 3.59 \text{ cfs} \\ \text{(Total)} \quad Q_{cap} &= 1.44 \text{ cfs} + 3.59 \text{ cfs} = 5.03 \text{ cfs} \end{aligned}$$

* Note: These depths assume that excess drainage from 100 year flow will spill over the crown and continue down Fence Post Road.

The 100 year flow to these two sump inlets, 17.57 cfs, is half of the total flow in Mustang Ridge Drive at the intersection of Fence Post Road the other half of the roadway. These two inlets intercept a total of 10.06 cfs leaving 7.51 cfs to spill over to the crown of Mustang Ridge Drive and join the 17.57 cfs in the west half of Mustang Ridge for total of 25.08 cfs continuing east in Fence Post Road.

NORTH WIND DRIVE SUMP INLETS
AT INTERSECTION OF FENCE POST ROAD
INLETS #15, 16, 17, 18, 19 & 20

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5'± and the depth is 0.745'* at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.912'*. From the weir equation:

$$\begin{aligned} \text{(Front)} \quad Q_{cap} &= 3.0 \times 6.5' \times 0.745'^{1.5} = 12.54 \text{ cfs} \\ \text{(Sides)} \quad Q_{cap} &= 3.0 \times 4.0' \times 0.912'^{1.5} = 10.45 \text{ cfs} \\ \text{(Total)} \quad Q_{cap} &= 12.54 \text{ cfs} + 10.45 \text{ cfs} = 22.99 \text{ cfs} \end{aligned}$$

* Note: These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.20' above the top of the curb.

The 100 year flow to the sump inlet is 77.83 including 34.28 cfs from Fence Post Road, 18.06 cfs from North Wind Drive north of Fence Post Road, and 25.49 cfs from North Wind Drive south of Fence Post Road. There are six sump inlets (#15, 16, 17, 18, 19 & 20) with a combined capacity of 137.94 cfs thus providing a safety factor that would allow 44% of the inlets to clog without exceeding the normal design criteria. For HGL calculations each inlet is assumed to take one sixth of the 100 year flow (12.97 cfs). An emergency overflow swale is not needed since the inlets will accommodate nearly two times the 100 year flow.

TROTTER ROAD INLETS
AT INTERSECTION OF SUMMER SAGE DRIVE
INLETS #21, 22, 23, 24 & 25

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5'± and the depth is 0.745' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.912'. From the weir equation:

$$\begin{aligned} \text{(Front) } Q_{cap} &= 3.0 \times 6.5' \times 0.745^{1.5} = 12.54 \text{ cfs} \\ \text{(Sides) } Q_{cap} &= 3.0 \times 4.0' \times 0.912^{1.5} = 10.45 \text{ cfs} \\ \text{(Total) } Q_{cap} &= 12.54 \text{ cfs} + 10.45 \text{ cfs} = 22.99 \text{ cfs} \end{aligned}$$

* Note: These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.20' above the top of the curb.

The total flow to the sump is 98.43 cfs including 43.59 cfs from Trotter Road, 53.48 cfs from Summer Sage Drive, and 1.36 cfs from the stub street. There are a combined capacity of 114.95 cfs thus providing a safety factor that would allow 14% of the inlets to clog without exceeding the normal design criteria. For HGL calculations each inlet is assumed to take one fifth of the 100 year flow (19.69 cfs each).

EMERGENCY OVERFLOW SWALE

The sump has a 30' wide emergency overflow spillway designed to handle the 100 year flow (98.43 cfs) in the event that the storm sewer system failed completely. The depth of flow in the emergency overflow spillway is given by the broad crested weir equation as:

$$\begin{aligned} \text{Emergency Overflow } Q &= 98.43 \text{ cfs} = 2.7 \times 30' \times (\text{depth})^{1.5} \\ \text{depth} &= 1.22' \end{aligned}$$

This depth is measured above the right-of-way elevation. The pads in the sump area are set 1.55' above the right-of-way, thus allowing 4" for construction tolerances. The emergency overflow swale is at a 1.0% slope, 30' wide, and has the following capacity at a 1.22' depth:

$$\text{(from Manning's) } Q_{cap} = (1.486/0.03) \times (30' \times 1.22)^{0.67} \times (0.01)^{0.5} = 207 \text{ cfs} > 98.43 \text{ cfs (OK)}$$

SD IN

BLAKE ROAD WEST OF UNSER

Inlets #26 & 27

The Blake Road 100 year and 10 year total flow is 7.86 cfs and 5.02 cfs and flows at a depth of 0.38' and 0.33' respectively at 0.5% slope. Inlets #26 and 27 each Type 'A', each intercept 2.5 cfs and 1.8 cfs for the 100 year and 10 year storms leaving 2.86 cfs and 0.02 cfs bypass flow respectively.

UNSER BLVD. NORTH OF BLAKE ROAD

Inlet #28

The 19.18 cfs 100 year total flow in Unser Blvd. approaching Blake from the north is split evenly (9.59 cfs each half) with the east side turning the corner and going down Blake Road. The west side is in a vertical curve. So the slope decreases from 2.8% at 240' north of the curb return, to 0.87% at the curb return, and to 0% at the south fillet where another inlet (Sump Inlet #30) will receive by-pass from Blake Road and the west side of Unser. The 100 year depth is 0.46' and the 10 year (11.57 cfs total in Unser...5.79 west half) depth is 0.38' so Inlet #28 a single Type 'A' inlet intercepts 4.7 cfs and 3.0 cfs leaving a by-pass flow of 4.89 cfs and 2.79 cfs for the 100 year and 10 year storms respectively.

UNSER BLVD. AND BLAKE ROAD SUMP INLET

Inlet #30

This inlet receives 7.75 cfs and 2.81 cfs total 100 year and 10 year flow respectively including 4.89 cfs and 2.79 cfs by-pass flow from Inlet #28 on Unser and 2.86 and 0.02 cfs by-pass flow from Inlets #26 and 27 on Blake Road. This is a Type 'D' single grate inlet in a sump and has a perimeter of 10.58'. From the weir equation:

(100 year)	$7.75 \text{ cfs} = 3.0 \times 10.58' \times d^{1.5}$
(10 year)	$2.81 \text{ cfs} = 3.0 \times 10.58' \times d^{1.5}$
(100 year)	$d = 0.39'$
(10 year)	$d = 0.20'$

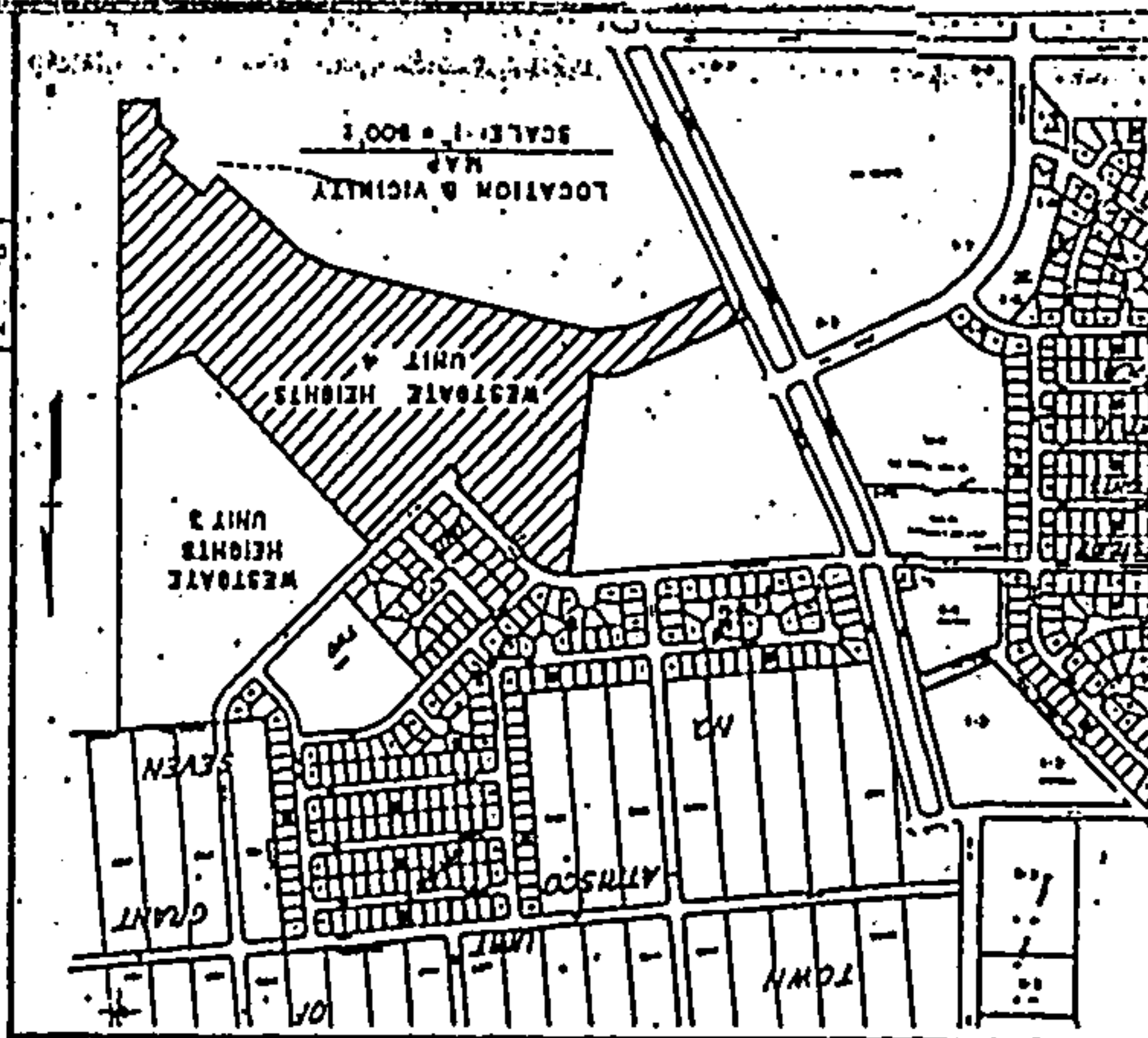
* Note: These depths will limit the spread of water for big storms and smaller storms will all be intercepted in inlets above this one.

Trotter Road Inlets

INLET #	TYPE	Q (cfs)
1	A	7.4
2	A	7.4
3	A	7.4
4	A	7.4
5	DOUBLE A SG DT	6.43
6	DOUBLE A SG DT	6.43
9	A	6.4
10	A	6.4
11	A	6.4
12	A	6.4
13	C	5.03
14	C	5.03
15	DOUBLE A	12.97
16	DOUBLE A	12.97
17	DOUBLE C	12.97
18	DOUBLE C	12.97
19	DOUBLE A	12.97
20	DOUBLE A	12.97
TOTAL INTO POND		113.48 cfs
21	DOUBLE A	19.69
22	DOUBLE C	19.69
23	DOUBLE A	19.69
24	DOUBLE C	19.69
25	DOUBLE A	19.69
TOTAL OUT TO UNSER		98.45
26	A	2.5
27	A	2.5
28	A	4.7
30	D	7.75

Basin 102 Map

- LEGEND
- Quantity and direction of flow for developed area runoff at point indicated in C.F.B.
 - Watershed boundary.
 - Water block or summit.
 - Area of watershed drained to and accumulated in lot ponding.
 - Valley gutter and direction of flow.

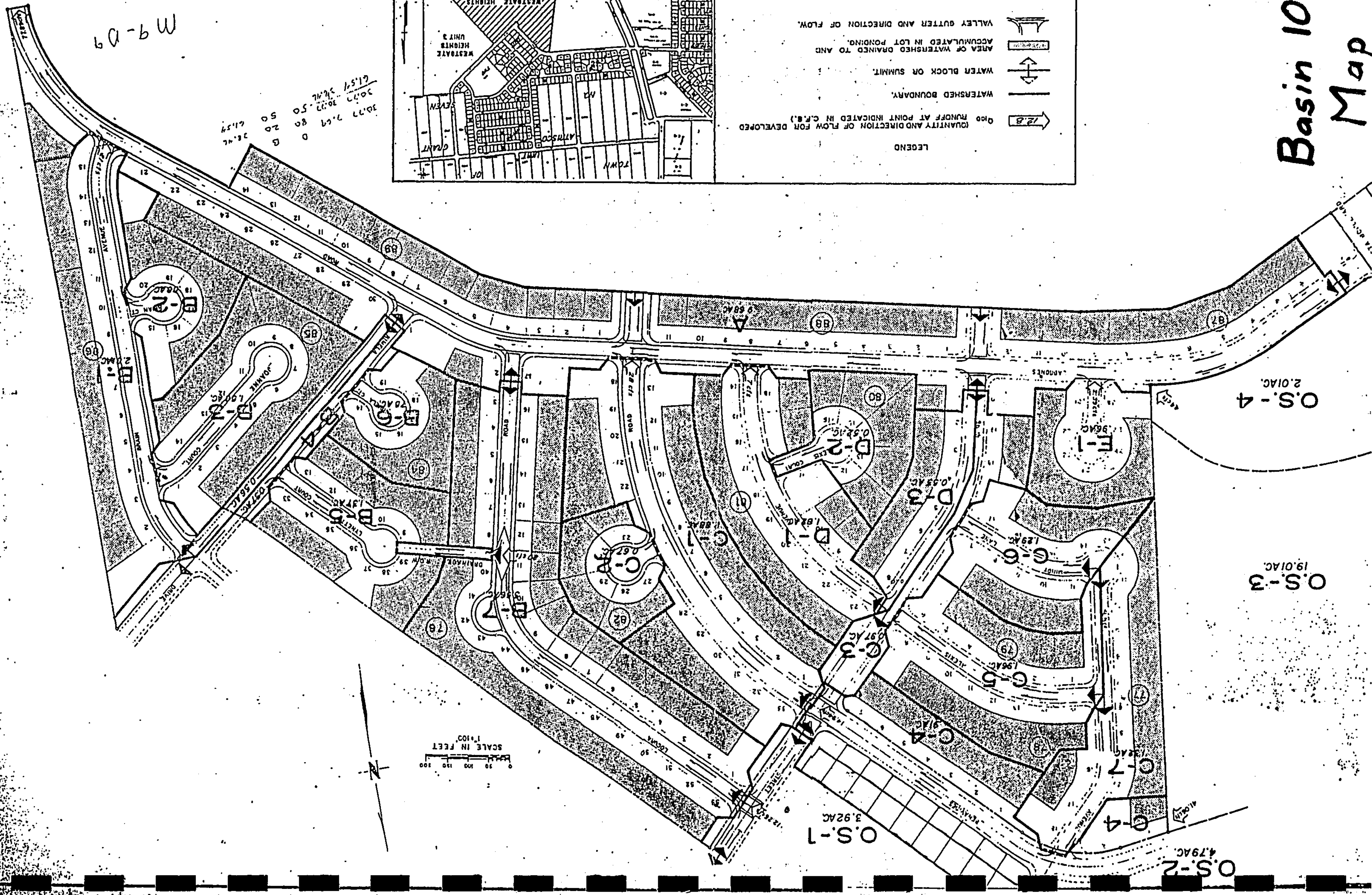


WESTGATE HEIGHTS
UNIT NO. 4
DEVELOPED DRAINAGE
CHARACTERISTICS

Figure 4

Job No. 2130011
MURRAY-MCMORRICK, INC.
ENGINEERING PLANNING-DESIGN
ENVIRONMENTAL DESIGN

Scale: 1" = 100'



100-YR AHYMO SUMMARY

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = alt#4-99.dat

RUN DATE (MON/DAY/YR) =01/11/2001
USER NO.= M GOODWN.I01

HYDROGRAPH IDENTIFICATION		FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1	NOTATION
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.220
COMPUTE NM HYD	101.00	-	3	.03270	72.46	2.462	1.41183	1.499	3.462	PER IMP=	50.00
ROUTE	101.10	3	1	.03270	40.50	2.462	1.41183	1.632	1.935		
COMPUTE NM HYD	102.00	-	2	.05410	82.42	4.254	1.47432	1.665	2.381	PER IMP=	56.00
ADD HYD	102.10	1& 2	3	.08680	122.89	6.716	1.45075	1.632	2.212		
COMPUTE NM HYD	103.00	-	2	.04990	99.23	3.889	1.46127	1.532	3.107	PER IMP=	55.00
ADD HYD	103.10	3& 2	1	.13670	208.87	10.605	1.45459	1.598	2.387		
COMPUTE NM HYD	104.00	-	2	.05320	91.59	4.146	1.46127	1.598	2.690	PER IMP=	55.00
COMPUTE NM HYD	105.00	-	3	.03630	96.87	3.658	1.88924	1.499	4.170	PER IMP=	90.00
ROUTE RESERVOIR	105.10	3	7	.03630	47.06	3.658	1.88923	1.698	2.026	AC-FT=	1.110
ADD HYD	105.20	2& 7	4	.08950	137.21	7.804	1.63484	1.598	2.395		
COMPUTE NM HYD	111.00	-	5	.00450	10.41	.367	1.53124	1.499	3.613	PER IMP=	65.00
ADD HYD	111.10	4& 5	2	.09400	144.63	8.171	1.62987	1.598	2.404		
COMPUTE NM HYD	106.00	-	3	.02400	65.87	2.418	1.88924	1.499	4.288	PER IMP=	90.00
ADD HYD	106.10	2& 3	4	.11800	196.59	10.589	1.68262	1.565	2.603		
COMPUTE NM HYD	107.00	-	2	.05010	113.50	3.905	1.46127	1.499	3.540	PER IMP=	55.00
ADD HYD	107.10	4& 2	3	.16810	305.21	14.494	1.61665	1.532	2.837		
COMPUTE NM HYD	108.00	-	2	.00450	11.93	.430	1.79252	1.499	4.141	PER IMP=	80.00
ADD HYD	108.10	3& 2	4	.17260	316.64	14.924	1.62123	1.532	2.866		
ADD HYD	108.20	4& 1	5	.30930	509.84	25.529	1.54758	1.565	2.576		
ROUTE RESERVOIR	108.30	5	3	.30930	109.71	25.528	1.54754	2.198	.554	AC-FT=	15.625
COMPUTE NM HYD	109.00	-	2	.00560	12.95	.457	1.53124	1.499	3.612	PER IMP=	65.00
ADD HYD	109.10	3& 2	4	.31490	111.82	25.986	1.54725	2.031	.555		
COMPUTE NM HYD	110.00	-	2	.00180	4.17	.147	1.53124	1.499	3.621	PER IMP=	65.00
ADD HYD	110.10	4& 2	1	.31670	112.70	26.133	1.54716	1.998	.556		
COMPUTE NM HYD	201.00	-	1	.00590	13.64	.482	1.53124	1.499	3.612	PER IMP=	65.00
COMPUTE NM HYD	202.00	-	2	.03580	81.11	2.790	1.46127	1.499	3.540	PER IMP=	55.00
COMPUTE NM HYD	203.00	-	3	.00300	7.86	.287	1.79108	1.499	4.091	PER IMP=	85.00
COMPUTE NM HYD	204.00	-	4	.00830	19.18	.678	1.53124	1.499	3.611	PER IMP=	65.00
COMPUTE NM HYD	205.00	-	5	.03500	79.30	2.728	1.46127	1.499	3.540	PER IMP=	55.00
COMPUTE NM HYD	302.00	-	7	.01050	17.61	.546	.97483	1.499	2.621	PER IMP=	20.00
FINISH											


```

START                TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 100-YEAR 6-HOUR STORM EVENT
***** JAN. 10, 2001
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.90 IN RAIN SIX=2.22 IN
                     RAIN DAY=2.67 IN DT=0.0333 HR
COMPUTE NM HYD       ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
                     PER A=0 PER B=25 PER C=25 PER D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
                     FRICTION SLOPE=.02 'n'=.017 LAST STA=34
                     DIST      ELEV
                     0         1
                     1.0       0
                     16.0      0.32
                     33.0      0
                     34.0      1
COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02
ROUTE               ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD           ID=1 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
                     PER A=0 PER B=24 PER C=20 PER D=56
                     TP=0.27 HR MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
ADD HYD             ID=3 HYD NO=102.1 ID=1 & 2
PRINT HYD           ID=3 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
                     PER A=0 PER B=25 PER C=20 PER D=55
                     TP=0.17 HR MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
ADD HYD             ID=1 HYD NO=103.1 ID=3 & 2
PRINT HYD           ID=1 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
                     PER A=0 PER B=25 PER C=20 PER D=55
                     TP=0.22 HR MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
COMPUTE NM HYD       ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=0.14 HR MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
ROUTE RESERVOIR     ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24
                     OUTFLOW(CFS)    STORAGE(AC-FT)    ELEVATION(FT)
                     0.0             0.0             70.2
                     12.0            0.14            72.2
                     24.7            0.36            74.2
                     38.0            0.65            76.2
                     46.0            1.04            78.2
                     53.6            1.54            80.2
PRINT HYD           ID=7 CODE=0
ADD HYD             ID=4 HYD NO=105.2 ID=2 & 7
PRINT HYD           ID=4 CODE=1
COMPUTE NM HYD       ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
                     PER A=0 PER B=35 PER C=0 PER D=65
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=5 CODE=1
ADD HYD             ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD           ID=2 CODE=1
COMPUTE NM HYD       ID=3 HYD NO=106.0 AREA=0.0240 SQ MI

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100-YR, AHYMO Input


```

PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1
ID=3 CODE=1
ID=4 HYD NO=106.1 ID=2 & 3
ID=4 CODE=1
ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=3 HYD NO=107.1 ID=4 & 2
ID=3 CODE=1
ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
PER A=0 PER B=0 PER C=20 PER D=80
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=4 HYD NO=108.1 ID=3 & 2
ID=4 CODE=1
ID=5 HYD NO=108.2 ID=4 & 1
ID=5 CODE=1
ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24
OUTFLOW(CFS)      STORAGE(AC-FT)      ELEVATION(FT)
    0.0             0.0                40.0
    9.6             1.38               41.0
   21.9             2.82               42.0
   35.1             4.32               43.0
   51.4             5.89               44.0
   70.2             7.51               45.0
   87.4             9.21               46.0
  103.2            10.97               47.0
  106.8            12.80               48.0
  108.9            14.69               49.0
  110.6            16.66               50.0

PRINT HYD      ID=3 CODE=0
COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=4 HYD NO=109.1 SUM IDS 3 2
ID=4 CODE=1
ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=1 HYD NO=110.1 SUM IDS 4 2
ID=1 CODE=1
ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1
ID=1 CODE=1
ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
PER A=0 PER B=15 PER C=0 PER D=85
TP=0.1333 HR MASS RAINFALL=-1
ID=3 CODE=1
ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

```


PRINT HYD
COMPUTE NM HYD

ID=4 CODE=1
ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

PRINT HYD
COMPUTE NM HYD

ID=5 CODE=1
ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1

PRINT HYD
FINISH

ID=7 CODE=1

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 01/11/2001
START TIME (HR:MIN:SEC) = 16:48:16 USER NO.= M_GOODWN.I01
INPUT FILE = alt#4-99.dat

100-YR AHYMO
Detailed Output

START TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 100-YEAR 6-HOUR STORM EVENT
***** JAN. 10, 2001
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.22 IN
RAIN DAY=2.67 IN DT=0.0333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.033300 HOURS	END TIME =	5.994000 HOURS
.0000	.0015	.0030	.0046
.0113	.0130	.0148	.0167
.0246	.0267	.0289	.0312
.0411	.0438	.0466	.0495
.0626	.0664	.0703	.0755
.1278	.1716	.2346	.3206
.9780	1.1890	1.2755	1.3484
1.5763	1.6232	1.6672	1.7086
1.8526	1.8840	1.9138	1.9420
1.9873	1.9925	1.9974	2.0022
2.0193	2.0233	2.0271	2.0308
2.0445	2.0477	2.0509	2.0539
2.0655	2.0682	2.0709	2.0736
2.0837	2.0861	2.0884	2.0908
2.0997	2.1019	2.1040	2.1061
2.1142	2.1162	2.1181	2.1200
2.1275	2.1293	2.1310	2.1328
2.1397	2.1413	2.1430	2.1446
2.1510	2.1525	2.1541	2.1556
2.1616	2.1631	2.1645	2.1659
2.1716	2.1730	2.1743	2.1757
2.1810	2.1823	2.1836	2.1849
2.1900	2.1912	2.1924	2.1937
2.1985	2.1997	2.2009	2.2020
2.2066	2.2078	2.2089	2.2100
2.2144	2.2155	2.2166	2.2177

COMPUTE NM HYD ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
PER A=0 PER B=25 PER C=25 PER D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 64.551 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .016350 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .118483HR TP = .133300HR K/TP RATIO = .888844 SHAPE CONSTANT, N = 3.990548
UNIT PEAK = 43.486 CFS UNIT VOLUME = 1.000 B = 354.54 P60 = 1.9000
AREA = .016350 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.41183 INCHES = 2.4622 ACRE-FEET
 PEAK DISCHARGE RATE = 72.46 CFS AT 1.499 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
 FRICTION SLOPE=.02 'n'=.017 LAST STA=34

DIST	ELEV
0	1
1.0	0
16.0	0.32
33.0	0
34.0	1

RATING CURVE VALLEY SECTION 4.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
.00	.00	.00	.00
.05	.14	.15	5.37
.11	.57	.98	10.74
.16	1.27	2.88	16.11
.21	2.26	6.20	21.47
.26	3.53	11.23	26.84
.32	5.09	18.27	32.21
.37	6.81	29.33	32.74
.42	8.53	42.63	32.84
.47	10.26	57.83	32.95
.53	12.00	74.82	33.05
.58	13.74	93.51	33.16
.63	15.49	113.83	33.26
.68	17.24	135.71	33.37
.74	19.00	159.09	33.47
.79	20.77	183.94	33.58
.84	22.54	210.19	33.68
.89	24.31	237.83	33.79
.95	26.09	266.81	33.89
1.00	27.88	297.10	34.00

COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ. FT.	FLOW RATE CFS	TRAVEL TIME HRS
.053	.141	.15	1.1237
.105	.565	.98	.7079
.158	1.271	2.88	.5402
.211	2.260	6.20	.4459
.263	3.532	11.23	.3843
.316	5.086	18.27	.3403
.368	6.805	29.33	.2835
.421	8.531	42.63	.2446
.474	10.262	57.83	.2169
.526	11.999	74.82	.1960
.579	13.741	93.51	.1796

.632	15.489	113.83	.1663
.684	17.243	135.71	.1553
.737	19.002	159.09	.1460
.789	20.766	183.94	.1380
.842	22.537	210.19	.1310
.895	24.312	237.83	.1249
.947	26.093	266.81	.1195
1.000	27.880	297.10	.1147

ROUTE ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.41183 INCHES = 2.4622 ACRE-FEET
PEAK DISCHARGE RATE = 40.50 CFS AT 1.632 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
PER A=0 PER B=24 PER C=20 PER D=56
TP=0.27 HR MASS RAINFALL=-1

K = .147150HR TP = .270000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 59.052 CFS UNIT VOLUME = .9996 B = 526.28 P60 = 1.9000
AREA = .030296 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .242249HR TP = .270000HR K/TP RATIO = .897217 SHAPE CONSTANT, N = 3.950834
UNIT PEAK = 31.023 CFS UNIT VOLUME = .9996 B = 351.88 P60 = 1.9000
AREA = .023804 SQ MI IA = .43182 INCHES INF = 1.05909 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.47432 INCHES = 4.2539 ACRE-FEET
PEAK DISCHARGE RATE = 82.42 CFS AT 1.665 HOURS BASIN AREA = .0541 SQ. MI.

ADD HYD ID=3 HYD NO=102.1 ID=1 & 2
PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 102.10

RUNOFF VOLUME = 1.45075 INCHES = 6.7160 ACRE-FEET
PEAK DISCHARGE RATE = 122.89 CFS AT 1.632 HOURS BASIN AREA = .0868 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.17 HR MASS RAINFALL=-1

K = .092650HR TP = .170000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 84.963 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
AREA = .027445 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .152843HR TP = .170000HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 46.402 CFS UNIT VOLUME = .9999 B = 351.29 P60 = 1.9000
AREA = .022455 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.46127 INCHES = 3.8889 ACRE-FEET
PEAK DISCHARGE RATE = 99.23 CFS AT 1.532 HOURS BASIN AREA = .0499 SQ. MI.

ADD HYD ID=1 HYD NO=103.1 ID=3 & 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 103.10

RUNOFF VOLUME = 1.45459 INCHES = 10.6049 ACRE-FEET
PEAK DISCHARGE RATE = 208.87 CFS AT 1.598 HOURS BASIN AREA = .1367 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.22 HR MASS RAINFALL=-1

K = .119900HR TP = .220000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 69.995 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
AREA = .029260 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .197797HR TP = .220000HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 38.227 CFS UNIT VOLUME = .9997 B = 351.29 P60 = 1.9000
AREA = .023940 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.46127 INCHES = 4.1461 ACRE-FEET
PEAK DISCHARGE RATE = 91.59 CFS AT 1.598 HOURS BASIN AREA = .0532 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.14 HR MASS RAINFALL=-1

K = .076300HR TP = .140000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 122.81 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
AREA = .032670 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .111543HR TP = .140000HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 10.038 CFS UNIT VOLUME = .9988 B = 387.15 P60 = 1.9000
AREA = .003630 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.88924 INCHES = 3.6575 ACRE-FEET
PEAK DISCHARGE RATE = 96.87 CFS AT 1.499 HOURS BASIN AREA = .0363 SQ. MI.

ROUTE RESERVOIR ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	70.2
12.0	0.14	72.2
24.7	0.36	74.2
38.0	0.65	76.2
46.0	1.04	78.2
53.6	1.54	80.2

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	70.20	.000	.00
.80	.00	70.20	.000	.00
1.60	71.43	78.11	1.022	45.63
2.40	4.37	72.88	.214	16.29
3.20	.85	70.39	.013	1.14
4.00	.52	70.29	.006	.54
4.80	.50	70.28	.006	.50
5.59	.58	70.29	.007	.57
6.39	.06	70.23	.002	.18
7.19	.00	70.20	.000	.00

PEAK DISCHARGE = 47.057 CFS - PEAK OCCURS AT HOUR 1.70
MAXIMUM WATER SURFACE ELEVATION = 78.478
MAXIMUM STORAGE = 1.1096 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=7 CODE=0

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.499	37.7	2.997	1.8	4.495	.5	5.994	.6
.033	.0	1.532	41.1	3.030	1.6	4.529	.5	6.027	.6
.067	.0	1.565	43.8	3.064	1.5	4.562	.5	6.061	.6
.100	.0	1.598	45.6	3.097	1.4	4.595	.5	6.094	.6
.133	.0	1.632	46.6	3.130	1.3	4.629	.5	6.127	.6

.167	.0	1.665	47.0	3.163	1.2	4.662	.5	6.160	.5
.200	.0	1.698	47.1	3.197	1.1	4.695	.5	6.194	.5
.233	.0	1.732	46.9	3.230	1.1	4.729	.5	6.227	.4
.266	.0	1.765	46.7	3.263	1.0	4.762	.5	6.260	.4
.300	.0	1.798	46.3	3.297	1.0	4.795	.5	6.294	.3
.333	.0	1.832	45.7	3.330	.9	4.828	.5	6.327	.3
.366	.0	1.865	45.0	3.363	.9	4.862	.5	6.360	.2
.400	.0	1.898	44.2	3.397	.8	4.895	.5	6.394	.2
.433	.0	1.931	43.4	3.430	.8	4.928	.5	6.427	.2
.466	.0	1.965	42.4	3.463	.8	4.962	.5	6.460	.1
.500	.0	1.998	41.5	3.496	.7	4.995	.5	6.493	.1
.533	.0	2.031	40.5	3.530	.7	5.028	.5	6.527	.1
.566	.0	2.065	39.5	3.563	.7	5.062	.5	6.560	.1
.599	.0	2.098	38.4	3.596	.7	5.095	.5	6.593	.1
.633	.0	2.131	36.3	3.630	.7	5.128	.5	6.627	.1
.666	.0	2.165	33.6	3.663	.6	5.161	.5	6.660	.1
.699	.0	2.198	30.9	3.696	.6	5.195	.5	6.693	.0
.733	.0	2.231	28.2	3.730	.6	5.228	.5	6.727	.0
.766	.0	2.264	25.8	3.763	.6	5.261	.5	6.760	.0
.799	.0	2.298	23.2	3.796	.6	5.295	.5	6.793	.0
.832	.0	2.331	20.6	3.829	.6	5.328	.5	6.826	.0
.866	.0	2.364	18.3	3.863	.6	5.361	.5	6.860	.0
.899	.0	2.398	16.3	3.896	.6	5.395	.5	6.893	.0
.932	.0	2.431	14.5	3.929	.6	5.428	.5	6.926	.0
.966	.0	2.464	12.9	3.963	.5	5.461	.6	6.960	.0
.999	.0	2.497	11.3	3.996	.5	5.494	.6	6.993	.0
1.032	.0	2.531	9.6	4.029	.5	5.528	.6	7.026	.0
1.066	.0	2.564	8.2	4.063	.5	5.561	.6	7.060	.0
1.099	.0	2.597	7.0	4.096	.5	5.594	.6	7.093	.0
1.132	.0	2.631	6.1	4.129	.5	5.628	.6	7.126	.0
1.166	.0	2.664	5.3	4.162	.5	5.661	.6	7.159	.0
1.199	.1	2.697	4.6	4.196	.5	5.694	.6	7.193	.0
1.232	.6	2.731	4.0	4.229	.5	5.728	.6	7.226	.0
1.265	1.9	2.764	3.6	4.262	.5	5.761	.6	7.259	.0
1.299	4.2	2.797	3.2	4.296	.5	5.794	.6	7.293	.0
1.332	7.8	2.830	2.8	4.329	.5	5.827	.6	7.326	.0
1.365	12.7	2.864	2.6	4.362	.5	5.861	.6	7.359	.0
1.399	17.5	2.897	2.3	4.396	.5	5.894	.6	7.393	.0
1.432	23.9	2.930	2.1	4.429	.5	5.927	.6	7.426	.0
1.465	30.5	2.964	1.9	4.462	.5	5.961	.6		

RUNOFF VOLUME = 1.88923 INCHES = 3.6575 ACRE-FEET
PEAK DISCHARGE RATE = 47.06 CFS AT 1.698 HOURS BASIN AREA = .0363 SQ. MI.

ADD HYD ID=4 HYD NO=105.2 ID=2 & 7
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 105.20

RUNOFF VOLUME = 1.63484 INCHES = 7.8036 ACRE-FEET
PEAK DISCHARGE RATE = 137.21 CFS AT 1.598 HOURS BASIN AREA = .0895 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 11.548 CFS UNIT VOLUME = .9984 B = 526.28 P60 = 1.9000
AREA = .002925 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 3.8702 CFS UNIT VOLUME = .9967 B = 327.55 P60 = 1.9000
AREA = .001575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = 1.53124 INCHES = .3675 ACRE-FEET
PEAK DISCHARGE RATE = 10.41 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 111.10

RUNOFF VOLUME = 1.62987 INCHES = 8.1710 ACRE-FEET
PEAK DISCHARGE RATE = 144.63 CFS AT 1.598 HOURS BASIN AREA = .0940 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=106.0 AREA=0.0240 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 85.278 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .021600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .106205HR TP = .133300HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 6.9704 CFS UNIT VOLUME = .9986 B = 387.15 P60 = 1.9000
AREA = .002400 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.88924 INCHES = 2.4182 ACRE-FEET
PEAK DISCHARGE RATE = 65.87 CFS AT 1.499 HOURS BASIN AREA = .0240 SQ. MI.

ADD HYD ID=4 HYD NO=106.1 ID=2 & 3
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 106.10

RUNOFF VOLUME = 1.68262 INCHES = 10.5892 ACRE-FEET
 PEAK DISCHARGE RATE = 196.59 CFS AT 1.565 HOURS BASIN AREA = .1180 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 108.79 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
 AREA = .027555 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
 UNIT PEAK = 59.414 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
 AREA = .022545 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = 1.46127 INCHES = 3.9045 ACRE-FEET
 PEAK DISCHARGE RATE = 113.50 CFS AT 1.499 HOURS BASIN AREA = .0501 SQ. MI.

ADD HYD ID=3 HYD NO=107.1 ID=4 & 2
 PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 107.10

RUNOFF VOLUME = 1.61665 INCHES = 14.4937 ACRE-FEET
 PEAK DISCHARGE RATE = 305.21 CFS AT 1.532 HOURS BASIN AREA = .1681 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
 PER A=0 PER B=0 PER C=20 PER D=80
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.213 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.9000
 AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .106205HR TP = .133300HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
 UNIT PEAK = 2.6139 CFS UNIT VOLUME = .9957 B = 387.15 P60 = 1.9000
 AREA = .000900 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.79252 INCHES = .4302 ACRE-FEET
 PEAK DISCHARGE RATE = 11.93 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=4 HYD NO=108.1 ID=3 & 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 108.10

RUNOFF VOLUME = 1.62123 INCHES = 14.9239 ACRE-FEET
 PEAK DISCHARGE RATE = 316.64 CFS AT 1.532 HOURS BASIN AREA = .1726 SQ. MI.

ADD HYD ID=5 HYD NO=108.2 ID=4 & 1
 PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 108.20

RUNOFF VOLUME = 1.54758 INCHES = 25.5288 ACRE-FEET
 PEAK DISCHARGE RATE = 509.84 CFS AT 1.565 HOURS BASIN AREA = .3093 SQ. MI.

ROUTE RESERVOIR ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	40.0
9.6	1.38	41.0
21.9	2.82	42.0
35.1	4.32	43.0
51.4	5.89	44.0
70.2	7.51	45.0
87.4	9.21	46.0
103.2	10.97	47.0
106.8	12.80	48.0
108.9	14.69	49.0
110.6	16.66	50.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	489.14	45.00	7.505	70.14
2.40	59.10	49.25	15.190	109.33
3.20	10.04	46.39	9.896	93.56
4.00	4.39	43.87	5.692	49.34
4.80	3.33	42.45	3.488	27.78
5.59	3.48	41.61	2.262	17.14
6.39	.91	41.11	1.541	10.98
7.19	.17	40.72	.991	6.89
7.99	.07	40.46	.632	4.39

8.79	.03	40.29	.401	2.79
9.59	.02	40.18	.255	1.77
10.39	.01	40.12	.161	1.12
11.19	.00	40.07	.102	.71
11.99	.00	40.05	.065	.45
12.79	.00	40.03	.041	.28
13.59	.00	40.02	.026	.18
14.39	.00	40.01	.016	.11
15.18	.00	40.01	.010	.07
15.98	.00	40.00	.007	.05
16.78	.00	40.00	.004	.03
17.58	.00	40.00	.003	.02
18.38	.00	40.00	.002	.01
19.18	.00	40.00	.001	.01

PEAK DISCHARGE = 109.707 CFS - PEAK OCCURS AT HOUR 2.20
 MAXIMUM WATER SURFACE ELEVATION = 49.475
 MAXIMUM STORAGE = 15.6251 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=3 CODE=0

PARTIAL HYDROGRAPH 108.30

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	49.3	7.992	4.4	11.988	.4	15.984	.0
.033	.0	4.029	48.1	8.025	4.3	12.021	.4	16.017	.0
.067	.0	4.063	46.8	8.059	4.2	12.055	.4	16.051	.0
.100	.0	4.096	45.6	8.092	4.2	12.088	.4	16.084	.0
.133	.0	4.129	44.5	8.125	4.1	12.121	.4	16.117	.0
.167	.0	4.162	43.3	8.158	4.0	12.155	.4	16.151	.0
.200	.0	4.196	42.2	8.192	3.9	12.188	.4	16.184	.0
.233	.0	4.229	41.1	8.225	3.8	12.221	.4	16.217	.0
.266	.0	4.262	40.1	8.258	3.8	12.254	.4	16.250	.0
.300	.0	4.296	39.1	8.292	3.7	12.288	.4	16.284	.0
.333	.0	4.329	38.1	8.325	3.6	12.321	.4	16.317	.0
.366	.0	4.362	37.1	8.358	3.6	12.354	.4	16.350	.0
.400	.0	4.396	36.2	8.392	3.5	12.388	.4	16.384	.0
.433	.0	4.429	35.2	8.425	3.4	12.421	.4	16.417	.0
.466	.0	4.462	34.5	8.458	3.4	12.454	.3	16.450	.0
.500	.0	4.495	33.7	8.491	3.3	12.488	.3	16.484	.0
.533	.0	4.529	33.0	8.525	3.2	12.521	.3	16.517	.0
.566	.0	4.562	32.3	8.558	3.2	12.554	.3	16.550	.0
.599	.0	4.595	31.6	8.591	3.1	12.587	.3	16.583	.0
.633	.0	4.629	30.9	8.625	3.1	12.621	.3	16.617	.0
.666	.0	4.662	30.3	8.658	3.0	12.654	.3	16.650	.0
.699	.0	4.695	29.6	8.691	3.0	12.687	.3	16.683	.0
.733	.0	4.729	29.0	8.725	2.9	12.721	.3	16.717	.0
.766	.0	4.762	28.4	8.758	2.8	12.754	.3	16.750	.0
.799	.0	4.795	27.8	8.791	2.8	12.787	.3	16.783	.0
.832	.0	4.828	27.2	8.824	2.7	12.821	.3	16.817	.0
.866	.0	4.862	26.6	8.858	2.7	12.854	.3	16.850	.0
.899	.0	4.895	26.1	8.891	2.6	12.887	.3	16.883	.0
.932	.0	4.928	25.5	8.924	2.6	12.920	.3	16.916	.0
.966	.0	4.962	25.0	8.958	2.5	12.954	.3	16.950	.0
.999	.0	4.995	24.5	8.991	2.5	12.987	.3	16.983	.0
1.032	.0	5.028	24.0	9.024	2.4	13.020	.2	17.016	.0
1.066	.0	5.062	23.5	9.058	2.4	13.054	.2	17.050	.0
1.099	.0	5.095	23.0	9.091	2.4	13.087	.2	17.083	.0
1.132	.0	5.128	22.5	9.124	2.3	13.120	.2	17.116	.0
1.166	.0	5.161	22.1	9.158	2.3	13.154	.2	17.150	.0

1.199	.0	5.195	21.6	9.191	2.2	13.187	.2	17.183	.0
1.232	.2	5.228	21.2	9.224	2.2	13.220	.2	17.216	.0
1.265	.5	5.261	20.8	9.257	2.1	13.253	.2	17.249	.0
1.299	1.2	5.295	20.4	9.291	2.1	13.287	.2	17.283	.0
1.332	2.5	5.328	20.0	9.324	2.1	13.320	.2	17.316	.0
1.365	4.6	5.361	19.6	9.357	2.0	13.353	.2	17.349	.0
1.399	7.8	5.395	19.2	9.391	2.0	13.387	.2	17.383	.0
1.432	13.0	5.428	18.8	9.424	1.9	13.420	.2	17.416	.0
1.465	20.7	5.461	18.5	9.457	1.9	13.453	.2	17.449	.0
1.499	30.5	5.494	18.1	9.491	1.9	13.487	.2	17.483	.0
1.532	42.6	5.528	17.8	9.524	1.8	13.520	.2	17.516	.0
1.565	56.2	5.561	17.5	9.557	1.8	13.553	.2	17.549	.0
1.598	70.1	5.594	17.1	9.590	1.8	13.586	.2	17.583	.0
1.632	81.2	5.628	16.8	9.624	1.7	13.620	.2	17.616	.0
1.665	90.7	5.661	16.5	9.657	1.7	13.653	.2	17.649	.0
1.698	98.5	5.694	16.2	9.690	1.7	13.686	.2	17.682	.0
1.732	103.6	5.728	15.9	9.724	1.6	13.720	.2	17.716	.0
1.765	105.0	5.761	15.6	9.757	1.6	13.753	.2	17.749	.0
1.798	106.1	5.794	15.3	9.790	1.6	13.786	.2	17.782	.0
1.832	107.0	5.827	15.1	9.824	1.6	13.820	.2	17.816	.0
1.865	107.5	5.861	14.8	9.857	1.5	13.853	.2	17.849	.0
1.898	107.9	5.894	14.5	9.890	1.5	13.886	.2	17.882	.0
1.931	108.3	5.927	14.3	9.923	1.5	13.919	.1	17.916	.0
1.965	108.7	5.961	14.1	9.957	1.4	13.953	.1	17.949	.0
1.998	109.0	5.994	13.8	9.990	1.4	13.986	.1	17.982	.0
2.031	109.2	6.027	13.6	10.023	1.4	14.019	.1	18.015	.0
2.065	109.4	6.061	13.3	10.057	1.4	14.053	.1	18.049	.0
2.098	109.5	6.094	13.1	10.090	1.3	14.086	.1	18.082	.0
2.131	109.6	6.127	12.9	10.123	1.3	14.119	.1	18.115	.0
2.165	109.7	6.160	12.7	10.157	1.3	14.153	.1	18.149	.0
2.198	109.7	6.194	12.4	10.190	1.3	14.186	.1	18.182	.0
2.231	109.7	6.227	12.2	10.223	1.2	14.219	.1	18.215	.0
2.264	109.7	6.260	11.9	10.256	1.2	14.252	.1	18.249	.0
2.298	109.6	6.294	11.7	10.290	1.2	14.286	.1	18.282	.0
2.331	109.5	6.327	11.5	10.323	1.2	14.319	.1	18.315	.0
2.364	109.4	6.360	11.2	10.356	1.1	14.352	.1	18.348	.0
2.398	109.3	6.394	11.0	10.390	1.1	14.386	.1	18.382	.0
2.431	109.2	6.427	10.7	10.423	1.1	14.419	.1	18.415	.0
2.464	109.1	6.460	10.5	10.456	1.1	14.452	.1	18.448	.0
2.497	108.9	6.493	10.3	10.490	1.1	14.486	.1	18.482	.0
2.531	108.7	6.527	10.1	10.523	1.0	14.519	.1	18.515	.0
2.564	108.5	6.560	9.8	10.556	1.0	14.552	.1	18.548	.0
2.597	108.3	6.593	9.6	10.589	1.0	14.585	.1	18.582	.0
2.631	108.1	6.627	9.4	10.623	1.0	14.619	.1	18.615	.0
2.664	107.8	6.660	9.3	10.656	1.0	14.652	.1	18.648	.0
2.697	107.6	6.693	9.1	10.689	.9	14.685	.1	18.681	.0
2.731	107.3	6.727	8.9	10.723	.9	14.719	.1	18.715	.0
2.764	107.1	6.760	8.8	10.756	.9	14.752	.1	18.748	.0
2.797	106.8	6.793	8.6	10.789	.9	14.785	.1	18.781	.0
2.830	106.3	6.826	8.5	10.823	.9	14.819	.1	18.815	.0
2.864	105.9	6.860	8.3	10.856	.9	14.852	.1	18.848	.0
2.897	105.4	6.893	8.2	10.889	.8	14.885	.1	18.881	.0
2.930	104.9	6.926	8.0	10.922	.8	14.918	.1	18.915	.0
2.964	104.4	6.960	7.9	10.956	.8	14.952	.1	18.948	.0
2.997	103.9	6.993	7.7	10.989	.8	14.985	.1	18.981	.0
3.030	103.4	7.026	7.6	11.022	.8	15.018	.1	19.014	.0
3.064	102.1	7.060	7.4	11.056	.8	15.052	.1	19.048	.0
3.097	99.9	7.093	7.3	11.089	.8	15.085	.1	19.081	.0
3.130	97.8	7.126	7.2	11.122	.7	15.118	.1	19.114	.0
3.163	95.6	7.159	7.0	11.156	.7	15.152	.1	19.148	.0

3.197	93.6	7.193	6.9	11.189	.7	15.185	.1	19.181	.0
3.230	91.5	7.226	6.8	11.222	.7	15.218	.1	19.214	.0
3.263	89.5	7.259	6.6	11.255	.7	15.251	.1	19.248	.0
3.297	87.5	7.293	6.5	11.289	.7	15.285	.1	19.281	.0
3.330	85.4	7.326	6.4	11.322	.7	15.318	.1	19.314	.0
3.363	83.3	7.359	6.3	11.355	.6	15.351	.1	19.347	.0
3.397	81.2	7.393	6.2	11.389	.6	15.385	.1	19.381	.0
3.430	79.2	7.426	6.0	11.422	.6	15.418	.1	19.414	.0
3.463	77.2	7.459	5.9	11.455	.6	15.451	.1	19.447	.0
3.496	75.3	7.492	5.8	11.489	.6	15.485	.1	19.481	.0
3.530	73.4	7.526	5.7	11.522	.6	15.518	.1	19.514	.0
3.563	71.5	7.559	5.6	11.555	.6	15.551	.1	19.547	.0
3.596	69.7	7.592	5.5	11.588	.6	15.584	.1	19.581	.0
3.630	67.7	7.626	5.4	11.622	.6	15.618	.1	19.614	.0
3.663	65.7	7.659	5.3	11.655	.5	15.651	.1	19.647	.0
3.696	63.8	7.692	5.2	11.688	.5	15.684	.1	19.680	.0
3.730	62.0	7.726	5.1	11.722	.5	15.718	.1	19.714	.0
3.763	60.2	7.759	5.0	11.755	.5	15.751	.1	19.747	.0
3.796	58.5	7.792	4.9	11.788	.5	15.784	.1	19.780	.0
3.829	56.8	7.825	4.8	11.822	.5	15.818	.0	19.814	.0
3.863	55.2	7.859	4.7	11.855	.5	15.851	.0	19.847	.0
3.896	53.6	7.892	4.6	11.888	.5	15.884	.0	19.880	.0
3.929	52.0	7.925	4.6	11.921	.5	15.917	.0	19.914	.0
3.963	50.6	7.959	4.5	11.955	.5	15.951	.0	19.947	.0

RUNOFF VOLUME = 1.54754 INCHES = 25.5281 ACRE-FEET
 PEAK DISCHARGE RATE = 109.71 CFS AT 2.198 HOURS BASIN AREA = .3093 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.371 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.9000
 AREA = .003640 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.8162 CFS UNIT VOLUME = .9975 B = 327.55 P60 = 1.9000
 AREA = .001960 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = 1.53124 INCHES = .4573 ACRE-FEET
 PEAK DISCHARGE RATE = 12.95 CFS AT 1.499 HOURS BASIN AREA = .0056 SQ. MI.

ADD HYD ID=4 HYD NO=109.1 SUM IDS 3 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 109.10

RUNOFF VOLUME = 1.54725 INCHES = 25.9854 ACRE-FEET
PEAK DISCHARGE RATE = 111.82 CFS AT 2.031 HOURS BASIN AREA = .3149 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.6192 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.9000
AREA = .001170 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.5481 CFS UNIT VOLUME = .9911 B = 327.55 P60 = 1.9000
AREA = .000630 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.53124 INCHES = .1470 ACRE-FEET
PEAK DISCHARGE RATE = 4.17 CFS AT 1.499 HOURS BASIN AREA = .0018 SQ. MI.

ADD HYD ID=1 HYD NO=110.1 SUM IDS 4 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 110.10

RUNOFF VOLUME = 1.54716 INCHES = 26.1324 ACRE-FEET
PEAK DISCHARGE RATE = 112.70 CFS AT 1.998 HOURS BASIN AREA = .3167 SQ. MI.

COMPUTE NM HYD ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 15.141 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.9000
AREA = .003835 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.0742 CFS UNIT VOLUME = .9975 B = 327.55 P60 = 1.9000
AREA = .002065 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 201.00

RUNOFF VOLUME = 1.53124 INCHES = .4818 ACRE-FEET
PEAK DISCHARGE RATE = 13.64 CFS AT 1.499 HOURS BASIN AREA = .0059 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 77.737 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .019690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 42.456 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
AREA = .016110 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 202.00

RUNOFF VOLUME = 1.46127 INCHES = 2.7900 ACRE-FEET
PEAK DISCHARGE RATE = 81.11 CFS AT 1.499 HOURS BASIN AREA = .0358 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
PER A=0 PER B=15 PER C=0 PER D=85
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.068 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.9000
AREA = .002550 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.1058 CFS UNIT VOLUME = .9874 B = 327.55 P60 = 1.9000
AREA = .000450 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 203.00

RUNOFF VOLUME = 1.79108 INCHES = .2866 ACRE-FEET
PEAK DISCHARGE RATE = 7.86 CFS AT 1.499 HOURS BASIN AREA = .0030 SQ. MI.

COMPUTE NM HYD ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 21.300 CFS UNIT VOLUME = .9988 B = 526.28 P60 = 1.9000
AREA = .005395 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 7.1383 CFS UNIT VOLUME = .9983 B = 327.55 P60 = 1.9000
AREA = .002905 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 1.53124 INCHES = .6778 ACRE-Feet
PEAK DISCHARGE RATE = 19.18 CFS AT 1.499 HOURS BASIN AREA = .0083 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 76.000 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .019250 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 41.507 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
AREA = .015750 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 205.00

RUNOFF VOLUME = 1.46127 INCHES = 2.7277 ACRE-Feet
PEAK DISCHARGE RATE = 79.30 CFS AT 1.499 HOURS BASIN AREA = .0350 SQ. MI.

COMPUTE NM HYD ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2909 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 1.9000
AREA = .002100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .127691HR TP = .133300HR K/TP RATIO = .957924 SHAPE CONSTANT, N = 3.688764
UNIT PEAK = 21.038 CFS UNIT VOLUME = .9996 B = 333.86 P60 = 1.9000
AREA = .008400 SQ MI IA = .48125 INCHES INF = 1.19750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD

ID=7 CODE=1

HYDROGRAPH FROM AREA 302.00

RUNOFF VOLUME = .97483 INCHES = .5459 ACRE-FEET
PEAK DISCHARGE RATE = 17.61 CFS AT 1.499 HOURS BASIN AREA = .0105 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 16:48:17

10-YR, AHMMO
Input

```
START                TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 10-YEAR 6-HOUR STORM EVENT
***** JAN. 11, 2001
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.27 IN RAIN SIX=1.48 IN
                     RAIN DAY=1.78 IN DT=0.0333 HR
COMPUTE NM HYD       ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
                     PER A=0 PER B=25 PER C=25 PER D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
                     FRICTION SLOPE=.02 'n'=.017 LAST STA=34
                     DIST      ELEV
                     0          1
                     1.0        0
                     16.0       0.32
                     33.0       0
                     34.0       1
COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02
ROUTE                ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
                     PER A=0 PER B=24 PER C=20 PER D=56
                     TP=0.27 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
ADD HYD              ID=3 HYD NO=102.1 ID=1 & 2
PRINT HYD            ID=3 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
                     PER A=0 PER B=25 PER C=20 PER D=55
                     TP=0.17 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
ADD HYD              ID=1 HYD NO=103.1 ID=3 & 2
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
                     PER A=0 PER B=25 PER C=20 PER D=55
                     TP=0.22 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
COMPUTE NM HYD       ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=0.14 HR MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1
ROUTE RESERVOIR      ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24
                     OUTFLOW(CFS)    STORAGE(AC-FT)    ELEVATION(FT)
                     0.0              0.0              70.2
                     12.0             0.14             72.2
                     24.7             0.36             74.2
                     38.0             0.65             76.2
                     46.0             1.04             78.2
                     53.6             1.54             80.2
PRINT HYD            ID=7 CODE=0
ADD HYD              ID=4 HYD NO=105.2 ID=2 & 7
PRINT HYD            ID=4 CODE=1
COMPUTE NM HYD       ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
                     PER A=0 PER B=35 PER C=0 PER D=65
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=5 CODE=1
ADD HYD              ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD            ID=2 CODE=1
COMPUTE NM HYD       ID=3 HYD NO=106.0 AREA=0.0240 SQ MI
```



```

PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1
ID=3 CODE=1
ID=4 HYD NO=106.1 ID=2 & 3
ID=4 CODE=1
ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=3 HYD NO=107.1 ID=4 & 2
ID=3 CODE=1
ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
PER A=0 PER B=0 PER C=20 PER D=80
TP=0.1333 HR MASS RAINFALL=-1
ID=2 CODE=1
ID=4 HYD NO=108.1 ID=3 & 2
ID=4 CODE=1
ID=5 HYD NO=108.2 ID=4 & 1
ID=5 CODE=1
ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24
  OUTFLOW(CFS)      STORAGE(AC-FT)      ELEVATION(FT)
    0.0              0.0                40.0
    9.6              1.38               41.0
   21.9              2.82               42.0
   35.1              4.32               43.0
   51.4              5.89               44.0
   70.2              7.51               45.0
   87.4              9.21               46.0
  103.2             10.97               47.0
  106.8             12.80               48.0
  108.9             14.69               49.0
  110.6             16.66               50.0

PRINT HYD      ID=3 CODE=0
COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
                PER A=0 PER B=35 PER C=0 PER D=65
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=2 CODE=1
ADD HYD        ID=4 HYD NO=109.1 SUM IDS 3 2
PRINT HYD      ID=4 CODE=1
COMPUTE NM HYD ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
                PER A=0 PER B=35 PER C=0 PER D=65
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=2 CODE=1
ADD HYD        ID=1 HYD NO=110.1 SUM IDS 4 2
PRINT HYD      ID=1 CODE=1
COMPUTE NM HYD ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
                PER A=0 PER B=35 PER C=0 PER D=65
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=1 CODE=1
COMPUTE NM HYD ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
                PER A=0 PER B=25 PER C=20 PER D=55
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=2 CODE=1
COMPUTE NM HYD ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
                PER A=0 PER B=15 PER C=0 PER D=85
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=3 CODE=1
COMPUTE NM HYD ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
                PER A=0 PER B=35 PER C=0 PER D=65
                TP=0.1333 HR MASS RAINFALL=-1

```


PRINT HYD
COMPUTE NM HYD

PRINT HYD
COMPUTE NM HYD

PRINT HYD
FINISH

ID=4 CODE=1
ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1
ID=5 CODE=1
ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1
ID=7 CODE=1

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 01/11/2001
START TIME (HR:MIN:SEC) = 16:59:02 USER NO.= M_GOODWN.I01
INPUT FILE = alt#4-10.dat

10-YR AHYMO
Detailed Output

START TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 10-YEAR 6-HOUR STORM EVENT
***** JAN. 11, 2001
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.27 IN RAIN SIX=1.48 IN
RAIN DAY=1.78 IN DT=0.0333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.033300 HOURS		END TIME =		5.994000 HOURS	
.0000	.0010	.0020	.0030	.0040	.0051	.0062
.0073	.0084	.0096	.0108	.0120	.0132	.0145
.0159	.0172	.0187	.0201	.0216	.0232	.0248
.0265	.0282	.0300	.0319	.0339	.0360	.0381
.0404	.0428	.0454	.0488	.0526	.0566	.0649
.0838	.1131	.1552	.2127	.2884	.3849	.5052
.6521	.7931	.8510	.8996	.9429	.9822	1.0184
1.0520	1.0834	1.1128	1.1405	1.1666	1.1912	1.2146
1.2367	1.2577	1.2776	1.2965	1.3144	1.3192	1.3230
1.3266	1.3301	1.3333	1.3365	1.3395	1.3424	1.3452
1.3478	1.3504	1.3530	1.3554	1.3578	1.3601	1.3623
1.3645	1.3666	1.3687	1.3707	1.3727	1.3746	1.3765
1.3783	1.3801	1.3819	1.3837	1.3854	1.3871	1.3887
1.3903	1.3919	1.3935	1.3950	1.3965	1.3980	1.3995
1.4009	1.4023	1.4037	1.4051	1.4065	1.4078	1.4092
1.4105	1.4118	1.4130	1.4143	1.4155	1.4168	1.4180
1.4192	1.4204	1.4215	1.4227	1.4238	1.4250	1.4261
1.4272	1.4283	1.4294	1.4305	1.4315	1.4326	1.4336
1.4347	1.4357	1.4367	1.4377	1.4387	1.4397	1.4407
1.4416	1.4426	1.4436	1.4445	1.4454	1.4464	1.4473
1.4482	1.4491	1.4500	1.4509	1.4518	1.4527	1.4535
1.4544	1.4553	1.4561	1.4570	1.4578	1.4586	1.4595
1.4603	1.4611	1.4619	1.4627	1.4635	1.4643	1.4651
1.4659	1.4667	1.4674	1.4682	1.4690	1.4697	1.4705
1.4712	1.4720	1.4727	1.4734	1.4742	1.4749	1.4756
1.4763	1.4771	1.4778	1.4785	1.4792	1.4799	

COMPUTE NM HYD ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
PER A=0 PER B=25 PER C=25 PER D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 64.551 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .016350 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .124683HR TP = .133300HR K/TP RATIO = .935354 SHAPE CONSTANT, N = 3.781209
UNIT PEAK = 41.741 CFS UNIT VOLUME = .9999 B = 340.31 P60 = 1.2700
AREA = .016350 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = .78799 INCHES = 1.3743 ACRE-FEET
 PEAK DISCHARGE RATE = 42.31 CFS AT 1.499 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
 FRICTION SLOPE=.02 'n'=.017 LAST STA=34

DIST	ELEV
0	1
1.0	0
16.0	0.32
33.0	0
34.0	1

RATING CURVE VALLEY SECTION 4.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
.00	.00	.00	.00
.05	.14	.15	5.37
.11	.57	.98	10.74
.16	1.27	2.88	16.11
.21	2.26	6.20	21.47
.26	3.53	11.23	26.84
.32	5.09	18.27	32.21
.37	6.81	29.33	32.74
.42	8.53	42.63	32.84
.47	10.26	57.83	32.95
.53	12.00	74.82	33.05
.58	13.74	93.51	33.16
.63	15.49	113.83	33.26
.68	17.24	135.71	33.37
.74	19.00	159.09	33.47
.79	20.77	183.94	33.58
.84	22.54	210.19	33.68
.89	24.31	237.83	33.79
.95	26.09	266.81	33.89
1.00	27.88	297.10	34.00

COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ. FT.	FLOW RATE CFS	TRAVEL TIME HRS
.053	.141	.15	1.1237
.105	.565	.98	.7079
.158	1.271	2.88	.5402
.211	2.260	6.20	.4459
.263	3.532	11.23	.3843
.316	5.086	18.27	.3403
.368	6.805	29.33	.2835
.421	8.531	42.63	.2446
.474	10.262	57.83	.2169
.526	11.999	74.82	.1960
.579	13.741	93.51	.1796

.632	15.489	113.83	.1663
.684	17.243	135.71	.1553
.737	19.002	159.09	.1460
.789	20.766	183.94	.1380
.842	22.537	210.19	.1310
.895	24.312	237.83	.1249
.947	26.093	266.81	.1195
1.000	27.880	297.10	.1147

ROUTE ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = .78800 INCHES = 1.3743 ACRE-FEET
PEAK DISCHARGE RATE = 19.74 CFS AT 1.632 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
PER A=0 PER B=24 PER C=20 PER D=56
TP=0.27 HR MASS RAINFALL=-1

K = .147150HR TP = .270000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 59.052 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 1.2700
AREA = .030296 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .255651HR TP = .270000HR K/TP RATIO = .946857 SHAPE CONSTANT, N = 3.733406
UNIT PEAK = 29.710 CFS UNIT VOLUME = .9996 B = 336.99 P60 = 1.2700
AREA = .023804 SQ MI IA = .43182 INCHES INF = 1.05909 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = .83894 INCHES = 2.4206 ACRE-FEET
PEAK DISCHARGE RATE = 48.68 CFS AT 1.665 HOURS BASIN AREA = .0541 SQ. MI.

ADD HYD ID=3 HYD NO=102.1 ID=1 & 2
PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 102.10

RUNOFF VOLUME = .81972 INCHES = 3.7948 ACRE-FEET
PEAK DISCHARGE RATE = 68.39 CFS AT 1.632 HOURS BASIN AREA = .0868 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.17 HR MASS RAINFALL=-1

K = .092650HR TP = .170000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 84.963 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
AREA = .027445 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .161400HR TP = .170000HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 44.416 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
AREA = .022455 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = .82868 INCHES = 2.2054 ACRE-FEET
PEAK DISCHARGE RATE = 58.63 CFS AT 1.532 HOURS BASIN AREA = .0499 SQ. MI.

ADD HYD ID=1 HYD NO=103.1 ID=3 & 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 103.10

RUNOFF VOLUME = .82299 INCHES = 6.0001 ACRE-FEET
PEAK DISCHARGE RATE = 118.71 CFS AT 1.598 HOURS BASIN AREA = .1367 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.22 HR MASS RAINFALL=-1

K = .119900HR TP = .220000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 69.995 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
AREA = .029260 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .208871HR TP = .220000HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 36.591 CFS UNIT VOLUME = .9997 B = 336.26 P60 = 1.2700
AREA = .023940 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = .82868 INCHES = 2.3512 ACRE-FEET
PEAK DISCHARGE RATE = 54.06 CFS AT 1.598 HOURS BASIN AREA = .0532 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.14 HR MASS RAINFALL=-1

K = .076300HR TP = .140000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 122.81 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
 AREA = .032670 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .113235HR TP = .140000HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
 UNIT PEAK = 9.9171 CFS UNIT VOLUME = .9989 B = 382.48 P60 = 1.2700
 AREA = .003630 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.16817 INCHES = 2.2616 ACRE-FEET
 PEAK DISCHARGE RATE = 63.10 CFS AT 1.499 HOURS BASIN AREA = .0363 SQ. MI.

ROUTE RESERVOIR ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	70.2
12.0	0.14	72.2
24.7	0.36	74.2
38.0	0.65	76.2
46.0	1.04	78.2
53.6	1.54	80.2

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	70.20	.000	.00
.80	.00	70.20	.000	.00
1.60	46.48	75.85	.599	35.64
2.40	2.56	71.41	.085	7.26
3.20	.27	70.27	.005	.44
4.00	.13	70.22	.002	.13
4.80	.20	70.23	.002	.18
5.59	.33	70.25	.004	.30
6.39	.04	70.22	.001	.11
7.19	.00	70.20	.000	.00

PEAK DISCHARGE = 36.510 CFS - PEAK OCCURS AT HOUR 1.67
 MAXIMUM WATER SURFACE ELEVATION = 75.976
 MAXIMUM STORAGE = .6175 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=7 CODE=0

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.499	25.9	2.997	.8	4.495	.2
.033	.0	1.532	30.2	3.030	.7	4.529	.2
.067	.0	1.565	33.6	3.064	.6	4.562	.2
.100	.0	1.598	35.6	3.097	.6	4.595	.2
.133	.0	1.632	36.5	3.130	.5	4.629	.2
						5.994	.4
						6.027	.4
						6.061	.4
						6.094	.4
						6.127	.4

.167	.0	1.665	36.5	3.163	.5	4.662	.2	6.160	.3
.200	.0	1.698	36.0	3.197	.4	4.695	.2	6.194	.3
.233	.0	1.732	35.1	3.230	.4	4.729	.2	6.227	.3
.266	.0	1.765	34.0	3.263	.4	4.762	.2	6.260	.2
.300	.0	1.798	32.8	3.297	.3	4.795	.2	6.294	.2
.333	.0	1.832	31.5	3.330	.3	4.828	.2	6.327	.2
.366	.0	1.865	30.2	3.363	.3	4.862	.2	6.360	.1
.400	.0	1.898	29.0	3.397	.3	4.895	.2	6.394	.1
.433	.0	1.931	27.7	3.430	.2	4.928	.2	6.427	.1
.466	.0	1.965	26.5	3.463	.2	4.962	.2	6.460	.1
.500	.0	1.998	25.2	3.496	.2	4.995	.2	6.493	.1
.533	.0	2.031	23.9	3.530	.2	5.028	.2	6.527	.1
.566	.0	2.065	22.5	3.563	.2	5.062	.2	6.560	.1
.599	.0	2.098	21.0	3.596	.2	5.095	.2	6.593	.0
.633	.0	2.131	19.5	3.630	.2	5.128	.2	6.627	.0
.666	.0	2.165	17.9	3.663	.2	5.161	.2	6.660	.0
.699	.0	2.198	16.2	3.696	.2	5.195	.2	6.693	.0
.733	.0	2.231	14.6	3.730	.2	5.228	.2	6.727	.0
.766	.0	2.264	13.1	3.763	.2	5.261	.2	6.760	.0
.799	.0	2.298	11.7	3.796	.1	5.295	.3	6.793	.0
.832	.0	2.331	9.9	3.829	.1	5.328	.3	6.826	.0
.866	.0	2.364	8.5	3.863	.1	5.361	.3	6.860	.0
.899	.0	2.398	7.3	3.896	.1	5.395	.3	6.893	.0
.932	.0	2.431	6.2	3.929	.1	5.428	.3	6.926	.0
.966	.0	2.464	5.4	3.963	.1	5.461	.3	6.960	.0
.999	.0	2.497	4.7	3.996	.1	5.494	.3	6.993	.0
1.032	.0	2.531	4.1	4.029	.1	5.528	.3	7.026	.0
1.066	.0	2.564	3.5	4.063	.1	5.561	.3	7.060	.0
1.099	.0	2.597	3.1	4.096	.1	5.594	.3	7.093	.0
1.132	.0	2.631	2.7	4.129	.1	5.628	.3	7.126	.0
1.166	.0	2.664	2.4	4.162	.1	5.661	.3	7.159	.0
1.199	.0	2.697	2.1	4.196	.1	5.694	.3	7.193	.0
1.232	.1	2.731	1.9	4.229	.1	5.728	.3	7.226	.0
1.265	.4	2.764	1.7	4.262	.1	5.761	.3	7.259	.0
1.299	1.3	2.797	1.5	4.296	.1	5.794	.3	7.293	.0
1.332	3.3	2.830	1.3	4.329	.1	5.827	.3	7.326	.0
1.365	6.4	2.864	1.2	4.362	.1	5.861	.4		
1.399	10.9	2.897	1.1	4.396	.1	5.894	.4		
1.432	15.3	2.930	1.0	4.429	.1	5.927	.4		
1.465	20.4	2.964	.9	4.462	.1	5.961	.4		

RUNOFF VOLUME = 1.16817 INCHES = 2.2616 ACRE-FEET
 PEAK DISCHARGE RATE = 36.51 CFS AT 1.665 HOURS BASIN AREA = .0363 SQ. MI.

ADD HYD ID=4 HYD NO=105.2 ID=2 & 7
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 105.20

RUNOFF VOLUME = .96636 INCHES = 4.6127 ACRE-FEET
 PEAK DISCHARGE RATE = 89.70 CFS AT 1.598 HOURS BASIN AREA = .0895 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 11.548 CFS UNIT VOLUME = .9984 B = 526.28 P60 = 1.2700
AREA = .002925 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 3.6316 CFS UNIT VOLUME = .9963 B = 307.36 P60 = 1.2700
AREA = .001575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = .89281 INCHES = .2143 ACRE-FEET
PEAK DISCHARGE RATE = 6.28 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 111.10

RUNOFF VOLUME = .96284 INCHES = 4.8270 ACRE-FEET
PEAK DISCHARGE RATE = 94.12 CFS AT 1.598 HOURS BASIN AREA = .0940 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=106.0 AREA=0.0240 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 85.278 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .021600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .107816HR TP = .133300HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
UNIT PEAK = 6.8863 CFS UNIT VOLUME = .9986 B = 382.48 P60 = 1.2700
AREA = .002400 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.16817 INCHES = 1.4953 ACRE-FEET
PEAK DISCHARGE RATE = 42.96 CFS AT 1.499 HOURS BASIN AREA = .0240 SQ. MI.

ADD HYD ID=4 HYD NO=106.1 ID=2 & 3
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 106.10

RUNOFF VOLUME = 1.00460 INCHES = 6.3222 ACRE-FEET
 PEAK DISCHARGE RATE = 127.15 CFS AT 1.565 HOURS BASIN AREA = .1180 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 108.79 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
 AREA = .027555 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
 UNIT PEAK = 56.871 CFS UNIT VOLUME = .9999 B = 336.26 P60 = 1.2700
 AREA = .022545 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = .82868 INCHES = 2.2142 ACRE-FEET
 PEAK DISCHARGE RATE = 67.15 CFS AT 1.499 HOURS BASIN AREA = .0501 SQ. MI.

ADD HYD ID=3 HYD NO=107.1 ID=4 & 2
 PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 107.10

RUNOFF VOLUME = .95217 INCHES = 8.5364 ACRE-FEET
 PEAK DISCHARGE RATE = 190.19 CFS AT 1.532 HOURS BASIN AREA = .1681 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
 PER A=0 PER B=0 PER C=20 PER D=80
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.213 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.2700
 AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .107816HR TP = .133300HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
 UNIT PEAK = 2.5824 CFS UNIT VOLUME = .9954 B = 382.48 P60 = 1.2700
 AREA = .000900 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.08825 INCHES = .2612 ACRE-FEET
 PEAK DISCHARGE RATE = 7.66 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=4 HYD NO=108.1 ID=3 & 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 108.10

RUNOFF VOLUME = .95571 INCHES = 8.7976 ACRE-FEET
 PEAK DISCHARGE RATE = 197.54 CFS AT 1.532 HOURS BASIN AREA = .1726 SQ. MI.

ADD HYD ID=5 HYD NO=108.2 ID=4 & 1
 PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 108.20

RUNOFF VOLUME = .89705 INCHES = 14.7977 ACRE-FEET
 PEAK DISCHARGE RATE = 307.99 CFS AT 1.565 HOURS BASIN AREA = .3093 SQ. MI.

ROUTE RESERVOIR ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	40.0
9.6	1.38	41.0
21.9	2.82	42.0
35.1	4.32	43.0
51.4	5.89	44.0
70.2	7.51	45.0
87.4	9.21	46.0
103.2	10.97	47.0
106.8	12.80	48.0
108.9	14.69	49.0
110.6	16.66	50.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	295.78	43.04	4.376	35.68
2.40	32.07	45.43	8.247	77.65
3.20	4.76	43.53	5.153	43.75
4.00	1.63	42.22	3.149	24.79
4.80	1.38	41.41	1.971	14.65
5.59	1.91	40.95	1.314	9.14
6.39	.56	40.67	.921	6.41
7.19	.11	40.43	.594	4.13
7.99	.04	40.27	.379	2.63

8.79	.02	40.17	.241	1.67
9.59	.01	40.11	.153	1.06
10.39	.00	40.07	.097	.67
11.19	.00	40.04	.061	.43
11.99	.00	40.03	.039	.27
12.79	.00	40.02	.025	.17
13.59	.00	40.01	.015	.11
14.39	.00	40.01	.010	.07
15.18	.00	40.00	.006	.04
15.98	.00	40.00	.004	.03
16.78	.00	40.00	.002	.02
17.58	.00	40.00	.002	.01
18.38	.00	40.00	.001	.01
19.18	.00	40.00	.001	.00

PEAK DISCHARGE = 83.689 CFS - PEAK OCCURS AT HOUR 2.13
 MAXIMUM WATER SURFACE ELEVATION = 45.784
 MAXIMUM STORAGE = 8.8432 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=3 CODE=0

PARTIAL HYDROGRAPH 108.30

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	24.8	7.992	2.6	11.988	.3	15.984	.0
.033	.0	4.029	24.2	8.025	2.6	12.021	.3	16.017	.0
.067	.0	4.063	23.7	8.059	2.5	12.055	.3	16.051	.0
.100	.0	4.096	23.2	8.092	2.5	12.088	.3	16.084	.0
.133	.0	4.129	22.6	8.125	2.4	12.121	.3	16.117	.0
.167	.0	4.162	22.1	8.158	2.4	12.155	.2	16.151	.0
.200	.0	4.196	21.7	8.192	2.4	12.188	.2	16.184	.0
.233	.0	4.229	21.2	8.225	2.3	12.221	.2	16.217	.0
.266	.0	4.262	20.7	8.258	2.3	12.254	.2	16.250	.0
.300	.0	4.296	20.3	8.292	2.2	12.288	.2	16.284	.0
.333	.0	4.329	19.8	8.325	2.2	12.321	.2	16.317	.0
.366	.0	4.362	19.4	8.358	2.1	12.354	.2	16.350	.0
.400	.0	4.396	19.0	8.392	2.1	12.388	.2	16.384	.0
.433	.0	4.429	18.6	8.425	2.1	12.421	.2	16.417	.0
.466	.0	4.462	18.2	8.458	2.0	12.454	.2	16.450	.0
.500	.0	4.495	17.8	8.491	2.0	12.488	.2	16.484	.0
.533	.0	4.529	17.4	8.525	1.9	12.521	.2	16.517	.0
.566	.0	4.562	17.0	8.558	1.9	12.554	.2	16.550	.0
.599	.0	4.595	16.7	8.591	1.9	12.587	.2	16.583	.0
.633	.0	4.629	16.3	8.625	1.8	12.621	.2	16.617	.0
.666	.0	4.662	16.0	8.658	1.8	12.654	.2	16.650	.0
.699	.0	4.695	15.6	8.691	1.8	12.687	.2	16.683	.0
.733	.0	4.729	15.3	8.725	1.7	12.721	.2	16.717	.0
.766	.0	4.762	15.0	8.758	1.7	12.754	.2	16.750	.0
.799	.0	4.795	14.7	8.791	1.7	12.787	.2	16.783	.0
.832	.0	4.828	14.3	8.824	1.6	12.821	.2	16.817	.0
.866	.0	4.862	14.0	8.858	1.6	12.854	.2	16.850	.0
.899	.0	4.895	13.7	8.891	1.6	12.887	.2	16.883	.0
.932	.0	4.928	13.5	8.924	1.6	12.920	.2	16.916	.0
.966	.0	4.962	13.2	8.958	1.5	12.954	.2	16.950	.0
.999	.0	4.995	12.9	8.991	1.5	12.987	.2	16.983	.0
1.032	.0	5.028	12.6	9.024	1.5	13.020	.1	17.016	.0
1.066	.0	5.062	12.4	9.058	1.4	13.054	.1	17.050	.0
1.099	.0	5.095	12.1	9.091	1.4	13.087	.1	17.083	.0
1.132	.0	5.128	11.9	9.124	1.4	13.120	.1	17.116	.0
1.166	.0	5.161	11.6	9.158	1.4	13.154	.1	17.150	.0

1.199	.0	5.195	11.4	9.191	1.3	13.187	.1	17.183	.0
1.232	.0	5.228	11.2	9.224	1.3	13.220	.1	17.216	.0
1.265	.1	5.261	11.0	9.257	1.3	13.253	.1	17.249	.0
1.299	.4	5.295	10.7	9.291	1.3	13.287	.1	17.283	.0
1.332	.9	5.328	10.5	9.324	1.2	13.320	.1	17.316	.0
1.365	2.0	5.361	10.3	9.357	1.2	13.353	.1	17.349	.0
1.399	3.8	5.395	10.1	9.391	1.2	13.387	.1	17.383	.0
1.432	6.4	5.428	9.9	9.424	1.2	13.420	.1	17.416	.0
1.465	10.1	5.461	9.7	9.457	1.1	13.453	.1	17.449	.0
1.499	15.8	5.494	9.6	9.491	1.1	13.487	.1	17.483	.0
1.532	22.3	5.528	9.4	9.524	1.1	13.520	.1	17.516	.0
1.565	29.1	5.561	9.3	9.557	1.1	13.553	.1	17.549	.0
1.598	35.7	5.594	9.1	9.590	1.1	13.586	.1	17.583	.0
1.632	42.7	5.628	9.0	9.624	1.0	13.620	.1	17.616	.0
1.665	49.1	5.661	8.9	9.657	1.0	13.653	.1	17.649	.0
1.698	55.0	5.694	8.7	9.690	1.0	13.686	.1	17.682	.0
1.732	60.3	5.728	8.6	9.724	1.0	13.720	.1	17.716	.0
1.765	64.9	5.761	8.5	9.757	1.0	13.753	.1	17.749	.0
1.798	68.9	5.794	8.4	9.790	.9	13.786	.1	17.782	.0
1.832	72.0	5.827	8.2	9.824	.9	13.820	.1	17.816	.0
1.865	74.5	5.861	8.1	9.857	.9	13.853	.1	17.849	.0
1.898	76.6	5.894	8.0	9.890	.9	13.886	.1	17.882	.0
1.931	78.4	5.927	7.9	9.923	.9	13.919	.1	17.916	.0
1.965	79.9	5.961	7.8	9.957	.9	13.953	.1	17.949	.0
1.998	81.2	5.994	7.7	9.990	.8	13.986	.1	17.982	.0
2.031	82.2	6.027	7.6	10.023	.8	14.019	.1	18.015	.0
2.065	82.9	6.061	7.5	10.057	.8	14.053	.1	18.049	.0
2.098	83.5	6.094	7.4	10.090	.8	14.086	.1	18.082	.0
2.131	83.7	6.127	7.3	10.123	.8	14.119	.1	18.115	.0
2.165	83.6	6.160	7.2	10.157	.8	14.153	.1	18.149	.0
2.198	83.3	6.194	7.1	10.190	.8	14.186	.1	18.182	.0
2.231	82.7	6.227	7.0	10.223	.7	14.219	.1	18.215	.0
2.264	82.0	6.260	6.9	10.256	.7	14.252	.1	18.249	.0
2.298	81.1	6.294	6.7	10.290	.7	14.286	.1	18.282	.0
2.331	80.0	6.327	6.6	10.323	.7	14.319	.1	18.315	.0
2.364	78.9	6.360	6.5	10.356	.7	14.352	.1	18.348	.0
2.398	77.7	6.394	6.4	10.390	.7	14.386	.1	18.382	.0
2.431	76.4	6.427	6.3	10.423	.7	14.419	.1	18.415	.0
2.464	75.0	6.460	6.2	10.456	.6	14.452	.1	18.448	.0
2.497	73.6	6.493	6.1	10.490	.6	14.486	.1	18.482	.0
2.531	72.2	6.527	6.0	10.523	.6	14.519	.1	18.515	.0
2.564	70.8	6.560	5.9	10.556	.6	14.552	.1	18.548	.0
2.597	69.3	6.593	5.8	10.589	.6	14.585	.1	18.582	.0
2.631	67.6	6.627	5.7	10.623	.6	14.619	.1	18.615	.0
2.664	66.0	6.660	5.6	10.656	.6	14.652	.1	18.648	.0
2.697	64.4	6.693	5.5	10.689	.6	14.685	.1	18.681	.0
2.731	62.8	6.727	5.4	10.723	.6	14.719	.1	18.715	.0
2.764	61.2	6.760	5.3	10.756	.5	14.752	.1	18.748	.0
2.797	59.6	6.793	5.2	10.789	.5	14.785	.1	18.781	.0
2.830	58.1	6.826	5.1	10.823	.5	14.819	.1	18.815	.0
2.864	56.6	6.860	5.0	10.856	.5	14.852	.1	18.848	.0
2.897	55.1	6.893	4.9	10.889	.5	14.885	.1	18.881	.0
2.930	53.6	6.926	4.8	10.922	.5	14.918	.1	18.915	.0
2.964	52.2	6.960	4.7	10.956	.5	14.952	.0	18.948	.0
2.997	50.8	6.993	4.6	10.989	.5	14.985	.0	18.981	.0
3.030	49.6	7.026	4.5	11.022	.5	15.018	.0	19.014	.0
3.064	48.4	7.060	4.5	11.056	.5	15.052	.0	19.048	.0
3.097	47.2	7.093	4.4	11.089	.5	15.085	.0	19.081	.0
3.130	46.0	7.126	4.3	11.122	.4	15.118	.0	19.114	.0
3.163	44.9	7.159	4.2	11.156	.4	15.152	.0	19.148	.0

3.197	43.7	7.193	4.1	11.189	.4	15.185	.0	19.181	.0
3.230	42.6	7.226	4.1	11.222	.4	15.218	.0	19.214	.0
3.263	41.6	7.259	4.0	11.255	.4	15.251	.0	19.248	.0
3.297	40.5	7.293	3.9	11.289	.4	15.285	.0	19.281	.0
3.330	39.5	7.326	3.8	11.322	.4	15.318	.0	19.314	.0
3.363	38.5	7.359	3.8	11.355	.4	15.351	.0	19.347	.0
3.397	37.5	7.393	3.7	11.389	.4	15.385	.0	19.381	.0
3.430	36.5	7.426	3.6	11.422	.4	15.418	.0	19.414	.0
3.463	35.6	7.459	3.6	11.455	.4	15.451	.0	19.447	.0
3.496	34.7	7.492	3.5	11.489	.4	15.485	.0	19.481	.0
3.530	34.0	7.526	3.4	11.522	.4	15.518	.0	19.514	.0
3.563	33.2	7.559	3.4	11.555	.3	15.551	.0	19.547	.0
3.596	32.5	7.592	3.3	11.588	.3	15.584	.0	19.581	.0
3.630	31.8	7.626	3.2	11.622	.3	15.618	.0	19.614	.0
3.663	31.1	7.659	3.2	11.655	.3	15.651	.0	19.647	.0
3.696	30.4	7.692	3.1	11.688	.3	15.684	.0	19.680	.0
3.730	29.7	7.726	3.1	11.722	.3	15.718	.0	19.714	.0
3.763	29.0	7.759	3.0	11.755	.3	15.751	.0	19.747	.0
3.796	28.4	7.792	2.9	11.788	.3	15.784	.0	19.780	.0
3.829	27.8	7.825	2.9	11.822	.3	15.818	.0	19.814	.0
3.863	27.1	7.859	2.8	11.855	.3	15.851	.0	19.847	.0
3.896	26.5	7.892	2.8	11.888	.3	15.884	.0	19.880	.0
3.929	25.9	7.925	2.7	11.921	.3	15.917	.0	19.914	.0
3.963	25.4	7.959	2.7	11.955	.3	15.951	.0	19.947	.0

RUNOFF VOLUME = .89703 INCHES = 14.7973 ACRE-FEET
 PEAK DISCHARGE RATE = 83.69 CFS AT 2.131 HOURS BASIN AREA = .3093 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.371 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.2700
 AREA = .003640 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
 UNIT PEAK = 4.5194 CFS UNIT VOLUME = .9971 B = 307.36 P60 = 1.2700
 AREA = .001960 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = .89281 INCHES = .2667 ACRE-FEET
 PEAK DISCHARGE RATE = 7.81 CFS AT 1.499 HOURS BASIN AREA = .0056 SQ. MI.

ADD HYD ID=4 HYD NO=109.1 SUM IDS 3 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 109.10

RUNOFF VOLUME = .89695 INCHES = 15.0639 ACRE-FEET
PEAK DISCHARGE RATE = 84.74 CFS AT 2.098 HOURS BASIN AREA = .3149 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.6192 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.2700
AREA = .001170 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 1.4527 CFS UNIT VOLUME = .9903 B = 307.36 P60 = 1.2700
AREA = .000630 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = .89281 INCHES = .0857 ACRE-FEET
PEAK DISCHARGE RATE = 2.52 CFS AT 1.499 HOURS BASIN AREA = .0018 SQ. MI.

ADD HYD ID=1 HYD NO=110.1 SUM IDS 4 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 110.10

RUNOFF VOLUME = .89693 INCHES = 15.1496 ACRE-FEET
PEAK DISCHARGE RATE = 85.16 CFS AT 2.098 HOURS BASIN AREA = .3167 SQ. MI.

COMPUTE NM HYD ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 15.141 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.2700
AREA = .003835 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 4.7615 CFS UNIT VOLUME = .9971 B = 307.36 P60 = 1.2700
AREA = .002065 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 201.00

RUNOFF VOLUME = .89281 INCHES = .2809 ACRE-FEET
PEAK DISCHARGE RATE = 8.23 CFS AT 1.499 HOURS BASIN AREA = .0059 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 77.737 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .019690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 40.638 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
AREA = .016110 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 202.00

RUNOFF VOLUME = .82868 INCHES = 1.5822 ACRE-FEET
PEAK DISCHARGE RATE = 47.99 CFS AT 1.499 HOURS BASIN AREA = .0358 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
PER A=0 PER B=15 PER C=0 PER D=85
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.068 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.2700
AREA = .002550 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 1.0376 CFS UNIT VOLUME = .9867 B = 307.36 P60 = 1.2700
AREA = .000450 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 203.00

RUNOFF VOLUME = 1.09583 INCHES = 1.753 ACRE-FEET
PEAK DISCHARGE RATE = 5.02 CFS AT 1.499 HOURS BASIN AREA = .0030 SQ. MI.

COMPUTE NM HYD ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 21.300 CFS UNIT VOLUME = .9988 B = 526.28 P60 = 1.2700
AREA = .005395 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 6.6984 CFS UNIT VOLUME = .9980 B = 307.36 P60 = 1.2700
AREA = .002905 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = .89281 INCHES = .3952 ACRE-FEET
PEAK DISCHARGE RATE = 11.57 CFS AT 1.499 HOURS BASIN AREA = .0083 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 76.000 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .019250 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 39.730 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
AREA = .015750 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 205.00

RUNOFF VOLUME = .82868 INCHES = 1.5469 ACRE-FEET
PEAK DISCHARGE RATE = 46.91 CFS AT 1.499 HOURS BASIN AREA = .0350 SQ. MI.

COMPUTE NM HYD ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2909 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 1.2700
AREA = .002100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .137333HR TP = .133300HR K/TP RATIO = 1.030252 SHAPE CONSTANT, N = 3.426319
UNIT PEAK = 19.844 CFS UNIT VOLUME = .9995 B = 314.91 P60 = 1.2700
AREA = .008400 SQ MI IA = .48125 INCHES INF = 1.19750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD

ID=7 CODE=1

HYDROGRAPH FROM AREA 302.00

RUNOFF VOLUME = .45308 INCHES = .2537 ACRE-FEET
PEAK DISCHARGE RATE = 8.48 CFS AT 1.532 HOURS BASIN AREA = .0105 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 16:59:02

VOLUME CALCULATIONS

50'x50' Bottom, 3:1 Sides, 10' Deep
POND # 1

CALCULATED 01-11-2001 15:55:43
DISK FILE : C:ERG105 .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (acres)	$A1+A2+\text{sq}(\text{A1}*\text{A2})$ (acres)	* Volume (acre-ft)	Volume Sum (acre-ft)
70.20	2,500.00	0.06	0.00	0.00	0.00
72.20	*I*	0.09	0.22	0.14	0.14
74.20	*I*	0.13	0.27	0.36	0.36
76.20	*I*	0.17	0.33	0.65	0.65
78.20	*I*	0.22	0.39	1.04	1.04
80.20	12,100.00	0.28	0.46	1.54	1.54

I ----> Interpolated area from closest two planimeter readings.

$$IA = (\text{sq}.\text{rt}(\text{Area1}) + ((Ei - E1) / (E2 - E1)) * (\text{sq}.\text{rt}(\text{Area2}) - \text{sq}.\text{rt}(\text{Area1})))^2$$

where: E1, E2 = Closest two elevations with planimeter data
Ei = Elevation at which to interpolate area
Area1, Area2 = Areas computed for E1, E2, respectively
IA = Interpolated area for Ei

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$\text{Volume} = (1/3) * (EL2 - EL1) * (\text{Area1} + \text{Area2} + \text{sq}.\text{rt}(\text{Area1} * \text{Area2}))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Area1, Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

POND-2 Version: 4.01
S/N: 88020607

EL RANCHO GRANDE I, UNIT 4

Volume Calculations Pond #2

CALCULATED 01-11-2001 16:41:22
DISK FILE : C:ERG3 .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sq [*] (A1*A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
40.00	58,827.00	1.35	0.00	0.00	0.00
41.00	*I*	1.41	4.14	1.38	1.38
42.00	*I*	1.47	4.23	2.82	2.82
43.00	*I*	1.53	4.32	4.32	4.32
44.00	*I*	1.60	4.41	5.89	5.89
45.00	*I*	1.66	4.51	7.51	7.51
46.00	*I*	1.73	4.60	9.21	9.21
47.00	*I*	1.79	4.70	10.97	10.97
48.00	*I*	1.86	4.80	12.80	12.80
49.00	*I*	1.93	4.90	14.69	14.69
50.00	87,247.00	2.00	5.00	16.66	16.66

I ----> Interpolated area from closest two planimeter readings.

$$IA = (\text{sq.rt}(\text{Area1}) + ((E_i - E_1) / (E_2 - E_1)) * (\text{sq.rt}(\text{Area2}) - \text{sq.rt}(\text{Area1})))^2$$

where: E1, E2 = Closest two elevations with planimeter data
E_i = Elevation at which to interpolate area
Area1, Area2 = Areas computed for E1, E2, respectively
IA = Interpolated area for E_i

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$\text{Volume} = (1/3) * (EL2 - EL1) * (\text{Area1} + \text{Area2} + \text{sq.rt.}(\text{Area1} * \text{Area2}))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Area1, Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Volume Calculations Pond #3

CALCULATED 01-09-2001 15:50:06
DISK FILE : C:ERG201 .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (acres)	$A1+A2+\text{sqr}(A1*A2)$ (acres)	* Volume (acre-ft)	Volume Sum (acre-ft)
23.00	19,600.00	0.45	0.00	0.00	0.00
32.57	*I*	0.89	1.98	6.31	6.31
33.00	40,000.00	0.92	2.01	6.70	6.70

I ---> Interpolated area from closest two planimeter readings.

$$IA = (\text{sq.rt}(\text{Area1}) + ((Ei - E1) / (E2 - E1)) * (\text{sq.rt}(\text{Area2}) - \text{sq.rt}(\text{Area1})))^2$$

where: E1, E2 = Closest two elevations with planimeter data
Ei = Elevation at which to interpolate area
Area1, Area2 = Areas computed for E1, E2, respectively
IA = Interpolated area for Ei

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$\text{Volume} = (1/3) * (EL2 - EL1) * (\text{Area1} + \text{Area2} + \text{sq.rt.}(\text{Area1} * \text{Area2}))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Area1, Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Outlet Structure File: ERG105 .STR

POND-2 Version: 4.01
Date Executed: 01-11-2001

S/N: 88020607
Time Executed: 16:30:32

Inlet control for 27" rcp grove end projecting

POND # 1

>>>>> Structure No. 01 <<<<<<
(Input Data)

TABLE

Input your own rating table.

E1 (ft) =70.2 E2 (ft) =80.2

Constant (ft) added to each elevation was: 0

Elev. (ft)	Q (cfs)
-----	-----
70.2	0
73.2	18
76.2	38
79.2	50
82.2	61

Outlet Structure File: ERG105 .STR

POND-2 Version: 4.01
Date Executed: 01-11-2001

S/N: 88020607
Time Executed: 16:30:32

Inlet control for 27" rcp grove end projecting

POND #1

Outflow Rating Table for Structure #01
TABLE Input your own rating table.

Elevation (ft)	Q (cfs)	Computation Messages
-----	-----	-----
70.20	0.0	
71.20	6.0	Interpolated from input table
72.20	12.0	Interpolated from input table
73.20	18.0	
74.20	24.7	Interpolated from input table
75.20	31.3	Interpolated from input table
76.20	38.0	
77.20	42.0	Interpolated from input table
78.20	46.0	Interpolated from input table
79.20	50.0	
80.19	53.6	Interpolated from input table
80.20	0.0	E = or > E2=80.2

Outlet Structure Calculations Pond # 2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01
Date Executed: 01-10-2001

S/N: 88020607
Time Executed: 15:10:23

***** COMPOSITE OUTFLOW SUMMARY *****

Elevation (ft)	Q (cfs)	Contributing Structures
-----	-----	-----
40.00	0.0	+01
41.00	9.6	+01
42.00	21.9	+01
43.00	35.1	03
44.00	51.4	03
45.00	70.2	03
46.00	87.4	03
47.00	103.2	03
48.00	106.8	03
49.00	108.9	03
50.00	110.6	03
50.99	111.9	03
51.00	0.0	

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

Outlet Structure File: C:ERG3 .STR

Planimeter Input File: C:ERG3 .VOL

Rating Table Output File: C:ERG3 .PND

Min. Elev.(ft) = 40 Max. Elev.(ft) = 51 Incr.(ft) = 1

Additional elevations (ft) to be included in table:

* * * * *
50.99

SYSTEM CONNECTIVITY

Structure	No.	Q Table	Q Table
-----	---	-----	-----
TABLE	01	+ 00	-> 02
TABLE	03	? 02	-> 04

Outflow rating table summary was stored in file C:ERG3 .PND

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

>>>>> Structure No. 01 <<<<<<
(Input Data)

*Inlet Control 42" RCP
Grove End Projecting*

TABLE

Input your own rating table.

E1 (ft) =40

E2 (ft) =51

Constant (ft) added to each elevation was: 0

Elev. (ft)	Q (cfs)
40	0
41.75	16.8
42.45	31
43.15	46
44.2	70
45.25	90
46	100
47	117
48	127
49	139
51	151

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

>>>>> Structure No. 03 <<<<<<
(Input Data)

*Outlet Control
from HGL calculations*

TABLE

Input your own rating table.

E1 (ft) =40

E2 (ft) =51

Constant (ft) added to each elevation was: 0

Elev. (ft)	Q (cfs)
-----	-----
40	0
43.42	40
44.44	60
45.54	80
46.78	100
47.12	105
49.53	110
57.17	120

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

Outflow Rating Table for Structure #01

TABLE Input your own rating table.

Elevation (ft)	Q (cfs)	Computation Messages
-----	-----	-----
40.00	0.0	
41.00	9.6	Interpolated from input table
42.00	21.9	Interpolated from input table
43.00	42.8	Interpolated from input table
44.00	65.4	Interpolated from input table
45.00	85.2	Interpolated from input table
46.00	100.0	
47.00	117.0	
48.00	127.0	
49.00	139.0	
50.00	145.0	Interpolated from input table
50.99	150.9	Interpolated from input table
51.00	0.0	E = or > E2=51

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

Outflow Rating Table for Structure #03

TABLE Input your own rating table.

Elevation (ft)	Q (cfs)	Computation Messages
-----	-----	-----
40.00	0.0	
41.00	11.7	Interpolated from input table
42.00	23.4	Interpolated from input table
43.00	35.1	Interpolated from input table
44.00	51.4	Interpolated from input table
45.00	70.2	Interpolated from input table
46.00	87.4	Interpolated from input table
47.00	103.2	Interpolated from input table
48.00	106.8	Interpolated from input table
49.00	108.9	Interpolated from input table
50.00	110.6	Interpolated from input table
50.99	111.9	Interpolated from input table
51.00	0.0	E = or > E2=51

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

Outflow Rating Table 02
Table 02 = 00 + 01

Elevation (ft)	Q (cfs)	Contributing Structures
40.00	0.0	+01
41.00	9.6	+01
42.00	21.9	+01
43.00	42.8	+01
44.00	65.4	+01
45.00	85.2	+01
46.00	100.0	+01
47.00	117.0	+01
48.00	127.0	+01
49.00	139.0	+01
50.00	145.0	+01
50.99	150.9	+01
51.00	0.0	

Pond #2

Outlet Structure File: ERG3 .STR

POND-2 Version: 4.01

S/N: 88020607

Date Executed: 01-10-2001

Time Executed: 15:10:23

Outflow Rating Table 04

Table 04 = 02 ? 03

Elevation (ft)	Q (cfs)	Contributing Structures
-----	-----	-----
40.00	0.0	+01
41.00	9.6	+01
42.00	21.9	+01
43.00	35.1	03
44.00	51.4	03
45.00	70.2	03
46.00	87.4	03
47.00	103.2	03
48.00	106.8	03
49.00	108.9	03
50.00	110.6	03
50.99	111.9	03
51.00	0.0	

$$\frac{V^2}{2g} = 0.2' \text{ where } V = 3.6 \text{ fps}$$

STREET CAPACITY

V
fps
4
5
6
7

$\frac{V^2}{2g}$
0.25
0.39
0.56
0.76

D
0.62
0.48
0.31
0.11

Roll
Csg
0.396
0.2

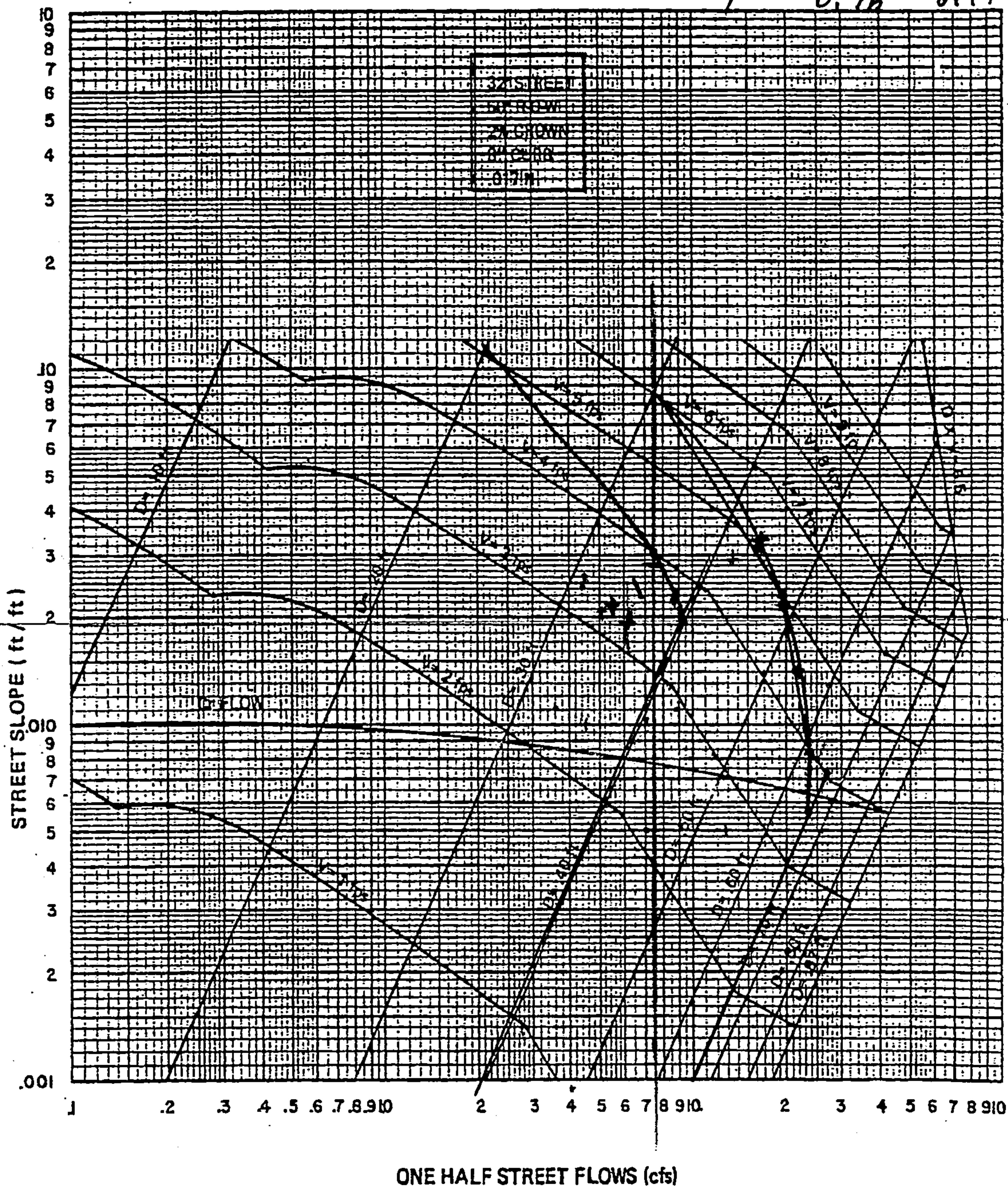
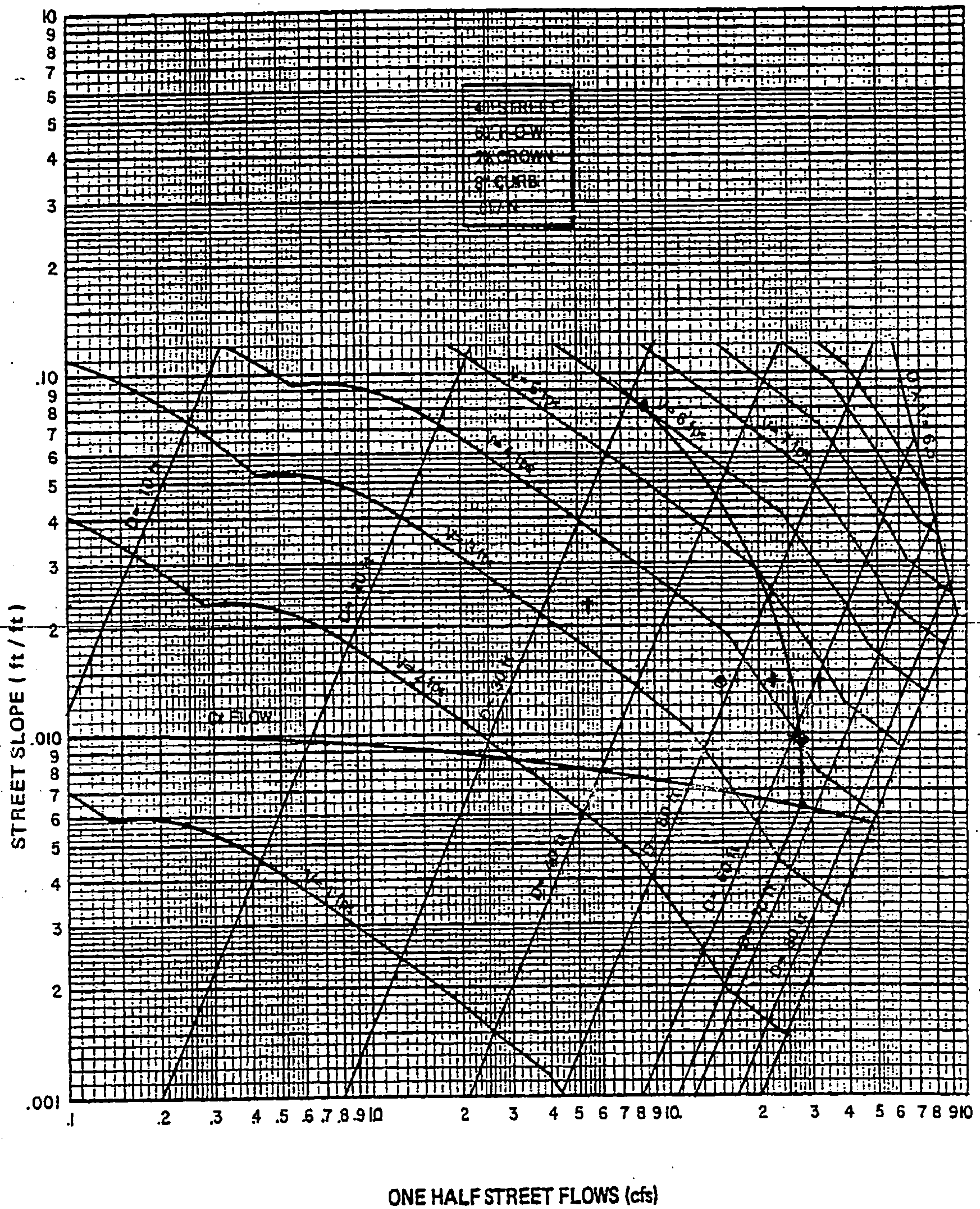
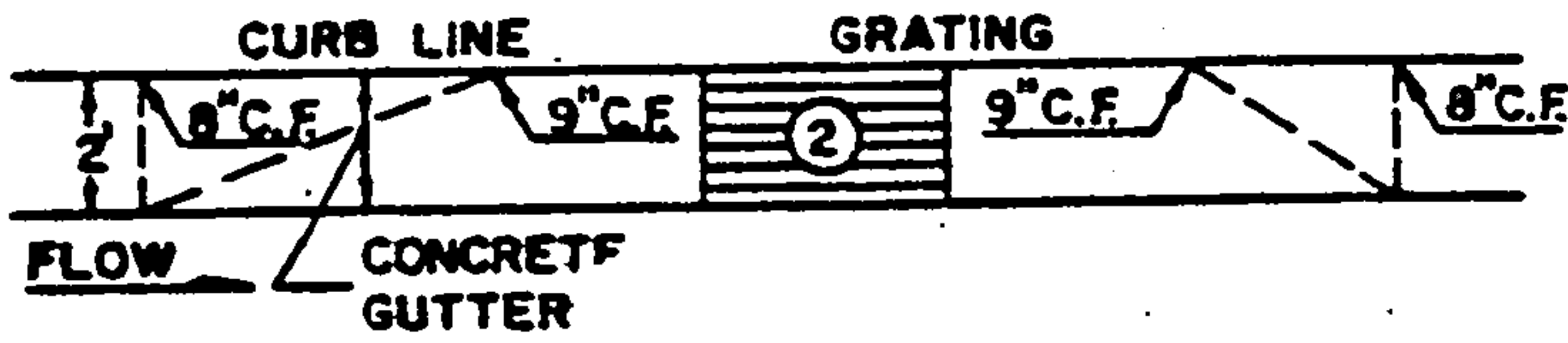


PLATE 22.3 D-1

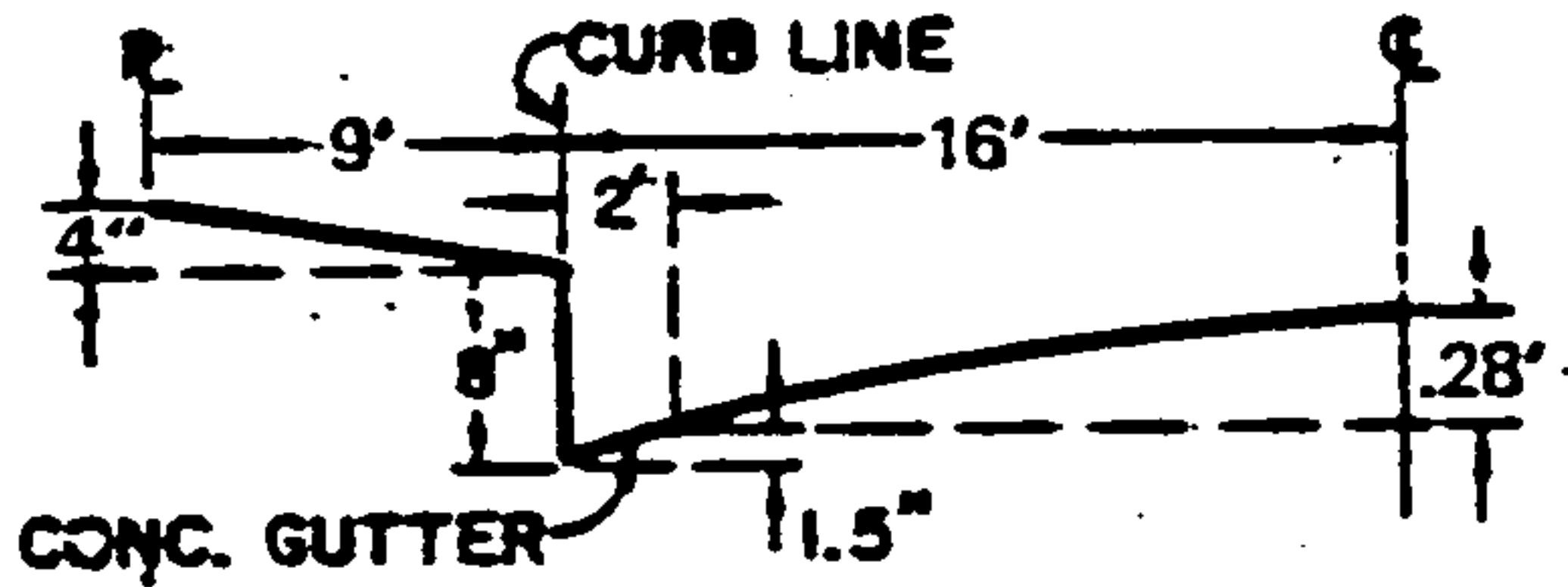
STREET CAPACITY



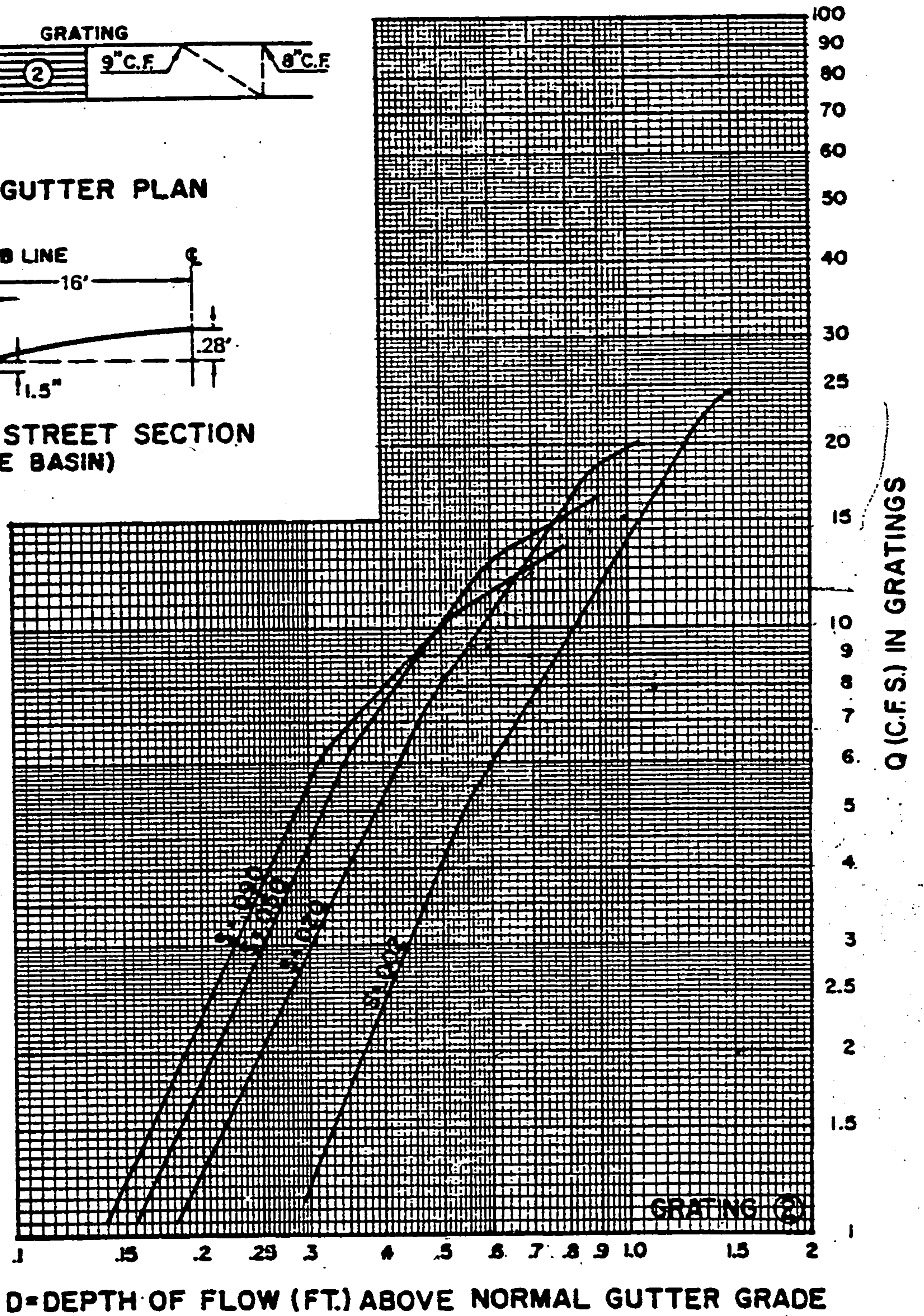
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN

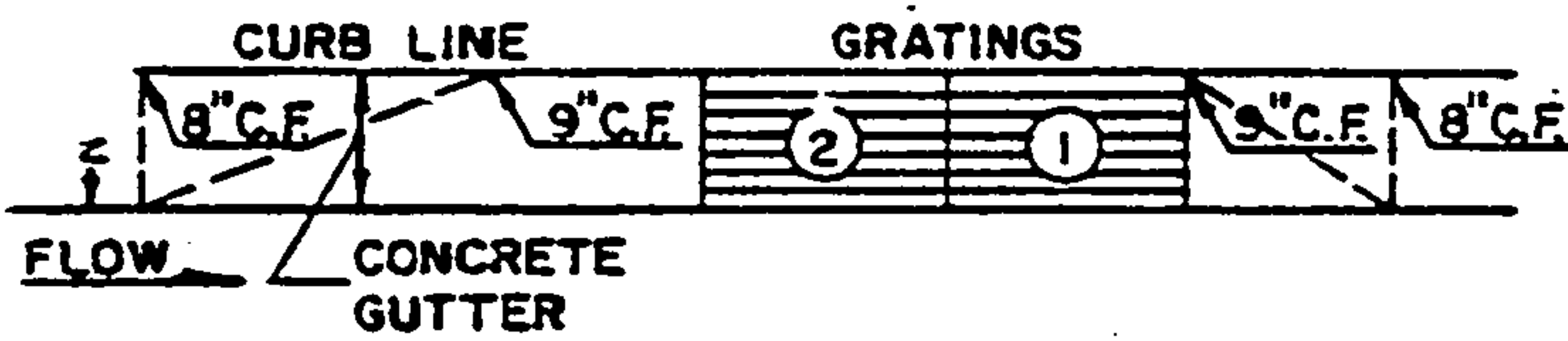


TYPICAL HALF STREET SECTION
(ABOVE BASIN)

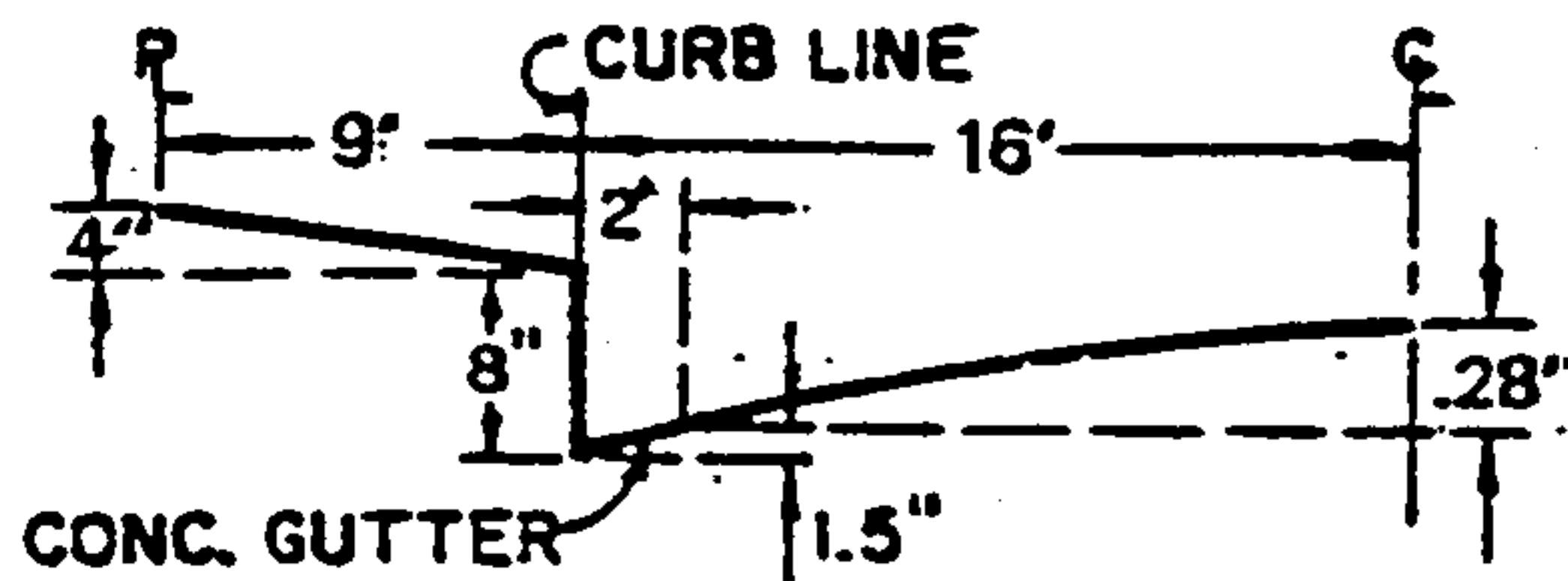
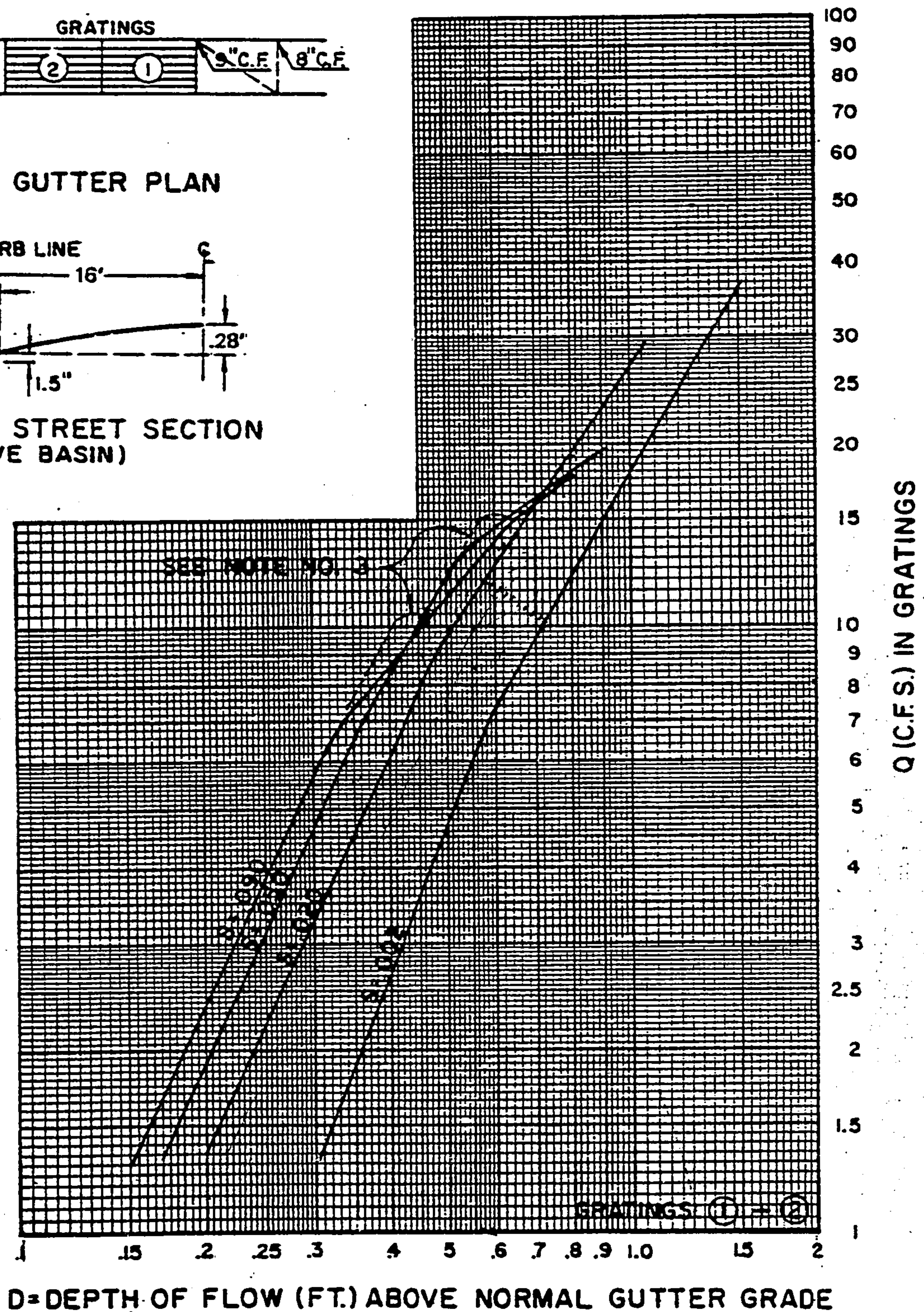


GRATING CAPACITIES FOR TYPE DOUBLE

"C," AND "D"

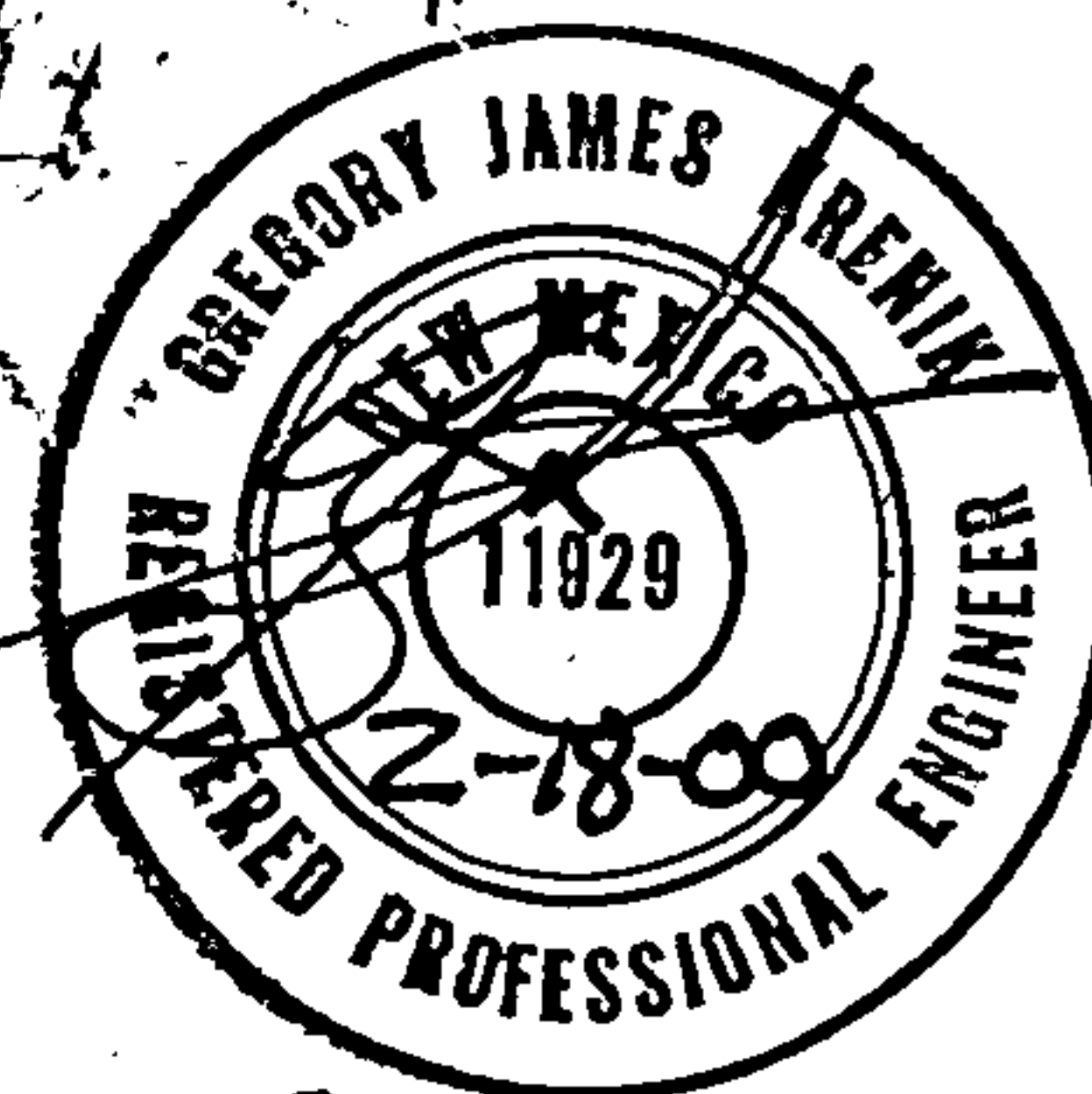


GRATING & GUTTER PLAN

TYPICAL HALF STREET SECTION
(ABOVE BASIN)

M9 D19

DRAINAGE REPORT
FOR
EL RANCHO GRANDE I
UNITS 1 & 2 & 3



3-30-00

4-17-00

5-12-00

8-30-00



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PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 12-13-99
CHECKED _____ DATE _____

REUSED 3-30-00 SHEET 13 OF _____
4-17-00
5-12-00 8-30-00

- SIZE GIBSON POND USE EXISTING 42" RCP AS OUTFALL

ELEV	AREA (SF)	VOLUME (AC-FT)	OUTFLOW (CFS)
40	60145	0	0
41	64847	1.43	46.33
42	69743	2.98	65.51
43	74832	4.64	80.24
44	80116	6.42	92.65
45	85597	8.32	103.59

- ADD GIBSON R/W FROM CAMINO SAN MARTIN TO UNSER AND UNSER R/W FROM NORTH HIGH POINT TO SOUTH HIGH POINT.

$$A = 4.66 \text{ AC}$$

$$50\% \text{ "B"} \quad 50\% \text{ "D"}$$

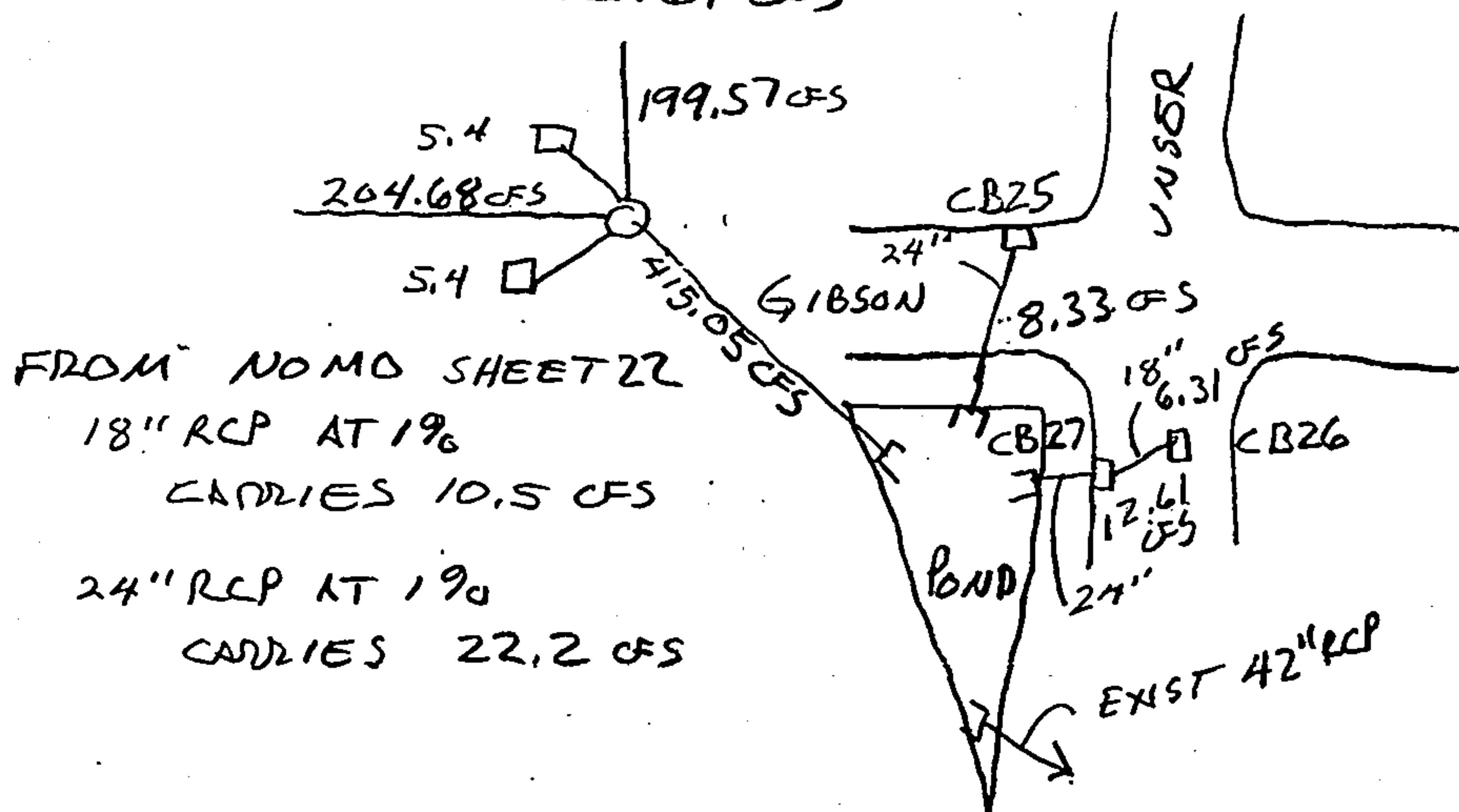
FROM AH4MO OUTPUT SHEETS 38-40

$$Q = 15.11 \text{ CFS}$$

THIS FLOW WILL BE ADDED TO THE FLOW THAT CONTINUED PAST CAMINO SAN MARTIN.

$$\text{NORTHSIDE } Q = 15.11/3 + 3.29 \\ = 8.33 \text{ CFS}$$

$$\text{SOUTHSIDE } Q = 2(15.11/3) + 2.54 \\ = 12.61 \text{ CFS}$$



FROM AH4MO OUTPUT SHEETS 41-68
PEAK DISCHARGE = 96.18 CFS < 102 CFS ALLOWABLE
MAX WATER ELEV = 44.32


```

START                                TIME=0.0
*****
*****  HYDROGRAPH FOR GIBSON POND WITH TRENCHDRAIN OPTION
***
**BASIN A
RAINFALL                            TYPE=1 RAIN QUARTER=0.0 IN
                                      RAIN ONE=1.90 IN RAIN SIX=2.20 IN
                                      RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTE NM HYD                      ID=1 HYD NO=101 AREA=0.015125 SQ MI
                                      PER A=0 PER B=40 PER C=0 PER D=60
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=1 CODE=1
*
**BASIN B-1
COMPUTE NM HYD                      ID=2 HYD NO=102 AREA=0.004391 SQ MI
                                      PER A=0 PER B=38 PER C=0 PER D=62
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=2 CODE=1
*
**BASIN B-2
COMPUTE NM HYD                      ID=3 HYD NO=103 AREA=0.001375 SQ MI
                                      PER A=0 PER B=47 PER C=0 PER D=53
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=3 CODE=1
*
**BASIN B-3
COMPUTE NM HYD                      ID=4 HYD NO=104 AREA=0.002469 SQ MI
                                      PER A=0 PER B=54 PER C=0 PER D=46
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=4 CODE=1
*
**BASIN C-1
COMPUTE NM HYD                      ID=5 HYD NO=105 AREA=0.0045 SQ MI
                                      PER A=0 B=49 C=0 D=51
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=5 CODE=1
*
**BASIN C-2
COMPUTE NM HYD                      ID=6 HYD NO=106 AREA=0.001047 SQ MI
                                      PER A=0 PER B=89 PER C=0 PER D=11
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=6 CODE=1
*
**BASIN C-3
COMPUTE NM HYD                      ID=7 HYD NO=107 AREA=0.001516 SQ MI
                                      PER A=0 PER B=20 PER C=0 PER D=80
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=7 CODE=1
*
**BASIN C-4
COMPUTE NM HYD                      ID=8 HYD NO=108 AREA=0.001422 SQ MI
                                      PER A=0 PER B=52 PER C=0 PER D=48
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=8 CODE=1
*
**BASIN C-5
COMPUTE NM HYD                      ID=9 HYD NO=109 AREA=0.003063 SQ MI
                                      PER A=0 B=43 C=0 D=57
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=9 CODE=1

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*
**BASIN C-6
COMPUTE NM HYD      ID=10 HYD NO=110 AREA=0.002016 SQ MI
                     PER A=0 PER B=43 PER C=0 PER D=57
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=10 CODE=1
PRINT HYD
*
**BASIN C-7
COMPUTE NM HYD      ID=11 HYD NO=111 AREA=0.002063 SQ MI
                     PER A=0 PER B=53 PER C=0 PER D=47
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=11 CODE=1
PRINT HYD
*
**BASIN D-1
COMPUTE NM HYD      ID=12 HYD NO=112 AREA=0.002844 SQ MI
                     PER A=0 PER B=49 PER C=0 PER D=51
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=12 CODE=1
PRINT HYD
*
**BASIN D-2
COMPUTE NM HYD      ID=13 HYD NO=113 AREA=0.000813 SQ MI
                     PER A=0 B=66 C=0 D=34
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=13 CODE=1
PRINT HYD
*
**BASIN D-3
COMPUTE NM HYD      ID=14 HYD NO=114 AREA=0.000828 SQ MI
                     PER A=0 PER B=62 PER C=0 PER D=38
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=14 CODE=1
PRINT HYD
*
**BASIN E-1
COMPUTE NM HYD      ID=15 HYD NO=115 AREA=0.0015 SQ MI
                     PER A=0 PER B=44 PER C=0 PER D=56
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=15 CODE=1
PRINT HYD
*
**BASIN OS-1
COMPUTE NM HYD      ID=16 HYD NO=116 AREA=0.001196 SQ MI
                     PER A=0 PER B=78 PER C=0 PER D=22
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=16 CODE=1
PRINT HYD
*
**BASIN OS-2
COMPUTE NM HYD      ID=17 HYD NO=117 AREA=0.007484 SQ MI
                     PER A=0 B=30 C=0 D=70
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=17 CODE=1
PRINT HYD
**BASIN TMSB
COMPUTE NM HYD      ID=18 HYD NO=118 AREA=0.004453 SQ MI
                     PER A=38.61 B=5.07 C=0 D=56.32
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=18 CODE=1
PRINT HYD
*
**BASIN TMSC
COMPUTE NM HYD      ID=19 HYD NO=119 AREA=0.003891 SQ MI
                     PER A=4.15 B=50.6 C=0 D=45.25
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=19 CODE=1
PRINT HYD
*
**BASIN 13 LOTS ERGI & 3 LOTS TRACT E

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COMPUTE NM HYD      ID=38  HYD NO=138  AREA=0.003899 SQ MI
                     PER A=0 B=52.16 C=0 D=47.84
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=38 CODE=1
*
**BASIN PARCEL 12
COMPUTE NM HYD      ID=39  HYD NO=139  AREA=0.040305 SQ MI
                     PER A=0 B=47.23 C=0 D=52.77
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=39 CODE=1
*
**BASIN EL RANCHO GRANDE I
COMPUTE NM HYD      ID=42  HYD NO=142  AREA=0.046100 SQ MI
                     PER A=0 B=47.23 C=0 D=52.77
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=42 CODE=1
*
**BASIN SILVERADO SUBDIVISION UNITS 1&2
COMPUTE NM HYD      ID=43  HYD NO=143 AREA=0.036431 SQ MI
                     PER A=0 B=48.08 C=0 D=51.92
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=43 CODE=1
*
**BASIN GIBSON BLVD
COMPUTE NM HYD      ID=44  HYD NO=144 AREA=0.012841 SQ MI
                     PER A=0 B=50 C=0 D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=44 CODE=1
*
**BASIN GIBSON/UNSER RUNOFF
COMPUTE NM HYD      ID=48  HYD NO=148 AREA=.007274 SQ MI
                     PER A=0 B=50 C=0 D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=48 CODE=1
*
**BASIN TRACT E
COMPUTE NM HYD      ID=50  HYD NO=150 AREA=0.005809 SQ MI
                     PER A=0 B=51.99 C=0 D=48.01
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=50 CODE=1
*
ADD HYD             ID=20  HYD NO=120  ID=1  ID=2
PRINT HYD           ID=20 CODE=1
*
ADD HYD             ID=21  HYD NO=121  ID=3  ID=4
PRINT HYD           ID=21 CODE=1
*
ADD HYD             ID=22  HYD NO=122  ID=5  ID=6
PRINT HYD           ID=22 CODE=1
*
ADD HYD             ID=23  HYD NO=123  ID=7  ID=8
PRINT HYD           ID=23 CODE=1
*
ADD HYD             ID=24  HYD NO=124  ID=9  ID=10
PRINT HYD           ID=24 CODE=1
*
ADD HYD             ID=25  HYD NO=125  ID=11 ID=12
PRINT HYD           ID=25 CODE=1
*
ADD HYD             ID=26  HYD NO=126  ID=13 ID=14
PRINT HYD           ID=26 CODE=1

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*
ADD HYD          ID=27 HYD NO=127  ID=15  ID=16
PRINT HYD        ID=27 CODE=1
*
ADD HYD          ID=28 HYD NO=128  ID=17  ID=18
PRINT HYD        ID=28 CODE=1
*
ADD HYD          ID=29 HYD NO=129  ID=20  ID=21
PRINT HYD        ID=29 CODE=1
*
ADD HYD          ID=30 HYD NO=130  ID=22  ID=23
PRINT HYD        ID=30 CODE=1
*
ADD HYD          ID=31 HYD NO=131  ID=24  ID=25
PRINT HYD        ID=31 CODE=1
*
ADD HYD          ID=32 HYD NO=132  ID=26  ID=27
PRINT HYD        ID=32 CODE=1
*
ADD HYD          ID=33 HYD NO=133  ID=28  ID=19
PRINT HYD        ID=33 CODE=1
*
ADD HYD          ID=34 HYD NO=134  ID=29  ID=30
PRINT HYD        ID=34 CODE=1
*
ADD HYD          ID=35 HYD NO=135  ID=31  ID=32
PRINT HYD        ID=35 CODE=1
*
ADD HYD          ID=36 HYD NO=136  ID=34  ID=35
PRINT HYD        ID=36 CODE=1
*
ADD HYD          ID=37 HYD NO=137  ID=33  ID=36
PRINT HYD        ID=37 CODE=1
*
ADD HYD          ID=40 HYD NO=140  ID=38  ID=39
PRINT HYD        ID=40 CODE=1
*
ADD HYD          ID=41 HYD NO=141  ID=37  ID=40
PRINT HYD        ID=41 CODE=1
*
ADD HYD          ID=45 HYD NO=145  ID=41  ID=42
PRINT HYD        ID=45 CODE=1
*
ADD HYD          ID=46 HYD NO=146  ID=43  ID=44
PRINT HYD        ID=46 CODE=1
*
ADD HYD          ID=47 HYD NO=147  ID=45  ID=46
PRINT HYD        ID=47 CODE=1
*
ADD HYD          ID=49 HYD NO=149  ID=47  ID=48
PRINT HYD        ID=49 CODE=1
*
ADD HYD          ID=51 HYD NO=151  ID=49  ID=50
PRINT HYD        ID=51 CODE=1
*
*DIVIDE BY MAXIMUM FLOW RATE
DIVIDE HYD        ID=51  Q=33.26  ID I=52  HYD NO=52
                                     ID II=53  HYD NO=153
* ROUTING THROUGH POND
*
ROUTE RESERVOIR  ID=54 HYD NO=154  INFLOW ID=53 CODE=24

```


	OUTFLOW (CFS)	STORAGE (AC-FT)	ELEVATION (FT)
	0.0	0.0	40.0
	46.33	1.43	41.0
	65.51	2.98	42.0
	80.24	4.64	43.0
	92.65	6.42	44.0
	103.59	8.32	45.0

PRINT HYD
FINISH

ID=54 CODE=1

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

RUN DATE (MON/DAY/YR) = 08/30/2000

START TIME (HR:MIN:SEC) = 07:38:56

USER NO.=

M_GOODWN.I01

INPUT FILE = gibpndtr.dat

START

TIME=0.0

HYDROGRAPH FOR GIBSON POND WITH TRENCHDRAIN OPTION

**BASIN A

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.90 IN RAIN SIX=2.20 IN

RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA
ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS

END TIME = 5.999400

HOURS

.0084	.0000	.0013	.0027	.0041	.0055	.0069
.0199	.0099	.0115	.0131	.0147	.0164	.0181
.0340	.0217	.0236	.0256	.0276	.0296	.0318
.0523	.0363	.0387	.0412	.0438	.0465	.0493
.0920	.0554	.0587	.0622	.0675	.0731	.0791
.7574	.1208	.1651	.2289	.3159	.4302	.5759
1.5201	.9790	1.1846	1.2704	1.3429	1.4074	1.4661
1.8130	1.5702	1.6171	1.6610	1.7023	1.7413	1.7781
1.9736	1.8460	1.8774	1.9071	1.9353	1.9621	1.9681
2.0059	1.9789	1.9839	1.9887	1.9932	1.9976	2.0018
2.0308	2.0098	2.0136	2.0172	2.0208	2.0242	2.0275
2.0514	2.0339	2.0370	2.0400	2.0430	2.0458	2.0486
2.0690	2.0540	2.0567	2.0592	2.0617	2.0642	2.0666
2.0846	2.0714	2.0737	2.0759	2.0781	2.0803	2.0825
2.0985	2.0867	2.0887	2.0907	2.0927	2.0947	2.0966
2.1112	2.1004	2.1023	2.1041	2.1059	2.1077	2.1095
2.1229	2.1130	2.1147	2.1164	2.1180	2.1197	2.1213
2.1337	2.1245	2.1261	2.1277	2.1292	2.1307	2.1322
2.1439	2.1352	2.1367	2.1382	2.1396	2.1410	2.1425
	2.1452	2.1466	2.1480	2.1494	2.1507	2.1520

2.1533						
	2.1547	2.1560	2.1572	2.1585	2.1598	2.1611
2.1623						
	2.1635	2.1648	2.1660	2.1672	2.1684	2.1696
2.1708						
	2.1720	2.1731	2.1743	2.1754	2.1766	2.1777
2.1789						
	2.1800	2.1811	2.1822	2.1833	2.1844	2.1855
2.1866						
	2.1876	2.1887	2.1897	2.1908	2.1918	2.1929
2.1939						
	2.1949	2.1960	2.1970	2.1980	2.1990	2.2000

COMPUTE NM HYD

ID=1 HYD NO=101 AREA=0.015125 SQ MI
 PER A=0 PER B=40 PER C=0 PER D=60
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 35.829 CFS UNIT VOLUME = .9990 B =
 526.28 P60 = 1.9000
 AREA = .009075 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 14.866 CFS UNIT VOLUME = .9994 B =
 327.55 P60 = 1.9000
 AREA = .006050 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.45223 INCHES = 1.1715 ACRE-FEET
 PEAK DISCHARGE RATE = 33.71 CFS AT 1.500 HOURS BASIN
 AREA = .0151 SQ. MI.

*

**BASIN B-1

COMPUTE NM HYD

ID=2 HYD NO=102 AREA=0.004391 SQ MI
 PER A=0 PER B=38 PER C=0 PER D=62
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.748 CFS UNIT VOLUME = .9982 B =
 526.28 P60 = 1.9000
 AREA = .002722 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.1001 CFS UNIT VOLUME = .9970 B =
 327.55 P60 = 1.9000
 AREA = .001669 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.47794 INCHES = .3461 ACRE-FEET
 PEAK DISCHARGE RATE = 9.93 CFS AT 1.500 HOURS BASIN
 AREA = .0044 SQ. MI.

*

**BASIN B-2

COMPUTE NM HYD

ID=3 HYD NO=103 AREA=0.001375 SQ MI
 PER A=0 PER B=47 PER C=0 PER D=53
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.8771 CFS UNIT VOLUME = .9955 B =
 526.28 P60 = 1.9000
 AREA = .000729 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.5880 CFS UNIT VOLUME = .9919 B =
 327.55 P60 = 1.9000
 AREA = .000646 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.36226 INCHES = .0999 ACRE-FEET
 PEAK DISCHARGE RATE = 2.93 CFS AT 1.500 HOURS BASIN
 AREA = .0014 SQ. MI.

*

**BASIN B-3

COMPUTE NM HYD

ID=4 HYD NO=104 AREA=0.002469 SQ MI

PER A=0 PER B=54 PER C=0 PER D=46
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.4840 CFS UNIT VOLUME = .9969 B =
526.28 P60 = 1.9000
AREA = .001136 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 3.2762 CFS UNIT VOLUME = .9961 B =
327.55 P60 = 1.9000
AREA = .001333 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.27228 INCHES = .1675 ACRE-FEET
PEAK DISCHARGE RATE = 4.99 CFS AT 1.500 HOURS BASIN
AREA = .0025 SQ. MI.

*

**BASIN C-1

COMPUTE NM HYD

ID=5 HYD NO=105 AREA=0.0045 SQ MI
PER A=0 B=49 C=0 D=51
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 9.0608 CFS UNIT VOLUME = .9981 B =
526.28 P60 = 1.9000
AREA = .002295 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.4182 CFS UNIT VOLUME = .9978 B =
327.55 P60 = 1.9000
AREA = .002205 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.33655 INCHES = .3208 ACRE-FEET
 PEAK DISCHARGE RATE = 9.42 CFS AT 1.500 HOURS BASIN
 AREA = .0045 SQ. MI.

*

**BASIN C-2

COMPUTE NM HYD

ID=6 HYD NO=106 AREA=0.001047 SQ MI
 PER A=0 PER B=89 PER C=0 PER D=11
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = .45470 CFS UNIT VOLUME = .9751 B =
 526.28 P60 = 1.9000
 AREA = .000115 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.2897 CFS UNIT VOLUME = .9943 B =
 327.55 P60 = 1.9000
 AREA = .000932 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=6 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = .82240 INCHES = .0459 ACRE-FEET
 PEAK DISCHARGE RATE = 1.56 CFS AT 1.500 HOURS BASIN
 AREA = .0010 SQ. MI.

*

**BASIN C-3

COMPUTE NM HYD

ID=7 HYD NO=107 AREA=0.001516 SQ MI
 PER A=0 PER B=20 PER C=0 PER D=80
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 4.7882 CFS UNIT VOLUME = .9969 B =
 526.28 P60 = 1.9000
 AREA = .001213 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950

SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .74504 CFS UNIT VOLUME = .9822 B =
 327.55 P60 = 1.9000
 AREA = .000303 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = 1.70931 INCHES = .1382 ACRE-FEET
 PEAK DISCHARGE RATE = 3.86 CFS AT 1.500 HOURS BASIN
 AREA = .0015 SQ. MI.

*

**BASIN C-4

COMPUTE NM HYD

ID=8 HYD NO=108 AREA=0.001422 SQ MI
 PER A=0 PER B=52 PER C=0 PER D=48
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.6948 CFS UNIT VOLUME = .9949 B =
 526.28 P60 = 1.9000
 AREA = .000683 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.8170 CFS UNIT VOLUME = .9926 B =
 327.55 P60 = 1.9000
 AREA = .000739 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.29799 INCHES = .0984 ACRE-FEET
 PEAK DISCHARGE RATE = 2.92 CFS AT 1.500 HOURS BASIN
 AREA = .0014 SQ. MI.

*

**BASIN C-5

COMPUTE NM HYD

ID=9 HYD NO=109 AREA=0.003063 SQ MI
 PER A=0 B=43 C=0 D=57
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.8929 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001746 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 3.2364 CFS UNIT VOLUME = .9961 B =
 327.55 P60 = 1.9000
 AREA = .001317 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=9 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = 1.41367 INCHES = .2309 ACRE-FEET
 PEAK DISCHARGE RATE = 6.70 CFS AT 1.500 HOURS BASIN
 AREA = .0031 SQ. MI.

*

**BASIN C-6

COMPUTE NM HYD

ID=10 HYD NO=110 AREA=0.002016 SQ MI
 PER A=0 PER B=43 PER C=0 PER D=57
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 4.5368 CFS UNIT VOLUME = .9969 B =
 526.28 P60 = 1.9000
 AREA = .001149 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.1301 CFS UNIT VOLUME = .9938 B =
 327.55 P60 = 1.9000
 AREA = .000867 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.41367 INCHES = .1520 ACRE-FEET

PEAK DISCHARGE RATE = 4.41 CFS AT 1.500 HOURS BASIN
 AREA = .0020 SQ. MI.

*

**BASIN C-7

COMPUTE NM HYD

ID=11 HYD NO=111 AREA=0.002063 SQ MI
 PER A=0 PER B=53 PER C=0 PER D=47
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 3.8281 CFS UNIT VOLUME = .9965 B =
 526.28 P60 = 1.9000
 AREA = .000970 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.6867 CFS UNIT VOLUME = .9953 B =
 327.55 P60 = 1.9000
 AREA = .001093 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=11 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = 1.28513 INCHES = .1414 ACRE-FEET
 PEAK DISCHARGE RATE = 4.20 CFS AT 1.500 HOURS BASIN
 AREA = .0021 SQ. MI.

*

**BASIN D-1

COMPUTE NM HYD

ID=12 HYD NO=112 AREA=0.002844 SQ MI
 PER A=0 PER B=49 PER C=0 PER D=51
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 5.7264 CFS UNIT VOLUME = .9973 B =
 526.28 P60 = 1.9000
 AREA = .001450 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 3.4243 CFS UNIT VOLUME = .9964 B =
 327.55 P60 = 1.9000

AREA = .001394 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 112.00

RUNOFF VOLUME = 1.33655 INCHES = .2027 ACRE-FEET
PEAK DISCHARGE RATE = 5.96 CFS AT 1.500 HOURS BASIN
AREA = .0028 SQ. MI.

*

**BASIN D-2

COMPUTE NM HYD

ID=13 HYD NO=113 AREA=0.000813 SQ MI
PER A=0 B=66 C=0 D=34
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.0913 CFS UNIT VOLUME = .9881 B =
526.28 P60 = 1.9000
AREA = .000276 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.3185 CFS UNIT VOLUME = .9903 B =
327.55 P60 = 1.9000
AREA = .000537 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 113.00

RUNOFF VOLUME = 1.11804 INCHES = .0485 ACRE-FEET
PEAK DISCHARGE RATE = 1.50 CFS AT 1.500 HOURS BASIN
AREA = .0008 SQ. MI.

*

**BASIN D-3

COMPUTE NM HYD

ID=14 HYD NO=114 AREA=0.000828 SQ MI
PER A=0 PER B=62 PER C=0 PER D=38
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.2422 CFS UNIT VOLUME = .9897 B =

526.28 P60 = 1.9000
 AREA = .000315 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.2615 CFS UNIT VOLUME = .9894 B =
 327.55 P60 = 1.9000
 AREA = .000513 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=14 CODE=1

PARTIAL HYDROGRAPH 114.00

RUNOFF VOLUME = 1.16945 INCHES = .0516 ACRE-FEET
 PEAK DISCHARGE RATE = 1.58 CFS AT 1.500 HOURS BASIN
 AREA = .0008 SQ. MI.

*

**BASIN E-1

COMPUTE NM HYD ID=15 HYD NO=115 AREA=0.0015 SQ MI
 PER A=0 PER B=44 PER C=0 PER D=56
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 3.3164 CFS UNIT VOLUME = .9961 B =
 526.28 P60 = 1.9000
 AREA = .000840 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.6218 CFS UNIT VOLUME = .9919 B =
 327.55 P60 = 1.9000
 AREA = .000660 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=15 CODE=1

PARTIAL HYDROGRAPH 115.00

RUNOFF VOLUME = 1.40082 INCHES = .1121 ACRE-FEET
 PEAK DISCHARGE RATE = 3.27 CFS AT 1.500 HOURS BASIN
 AREA = .0015 SQ. MI.

*

**BASIN OS-1

COMPUTE NM HYD

ID=16 HYD NO=116 AREA=0.001196 SQ MI

PER A=0 PER B=78 PER C=0 PER D=22

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 1.0388 CFS UNIT VOLUME = .9881 B =
 526.28 P60 = 1.9000
 AREA = .000263 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.2923 CFS UNIT VOLUME = .9943 B =
 327.55 P60 = 1.9000
 AREA = .000933 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=16 CODE=1

PARTIAL HYDROGRAPH 116.00

RUNOFF VOLUME = .96379 INCHES = .0615 ACRE-FEET
 PEAK DISCHARGE RATE = 1.99 CFS AT 1.500 HOURS BASIN
 AREA = .0012 SQ. MI.

*

**BASIN OS-2

COMPUTE NM HYD

ID=17 HYD NO=117 AREA=0.007484 SQ MI

PER A=0 B=30 C=0 D=70

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 20.683 CFS UNIT VOLUME = .9988 B =
 526.28 P60 = 1.9000
 AREA = .005239 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 5.5170 CFS UNIT VOLUME = .9978 B =
 327.55 P60 = 1.9000
 AREA = .002245 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

PRINT HYD

ID=17 CODE=1

PARTIAL HYDROGRAPH 117.00

RUNOFF VOLUME = 1.58077 INCHES = .6310 ACRE-FEET
 PEAK DISCHARGE RATE = 17.83 CFS AT 1.500 HOURS BASIN
 AREA = .0075 SQ. MI.

**BASIN TMSB

COMPUTE NM HYD

ID=18 HYD NO=118 AREA=0.004453 SQ MI
 PER A=38.61 B=5.07 C=0 D=56.32
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 9.9014 CFS UNIT VOLUME = .9982 B =
 526.28 P60 = 1.9000
 AREA = .002508 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .159194HR TP = .133300HR K/TP RATIO = 1.194252
 SHAPE CONSTANT, N = 2.974290
 UNIT PEAK = 4.0816 CFS UNIT VOLUME = .9961 B =
 279.72 P60 = 1.9000
 AREA = .001945 SQ MI IA = .63259 INCHES INF =
 1.62125 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=18 CODE=1

PARTIAL HYDROGRAPH 118.00

RUNOFF VOLUME = 1.31369 INCHES = .3120 ACRE-FEET
 PEAK DISCHARGE RATE = 8.84 CFS AT 1.500 HOURS BASIN
 AREA = .0045 SQ. MI.

*

**BASIN TMSC

COMPUTE NM HYD

ID=19 HYD NO=119 AREA=0.003891 SQ MI
 PER A=4.15 B=50.6 C=0 D=45.25
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.9512 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001761 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

K = .133199HR TP = .133300HR K/TP RATIO = .999241
 SHAPE CONSTANT, N = 3.533011
 UNIT PEAK = 5.1577 CFS UNIT VOLUME = .9977 B =
 322.73 P60 = 1.9000
 AREA = .002130 SQ MI IA = .51137 INCHES INF =
 1.28184 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=19 CODE=1

PARTIAL HYDROGRAPH 119.00

RUNOFF VOLUME = 1.25155 INCHES = .2597 ACRE-FEET
 PEAK DISCHARGE RATE = 7.72 CFS AT 1.500 HOURS BASIN
 AREA = .0039 SQ. MI.

*

**BASIN 13 LOTS ERGI & 3 LOTS TRACT E
 COMPUTE NM HYD ID=38 HYD NO=138 AREA=0.003899 SQ MI
 PER A=0 B=52.16 C=0 D=47.84
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 7.3642 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001865 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.9974 CFS UNIT VOLUME = .9975 B =
 327.55 P60 = 1.9000
 AREA = .002034 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=38 CODE=1

PARTIAL HYDROGRAPH 138.00

RUNOFF VOLUME = 1.29593 INCHES = .2695 ACRE-FEET
 PEAK DISCHARGE RATE = 7.98 CFS AT 1.500 HOURS BASIN
 AREA = .0039 SQ. MI.

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**BASIN PARCEL 12

COMPUTE NM HYD

ID=39 HYD NO=139 AREA=0.040305 SQ MI
 PER A=0 B=47.23 C=0 D=52.77
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 83.971 CFS UNIT VOLUME = .9992 B =
 526.28 P60 = 1.9000
 AREA = .021269 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 46.776 CFS UNIT VOLUME = 1.000 B =
 327.55 P60 = 1.9000
 AREA = .019036 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=39 CODE=1

PARTIAL HYDROGRAPH 139.00

RUNOFF VOLUME = 1.35930 INCHES = 2.9219 ACRE-FEET
 PEAK DISCHARGE RATE = 85.35 CFS AT 1.500 HOURS BASIN
 AREA = .0403 SQ. MI.

*

**BASIN EL RANCHO GRANDE I

COMPUTE NM HYD

ID=42 HYD NO=142 AREA=0.046100 SQ MI
 PER A=0 B=47.23 C=0 D=52.77
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 96.044 CFS UNIT VOLUME = .9993 B =
 526.28 P60 = 1.9000
 AREA = .024327 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 53.502 CFS UNIT VOLUME = 1.000 B =
 327.55 P60 = 1.9000
 AREA = .021773 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=42 CODE=1

PARTIAL HYDROGRAPH 142.00

RUNOFF VOLUME = 1.35930 INCHES = 3.3420 ACRE-Feet
 PEAK DISCHARGE RATE = 97.62 CFS AT 1.500 HOURS BASIN
 AREA = .0461 SQ. MI.

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**BASIN SILVERADO SUBDIVISION UNITS 1&2
 COMPUTE NM HYD ID=43 HYD NO=143 AREA=0.036431 SQ MI
 PER A=0 B=48.08 C=0 D=51.92
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 74.677 CFS UNIT VOLUME = .9992 B =
 526.28 P60 = 1.9000
 AREA = .018915 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 43.041 CFS UNIT VOLUME = 1.000 B =
 327.55 P60 = 1.9000
 AREA = .017516 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=43 CODE=1

PARTIAL HYDROGRAPH 143.00

RUNOFF VOLUME = 1.34837 INCHES = 2.6199 ACRE-Feet
 PEAK DISCHARGE RATE = 76.67 CFS AT 1.500 HOURS BASIN
 AREA = .0364 SQ. MI.

*

**BASIN GIBSON BLVD
 COMPUTE NM HYD ID=44 HYD NO=144 AREA=0.012841 SQ MI
 PER A=0 B=50 C=0 D=50
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 25.348 CFS UNIT VOLUME = .9989 B =
 526.28 P60 = 1.9000
 AREA = .006421 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 15.777 CFS UNIT VOLUME = .9995 B =
 327.55 P60 = 1.9000
 AREA = .006421 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=44 CODE=1

PARTIAL HYDROGRAPH 144.00

RUNOFF VOLUME = 1.32370 INCHES = .9065 ACRE-FEET
 PEAK DISCHARGE RATE = 26.66 CFS AT 1.500 HOURS BASIN
 AREA = .0128 SQ. MI.

*

**BASIN GIBSON/UNSER RUNOFF
 COMPUTE NM HYD ID=48 HYD NO=148 AREA=.007274 SQ MI
 PER A=0 B=50 C=0 D=50
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.359 CFS UNIT VOLUME = .9985 B =
 526.28 P60 = 1.9000
 AREA = .003637 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 8.9370 CFS UNIT VOLUME = .9988 B =
 327.55 P60 = 1.9000
 AREA = .003637 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=48 CODE=1

PARTIAL HYDROGRAPH 148.00

RUNOFF VOLUME = 1.32370 INCHES = .5135 ACRE-FEET
 PEAK DISCHARGE RATE = 15.11 CFS AT 1.500 HOURS BASIN
 AREA = .0073 SQ. MI.

*

**BASIN TRACT E
 COMPUTE NM HYD ID=50 HYD NO=150 AREA=0.005809 SQ MI
 PER A=0 B=51.99 C=0 D=48.01
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 11.011 CFS UNIT VOLUME = .9984 B =
 526.28 P60 = 1.9000
 AREA = .002789 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 7.4211 CFS UNIT VOLUME = .9985 B =
 327.55 P60 = 1.9000
 AREA = .003020 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=50 CODE=1

PARTIAL HYDROGRAPH 150.00

RUNOFF VOLUME = 1.29812 INCHES = .4022 ACRE-FEET
 PEAK DISCHARGE RATE = 11.89 CFS AT 1.500 HOURS BASIN
 AREA = .0058 SQ. MI.

*
 ADD HYD ID=20 HYD NO=120 ID=1 ID=2
 PRINT HYD ID=20 CODE=1

PARTIAL HYDROGRAPH 120.00

RUNOFF VOLUME = 1.45799 INCHES = 1.5175 ACRE-FEET
 PEAK DISCHARGE RATE = 43.64 CFS AT 1.500 HOURS BASIN
 AREA = .0195 SQ. MI.

*
 ADD HYD ID=21 HYD NO=121 ID=3 ID=4
 PRINT HYD ID=21 CODE=1

PARTIAL HYDROGRAPH 121.00

RUNOFF VOLUME = 1.30432 INCHES = .2674 ACRE-FEET
 PEAK DISCHARGE RATE = 7.92 CFS AT 1.500 HOURS BASIN
 AREA = .0038 SQ. MI.

*
 ADD HYD ID=22 HYD NO=122 ID=5 ID=6
 PRINT HYD ID=22 CODE=1

63

PARTIAL HYDROGRAPH 122.00

RUNOFF VOLUME = 1.23942 INCHES = .3667 ACRE-FEET
PEAK DISCHARGE RATE = 10.99 CFS AT 1.500 HOURS BASIN
AREA = .0055 SQ. MI.

*

ADD HYD ID=23 HYD NO=123 ID=7 ID=8
PRINT HYD ID=23 CODE=1

PARTIAL HYDROGRAPH 123.00

RUNOFF VOLUME = 1.51002 INCHES = .2366 ACRE-FEET
PEAK DISCHARGE RATE = 6.78 CFS AT 1.500 HOURS BASIN
AREA = .0029 SQ. MI.

*

ADD HYD ID=24 HYD NO=124 ID=9 ID=10
PRINT HYD ID=24 CODE=1

PARTIAL HYDROGRAPH 124.00

RUNOFF VOLUME = 1.41356 INCHES = .3829 ACRE-FEET
PEAK DISCHARGE RATE = 11.11 CFS AT 1.500 HOURS BASIN
AREA = .0051 SQ. MI.

*

ADD HYD ID=25 HYD NO=125 ID=11 ID=12
PRINT HYD ID=25 CODE=1

PARTIAL HYDROGRAPH 125.00

RUNOFF VOLUME = 1.31482 INCHES = .3441 ACRE-FEET
PEAK DISCHARGE RATE = 10.16 CFS AT 1.500 HOURS BASIN
AREA = .0049 SQ. MI.

*

ADD HYD ID=26 HYD NO=126 ID=13 ID=14
PRINT HYD ID=26 CODE=1

PARTIAL HYDROGRAPH 126.00

RUNOFF VOLUME = 1.14369 INCHES = .1001 ACRE-FEET
PEAK DISCHARGE RATE = 3.09 CFS AT 1.500 HOURS BASIN
AREA = .0016 SQ. MI.

64

*

ADD HYD
PRINT HYD

ID=27 HYD NO=127 ID=15 ID=16
ID=27 CODE=1

PARTIAL HYDROGRAPH 127.00

RUNOFF VOLUME = 1.20675 INCHES = .1735 ACRE-FEET
PEAK DISCHARGE RATE = 5.25 CFS AT 1.500 HOURS BASIN
AREA = .0027 SQ. MI.

*

ADD HYD
PRINT HYD

ID=28 HYD NO=128 ID=17 ID=18
ID=28 CODE=1

PARTIAL HYDROGRAPH 128.00

RUNOFF VOLUME = 1.48109 INCHES = .9429 ACRE-FEET
PEAK DISCHARGE RATE = 26.67 CFS AT 1.500 HOURS BASIN
AREA = .0119 SQ. MI.

*

ADD HYD
PRINT HYD

ID=29 HYD NO=129 ID=20 ID=21
ID=29 CODE=1

PARTIAL HYDROGRAPH 129.00

RUNOFF VOLUME = 1.43270 INCHES = 1.7849 ACRE-FEET
PEAK DISCHARGE RATE = 51.56 CFS AT 1.500 HOURS BASIN
AREA = .0234 SQ. MI.

*

ADD HYD
PRINT HYD

ID=30 HYD NO=130 ID=22 ID=23
ID=30 CODE=1

PARTIAL HYDROGRAPH 130.00

RUNOFF VOLUME = 1.33312 INCHES = .6033 ACRE-FEET
PEAK DISCHARGE RATE = 17.77 CFS AT 1.500 HOURS BASIN
AREA = .0085 SQ. MI.

*

ADD HYD
PRINT HYD

ID=31 HYD NO=131 ID=24 ID=25
ID=31 CODE=1

PARTIAL HYDROGRAPH 131.00

RUNOFF VOLUME = 1.36504 INCHES = .7270 ACRE-FEET
PEAK DISCHARGE RATE = 21.27 CFS AT 1.500 HOURS BASIN

65

AREA = .0100 SQ. MI.

*

ADD HYD
PRINT HYD

ID=32 HYD NO=132 ID=26 ID=27
ID=32 CODE=1

PARTIAL HYDROGRAPH 132.00

RUNOFF VOLUME = 1.18289 INCHES = .2736 ACRE-FEET
PEAK DISCHARGE RATE = 8.34 CFS AT 1.500 HOURS BASIN
AREA = .0043 SQ. MI.

*

ADD HYD
PRINT HYD

ID=33 HYD NO=133 ID=28 ID=19
ID=33 CODE=1

PARTIAL HYDROGRAPH 133.00

RUNOFF VOLUME = 1.42465 INCHES = 1.2026 ACRE-FEET
PEAK DISCHARGE RATE = 34.39 CFS AT 1.500 HOURS BASIN
AREA = .0158 SQ. MI.

*

ADD HYD
PRINT HYD

ID=34 HYD NO=134 ID=29 ID=30
ID=34 CODE=1

PARTIAL HYDROGRAPH 134.00

RUNOFF VOLUME = 1.40617 INCHES = 2.3882 ACRE-FEET
PEAK DISCHARGE RATE = 69.32 CFS AT 1.500 HOURS BASIN
AREA = .0318 SQ. MI.

*

ADD HYD
PRINT HYD

ID=35 HYD NO=135 ID=31 ID=32
ID=35 CODE=1

PARTIAL HYDROGRAPH 135.00

RUNOFF VOLUME = 1.30988 INCHES = 1.0006 ACRE-FEET
PEAK DISCHARGE RATE = 29.61 CFS AT 1.500 HOURS BASIN
AREA = .0143 SQ. MI.

*

ADD HYD
PRINT HYD

ID=36 HYD NO=136 ID=34 ID=35
ID=36 CODE=1

PARTIAL HYDROGRAPH 136.00

66

RUNOFF VOLUME = 1.37630 INCHES = 3.3888 ACRE-FEET
PEAK DISCHARGE RATE = 98.94 CFS AT 1.500 HOURS BASIN
AREA = .0462 SQ. MI.

*

ADD HYD ID=37 HYD NO=137 ID=33 ID=36
PRINT HYD ID=37 CODE=1

PARTIAL HYDROGRAPH 137.00

RUNOFF VOLUME = 1.38864 INCHES = 4.5915 ACRE-FEET
PEAK DISCHARGE RATE = 133.32 CFS AT 1.500 HOURS BASIN
AREA = .0620 SQ. MI.

*

ADD HYD ID=40 HYD NO=140 ID=38 ID=39
PRINT HYD ID=40 CODE=1

PARTIAL HYDROGRAPH 140.00

RUNOFF VOLUME = 1.35370 INCHES = 3.1914 ACRE-FEET
PEAK DISCHARGE RATE = 93.33 CFS AT 1.500 HOURS BASIN
AREA = .0442 SQ. MI.

*

ADD HYD ID=41 HYD NO=141 ID=37 ID=40
PRINT HYD ID=41 CODE=1

PARTIAL HYDROGRAPH 141.00

RUNOFF VOLUME = 1.37410 INCHES = 7.7828 ACRE-FEET
PEAK DISCHARGE RATE = 226.65 CFS AT 1.500 HOURS BASIN
AREA = .1062 SQ. MI.

*

ADD HYD ID=45 HYD NO=145 ID=41 ID=42
PRINT HYD ID=45 CODE=1

PARTIAL HYDROGRAPH 145.00

RUNOFF VOLUME = 1.36962 INCHES = 11.1249 ACRE-FEET
PEAK DISCHARGE RATE = 324.27 CFS AT 1.500 HOURS BASIN
AREA = .1523 SQ. MI.

*

ADD HYD ID=46 HYD NO=146 ID=43 ID=44
PRINT HYD ID=46 CODE=1

PARTIAL HYDROGRAPH 146.00

RUNOFF VOLUME = 1.34193 INCHES = 3.5264 ACRE-FEET
PEAK DISCHARGE RATE = 103.33 CFS AT 1.500 HOURS BASIN
AREA = .0493 SQ. MI.

*
ADD HYD ID=47 HYD NO=147 ID=45 ID=46
PRINT HYD ID=47 CODE=1

PARTIAL HYDROGRAPH 147.00

RUNOFF VOLUME = 1.36285 INCHES = 14.6512 ACRE-FEET
PEAK DISCHARGE RATE = 427.60 CFS AT 1.500 HOURS BASIN
AREA = .2016 SQ. MI.

*
ADD HYD ID=49 HYD NO=149 ID=47 ID=48
PRINT HYD ID=49 CODE=1

PARTIAL HYDROGRAPH 149.00

RUNOFF VOLUME = 1.36148 INCHES = 15.1647 ACRE-FEET
PEAK DISCHARGE RATE = 442.71 CFS AT 1.500 HOURS BASIN
AREA = .2088 SQ. MI.

*
ADD HYD ID=51 HYD NO=151 ID=49 ID=50
PRINT HYD ID=51 CODE=1

PARTIAL HYDROGRAPH 151.00

RUNOFF VOLUME = 1.35977 INCHES = 15.5669 ACRE-FEET
PEAK DISCHARGE RATE = 454.60 CFS AT 1.500 HOURS BASIN
AREA = .2147 SQ. MI.

*
*DIVIDE BY MAXIMUM FLOW RATE
DIVIDE HYD ID=51 Q=33.26 ID I=52 HYD NO=52
ID II=53 HYD NO=153

* ROUTING THROUGH POND

*
ROUTE RESERVOIR ID=54 HYD NO=154 INFLOW ID=53 CODE=24
OUTFLOW(CFS) STORAGE(AC-FT)

ELEVATION(FT) 0.0 0.0

68

40.0		
	46.33	1.43
41.0		
	65.51	2.98
42.0		
	80.24	4.64
43.0		
	92.65	6.42
44.0		
	103.59	8.32
45.0		

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	293.78	43.48	5.493	86.19
2.40	.00	42.87	4.418	78.27
3.20	.00	40.56	.797	25.82
4.00	.00	40.07	.093	3.03
4.80	.00	40.01	.011	.36
5.60	.00	40.00	.001	.04
6.40	.00	40.00	.000	.00

PEAK DISCHARGE = 96.179 CFS - PEAK OCCURS AT HOUR 1.83
 MAXIMUM WATER SURFACE ELEVATION = 44.323
 MAXIMUM STORAGE = 7.0330 AC-FT INCREMENTAL TIME=
 .033330HRS

PRINT HYD ID=54 CODE=1

PARTIAL HYDROGRAPH 154.00

RUNOFF VOLUME = 1.35977 INCHES = 11.5606 ACRE-Feet
 PEAK DISCHARGE RATE = 96.18 CFS AT 1.833 HOURS BASIN
 AREA = .1594 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 07:38:57

MARK GOODWIN

& ASSOCIATES
CONSULTING ENGINEERS

dmg



City of Albuquerque

May 30, 2000

Gregory J. Krenik, P.E.
Mark Goodwin & Associates, PA
P. O. Box 90606
Albuquerque, New Mexico 87199

***RE: Drainage Report and Grading and Drainage Plan for El Rancho Grande I
Subdivision, Units 1, 2 & 3 (M9/D19), Submitted for Preliminary Plat Approval and
Grading Permit Approval, Engineer's Stamp Dated 5/12/00.***

Dear Mr. Krenik:

Based on the information provided with the submittal of May 12, 2000, the above referenced Drainage Report and Grading and Drainage Plans are approved for Preliminary Plat action.

The above referenced plan is also approved for Rough Grading provided that a separate topsoil disturbance permit is obtained for the proposed grading on this site.

Prior to Final Plat sign-off, the Subdivision Improvements Agreement (SIA) must be in place. As you are aware, the Grading and Drainage Certification is required prior to release of the financial guarantees, or the SIA, for each Unit.

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

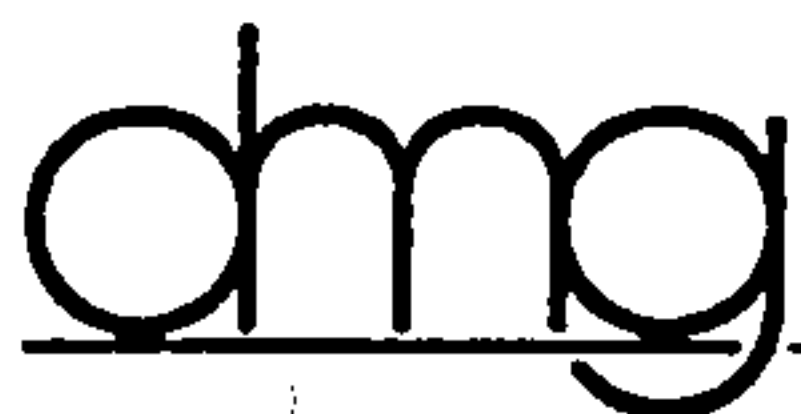
Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Bo K. Johnson, P.E., Curb Inc.
DRB 1000181

File

LETTER OF TRANSMITTAL



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

TO FRED AGUIRRE

DATE <u>5-18-00</u>	JOB NO.
ATTENTION	
REF <u>DRS 1000181</u>	

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

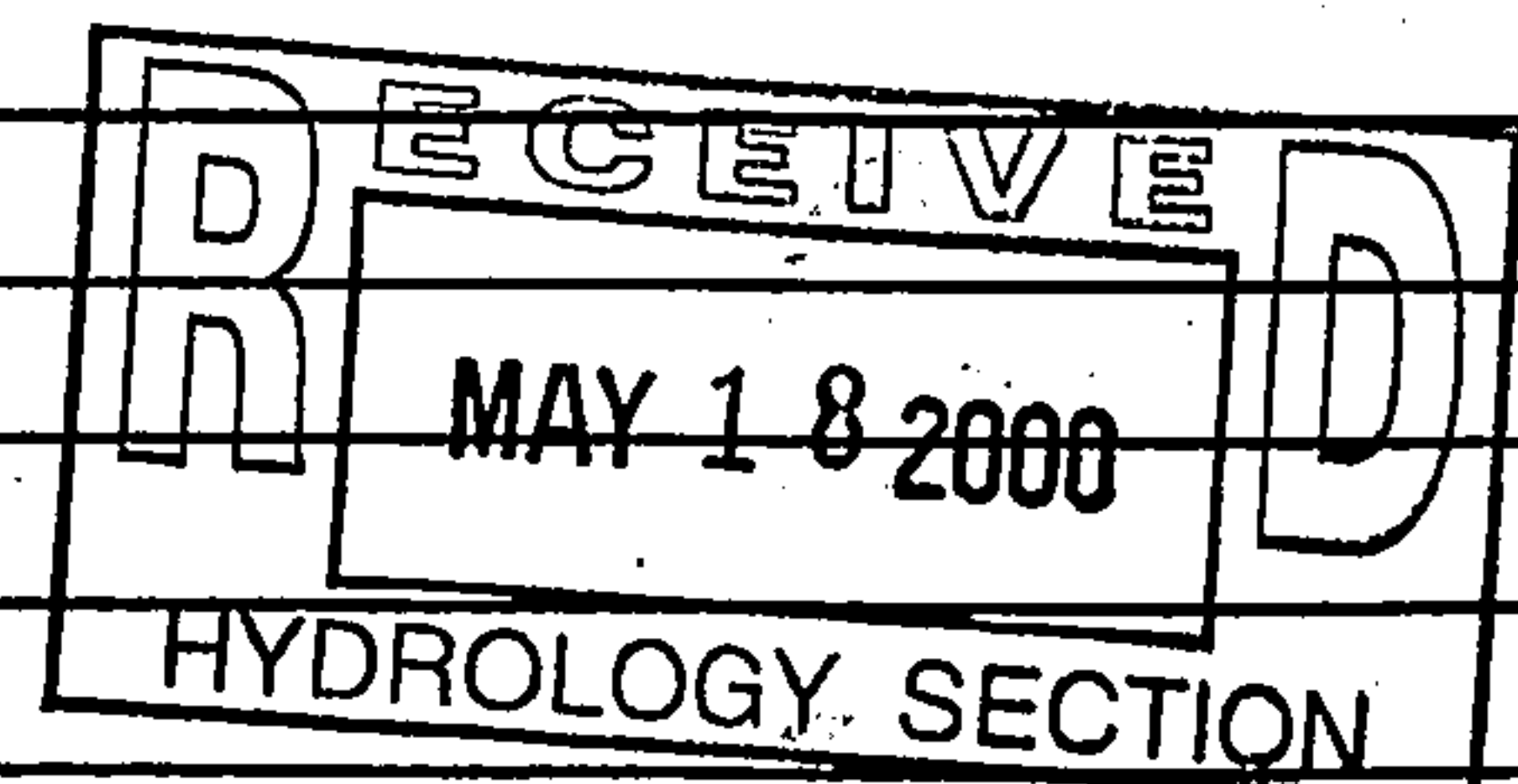
- ☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☒ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1			REVISED INFRA LIST (GIBSON PAVING & SDWK)

THESE ARE TRANSMITTED as checked below:

- ☒ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

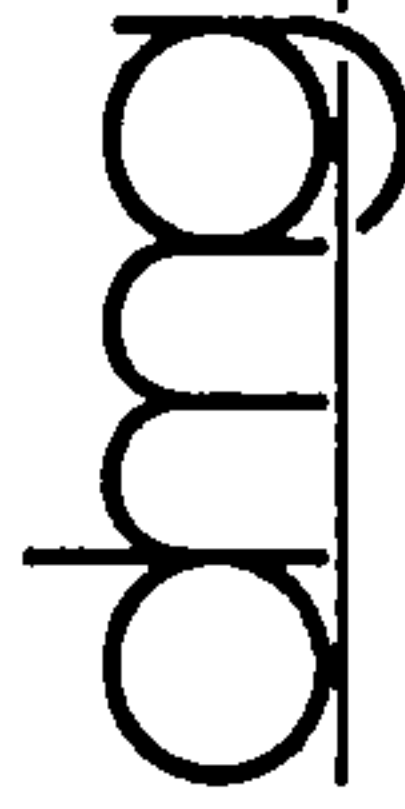
REMARKS TO BE HEARD 5-31-00



COPY TO _____

SIGNED: GREGORY J. KREMK

If enclosures are not as noted, kindly notify us at once.



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmng@swcp.com

May 12, 2000

Ms. Susan M. Calongne, PE
Hydrology Division
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: **El Rancho Grande I (M9/D19)**

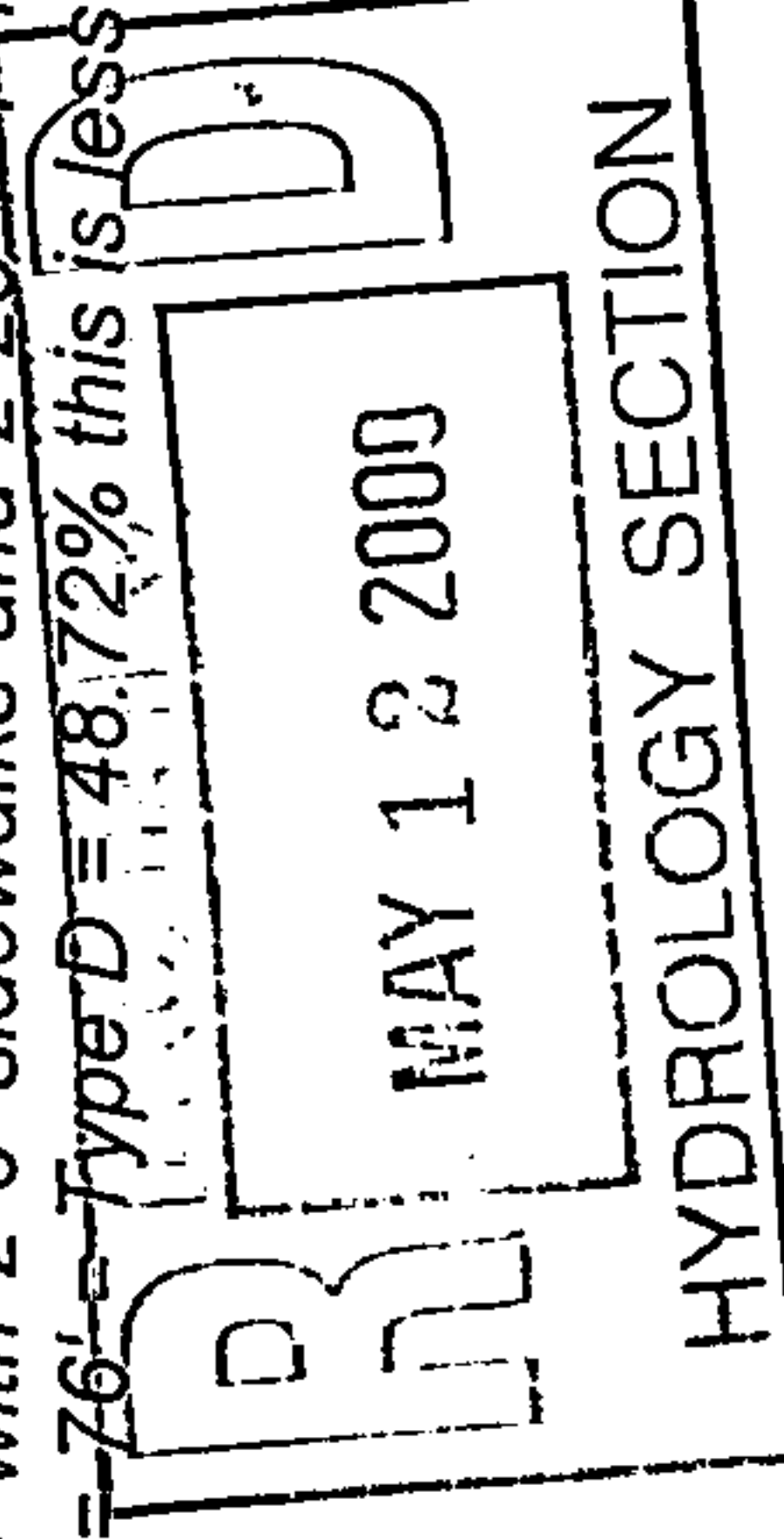
Dear Mr. Calongne:

This is an itemized response to your letter of March 20, 2000 and part of the resubmittal.

1. One comprehensive plan has been done, Silverado Subdivision which this is part of.
2. These basins have been added to the plan and report.
3. The per lot land treatments take into account all paving within the area that the lots drain to. We've always used Type B in row's.
4. This has been modified to 36' F-F with 10" curbs.
5. The trench drains are cattle guard inlets with traffic gates.
6. Tract E has been labeled. Tract E is east of Camino San Martin. We are aware that the pond is in a public drainage easement and will require an agreement and covenant. The channel has been eliminated.
7. The street calculations have been revised.
8. Street names have been added.
9. Type B inlets are allowed. Stormdrain design on sheets 69-96 for both options.
10. The master plan states this area is not evaluated in this report and drainage for this area is to be per the requirements of the Mark Goodwin & Associates report.

A pond is imposed on Parcel 12 because it is commercial and would add undo burden on El Rancho Grande I. The pond is a detention pond with a discharge rate the same as El Rancho Grande I residential land treatments. The allowable discharge of 85.35 cfs for 25.8 ac is more than adequate.
11. The 4 inlets in Gibson are set so only one lane has water in it. The intersection of 98th and Gibson is the high point.

The land treatments were based on a 156' RAW with 2-6' sidewalks and 2-25' E-F roadways and turnlanes. $25 + 25 + 6 + 6 + 12 + 2$ (curb widths) = 76' Type D = 48.72% this is less than the 50% used in the report.



12. This approval will be at DRC.
13. Fencing is not required because it drain in 24 hrs. Access ramp has been shown at 10% slope.
14. The 94.65 cfs discharge is less than the 102 cfs allowable.
15. OK.
16. This document is attached. Grading on the well site is actually a park which we are dedicating land to.
17. These grades are on the plan.
18. These sections have been added to the plan.

Please call if you have any questions or concerns.

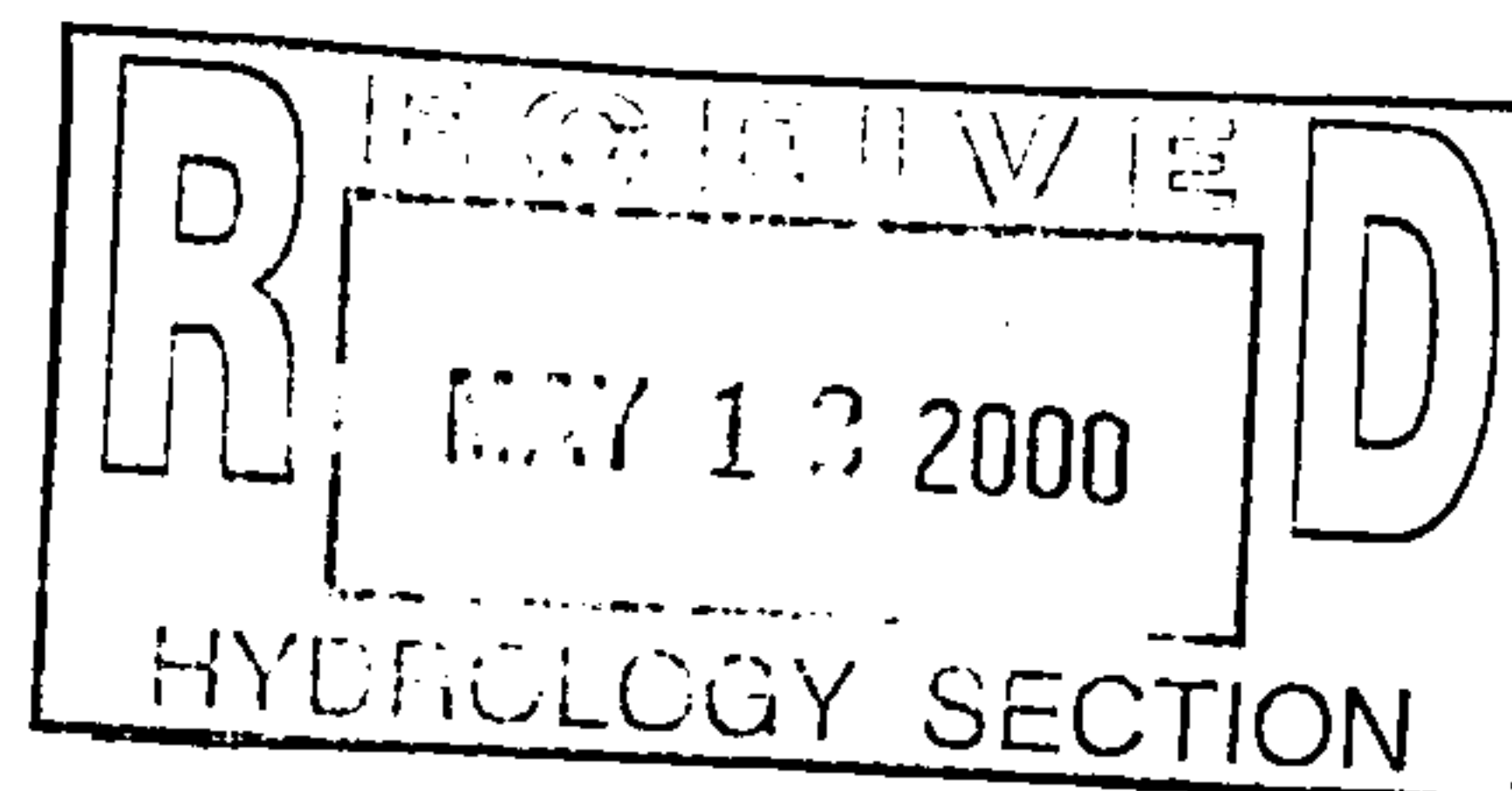
Sincerely,

MARK GOODWIN & ASSOCIATES, PA

for *Sheri Westgate*
Gregory J. Krenik, PE
Vice President

GJK/sw

f:\elrancho.gra\comments.wpd



March 20, 2000

Gregory J. Krenik, P.E.
Mark Goodwin & Associates, PA
P. O. Box 90606
Albuquerque, New Mexico 87199

RE: Drainage Report and Grading and Drainage Plan for El Rancho Grande I Subdivision (M9/D19), Submitted for Preliminary Plat Approval and Grading Permit Approval, Engineer's Stamp Dated 2/18/00.

Dear Mr. Krenik:

Prior to approval for Preliminary Plat and Rough Grading Permit release for the above referenced subdivision, the following comments must be addressed:

1. The drainage report is very difficult to follow and review. Please provide one comprehensive master drainage report that covers both this subdivision and the Silverado Subdivision. After approval of the master plan for these developments, each subdivision plan and report will only need to address the drainage specific to that development.
2. Please provide overall on-site and off-site drainage basin maps identifying all sub-basins for each street. Clearly indicate where each basin is located and where they drain.
3. Please check the land treatments. Do the "per lot" land treatments take into account half of the adjacent street? Why is land treatment "B," for irrigated lawns, proposed for the public right-of-way?
4. The modified street section for Camino San Martin shown on Sheet 2 of the report is not acceptable. The allowable water depth cannot be above the top of curb. Is this existing or proposed? Since driveways are proposed along this street, inlets are required to lower the water depth. What is the width of the proposed pavement section without the crown?
5. Provide a detail for the proposed trench drains. Are these the same as cattle guard inlets? City standard inlets must be used. Curb openings will be required at the ends of these inlet structures. On the plans, show the locations of the proposed driveways in the vicinity of the inlets to demonstrate that there will be no conflicts.
6. The report states that runoff turns east into Tract E. Where is Tract E located? Is the proposed pond in Tract E to be privately maintained? If so, then this must be located within a public drainage easement with an Agreement and Covenant. The channel into the pond in Tract E must be designed to City standards, with the typical 10' bottom width.

7. With respect to the street calculations, the maximum allowable water depth is at the top of curb and the maximum EGL is at the elevation at the right-of-way limit. Typical cross slopes on sidewalks are at 2%. Therefore, the street calculations must be revised. Also, it does not appear that the calculations addressed the potential for hydraulic jumps at the T-intersections.
8. Street names were not provided on the grading plans, therefore the locations of the storm drain inlets cannot be determined. The calculations on Sheet 6 of the report are difficult to follow.
9. Type "A" and type "C" inlets are typically used instead of type "B." Sheet 8 in the report gives pipe capacities, but does not identify which pipes these capacities apply to.
10. Why is a pond to be imposed on Parcel 12? URS Greiner addressed this parcel in the Revised Rio Bravo Master Drainage Plan. Please reference the master plan and provide the pertinent information regarding this parcel.
11. The land treatments used for Gibson Boulevard seem low. Please provide a cross-section for this road to demonstrate how the treatments were determined. It appears that the proposed storm drain in Gibson needs to extend further west in the future to maintain the clear driving lanes.
12. With respect to the proposed sump inlets in Gibson and Unser, approval from City Transportation will be required for the proposed dip sections in these major arterial streets.
13. The pond located at Unser and Gibson will be maintained by the City, therefore, please show the proposed fencing and access ramps. How will City storm drain maintenance access this pond?
14. Per the previous Silverado plan, the outfall pipe from the Unser/Gibson pond drains east through the existing mobile home park, and has a very limited release rate. It appears that the proposed discharge of 98 cfs through this pipe will be too high.
15. Please provide only the pertinent information from the Silverado drainage plan, not the entire report.
16. The grading plan shows grading on the City's Well site. Grading is also shown south of the Gibson right-of-way. Written permission from adjacent property owners must be provided for all off-site grading prior to Preliminary Plat approval.
17. Provide the proposed ultimate street grades for Unser and Gibson on the plan.

Greg Krenik, P.E.
page 3

March 20, 2000

18. Provide the typical lot layout and cross-sections to show how the lots will be graded to drain to the front. Also provide the retaining wall section on the plan.

If you have any questions regarding these comments, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Bo Johnson, P.E., Curb Inc.
File

ORIGINAL

EXHIBIT A (REVISED 5/10/99)
TO SUBDIVISION IMPROVEMENT AGREEMENT
DEVELOPMENT REVIEW BOARD
REQUIRED INFRASTRUCTURE LIST
(LEGAL DESCRIPTION OF SUBDIVISION)

El Rancho Grande I - Units 1, 2 & 3
 (NAME and UNIT OF SUBDIVISION)

Proff
 Case No.: 1000181

D.R.C. Project No.: _____
 Prelim. Plat Approved: 5/31/00
 Prelim. Plat Expires: 5/31/01
 Site Plan Approved: N/A

Date Submitted: 5-17-00

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of the project acceptance and close out by the City.

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
UNIT 1				
36' F-F	Res Pvmnt 10" Std C & G (both sides) * 4' Sdwk (both sides) ① <i>west side</i>	Camino San Martin	Brian Avenue	Rancher Road
32' F-F	Res Pvmnt Std C & G (both sides) 4' Sdwk (both sides)	Camino San Martin	Rancher Road	Gibson Blvd
26' F-F	Rest Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Rushing Brook Avenue	Lot 14-P1, Blk 3	Rancher Road
26' F-F	Res Pvmnt Mount C & G (both sides) *4' Sdwk (both sides)	Miner Avenue	Rushing Brook Avenue	Rancher Road
26' F-F	Res Pvmnt Mount C & G (both sides) *4' Sdwk (both sides)	Desperado Road	Rushing Brook Avenue	Lone Praire Avenue
26' F-F	Res Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Lone Praire Avenue	Desperado Road	Rancher Road

* *1/4 of Signal Regmt's*

EXHIBIT A (REVISED 5/10/99)
TO SUBDIVISION IMPROVEMENT AGREEMENT
DEVELOPMENT REVIEW BOARD
REQUIRED INFRASTRUCTURE LIST
(LEGAL DESCRIPTION OF SUBDIVISION)

El Rancho Grande I - Units 1, 2 & 3
 (NAME and UNIT OF SUBDIVISION)

Case No.: 1000181
 D.R.C. Project No.: _____
 Prelim. Plat Approved: _____
 Prelim. Plat Expires: _____
 Site Plan Approved: _____

Date Submitted: 5-17-00

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
26' F-F	Res Pvmt Std C & G (both sides) *4' Sdwk (both sides)	Silverado Avenue	Lot 11-P1, Blk 5	Rancher Road
26' F-F	Res Pvmt Mount C & G (both sides) *4' Sdwk (both sides)	Lone Praire Avenue	Lot 15-P1, Blk 3	Desperado Road
26' F-F	Res Pvmt Mount C & G (both sides) *4' Sdwk (both sides)	Silverado Avenue	Lot 7-P1, Blk 3	Lot 11-P1, Blk 5
28' F-F	Res Pvmt Std C & G (both sides) *4' Sdwk (both sides)	Rancher Road	Barbados Avenue	Camino San Martin
25' F-F	Art Pvmt Std C & G (north side) 4' Sdwk (north side) Extruded Conc Curb (north side)	Gibson Blvd	Barbados Avenue	Camino San Martin
48' F-F	Art Pvmt Std C & G (both sides) 4' Sdwk (both sides)	Barbados Avenue	Lot 7-P1, Blk 5	Gibson Blvd
48' F-F	Art Pvmt Std C & G (both sides) 4' Sdwk (both sides)	Miner Avenue	Rancher Road	Gibson Blvd
25' ~~EE~~ F-F ①	Art Pvmt (~~to left~~) (North side) Std C & G (North side) Extruded Conc Curb (North side)	Gibson Blvd	Camino San Martin	Unser Blvd

EXHIBIT A (REVISED 5/10/99)
TO SUBDIVISION IMPROVEMENT AGREEMENT
DEVELOPMENT REVIEW BOARD
REQUIRED INFRASTRUCTURE LIST
(LEGAL DESCRIPTION OF SUBDIVISION)

El Rancho Grande I - Units 1, 2 & 3
 (NAME and UNIT OF SUBDIVISION)

Case No.: 1000181
 D.R.C. Project No.: _____
 Prelim. Plat Approved: _____
 Prelim. Plat Expires: _____
 Site Plan Approved: _____

Date Submitted: 5-17-00

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
12"	Waterline	Silverado Avenue	Entire Length	
12"	Waterline	Rancher Road	Barbados Avenue	Silverado Avenue
12"	Waterline	Barbados Avenue	Rancher Road	Gibson Blvd
10"	Waterline	Rancher Road	Silverado Avenue	Camino San Martin
6"	Waterline	Rushing Brook Avenue	Entire Length	
6"	Waterline	Lone Praire Avenue	Entire Length	
6"	Waterline	Deperado Road	~~Lot 13-P1, Blk 9~~	Rushing Brook Avenue
6"	Waterline	Miner Avenue	Rancher Road	Rushing Brook Avenue
8"	SAS	Rushing Brook Avenue	Lot 24-P1, Blk 1	Miner Avenue
8"	SAS	Rushing Brook Avenue	Lot 22-P1, Blk 10	Rancher Road
8"	SAS	Miner Avenue	Rushing Brook Avenue	Rancher Road
8"	SAS	Desperado Road	Lot 13-P1, Blk 9	Rushing Brook Avenue
8"	SAS	Lone Praire Avenue	Lot 15-P1, Blk 3	Rancher Road
8"	SAS	Rancher Road	Barbados Road	Silverado Avenue
8"	SAS	Camino San Martin	Lot 5-P1, Blk 10	Rancher Road
18"	RCP Stormdrain	Camino San Martin	NE Corner of City Well #2	
18"	RCP Stormdrain	Brian Avenue	At Camino San Martin	
18"	RCP Stormdrain	Rushing Brook Avenue	Lot 15-P1, Blk 10	Rancher Road
18"	RCP Stormdrain	Rancher Road	At Rushing Brook Avenue	
24"	RCP Stormdrain	Rancher Road	At Rushing Brook Avenue	
30"	RCP Stormdrain	Camino San Martin	NE Corner of City Well #2	Lot 1-P1, Blk 10
30"	RCP Stormdrain	Barbados Road	Lot 7-P1, Blk 5	Rancher Road
36"	RCP Stormdrain	Barbados Road	At Rancher Road	
36"	RCP Stormdrain	Rancher Road	Lot 4-P1, Blk 7	Camino San Martin
42"	RCP Stormdrain	Camino San Martin	Lot 7-P1, Blk 10	Rancher Road
48"	RCP Stormdrain	Barbados Road	Rancher Road	Gibson Blvd
48"	RCP Stormdrain	Gibson Blvd	Barbados Road	Camino San Martin
54"	RCP Stormdrain	Camino San Martin	Rancher Road	Gibson Blvd
54"	RCP Stormdrain	Intersection of Barbados Road & Gibson Blvd		
18"	RCP Stormdrain	Gibson Blvd	At Camino San Martin	
18"	RCP Stormdrain	Gibson Blvd	At Barbados Road	
24"	RCP Stormdrain	Gibson Blvd	At Unser Blvd	
66"	RCP Stormdrain	Gibson Blvd	Camino San Martin	Gibson/Unser Pond
42"	RCP Stormdrain	Gibson/Unser Pond	Pond Outfall	

8" SAS Barbados Rancher Gibson
 **8" SAS Silverado Lot 7 Blk 5 Rancher
 **8" SAS Rancher Silverado Camino San Martin
 Page 3 of 7

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Date Submitted: 5-17-00

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
UNIT 2				
48' F-F	Art Pvmnt Std C & G (both sides) 4' Sdwk (both sides)	Barbados Avenue	Benevides Road	Lot 6-P1, Blk 5
24' F-E	Art Pvmnt Std C & G (east sides) 4' Sdwk (east sides)	Benevides Road	Barbados Avenue	Exist Benevides Road
26' F-F	Rest Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Rushing Brook Avenue	Lot 10-P1, Blk 3	Lot 13-P1, Blk 3
26' F-F	Res Pvmnt Mount C & G (both sides) *4' Sdwk (both sides)	Rushing Brook Avenue	Benevides Road	Lot 10-P1, Blk 3
26' F-F	Res Pvmnt Mount C & G (both sides) *4' Sdwk (both sides)	Lone Praire Avenue	Desert Ridge	Lot 8-P1, Blk 4
26' F-F	Res Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Silverado Avenue	Benevides Road	Lot 28-P1, Blk 4
28' F-F	Res Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Desert Ridge	Rushing Brook Avenue	Silverado Avenue
25' F-F	Res Pvmnt Mount C & G (east side) *4' Sdwk (east side)	North Canyon Road	Rushing Brook Avenue	Terminus
25' F-F	Res Pvmnt Mount C & G (both sides) *4' Sdwk (both sides)	South Canyon Road	Rushing Brook Avenue	Terminus

EXHIBIT A (REVISED 5/10/99)
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El Rancho Grande I - Units 1, 2 & 3
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Case No.: 1000181
 D.R.C. Project No.: _____
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 Prelim. Plat Expires: _____
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Date Submitted: 5-17-00

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
12"	Waterline	Silverado Avenue	Entire Length	
10"	Waterline	Benevides Avenue	Silverado Avenue	Barbados Avenue
6"	Waterline	Benevides Avenue	Silverado Avenue	North Property Line
6"	Waterline	North Canyon Road	Entire Length	
6"	Waterline	Rushing Brook Avenue	Entire Length	
6"	Waterline	Lone Praire Avenue	Entire Length	
~~6"~~ 4"	Waterline	South Canyon Road	Entire Length	
6"	Waterline	Desert Ridge	Entire Length	
8"	SAS	Rushing Brook Avenue	Entire Length	
8"	SAS	Desert Ridge	Entire Length	
8"	SAS	Lone Praire Avenue	Entire Length	
8"	SAS	North Canyon Road	Entire Length	
8"	SAS	South Canyon Road	Entire Length	
30"	RCP Stormdrain	Benevides Avenue	Silverado Avenue	Barbados Avenue
30"	RCP Stormdrain	Barbados Avenue	Benevides Avenue	Lot 6-P1, Blk 5
~~8"~~ 8"	SAS	Silverado	Benevides	Lot 7 Bl. 5

EXHIBIT A (REVISED 5/10/99)
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El Rancho Grande I - Units 1, 2 & 3
 (NAME and UNIT OF SUBDIVISION)

Case No.: 1000181
 D.R.C. Project No.: _____
 Prelim. Plat Approved: _____
 Prelim. Plat Expires: _____
 Site Plan Approved: _____

Date Submitted: 5-17-00

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
UNIT 3				
25' F-F	Art Pvmnt Std C & G (west side) 6' Sdwk (west side) Extruded Conc Curb (west side)	Unser Blvd	Gibson Blvd	Existing Unser Blvd
32' F-F	Res Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Rancher Road	Camino San Martin	Amberstone Road
32' F-F	Res Pvmnt Std C & G (both sides) *4' Sdwk (both sides)	Amberstone Road	Rancher Road	Exist Amberstone Road
25' F-F	Art Pvmnt (Final 2 Lifts) Std C & G (North side) 4' Sdwk (North side) Extruded Conc Curb (North side)	Gibson Blvd	Camino San Martin	Unser Blvd
① 12"	* 4' SDWK (EAST SIDE)	Camino San Martin	North PL	Rancher Rd
12"	Waterline	Amberstone Avenue	Rancher Road	Exist Amberstone Avenue
12"	Waterline	Rancher Road	Camino San Camino	Amberstone Road
24"	RCP Stormdrain	Amberstone Road	Lot 14-P1, Blk 2	Unser Blvd

*** 8" SAS Rancher Camino San Martin Amberstone

EXHIBIT A (REVISED 5/10/99)
TO SUBDIVISION IMPROVEMENT AGREEMENT
DEVELOPMENT REVIEW BOARD
REQUIRED INFRASTRUCTURE LIST
(LEGAL DESCRIPTION OF SUBDIVISION)

El Rancho Grande I - Units 1, 2 & 3
 (NAME and UNIT OF SUBDIVISION)

Case No.: 1000181

D.R.C. Project No.: _____

Prelim. Plat Approved: _____

Prelim. Plat Expires: _____

Site Plan Approved: _____

Date Submitted: 5-17-00

** Procedure "C" ^{Modified} Agreement for the Amount of \$25,000*

* Deferred sidewalk.

Stormdrain to include manholes, inlets, riprap and outfall.

Grading and Drainage Certification per DPM including Retaining Walls as shown on the Grading Plan required for Release of SIA and Financial Guarantees for each unit. Financial Guarantee is not required for this item.

Water infrastructure to include valves, fittings, valveboxes and fire hydrants.

Sanitary sewer to include manholes and service connections.

Street lights per DPM.

**** Previously Financially Guaranteed with Silverado Subdivision Unit 1*

Signature: *Mark Goodwin*
 for Agent/Owner Print Name: Gregory J. Krenik, PE
 Firm: Mark Goodwin & Associates, PA

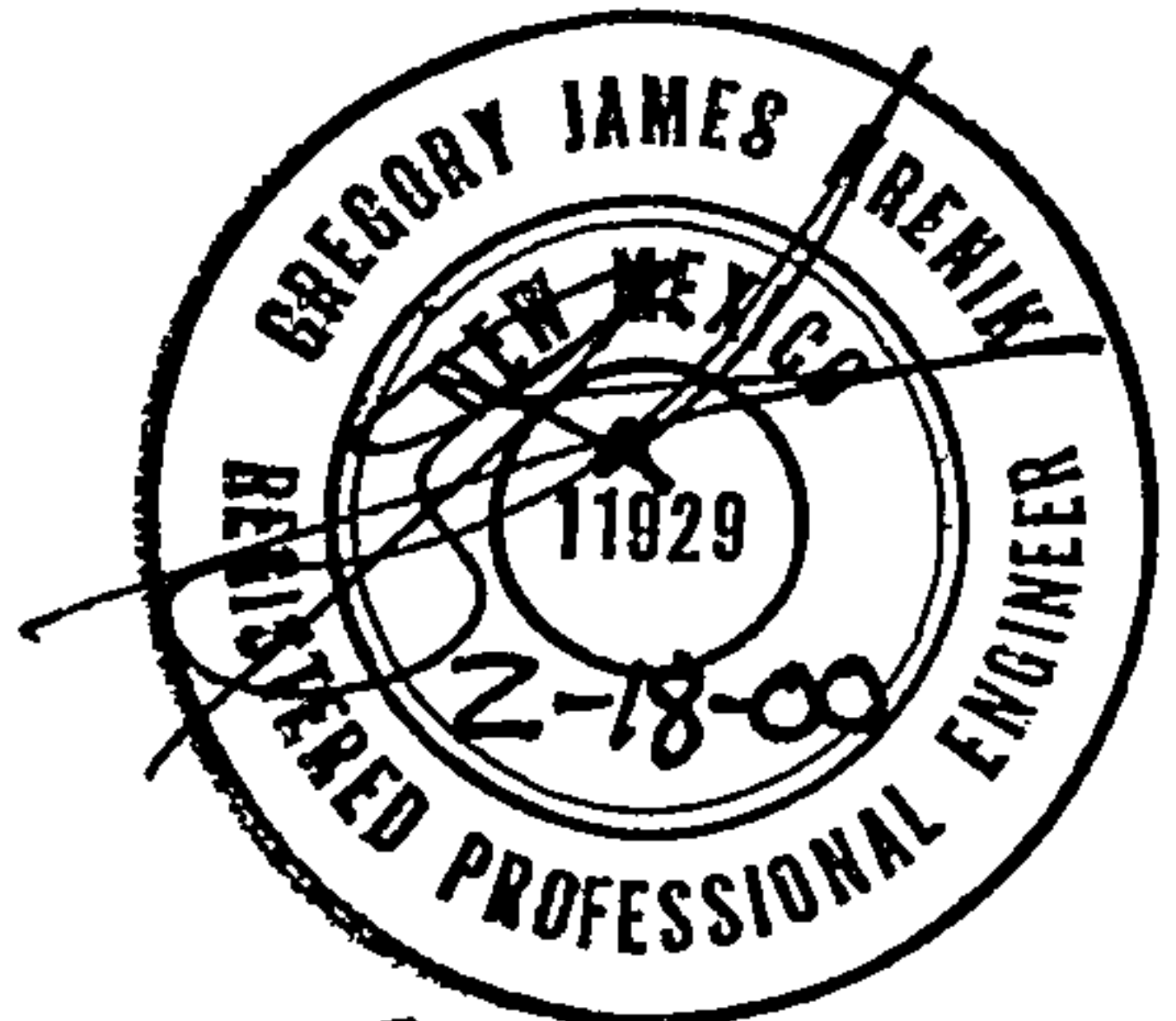
DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

<u><i>[Signature]</i></u> Transportation Dev.	<u>5-31-00</u> Date	<u><i>Robert [Signature]</i></u> Utility Dev.	<u>5/31/00</u> Date	<u><i>James [Signature]</i></u> Parks & Recreation	<u>5/31/00</u> Date
 Date		<u><i>Maria Calongue</i></u> Engineer/AMAFCA	<u>5-31-00</u> Date	<u><i>Paul [Signature]</i></u> DRB Chairman	<u>5/31/00</u> Date

DRC REVISIONS

REVISIONS	DATE	DRC CHAIR	USER DEPT	AGENT/OWNER
①	8-27-00	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
②				

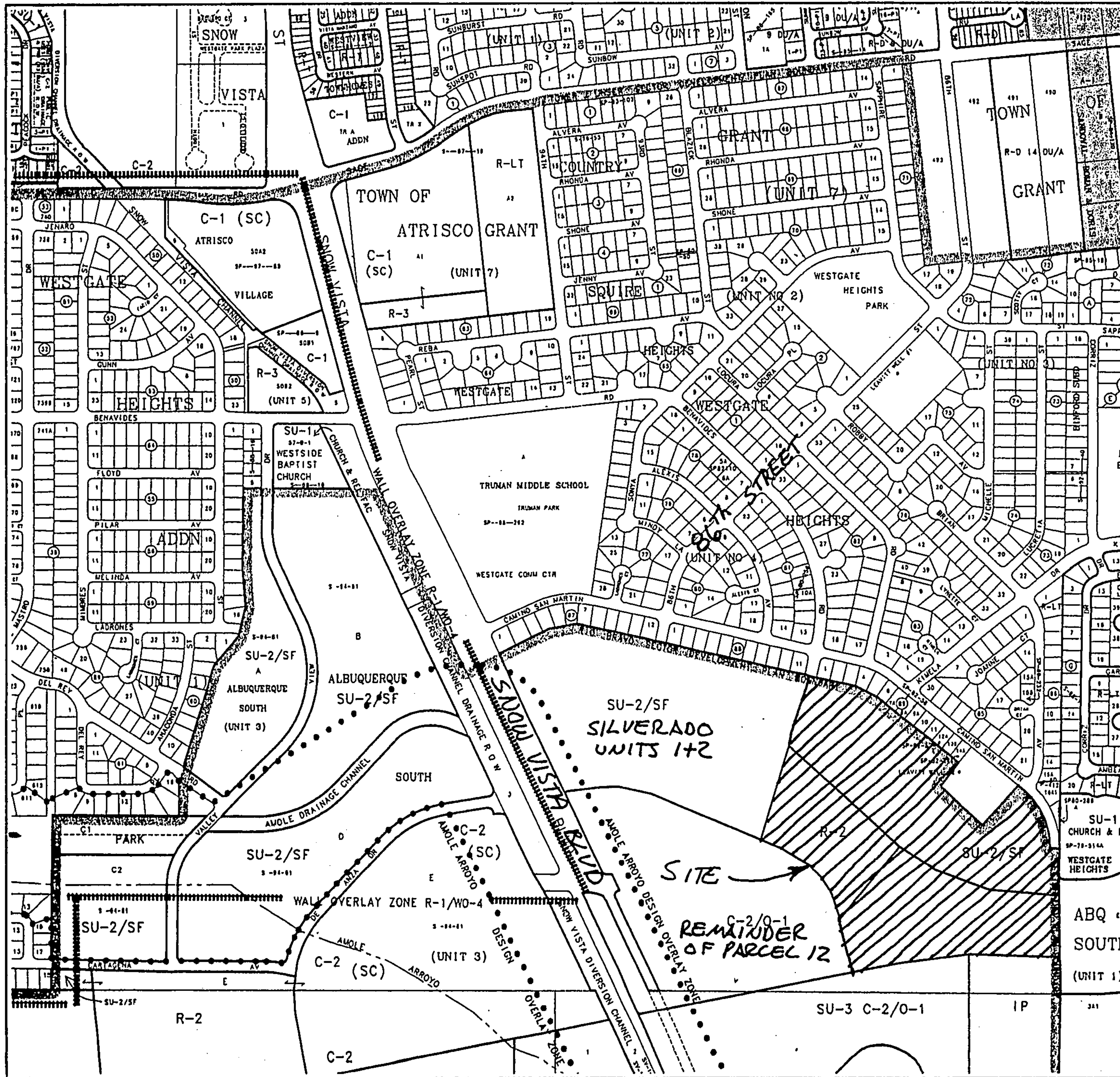
DRAINAGE REPORT
FOR
EL RANCHO GRANDE I
UNITS 1 & 2 $\frac{1}{3}$



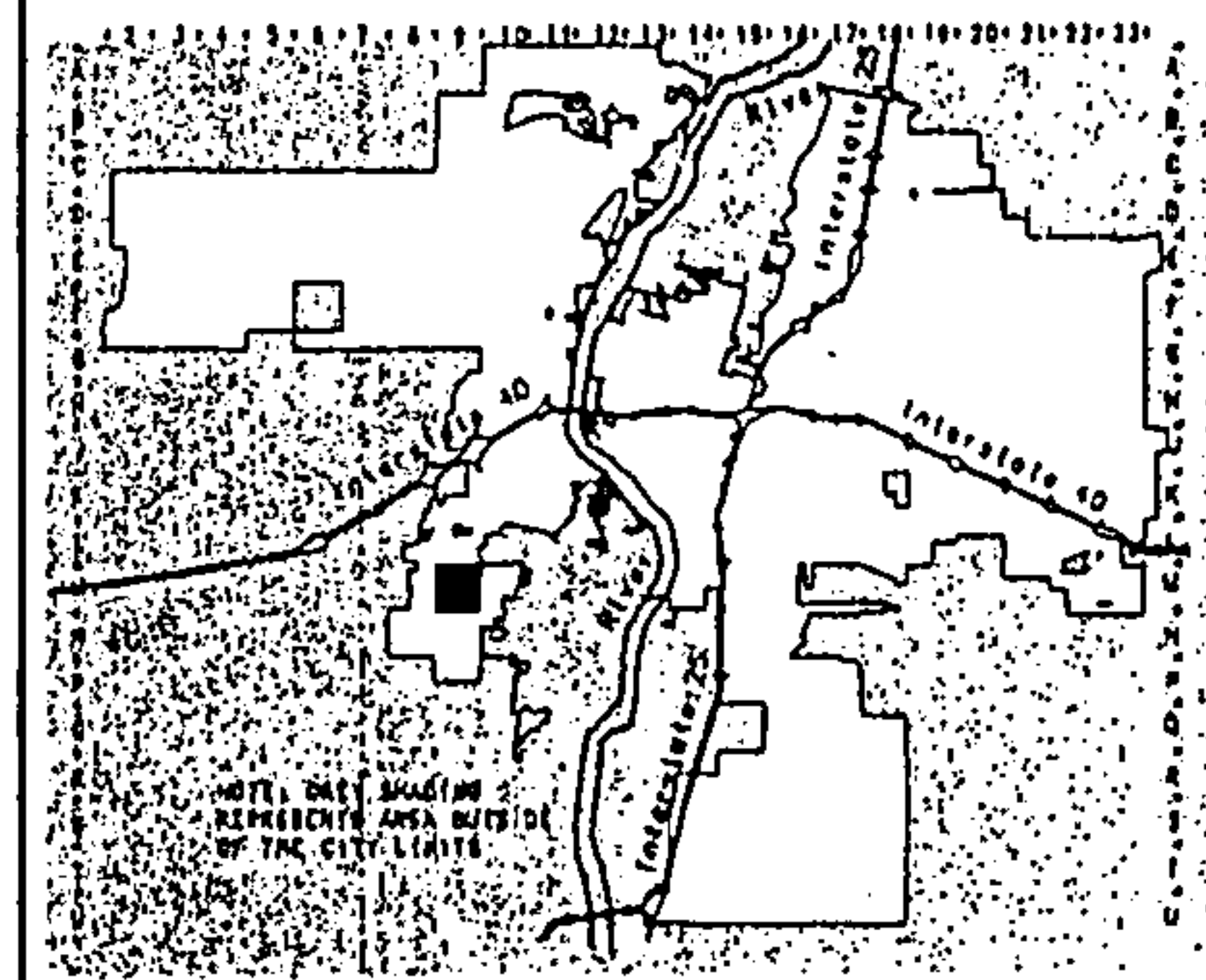
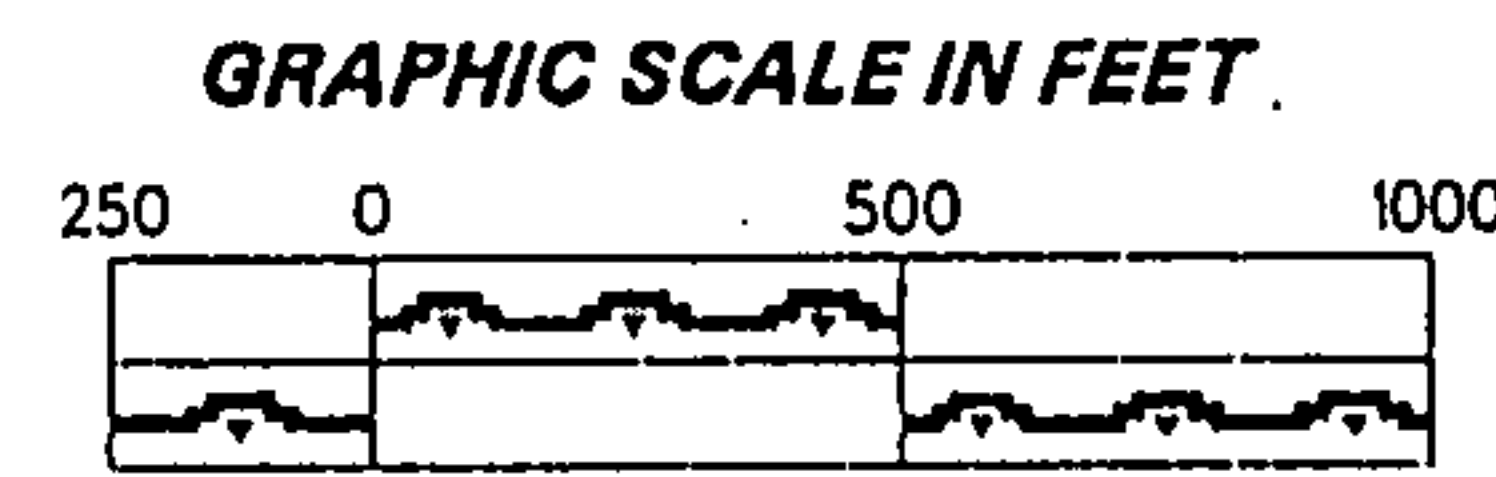
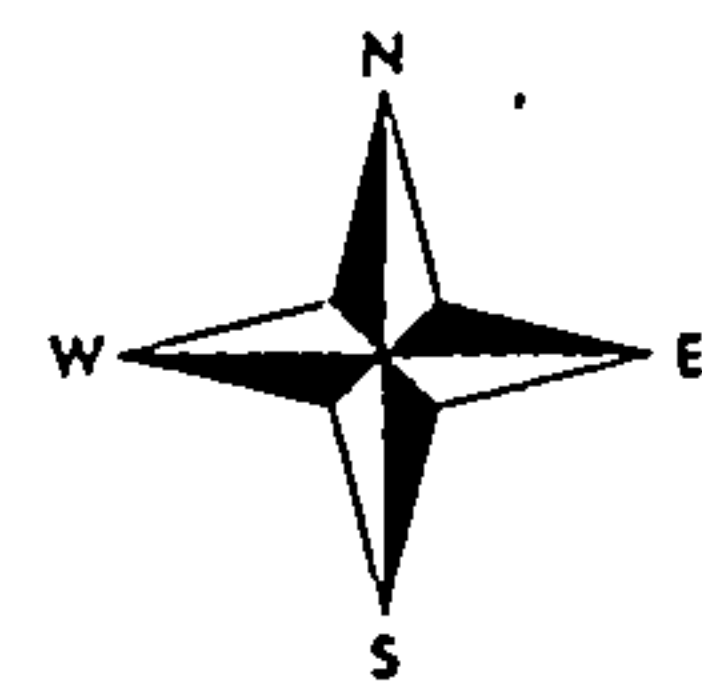
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4-17-00

5-12-00.

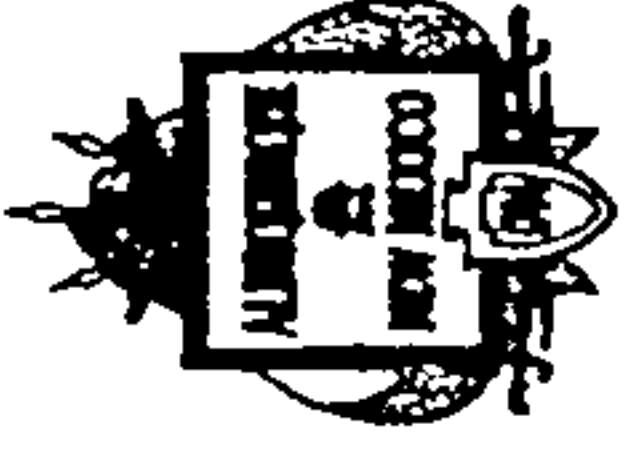


CITY OF
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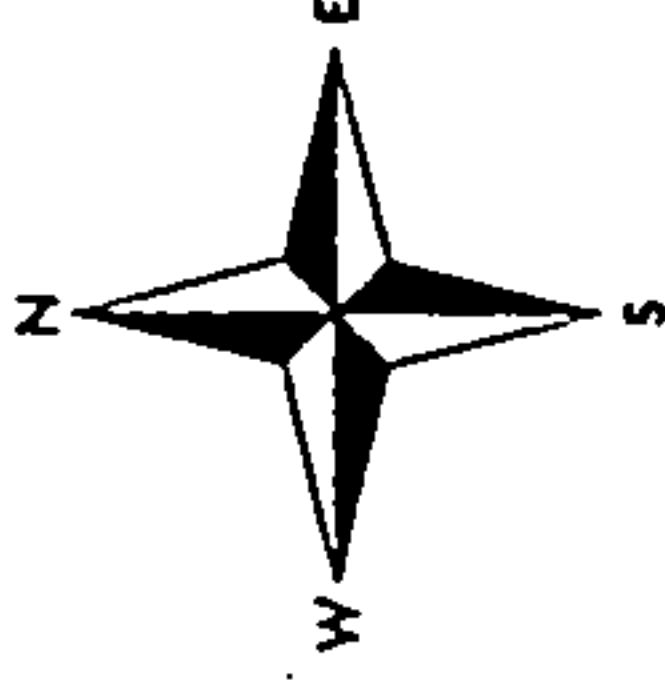
Zone Atlas Page **M-9-Z**

Map Amended through
December 10, 1998

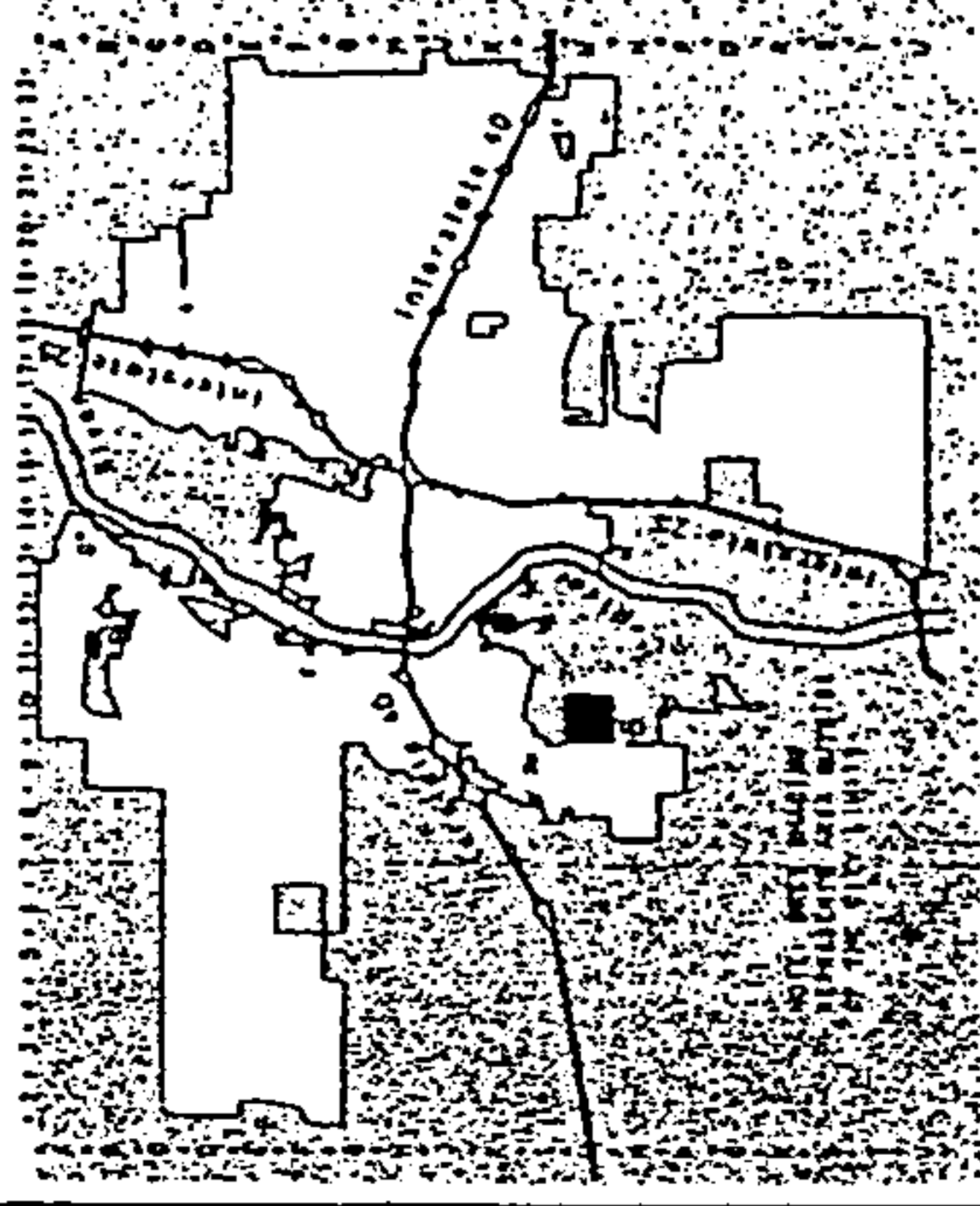


CITY OF
ALBUQUERQUE

Albuquerque
PLANNING DEPARTMENT
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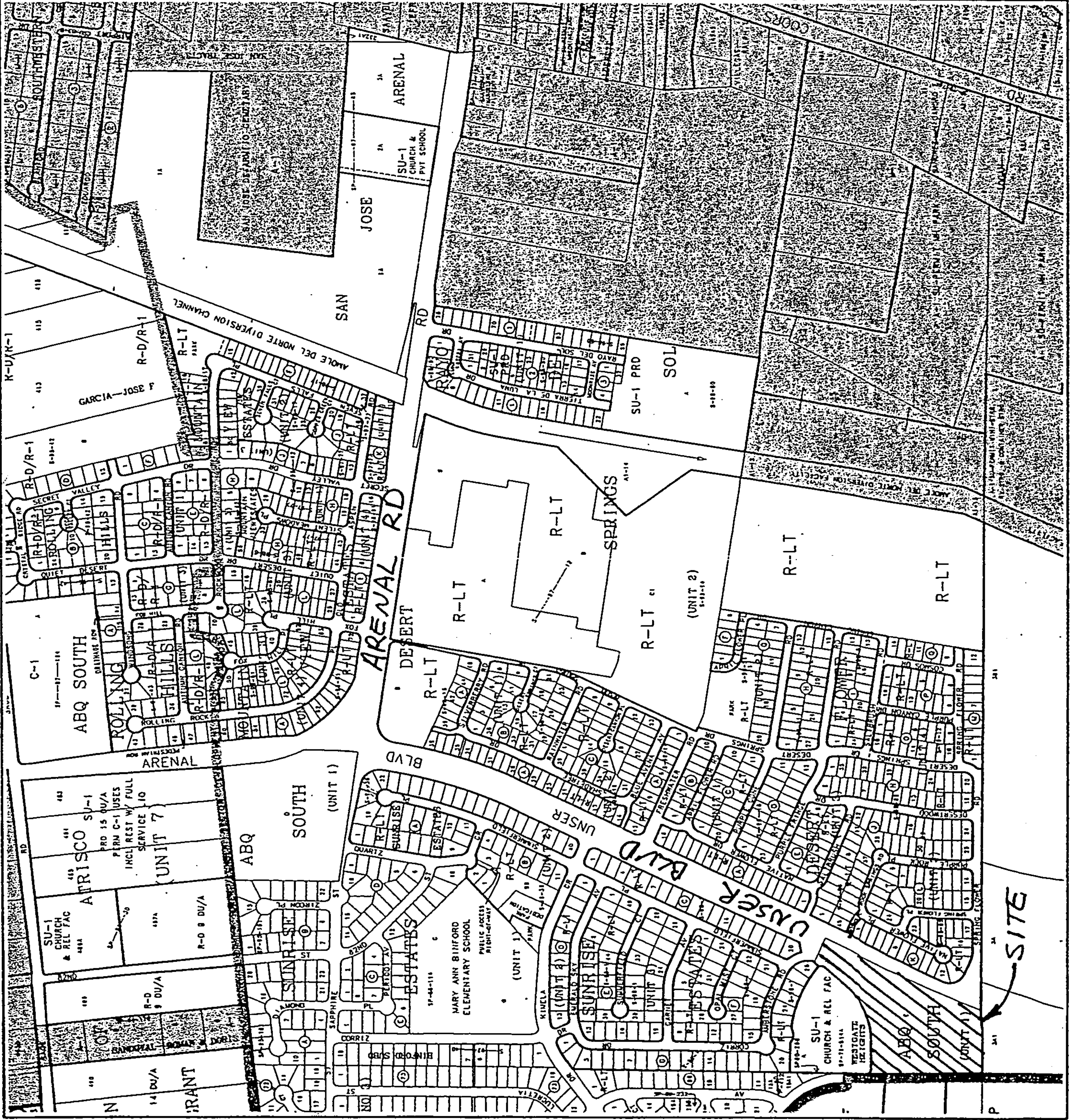


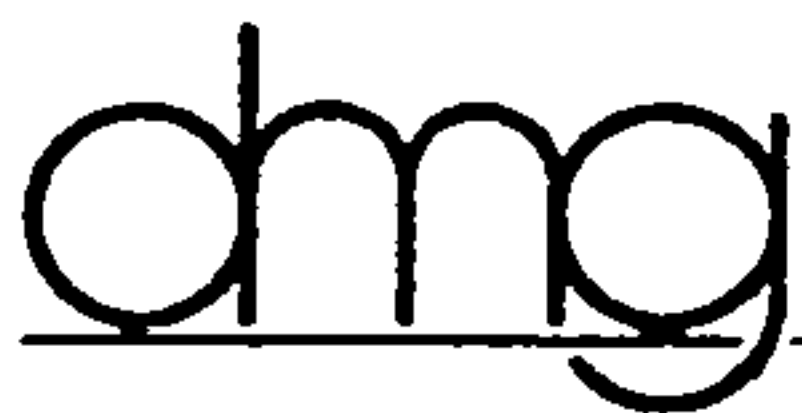
GRAPHIC SCALE IN FEET



Zone Atlas Page
M-10-Z

Map Amended through
April 07, 1999





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

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e-mail: dmgs@swcp.com

PROJECT EL RANCHO GRANDE I

SUBJECT DRAINAGE CALCS

BY GJK DATE 12-13-99

CHECKED _____ DATE _____

REVISED 4-17-00

SHEET 1 OF _____

- THIS PROJECT IS PART OF THE SILVERADO SUBDIVISION MASTER DRAINAGE REPORT (M9/D20)
- THIS PROJECT WILL DESIGN THE DOWNSTREAM IMPROVEMENTS (ENLARGE DETENTION POND AND MASTER PLAN STORMDRAIN FOR AREA NORTH OF GIBSON BETWEEN 98TH AND UNSER) FROM THE SILVERADO REPORT PREPARED BY MARK GOODWIN AND ASSOCIATES.
- THIS PROJECT CONSISTS OF TRACTS C + D OF THE BULK PLAT FOR ALBUQUERQUE SOUTH AND PARCEL 4 OF THE BULK PLAT FOR EL RANCHO GRANDE I. ALSO INCLUDED IS TRACT E OF ALBUQUERQUE SOUTH UNIT 1.

$$\begin{aligned} \bullet \text{ TOTAL SITE} &= \text{TRACT C} + \text{TRACT D} + \text{PORTION OF PARCEL 4} \\ &= 13.7159 + 8.7122 + 13.1206 \\ &= 35.5487 \text{ AC} - 0.5100 \text{ AC (LAND TO PARK)} = 35.0387 \end{aligned}$$

$$\bullet \text{ NUMBER OF LOTS} = 192$$

- AREA THAT WILL BE SEPARATED OUT TO DETERMINE PER LOT RUNOFF, (BARBADOS + GIBSON R/W)

$$A = 1.2644 + 2.2562 = \underline{3.5206 \text{ AC}} \text{ NOT INCLUDED IN PER LOT A.}$$

$$\bullet \text{ PADS} = 60 \times 35 = 2100$$

$$\bullet \text{ DRIVE PAD} = 20 \times 20 = \underline{400}$$

$$2500 \times 192 = 11,0193 \text{ AC TYPE "D"}$$

- AREA OF ROW IN SUBDIVISION

$$= 6.9480 \text{ AC } 80\% \text{ "D"} = 5.5584 \text{ AC}, 20\% \text{ "B"} = 1.3896 \text{ AC}$$

$$\begin{array}{r} \text{TYPE "D"} \\ 11.0193 \text{ AC} \\ 5.5584 \text{ AC} \\ \hline 16.5777 \text{ AC} \\ -1.0078 \text{ AC} \\ \hline 15.5699 \text{ AC} \\ 52.77 \% \end{array}$$

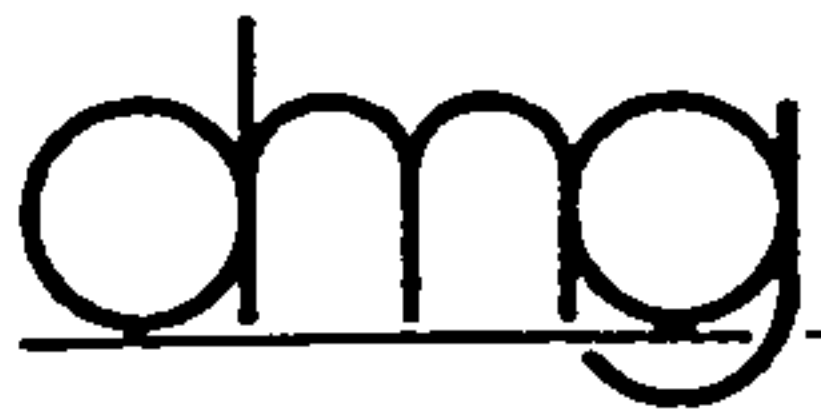
$$\begin{array}{r} \text{TYPE "B"} \\ 13.5508 \text{ AC} = 24.5701 \\ 1.3896 \text{ AC} = 6.9480 \\ \hline 14.9404 \text{ AC} = 31.5181 + 3.5206 = 35.0387 \\ -1.0066 \text{ AC} = \underline{2.0144 \text{ AC}} \text{ SEE SHEET 3} \\ \hline 13.9338 \text{ AC} = 29.5037 \text{ AC} \\ 47.23 \% \end{array}$$

FROM AH4MO OUTPUT SHEETS 23-25

$$Q = 97.62 \text{ CFS}$$

$$192 - 13 = 179 \text{ LOTS}$$

$$Q \text{ per lot} = 97.62 / 179 = 0.5454 \text{ CFS/LOT}$$



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PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 3-30-00
CHECKED _____ DATE _____

REVISED 4-17-00, 5-12-00 SHEET 2 OF

- FROM THE "ADDENDUM TO THE MASTER DRAINAGE PLAN FOR THE RIO BLANCO SECTOR PLAN" PREPARED BY MARK GOODWIN & ASSOCIATES 9-21-98 (APPENDIX) THE Q IN CAMINO SAN MARTIN IS 133.79 CFS AT THE END OF THE EXISTING PAVEMENT.

- SUBTRACT Q FROM BRIAN

$$133.79 - 17.85 = 115.94 \text{ CFS}$$

- FIND CAPACITY OF CAMINO SAN MARTIN BEFORE BRIAN.

$$S = 2\% \quad n = 0.017 \quad 32' \text{ F-F}$$

$$d = 0.87$$

$$WP = 51.34$$

$$A = 21.15$$

$$V = 6.84 \text{ F/S}$$

$$Q = 144.76 \text{ CFS}$$

- FIND d

$$d = 0.75$$

$$WP = 40.00$$

$$A = 16.65$$

$$V = 6.89 \text{ F/S}$$

$$Q = 114.75 \text{ CFS} \approx 115.94 \text{ CFS} \text{ OF}$$

$$d + \frac{V^2}{2g} = 1.49' \quad \text{INLETS REQUIRED}$$

- INSTALL 2 "DBL A" INLETS INTO THE FIRST MANHOLE OF THE EXISTING STORMDRAIN IN FRONT OF THE WELL SITE.

FROM NOMO SHEET 16

$$Q_{\text{GATE}} = 17.5 \text{ CFS}$$

$$Q_{\text{PAST INLETS}} = 115.94 - 2(17.5) = 80.94 \text{ CFS}$$

- FIND Q FROM 13 EL RANCHO LOTS AND 3 TRACT E LOTS

ROW = 0.3444 AC	0.0689 AC TYPE "B"	0.2755 AC TYPE "D"

13 LOTS = 1.6873 AC	0.9412 AC TYPE "B"	0.7461 AC TYPE "D"

3 LOTS = 0.4638 AC	0.2916 AC TYPE "B"	0.1722 AC TYPE "D"

2.4955 AC	1.3017 AC TYPE "B"	1.1938 AC TYPE "D"

$$52.16\%$$

$$47.84\%$$

FROM AHYMO OUTPUT SHEETS 26-28

$$Q = 7.98 \text{ CFS}$$



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PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 3-30-00
CHECKED _____ DATE _____
SHEET 3 OF _____

REVISED 4-17-00

• EXISTING STORM DRAIN

MH1	MH2	MH3	MH4	MH5
RIM = 59.67	RIM = 58.98	RIM = 58.57	RIM = 58.07	RIM = 57.76
INV = 52.07	INV = 49.73, 49.53	INV = 49.17	INV = 48.75	INV = 48.46 46.89
MH6	MH7			
RIM = 56.30	RIM = 59.01			
INV = 46.26	INV = 49.84			

• LENGTH, SIZE & SLOPE OF PIPE BETWEEN MANHOLES

MH1 - MH2	MH2 - MH3	MH3 - MH4	MH4 - MH5
124' 12" RCP	65' 36" RCP	98' 36" RCP	50' 36" RCP
1.89%	0.55%	0.43%	0.58%
MH5 - MH6	MH7 - MH2		
423' 36" RCP	31' 36" RCP	36" RCP AT 0.54% CARRIES 47 CFS	
0.15%	0.35%		

• FIND d ON BRIAN

$$S = 1.09\% \quad \eta = 0.017 \quad 32' F-F$$

$$Q = 17.85 \text{ CFS}$$

$$d = 0.43$$

$$WP = 32.86$$

$$A = 6.09$$

$$V = 2.84 \text{ F/S}$$

$$Q = 17.30 \text{ CFS} \approx 17.85 \text{ CFS O.K.}$$

$$d + V^2/2g = 0.56'$$

INSTALL 2 "DBL A" INLETS

FROM NOMO SHEET 17

$$Q_{\text{gate}} = 5.1 \text{ CFS}$$

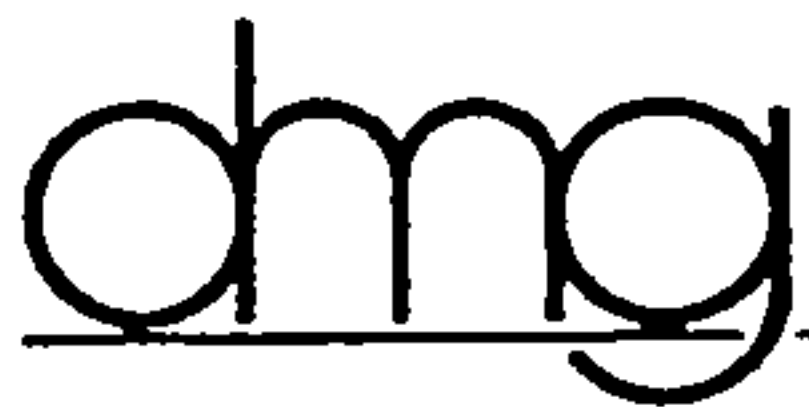
$$Q_{\text{past inlets}} = 17.85 - 2(5.1) \\ = 7.65 \text{ CFS}$$

• TOTAL Q IN STORM DRAIN AT THIS POINT

$$Q = 2(17.5) + 2(5.1) \\ = 45.20 \text{ CFS}$$

• Q PAST INLETS

$$Q = 115.94 + 17.85 - 45.20 \\ = 88.59 \text{ CFS}$$



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PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 4-17-00
CHECKED _____ DATE _____

Revised 5-12-00

SHEET 4 OF _____

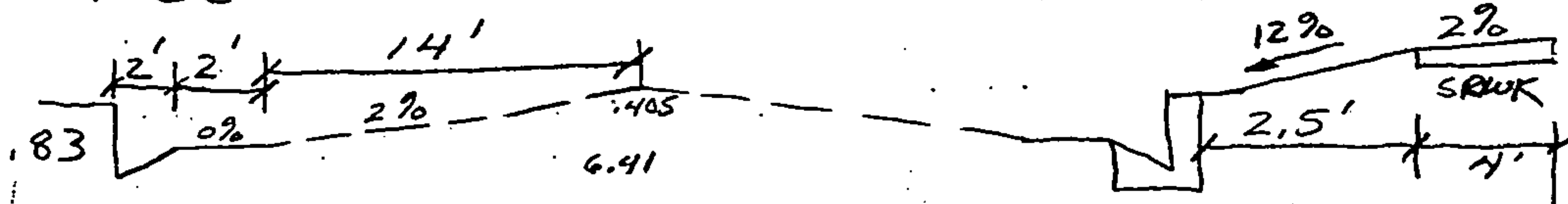
- WE WILL ADD Q FROM 13 + 3 LOTS

$$Q = 88.59 + 7.98 \text{ CFS} \\ = 96.57 \text{ CFS}$$

(Basins 4 and 16)

- WE WILL USE THE EXISTING 36" RCP IN COMING SAN MARTIN DOWN TO RANCHER ROAD.

- FIND d AT END OF EXIST PAVEMENT USING A 36' F-F WITH 10" CURB & GUTTER.



S = 0.87% 36' F-F WITH 10" CURB AND 12% BETWEEN CURB AND SIDEWALK
2% CROWN

$$d = 0.72 \\ W_P = 37.44 \\ A = 17.75 \\ V = 4.96 \text{ F/S} \\ Q = 87.99 \text{ CFS} \approx 88.59 \text{ CFS} \text{ OK}$$
$$d + \frac{V^2}{2g} = 1.10' \approx 0.83 + .30 = 1.13'$$

- FIND d INCOMING SAN MARTIN AT RANCHER ROAD

Q = 96.57 CFS S = 0.75% 36' F-F 10" CURB
1% CROWN

$$d = 0.77 \\ W_P = 37.54 \\ A = 19.55 \\ V = 4.90 \text{ F/S} \\ Q = 95.80 \text{ CFS} \approx 96.57 \text{ CFS} \text{ OK}$$
$$d^2/2g = 1.14' \approx 1.13' \text{ OK}$$

TRENCH DRAIN
WILL BE
INSTALLED

Cattle Guard
Inlet

- USE CHART 7 SHEET 21 TO SIZE TRENCH DRAIN
USE 2.5' RETICULINE GRATE LENGTH = 2.5'

$R_f = 1.01 > 1.0$ ALL FLOW ENTERS DRAIN.

- Q ENTERING TRENCH DRAIN = 96.57

$$\text{TOTAL Q IN STORM DRAIN} = 45.20 + 96.57 \\ = 141.77 \text{ CFS}$$

- TOTAL Q ENTERING TRACT E

$$Q = 21.28 \text{ FROM SHEET 9}$$

- ADD TRACT E LOTS TO SIZE STREET

$$Q = 21.28 + 11.98 = 33.26 \text{ CFS}$$

SHEET SHEETS 61+62 Basin 17

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PROJECT EL Rancho Grande I
SUBJECT DRAINAGE CALCS
BY GSK DATE 4-17-00
CHECKED _____ DATE _____
SHEET 5 OF _____

Revised 5-12-00

SHEET 5 OF

- SIZE TRACT E STREET Q = 33,26 cfs

$$d = 0.56$$

26' F-F S = 0.75 % 8" CURB

$$WP = 27,12$$

STD. CROWN $\eta = 0.017$

$$A = 9,14$$

$$V = 3.67 \text{ F/s}$$

$$Q = 34.46 \text{ AS} \approx 33.20 \text{ OK}$$

$$d + v^2/2g = 0.77' \quad \text{of}$$

- INSTALL 2 "DBL A" INLETS
FROM NOMO SHEET 18

Q₁ RATE = 7.9 OFS

$$\text{Q PAST INCETS} = 33.26 - 2(7.9) \\ = 17.46 \text{ CFs}$$

- FIND NEW d

$$d = 0.45$$

$$wP = 26.90$$

$$A \approx 6.28$$

$$v = 2.87 \text{ F/s}$$

$$Q = 18.02 \text{ eS} \approx 17.46 \text{ eS} \cdot 0.15$$

$$d + v^2/2g = 0.58 \text{ m}$$

- INSTALL 2 "5GL C" INLETS

FROM NOMO SHEET 19

$$Q_{gate} = 4.2 \text{ cfs}$$

$$Q_{\text{past inlets}} = 17.46 - 2(4.2)$$

$$= 9.06 \text{ cfs}$$

- Q INTO UNSER STORMANIN

$$= 2(7,9) + 2(4,2)$$

$$= 24,20 \text{ CHF} < 24,5 \text{ CHF OK}$$

- FIND CAPACITY OF SUMMERFIELD DRIVE IN SUNRISE ESTATES
32' F-F STD C+G S = 0.5% UNIT 3

$$d = 0,66$$

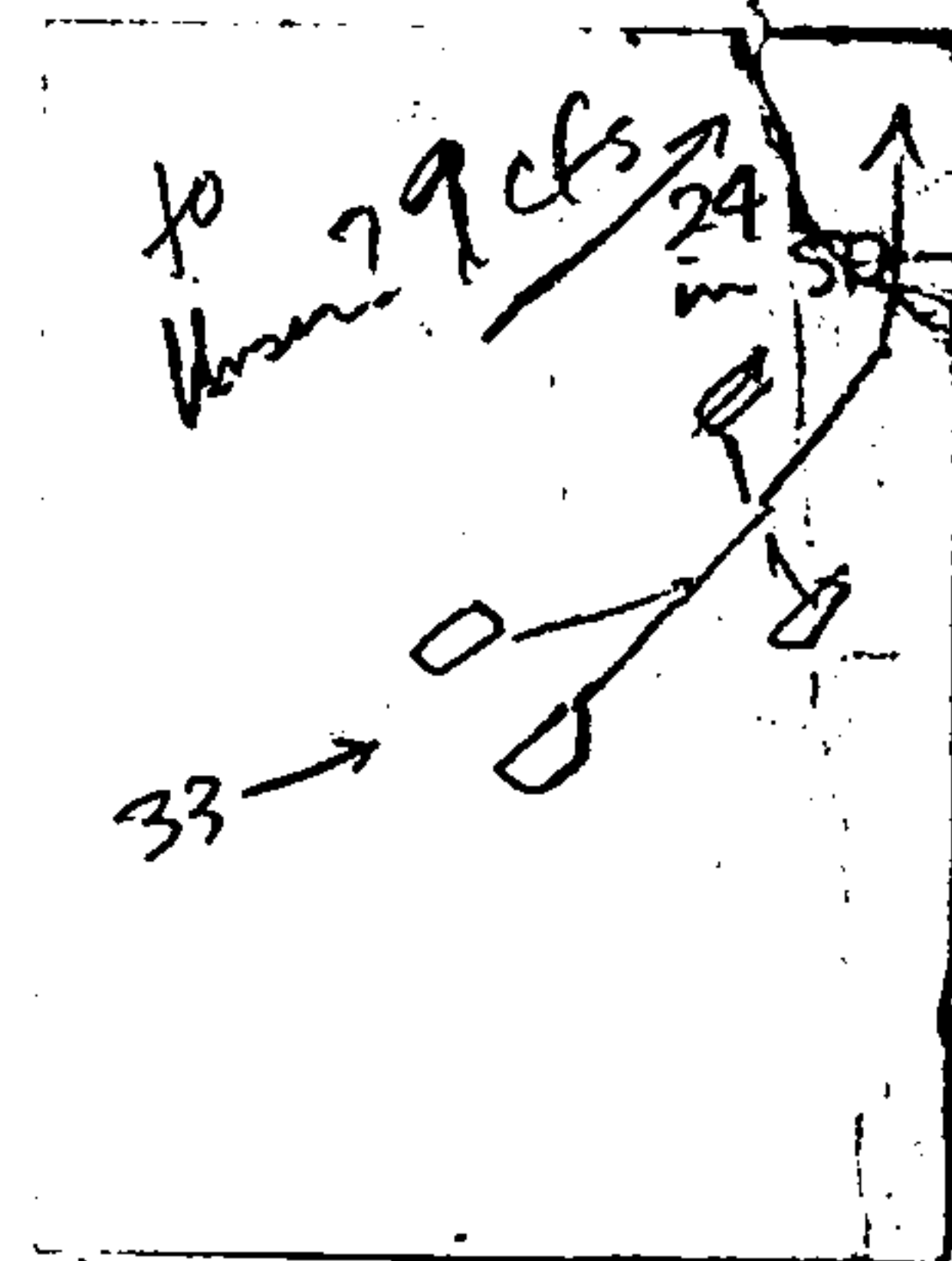
$$w_p = 33.3\%$$

$$A = 13.45$$

$$V = 3.38 \text{ F/s}$$

$$Q = 45.41 \text{ CFS}$$

$$d + \frac{V^2}{2g} = 0.84' \quad \frac{OK}{2}$$





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PROJECT EL RUCITO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 4-17-00
CHECKED _____ DATE _____

Revised 5-12-00 SHEET 6 OF _____

SINCE THE DRAINAGE REPORT FOR SUNRISE
ESTATES UNITS 2+3 IS MISSING FROM
COA HYDROLOGY RECORDS WE WILL
ASSUME 0.5 CFS DISCHARGE PER LOT.

69 LOTS DRAIN TO SUMMERFIELD DRIVE

$$Q = 69 \times 0.5 \\ = 34.5 \text{ CFS}$$

• FIND EXCESS Q STREET CAN TAKE

$$Q = 45.41 - 34.5 \\ = 10.91 \text{ CFS} > 9.06 \text{ CFS } \frac{OK}{2}$$

NO POND IS REQUIRED

• DETERMINE CAPACITY OF 44' R/W STREETS 26' F-F

$S = 1\%$ $n = 0.017$ STD C+G $\times 9' \times 2' \times 11' \times$

$$d = 0.58$$

$$wP = 27.16$$

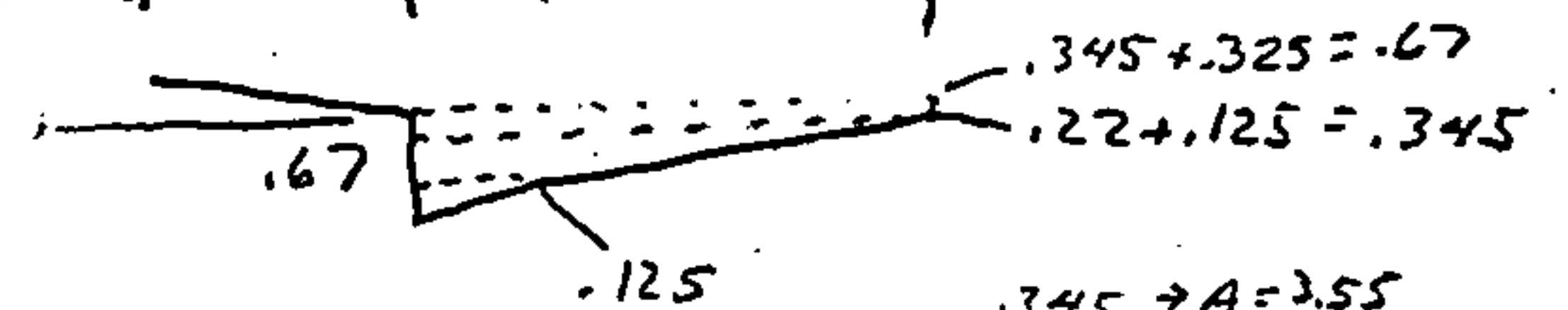
$$A = 9.66$$

$$V = 4.388 \text{ F/S}$$

$$Q = 42.39 \text{ CFS}$$

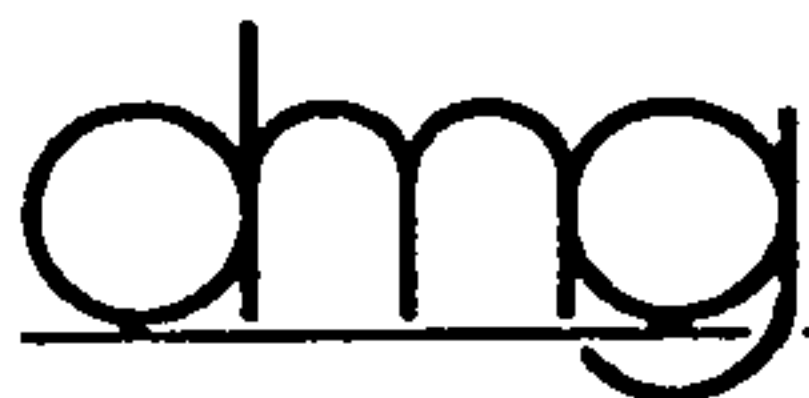
$$d + \frac{V^2}{2g} = 0.87 = 0.67 + .20 = .87$$

$\frac{OK}{2}$



• FIND NUMBER OF LOTS THAT CAN DRAIN TO STREET

$$42.39 / 1.5454 = 77.72 \text{ say } \boxed{77 \text{ LOTS}}$$



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PROJECT EL RANCHO GRANDE I

SUBJECT DRAINAGE CALCS

BY GJK DATE 12-13-99

CHECKED _____ DATE _____

REVISED 3-30-00 SHEET 7 OF _____

- DETERMINE CAPACITY OF 44' R/W STREETS 26' F-F

$S = 1\%$ $n = 0.017$ MOUNTABLE C+G

$$d = 0.33$$

$$WP = 26.66$$

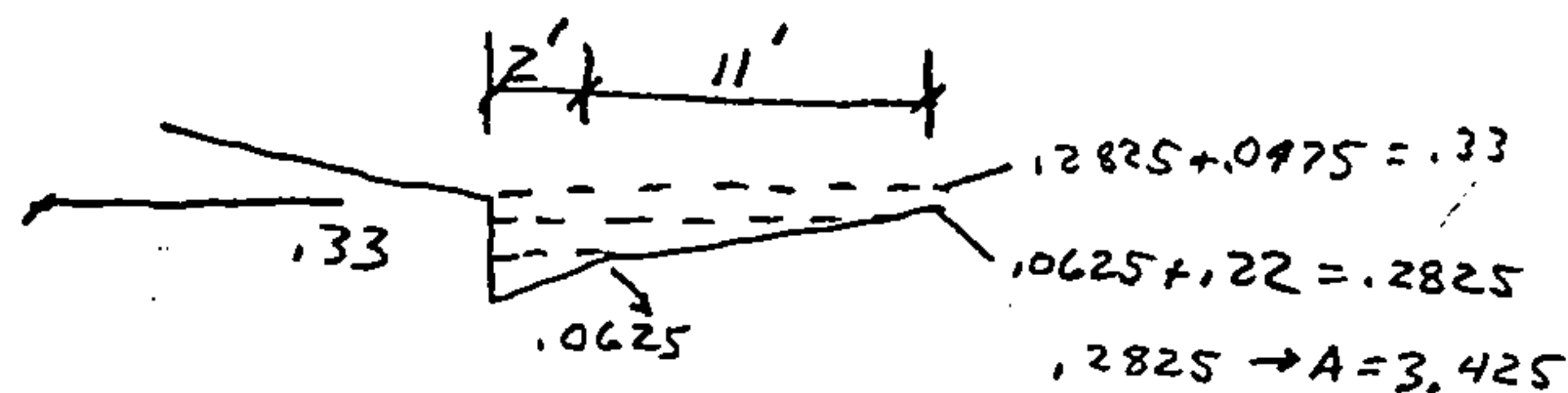
$$A = 4.66$$

$$V = 2.73 \text{ F/S}$$

$$Q = 12.73 \text{ CFS}$$

$$d + \frac{V^2}{2g}$$

$$= .45 \approx .33 + .12 \quad \text{OK}$$



- FIND NUMBER OF LOTS THAT CAN DRAIN TO STREET

$$12.73 / .5454 = 23.34 \text{ SAY } 23 \text{ LOTS}$$

- DETERMINE CAPACITY OF 46' R/W STREETS 28' F-F

$S = 2.36\%$ $n = 0.017$ STD C+G

$$d = 0.46$$

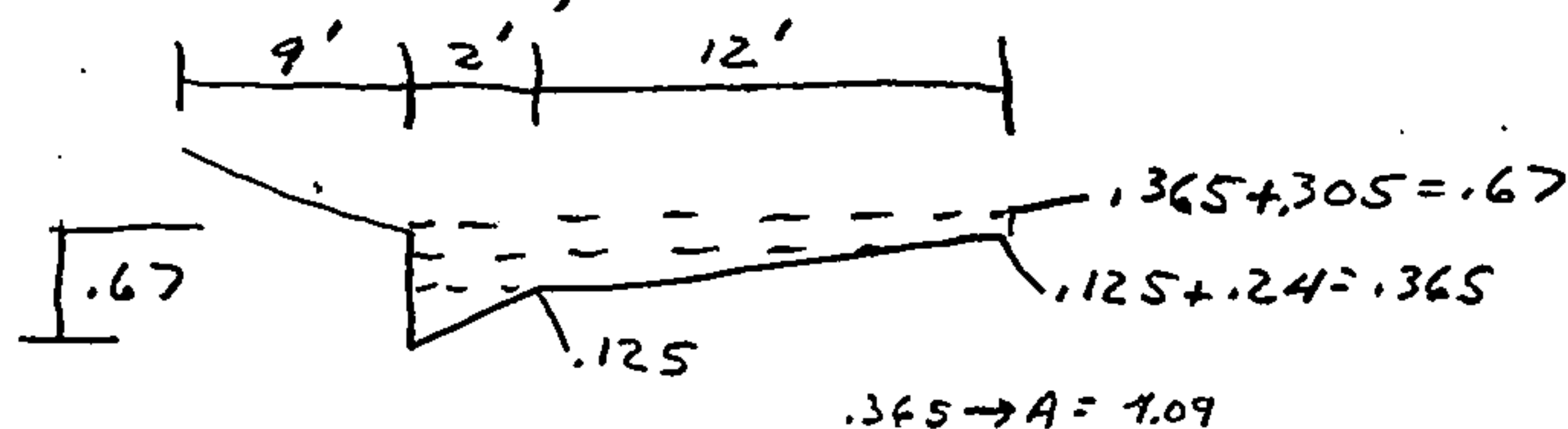
$$WP = 28.92$$

$$A = 6.75$$

$$V = 5.09 \text{ F/S}$$

$$Q = 34.36 \text{ CFS}$$

$$d + \frac{V^2}{2g} = 0.86 \approx .67 + .19$$



- FIND NUMBER OF LOTS THAT CAN DRAIN TO STREET

$$34.36 / .5454 = 63.0 \text{ SAY } 63$$

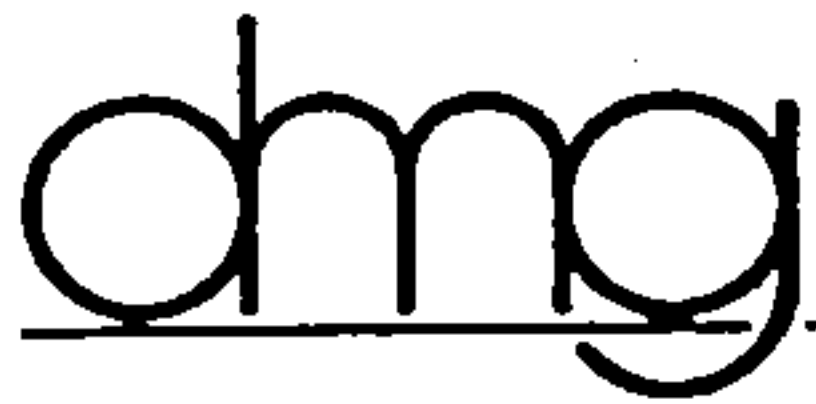
- TRANSITION FROM MOUNTABLE TO STD C+G WILL OCCUR ON CODED ROAD BETWEEN LOTS 11+12 BLOCK 1 AND LOTS 4+5 BLOCK 3

Rancher Ave.

- TRANSITION WILL OCCUR ON SILVERADO AVE BETWEEN LOTS 21+22 BLOCK 4 AND LOTS 11+12 BLOCK 5.

- TRANSITION WILL OCCUR ON ROADWAY COURT BETWEEN LOTS 9+10 BLOCK 4 AND AT THE RETURN OF LOT 15 BLOCK 3

Lone Prairie Ave



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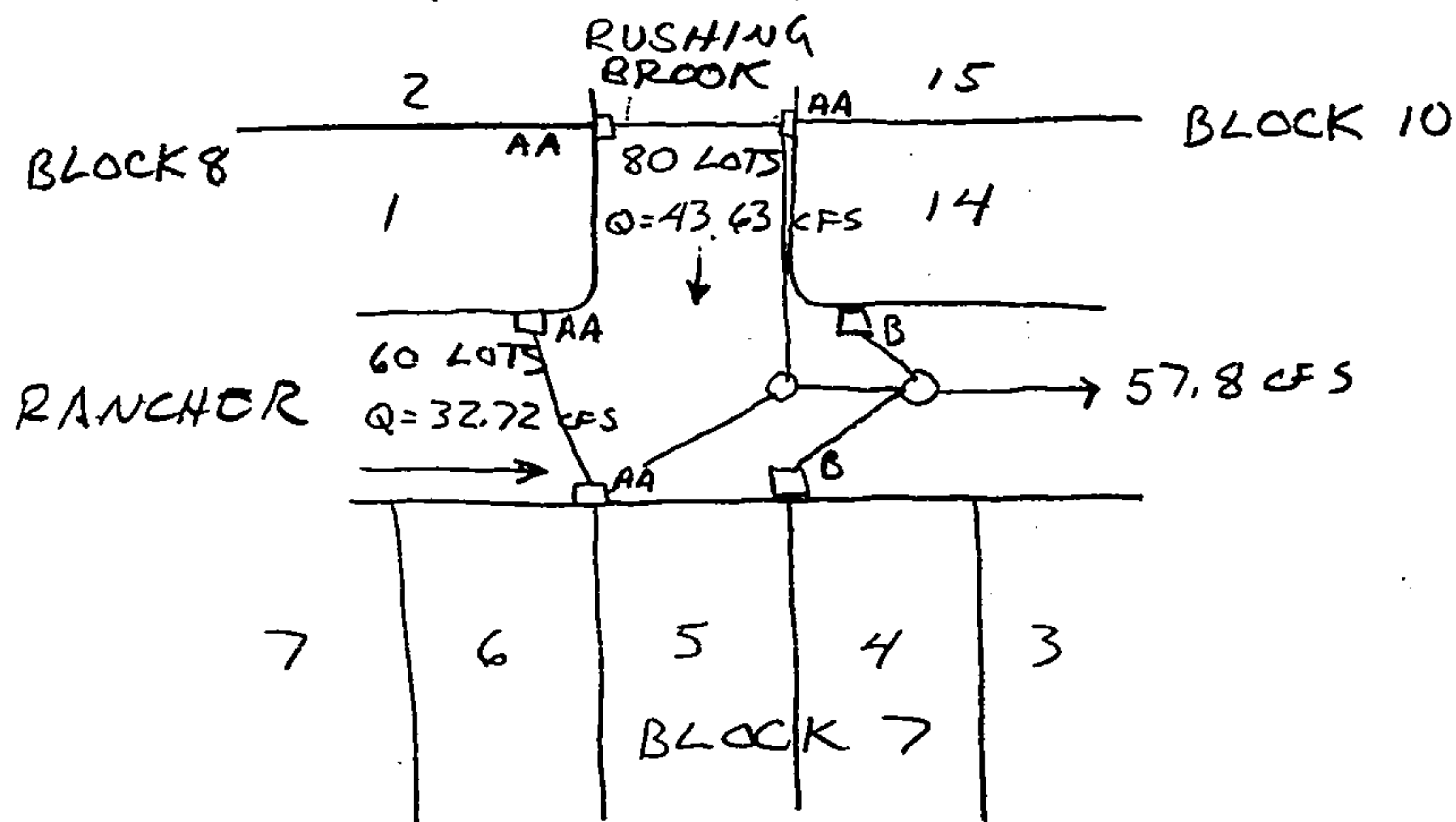
PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 12-13-99
CHECKED _____ DATE _____

Revised 5-12-00

SHEET 8 OF _____

• DETERMINE INLET LOCATIONS

INLETS ARE REQUIRED AT THE INTERSECTION
OF RUSHING BROOK & RANCHER



INSTALL A DBL "A" INLET BETWEEN LOTS 14+15 AND
11+12 ON RUSHING BROOK

• FIND d

$$\begin{aligned}d &= 0.59 \\WP &= 27.18 \\A &= 9.92 \\U &= 4.46 \text{ F/S} \\Q &= 44.29 \text{ cfs} \approx 43.63 \text{ cfs} \quad \text{OK}\end{aligned}$$

FROM NOMO SHEET 16

$$Q_{\text{gate}} = 9.4 \text{ cfs}$$

$$\begin{aligned}Q \text{ INTO RANCHER} &= 43.63 - 2(9.4) \\&= 24.83 \text{ cfs}\end{aligned}$$

INSTALL A DBL "A" INLET BETWEEN LOTS 5+6 AND AT
THE RETURN OF LOT 12 ON RANCHER

• FIND d

$$\begin{aligned}d &= 0.45 \\WP &= 28.90 \\A &= 6.47 \\U &= 4.95 \text{ F/S} \\Q &= 32.03 \text{ cfs} \approx 32.72 \text{ cfs} \quad \text{OK}\end{aligned}$$

FROM NOMO SHEET 16

$$Q_{\text{gate}} = 5.5 \text{ cfs}$$

$$Q \text{ CONTINUING IN RANCHER} = 32.72 - 2(5.5) = 21.72 \text{ cfs}$$



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PROJECT EL RANCHO GRANDE I

SUBJECT DRAINAGE CALCS

BY GJK DATE 12-13-99

CHECKED _____ DATE _____

REVISED 3-30-00
4-17-00
5-12-00 SHEET 9 OF _____

- FIND Q IN RANCHER PAST INLETS

$$Q = 24.83 + 21.72 \\ = 46.55 \text{ CFS}$$

NUMBER OF LOTS

$$46.55 / .5454 = 85.35 > 63 \text{ NEED MORE INLETS}$$

INSTALL A TYPE "B" INLET BETWEEN LOTS 4+5
AND AT THE RETURN OF LOT 14 ON RANCHER

$$Q = 46.55 + .5454 \\ = 47.10 \text{ CFS}$$

$$d = 0.51$$

$$WP = 29.02$$

$$A = 8.15$$

$$V = 5.76 \text{ F/S}$$

$$Q = 46.93 \text{ CFS} \approx 47.10 \text{ CFS} \text{ OK}$$

FROM NORD SHEET 20

$$Q_{\text{GATE}} = 14 \text{ CFS}$$

Q PAST INLETS

$$= 47.10 - 2(14)$$

$$= 19.10 \text{ CFS}$$

- FIND Q IN RANCHER AT CAMINO SAN MARTIN

$$Q = 19.10 + 4(.5454) \\ = 21.28 \text{ CFS}$$

THIS FLOW WILL CROSS CAMINO SAN MARTIN
AND FLOW THROUGH TRACT E



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PROJECT EL RANCHO GRANDE I

SUBJECT DRAINAGE CALCS

BY GSK DATE 12-13-99

CHECKED _____ DATE _____

REVISED 3-30-00
4-17-00
5-12-00

SHEET 10 OF _____

- DETERMINE RUN OFF IN BARBADOS

$$A = 1.2644 \text{ AC}$$

80% D 20% B

FROM AHYMO OUTPUT SHEETS 29-31

$$Q = 5.02 \text{ CFS}$$

- ADD CENTEX SILVERADO RUNOFF

$$Q = 8.95 \text{ CFS} + 42.37 \text{ CFS} \\ = 51.32 \text{ CFS}$$

- FIND Q IN BARBADOS AT RANCHER

$$Q = 5.02 + 51.32 \\ = 56.34 \text{ CFS}$$

- FIND $d = 0.50$ $S = 1\%$ $n = 0.017$ 48' F-F STD C+G

$$WP = 49.00$$

$$A = 14.57$$

$$V = 3.89 \text{ F/S}$$

$$Q = 56.74 \text{ CFS} \approx 56.34 \text{ CFS} \text{ OK}$$

$$d + \frac{V^2}{2g} = 0.73 < 0.67 + 1.33 \text{ OK}$$

- FIND Q IN RANCHER AT BARBADOS

$$Q = 34 \times 0.5454 \\ = 18.54 \text{ CFS}$$

- TOTAL Q IN BARBADOS PAST RANCHER

$$Q = 56.34 + 18.54 \\ = 74.88 \text{ CFS}$$

- FIND d

$$d = 0.56$$

$$WP = 49.12$$

$$A = 17.45$$

$$V = 4.38 \text{ F/S}$$

$$Q = 76.51 \approx 74.88 \text{ CFS} \text{ OK}$$

$$S = 1\% \quad n = 0.017 \quad 48' \text{ F-F} \\ \text{STD C+G}$$

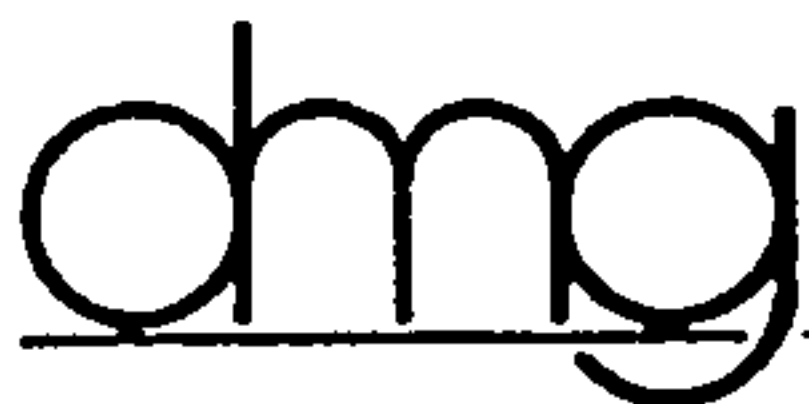
$$d + \frac{V^2}{2g} = 0.86' \text{ OK}$$

- INSTALL A TRENCH WITHIN BETWEEN RANCHER AND GIBSON

USE 2' RETICULINE GATE
FROM CHART 7 sheet 21

$$R_f = 0.99$$

$$Q \text{ INTO INLET} = 74.88 \times 0.99 \\ = 74.13 \text{ CFS}$$



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PROJECT EL PASO COUNTY GROUP I

SUBJECT DRAINAGE CALCS

BY GJK DATE 12-13-99

CHECKED _____ DATE _____

REVISED 3-30-00 SHEET 11 OF _____
4-17-00
5-12-00

• FIND CAPACITY OF ONE LANE OF GIBSON

$$S = 3.69\%$$

$$n = 0.017$$

$$d = 0.345$$

$$WP = 13.345$$

$$A = 1.775$$

$$V = 4.375 \text{ F/S}$$

$$Q = 7.77 \text{ CFS}$$

INSTALL A DBL "A" INLET ON EACH SIDE OF
GIBSON AT BARBADOS

FROM NOMO SHEET 16

$$Q_{\text{GATE}} = 5.40 \text{ CFS}$$

$Q_{1/2}$ AT BARBADOS IN GIBSON

$$Q = 13.33/2 = 6.67 \text{ CFS}$$

$$\text{NORTH SIDE } Q_{\text{PAST BARBADOS}} = 6.67 - 5.40 + (74.88 - 74.13) = 2.02 \text{ CFS}$$

$$\text{SOUTH SIDE } Q_{\text{PAST BARBADOS}} = 6.67 - 5.40 = 1.27 \text{ CFS}$$

$Q_{1/2}$ AT CAMINO SAN MARTIN IN GIBSON

$$Q = 6.67 + 2.02 = 8.69 \text{ CFS (NORTH SIDE)}$$

$$= 6.67 + 1.27 = 7.94 \text{ CFS (SOUTH SIDE)}$$

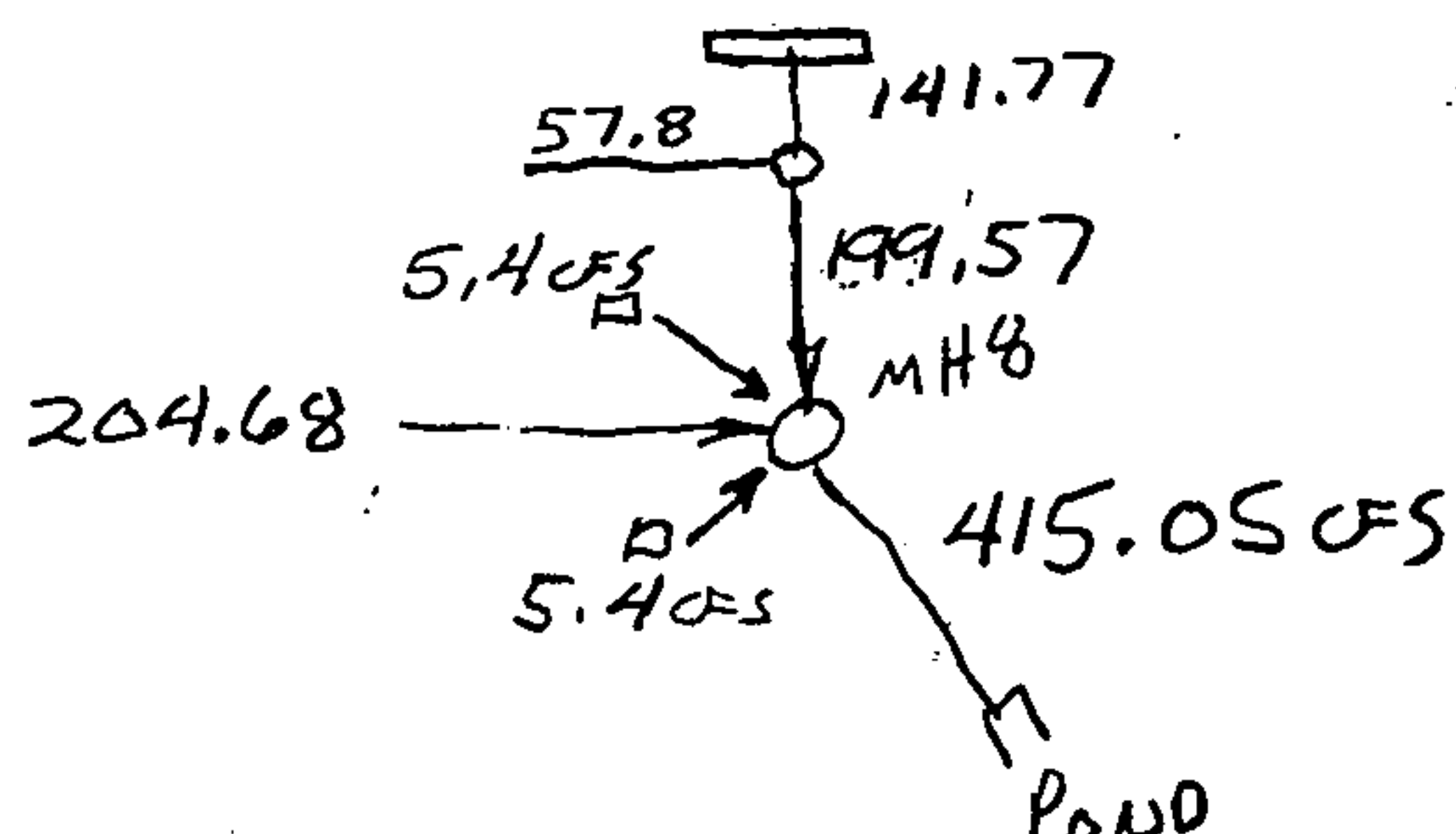
INSTALL A DBL "A" INLET ON EACH SIDE OF
GIBSON AT CAMINO SAN MARTIN

$Q_{\text{PAST CAMINO SAN MARTIN}}$

$$Q = 8.69 - 5.4 = 3.29 \text{ CFS (NORTH SIDE)}$$

$$= 7.94 - 5.4 = 2.54 \text{ CFS (SOUTH SIDE)}$$

• FIND Q ENTERING GIBSON STORM DRAIN AT
CAMINO SAN MARTIN





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PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY GSK DATE 12-13-99
CHECKED _____ DATE _____

REVISED 3-30-00 SHEET 12 OF _____
4-17-00
5-12-00

• SIZE STORMDRAIN IN GIBSON

FOR THIS WE WILL DETERMINE RUNOFF FROM
THE REMAINDER OF PARCEL 12.

LIMITS OF AREA FOR STORMDRAIN ARE NORTH OF
AND INCLUDING GIBSON BLVD BETWEEN THE SNOW
VISTA CHANNEL AND CAMINO SAN MARTIN.

- REMAINDER OF PARCEL 12 IS ZONED COMMERCIAL
A POND WILL BE IMPOSED ON THIS PARCEL.

RUNOFF WILL BE LIMITED TO RESIDENTIAL DISCHARGE.

$$\text{AREA} = 25.7951 \text{ AC}$$

LAND TREATMENTS WILL BE THE SAME AS
EL RANCHO GRANDE I

$$\text{TYPE "B"} = 47.23\%$$

$$\text{TYPE "D"} = 52.77\%$$

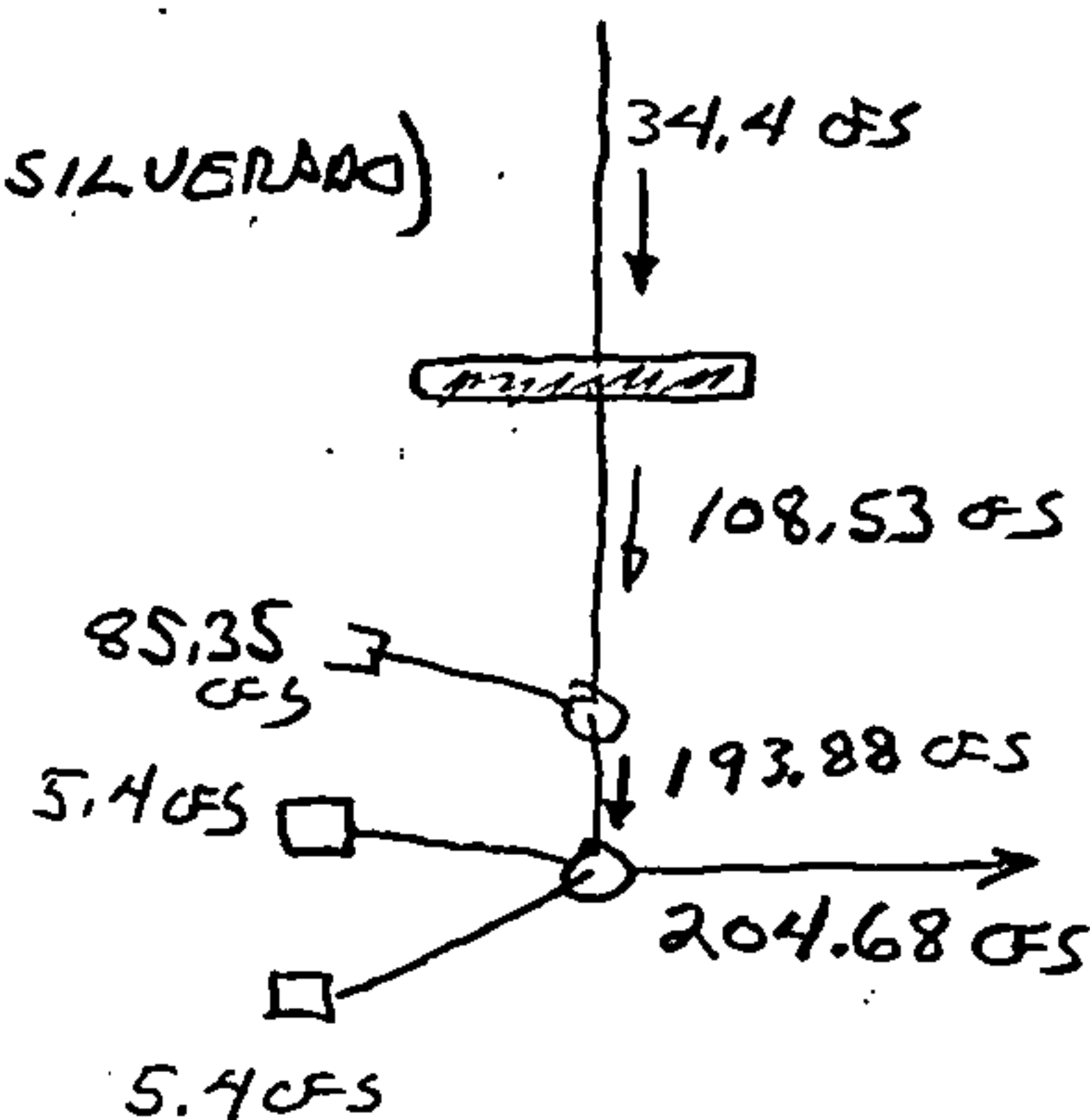
FROM AHYMO OUTPUT SHEETS 32-34

$$Q = 85.35 \text{ CFS}$$

A DETENTION POND WITH 85.35 CFS WILL
BE IMPOSED ON THE DEVELOPED PARCEL 12.

- FIND Q ENTERING GIBSON STORMDRAIN AT
BARBADOS.

$$Q = 74.13 + 85.35 + 34.4 (\text{FROM SILVERADO}) \\ = 193.88 \text{ CFS}$$



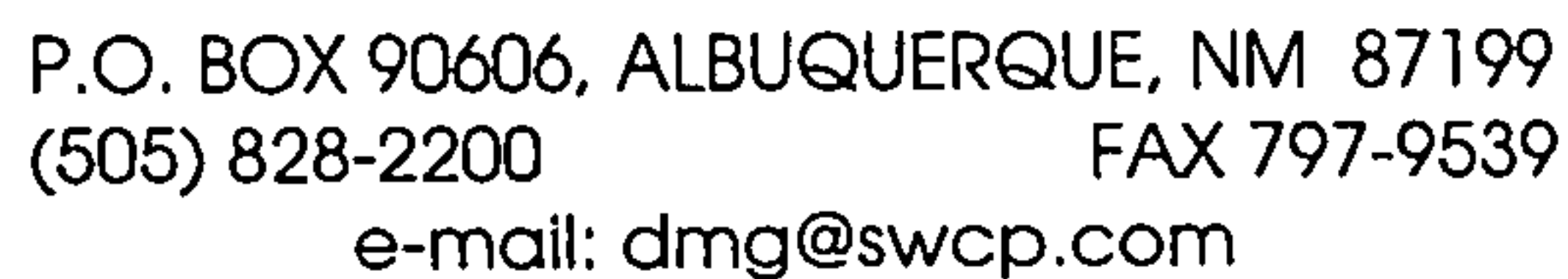
- FIND Q OF GIBSON BLVD
50% "B" 50% "D"

$$A = 8.2185 \text{ AC}$$

FROM AHYMO OUTPUT SHEETS 35-37

$$Q = 26.66 \text{ CFS}$$

$$Q_{1/2} = 13.33 \text{ CFS}$$



REUSED 3-30-00
4-17-00
5-12-00

SHEET 13 OF

- SIZE GIBSON POND USE EXISTING 42" RCP AS OUTFALL

ELEV	AREA (SF)	VOLUME (AC-FT)	OUTFLOW (CFS)
40	65298	0	0
41	69307	1.545	46.33
42	73378	3.183	65.51
43	77655	4.916	80.24
44	82045	6.750	92.65
45	86579	8.685	103.59

- ADD GIBSON R/W FROM CAMINO SAN MARTIN TO UNSER AND UNSER R/W FROM NORTH HIGH POINT TO SOUTH HIGH POINT.

$$A = 4.66 \text{ AC}$$

50% "B" 50% "D"

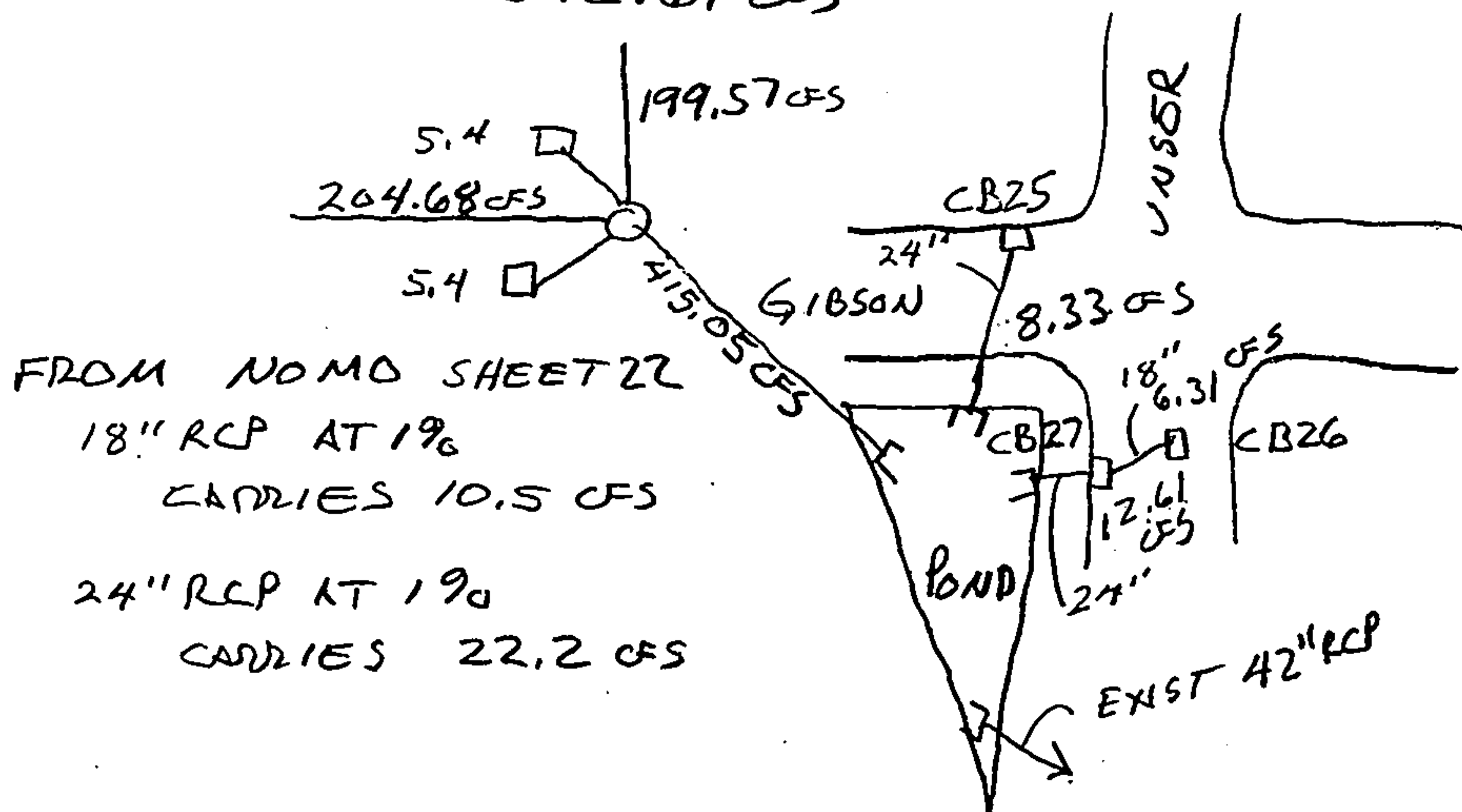
FROM A44 MO OUT PUT SHEETS 38-40

$$Q = 15.11 \text{ cfs}$$

THIS FLOW WILL BE ADDED TO THE FLOW
THAT CONTINUED PAST CAMINO SAN MARTIN.

NORTHSIDE $Q = 15.11/3 + 3.29$
 $= 8.33 \text{ OFS}$

SOUTH SIDE $Q = 2(15.11/3) + 2.54$
 $= 12.61 \text{ cfs}$



- FROM AHYMO OUTPUT SHEETS 41-68
PEAK DISCHARGE = 94.65 CFS < 102 CFS ALLOWABLE
MAX WATER ELEV = 44.18



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PROJECT EL RUCHO GRADE I
SUBJECT DRAINAGE CALCS
BY GJK DATE 4-17-00
CHECKED _____ DATE _____
SHEET 14 OF _____

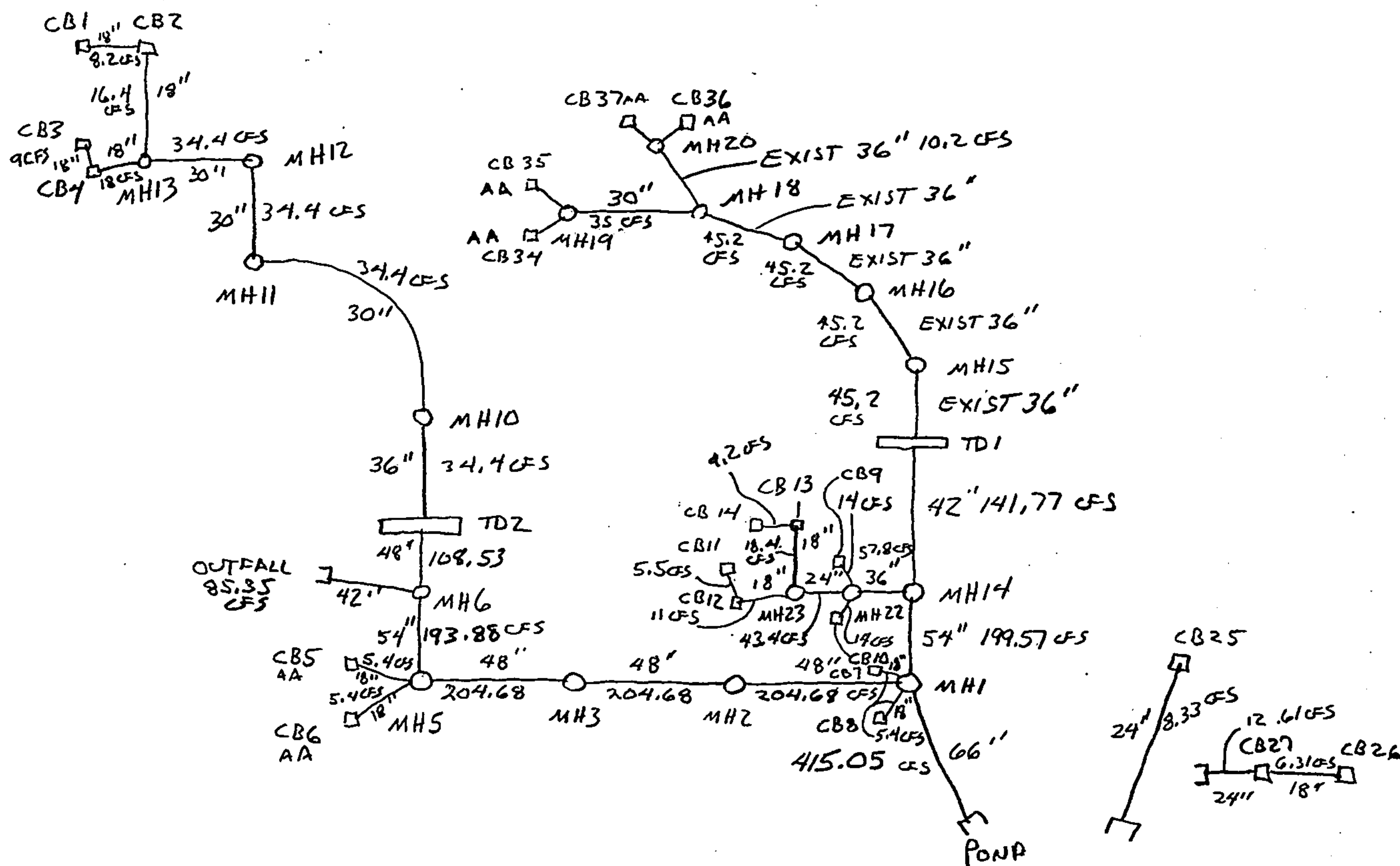
Revised 5-12-00

MASTER STORM DRAIN LAYOUT

SEE HYDRAULIC REPORT

SHEETS 69-96

FOR STORM DRAIN DESIGN





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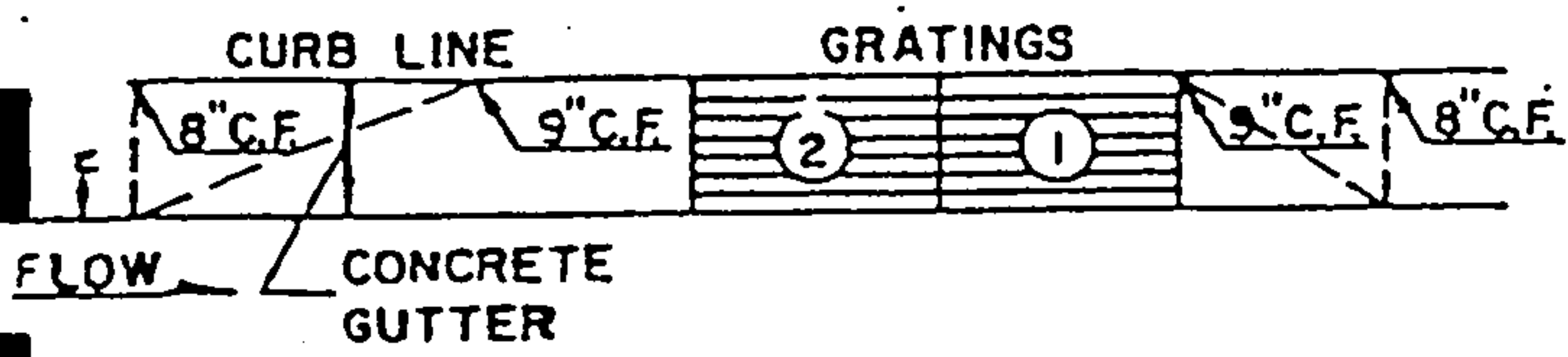
PROJECT EL RANCHO GRANDE I
SUBJECT DRAINAGE CALCS
BY CSK DATE 4-17-00
CHECKED _____ DATE _____

Revised 5-12-00

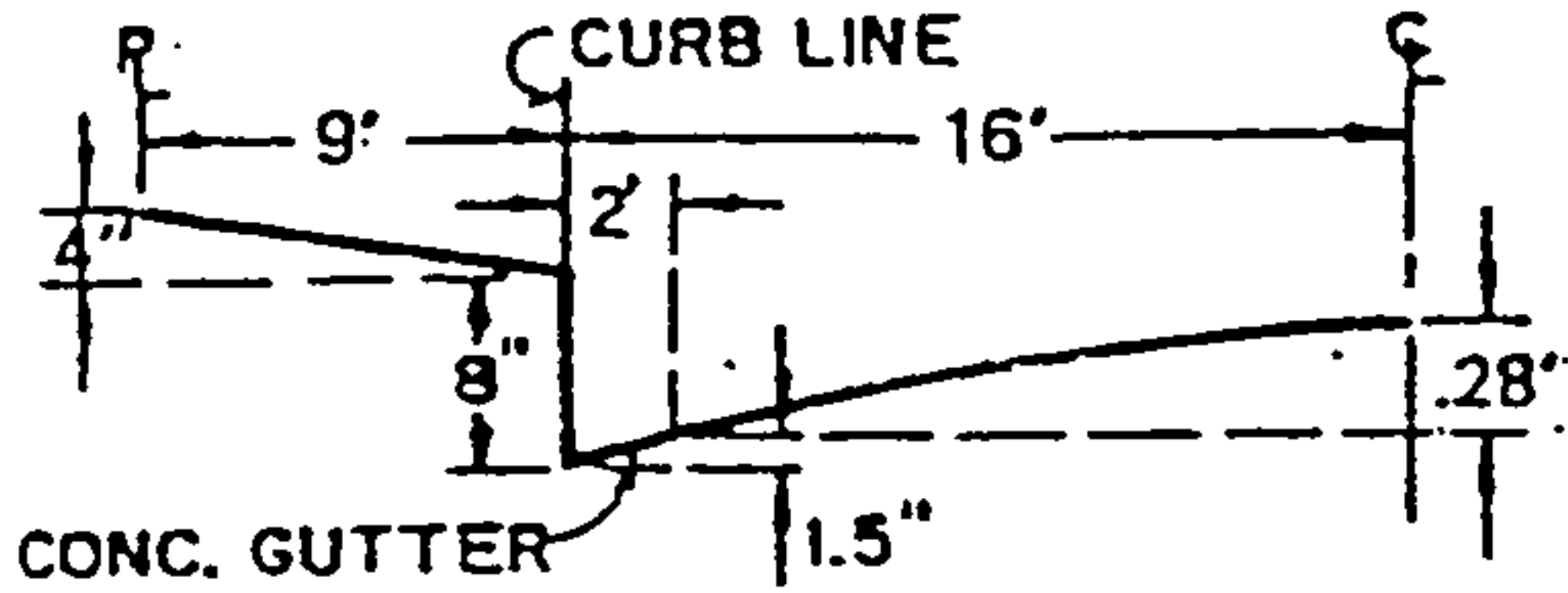
SHEET 15 OF _____

STRUCTURE	RIM/GRADE	INV.	PIPE SIZE LEAVING STRUCTURE	Q (cfs)
MH1	56.25	41.76	66" RCP	415.05
MH2	68.00	51.11	48"	204.68
MH3	73.00	60.46	48"	204.68
MH5	77.70	68.73	48"	204.68
MH6	77.65	69.45	54"	193.88
MH10	81.50	72.98	36"	34.4
MH11	86.18	78.25	30"	34.4
MH12	87.89	80.31	30"	34.4
MH13	88.90	83.11	30"	34.4
MH14	54.24	43.66	54"	199.57
EXIST MH15	57.76	48.46/46.89	EXIST, 36"	45.2
EXIST MH16	58.07	48.75	EXIST, 36"	45.2
EXIST MH17	58.57	49.17	EXIST, 36"	45.2
EXIST MH18	58.88	49.53	EXIST, 36"	45.2
EXIST MH19	59.67	52.07	30"	35.0
EXIST MH20	59.01	49.84	EXIST, 36"	10.2
MH22	59.46	47.72	36"	57.8
MH23	60.71	50.00	24"	43.4
CB1	89.55	86.05	18"	8.2
CB2	89.55	85.77	18"	16.4
CB3	89.22	85.72	18"	9.0
CB4	89.22	85.44	18"	18.0
CB5	78.97	74.97	18"	5.4
CB6	78.97	74.97	18"	5.4
CB7	57.37	53.37	18"	5.4
CB8	57.37	53.37	18"	5.4
CB9	59.70	54.50	18"	14.0
CB10	59.94	54.75	18"	14.0
CB11	61.66	56.22	18"	5.5
CB12	61.19	55.86	18"	11.0
CB13	61.48	55.57	18"	18.4
CB14	61.48	55.87	18"	9.2
CB25	46.00	42.00	24"	8.33
CB26	45.00	41.50	18"	6.31
CB27	45.00	40.46	24"	12.61
CB34	59.60	50.13	18"	17.5
CB35	59.60	50.13	18"	17.5
CB36	59.15	46.50	18"	5.1
CB37	59.28	46.50	18"	5.1
TD 1	56.56	46.26/44.10	42"	128.5
TD 2	78.03	69.83	48"	108.53

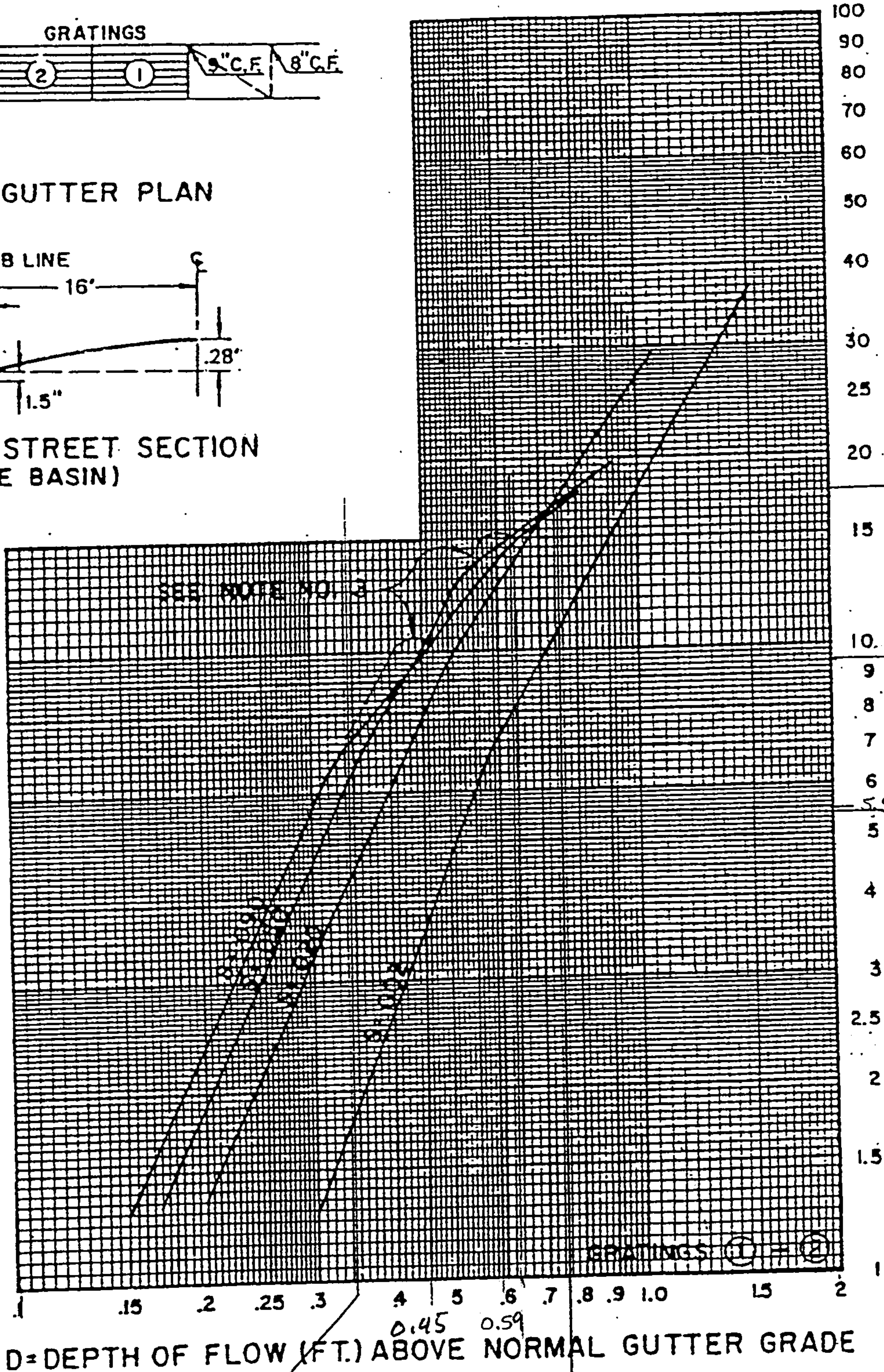
GRATING CAPACITIES FOR TYPE DOUBLE "A", "C," AND "D"



GRATING & GUTTER PLAN



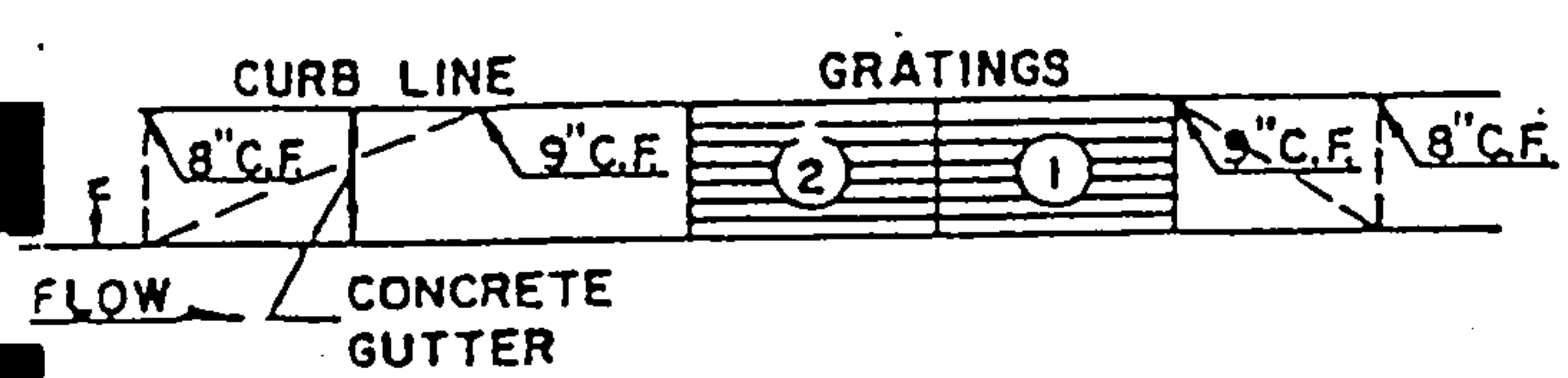
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



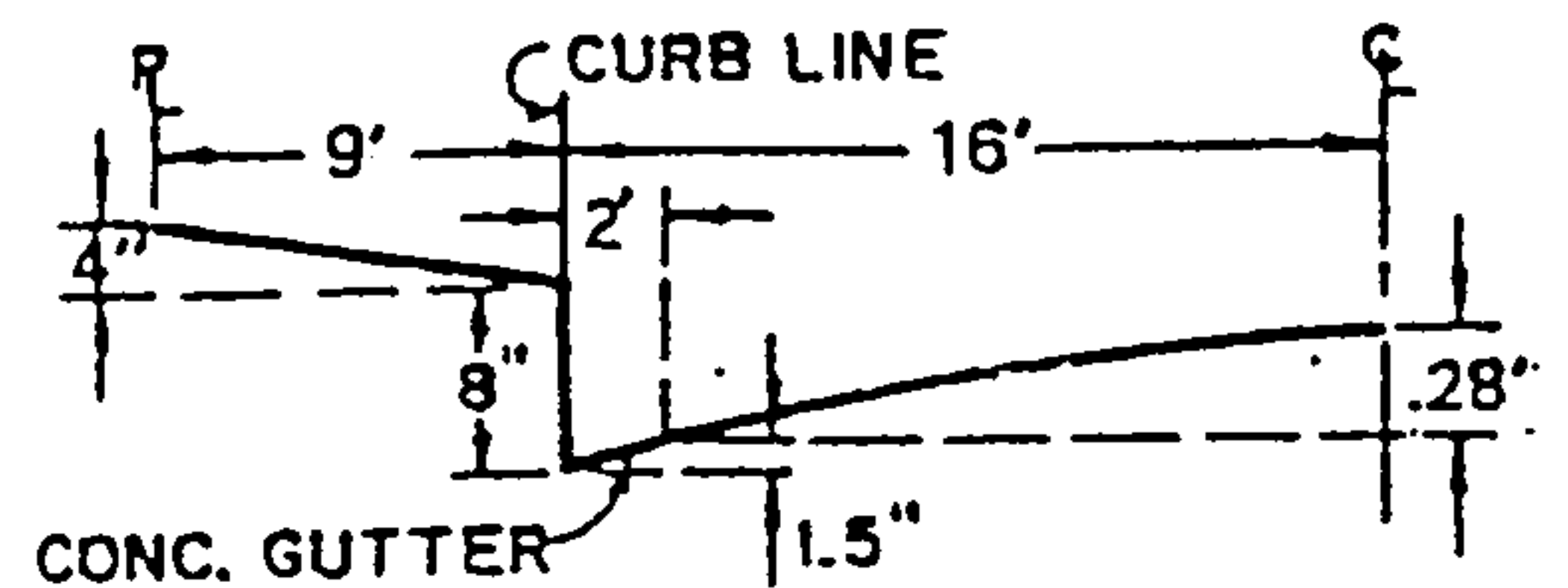
17.5
9.4
5.4

0.345
0.45
0.59
0.75

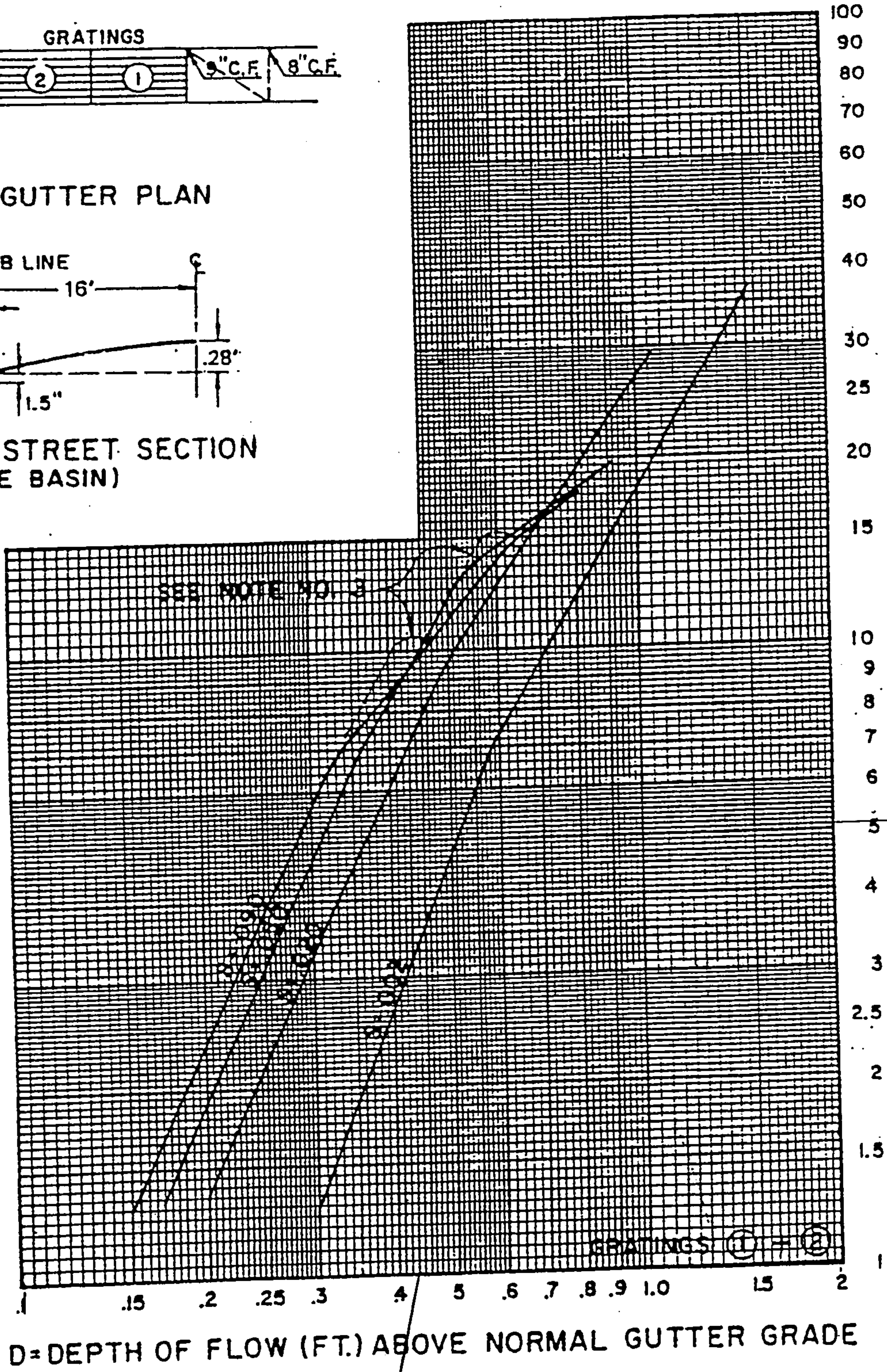
GRATING CAPACITIES FOR TYPE DOUBLE "A", "C," AND "D"



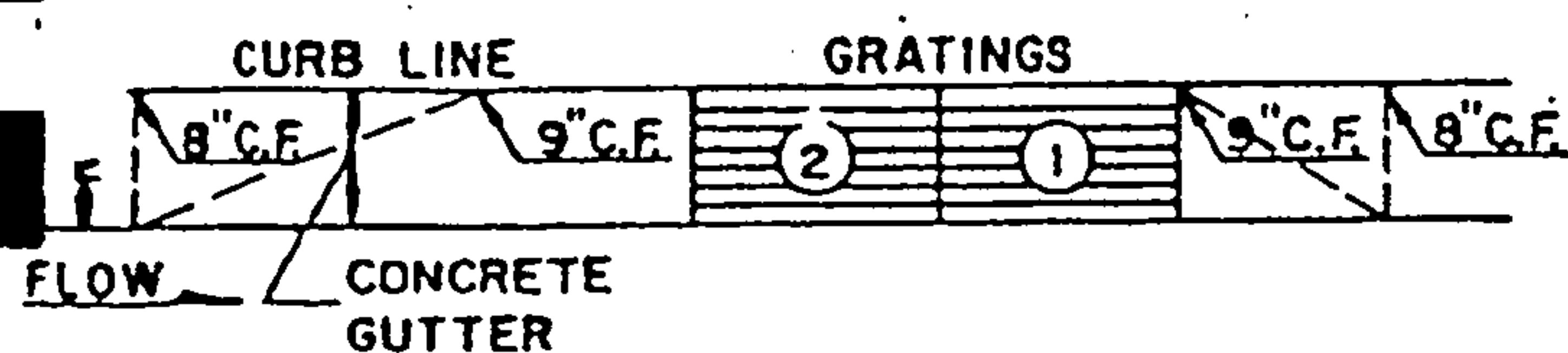
GRATING & GUTTER PLAN



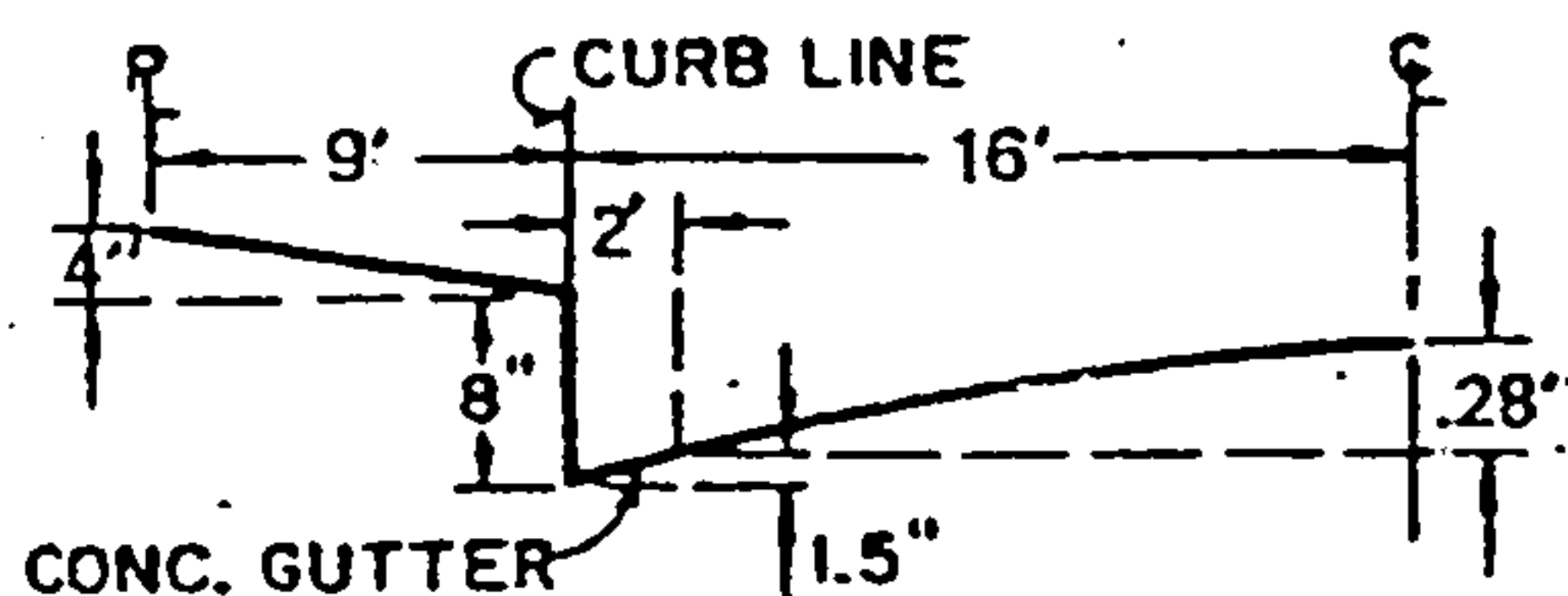
TYPICAL HALF STREET SECTION (ABOVE BASIN)



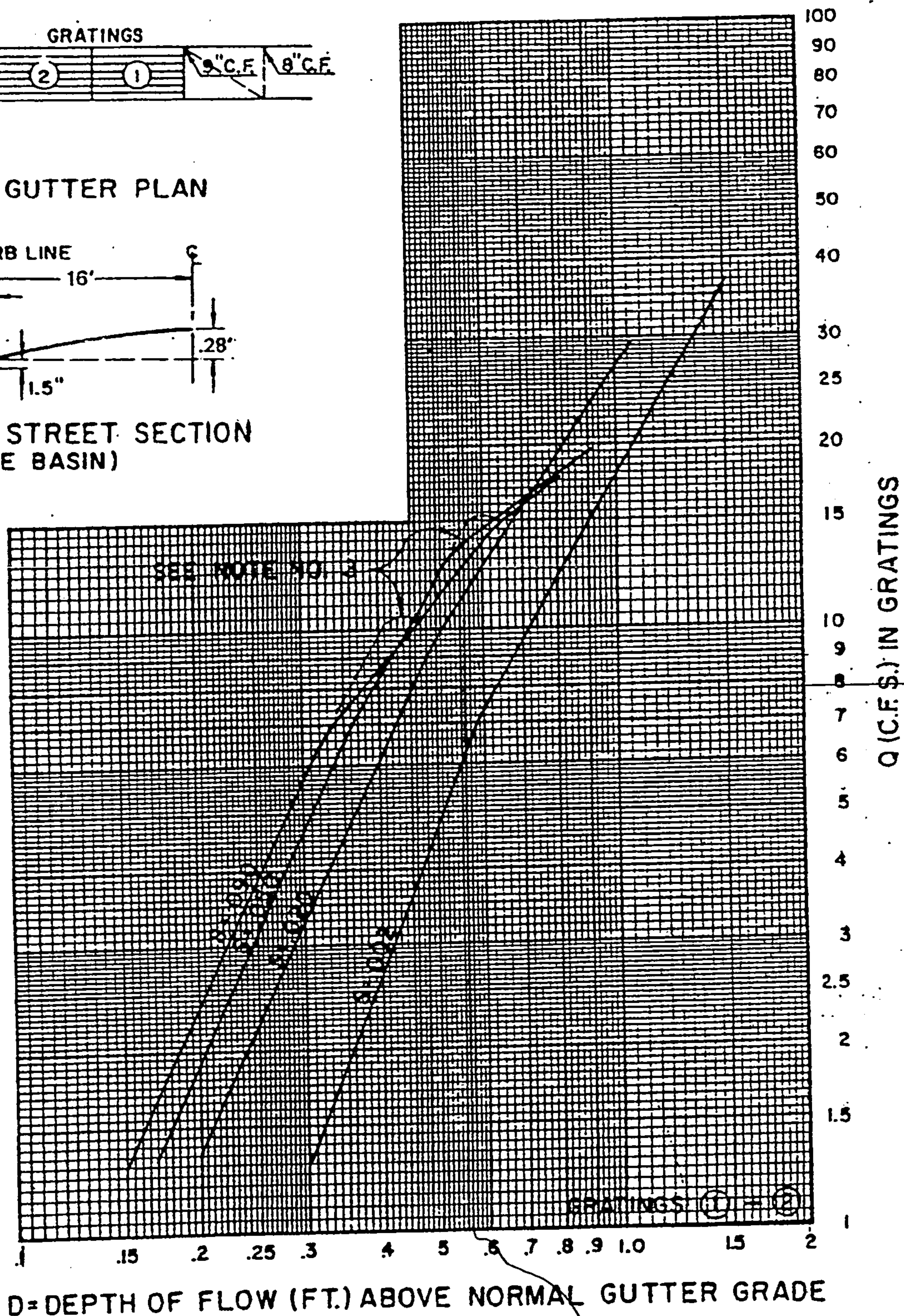
GRATING CAPACITIES FOR TYPE DOUBLE "A", "C," AND "D"



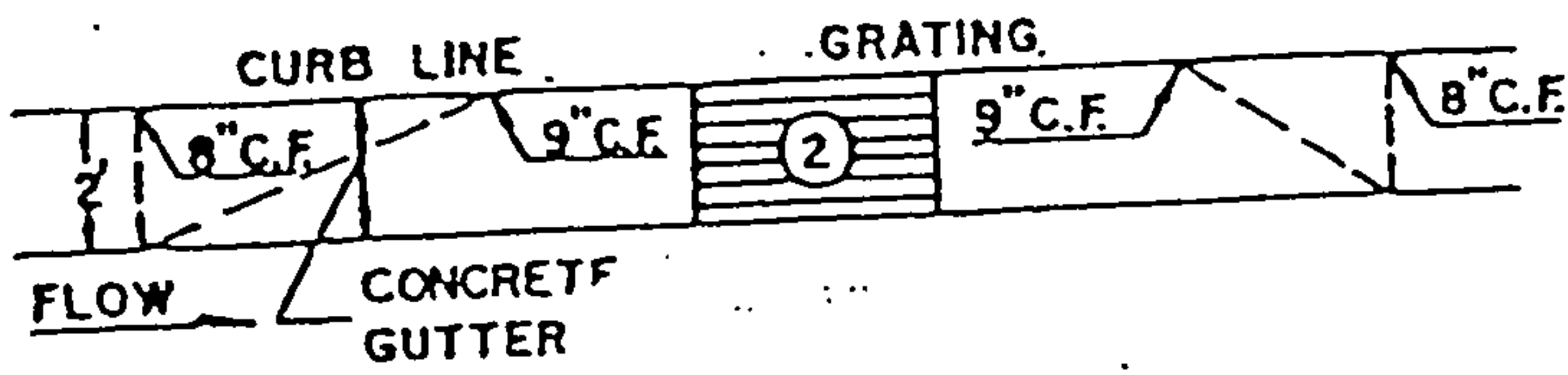
GRATING & GUTTER PLAN



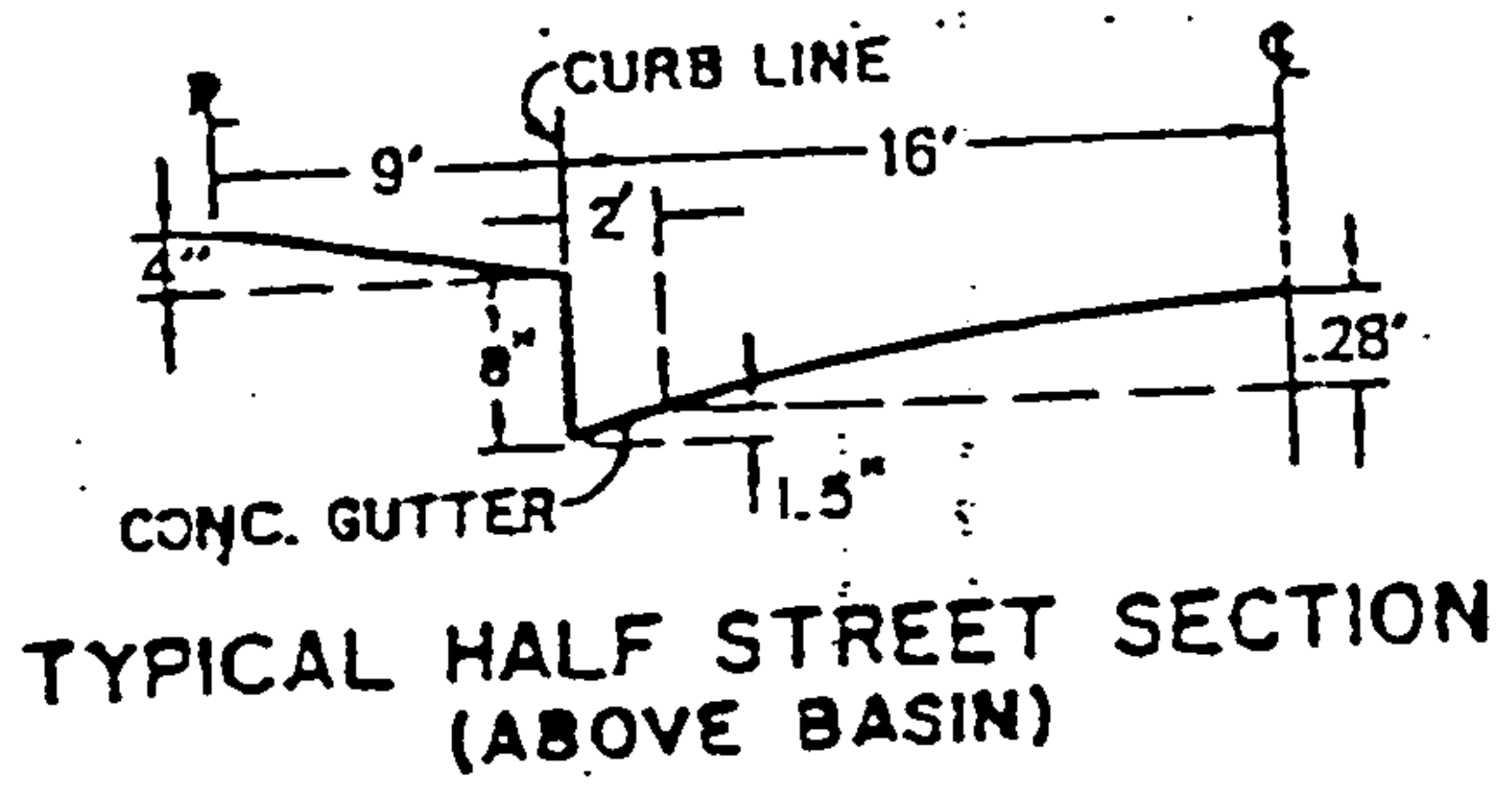
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



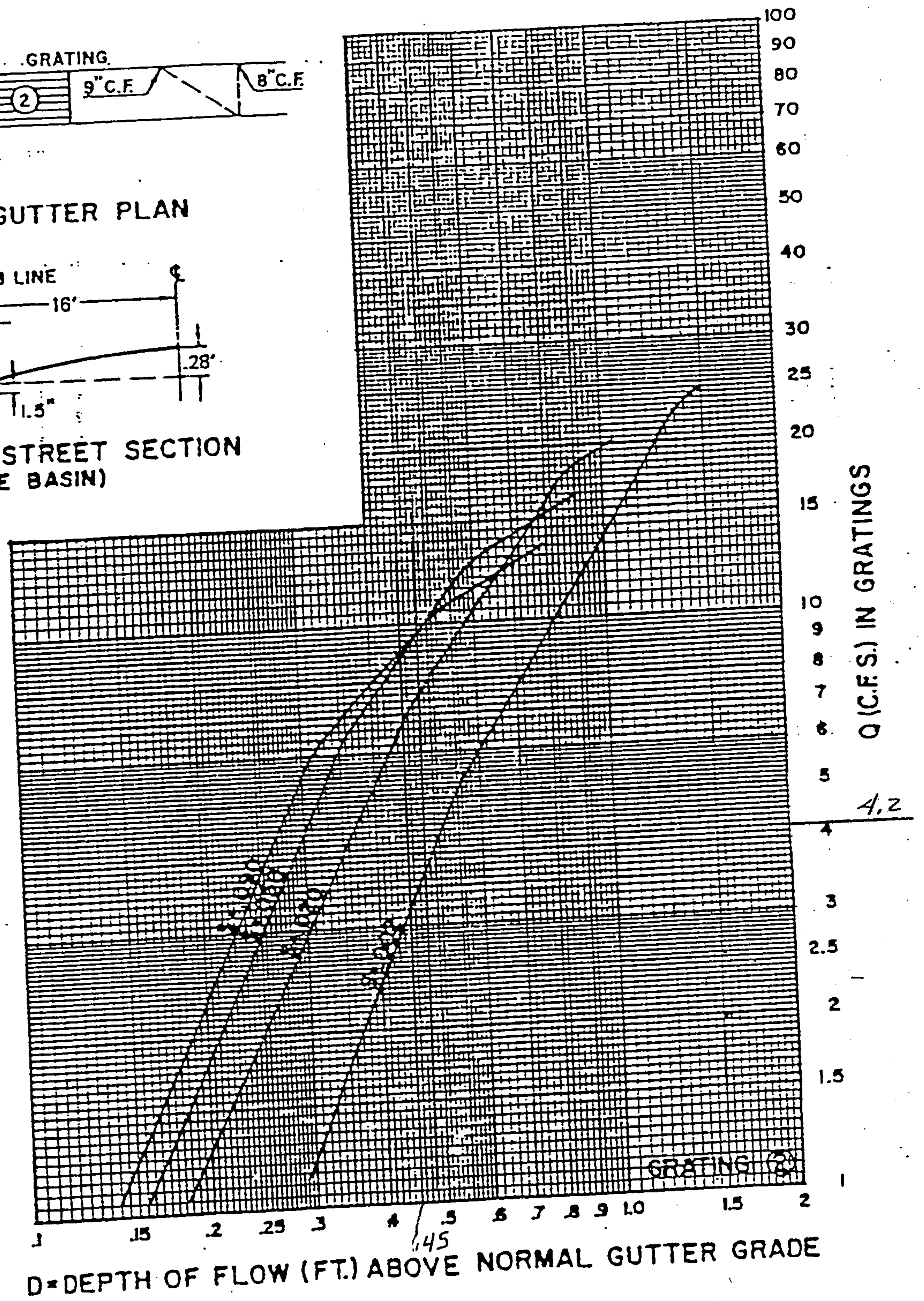
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



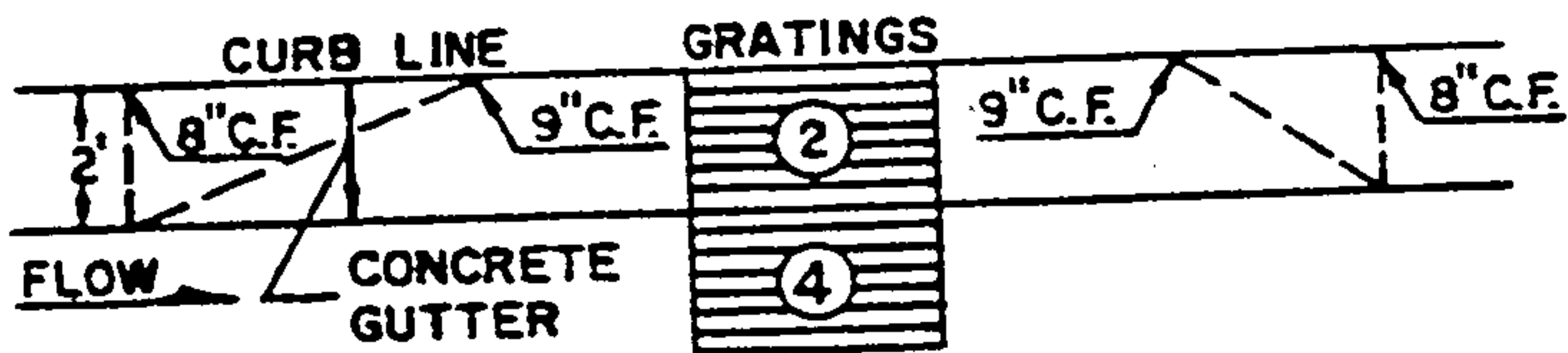
GRATING & GUTTER PLAN



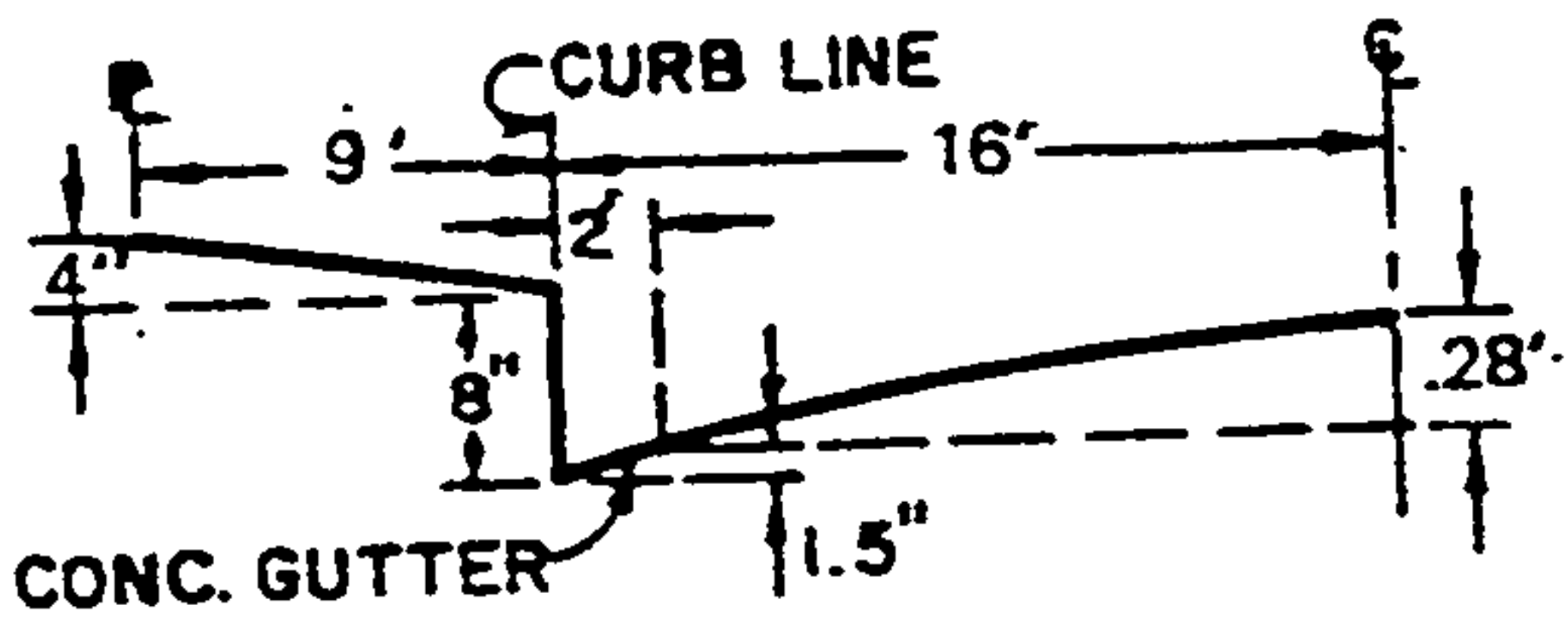
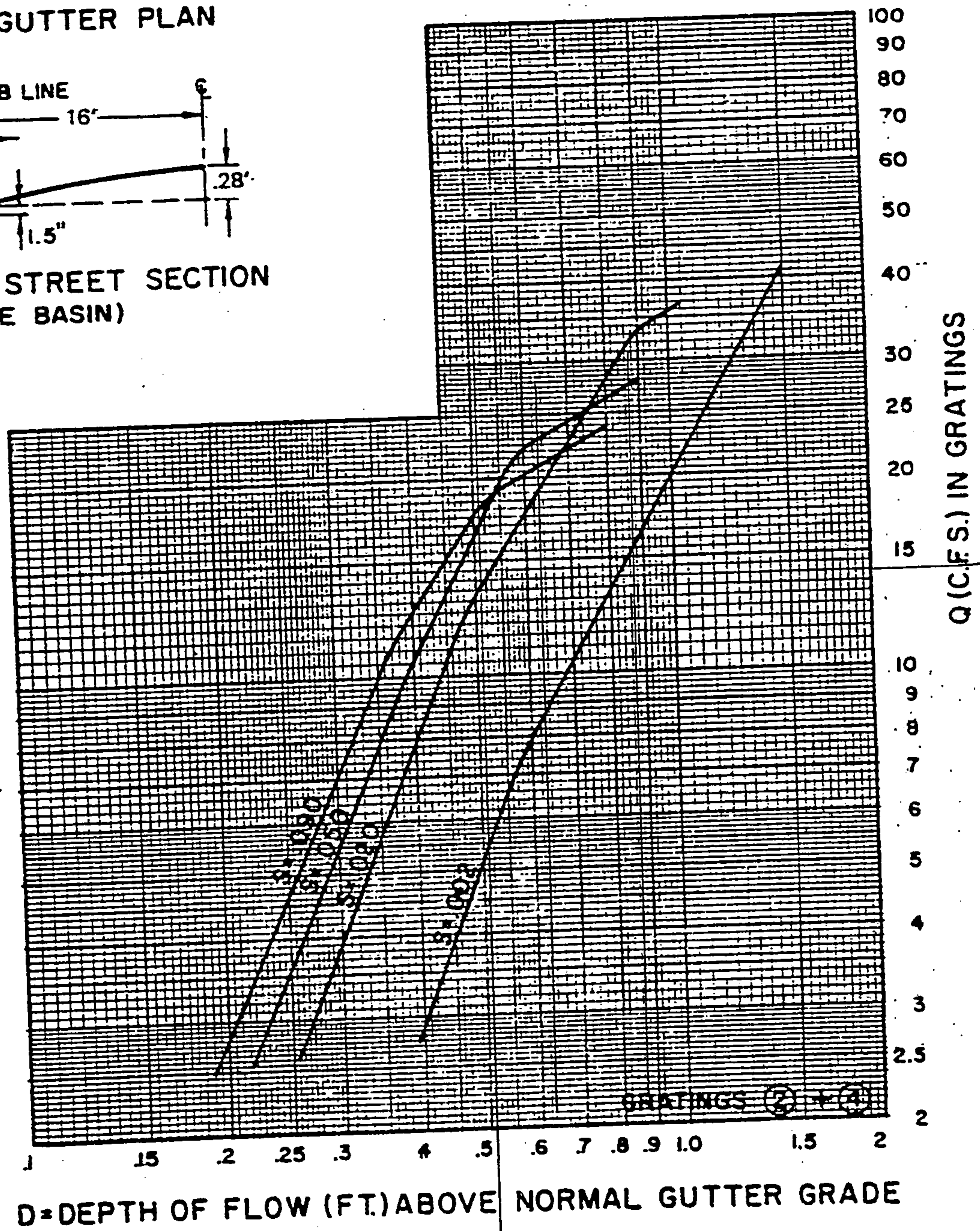
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



GRATING CAPACITIES FOR TYPE "B"



GRATING & GUTTER PLAN

TYPICAL HALF STREET SECTION
(ABOVE BASIN)

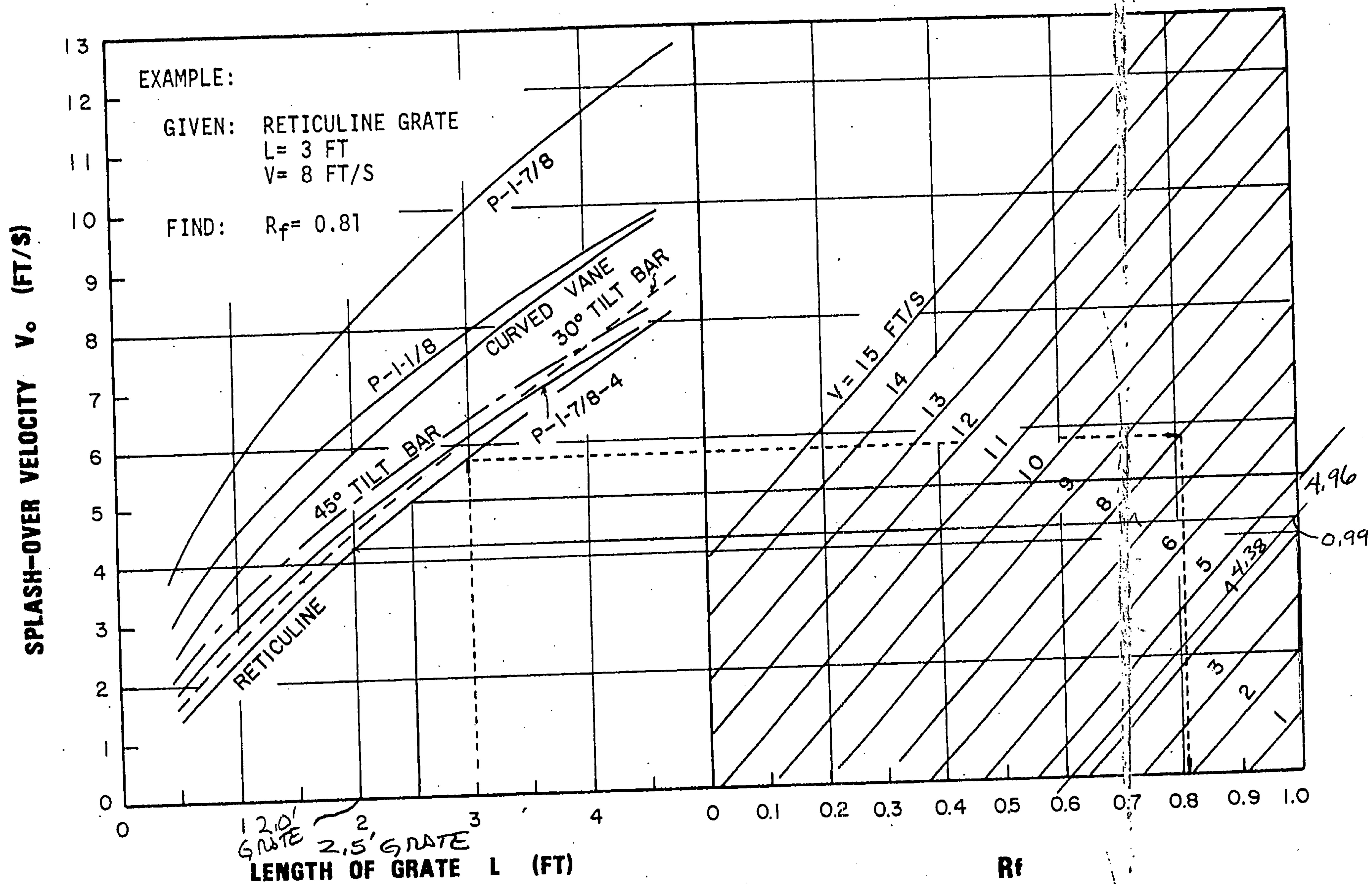
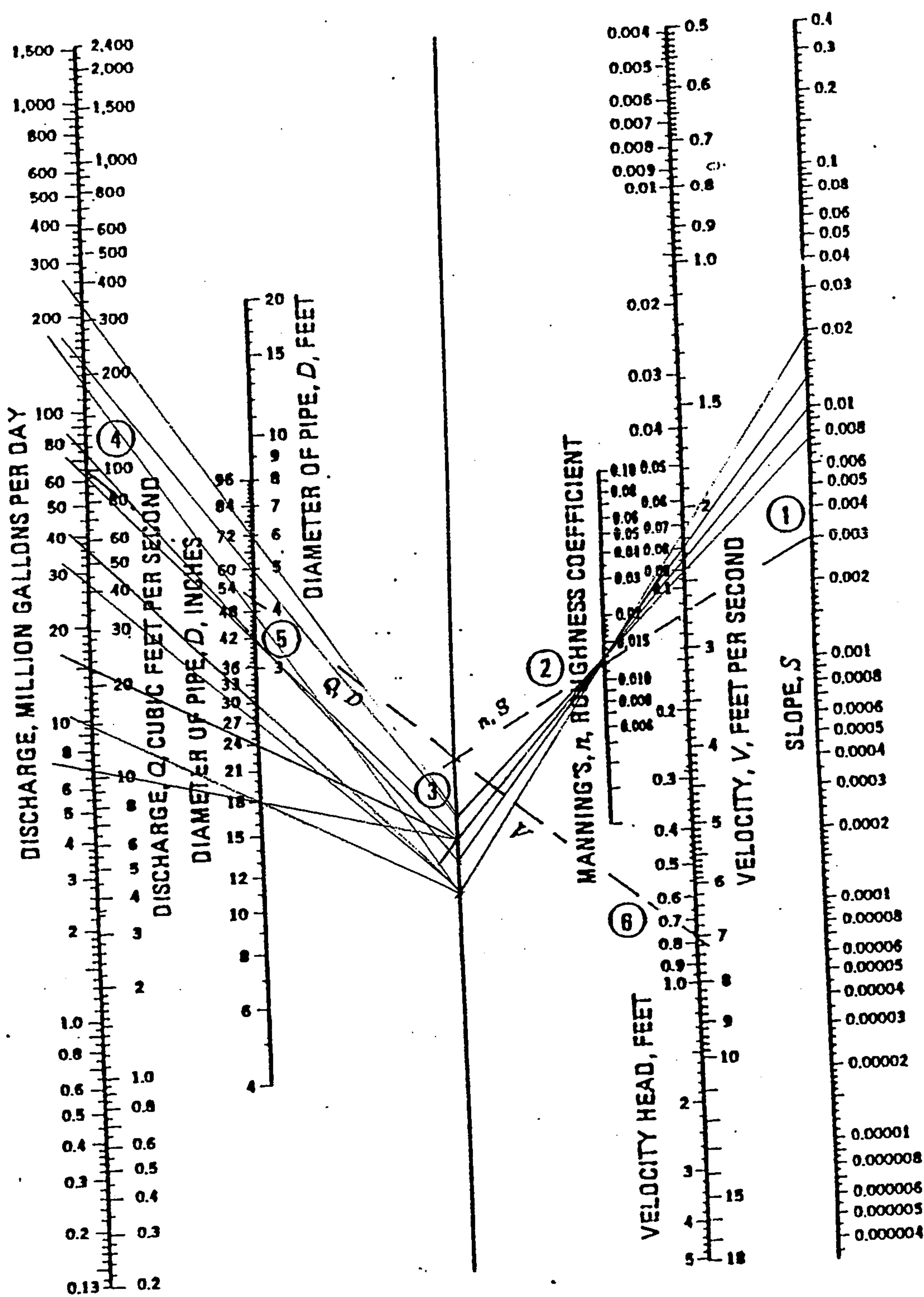


CHART 7. Grate inlet frontal flow interception efficiency.

Reference: American Concrete Pipe Association (1980).



B) Circular Pipe Solution

START TIME=0.0
***** HYDROGRAPH FOR EL RANDO GRANDE I UNITS 1 & 2 PER LOT RUNOFF
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.046100 SQ MI
PER A=0 B=47.23 C=0 D=52.77
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 02/15/2000
 START TIME (HR:MIN:SEC) = 08:55:49 USER NO.= M_GOODWN.I01
 INPUT FILE = ERGI.DAT

START TIME=0.0
 ***** HYDROGRAPH FOR EL RANDO GRANDE I UNITS 1 & 2 PER LOT RUNOFF
 RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
 RAIN ONE=1.90 IN RAIN SIX=2.20 IN
 RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
 DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0013	.0027	.0041	.0055	.0069	.0084
.0099	.0115	.0131	.0147	.0164	.0181	.0199
.0217	.0236	.0256	.0276	.0296	.0318	.0340
.0363	.0387	.0412	.0438	.0465	.0493	.0523
.0554	.0587	.0622	.0675	.0731	.0791	.0920
.1208	.1651	.2289	.3159	.4302	.5759	.7574
.9790	1.1846	1.2704	1.3429	1.4074	1.4661	1.5201
1.5702	1.6171	1.6610	1.7023	1.7413	1.7781	1.8130
1.8460	1.8774	1.9071	1.9353	1.9621	1.9681	1.9736
1.9789	1.9839	1.9887	1.9932	1.9976	2.0018	2.0059
2.0098	2.0136	2.0172	2.0208	2.0242	2.0275	2.0308
2.0339	2.0370	2.0400	2.0430	2.0458	2.0486	2.0514
2.0540	2.0567	2.0592	2.0617	2.0642	2.0666	2.0690
2.0714	2.0737	2.0759	2.0781	2.0803	2.0825	2.0846
2.0867	2.0887	2.0907	2.0927	2.0947	2.0966	2.0985
2.1004	2.1023	2.1041	2.1059	2.1077	2.1095	2.1112
2.1130	2.1147	2.1164	2.1180	2.1197	2.1213	2.1229
2.1245	2.1261	2.1277	2.1292	2.1307	2.1322	2.1337
2.1352	2.1367	2.1382	2.1396	2.1410	2.1425	2.1439
2.1452	2.1466	2.1480	2.1494	2.1507	2.1520	2.1533
2.1547	2.1560	2.1572	2.1585	2.1598	2.1611	2.1623
2.1635	2.1648	2.1660	2.1672	2.1684	2.1696	2.1708
2.1720	2.1731	2.1743	2.1754	2.1766	2.1777	2.1789
2.1800	2.1811	2.1822	2.1833	2.1844	2.1855	2.1866
2.1876	2.1887	2.1897	2.1908	2.1918	2.1929	2.1939
2.1949	2.1960	2.1970	2.1980	2.1990	2.2000	

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.046100 SQ MI
 PER A=0 B=47.23 C=0 D=52.77
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE
 UNIT PEAK = 96.044 CFS UNIT VOLUME = .9993 B = 526.28
 AREA = .024327 SQ MI IA = .10000 INCHES INF = .04000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE
 UNIT PEAK = 53.502 CFS UNIT VOLUME = 1.000 B = 327.55
 AREA = .021773 SQ MI IA = .50000 INCHES INF = 1.25000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.35930 INCHES = 3.3420 ACRE-FEET
PEAK DISCHARGE RATE = 97.62 CFS AT 1.500 HOURS BASIN AREA =

overall - units 1 & 2

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 08:55:49

START TIME=0.0
***** HYDROGRAPH FOR 13 LOTS ERGI & 3 LOTS TRACT_E
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.003899 SQ MI
PER A=0 B=52.16 C=0 D=47.84
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

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

RUN DATE (MON/DAY/YR) = 04/03/2000

START TIME (HR:MIN:SEC) = 15:14:33

USER NO.=

M_GOODWN.I01

INPUT FILE = 13LOTS.DAT

START

TIME=0.0

***** HYDROGRAPH FOR 13 LOTS ERGI & 3 LOTS TRACT E

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.90 IN RAIN SIX=2.20 IN

RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA
ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS

END TIME = 5.999400

HOURS

	.0000	.0013	.0027	.0041	.0055	.0069
.0084						
	.0099	.0115	.0131	.0147	.0164	.0181
.0199						
	.0217	.0236	.0256	.0276	.0296	.0318
.0340						
	.0363	.0387	.0412	.0438	.0465	.0493
.0523						
	.0554	.0587	.0622	.0675	.0731	.0791
.0920						
	.1208	.1651	.2289	.3159	.4302	.5759
.7574						
	.9790	1.1846	1.2704	1.3429	1.4074	1.4661
1.5201						
	1.5702	1.6171	1.6610	1.7023	1.7413	1.7781
1.8130						
	1.8460	1.8774	1.9071	1.9353	1.9621	1.9681
1.9736						
	1.9789	1.9839	1.9887	1.9932	1.9976	2.0018
2.0059						
	2.0098	2.0136	2.0172	2.0208	2.0242	2.0275
2.0308						
	2.0339	2.0370	2.0400	2.0430	2.0458	2.0486
2.0514						
	2.0540	2.0567	2.0592	2.0617	2.0642	2.0666
2.0690						
	2.0714	2.0737	2.0759	2.0781	2.0803	2.0825
2.0846						
	2.0867	2.0887	2.0907	2.0927	2.0947	2.0966
2.0985						
	2.1004	2.1023	2.1041	2.1059	2.1077	2.1095
2.1112						
	2.1130	2.1147	2.1164	2.1180	2.1197	2.1213
2.1229						
	2.1245	2.1261	2.1277	2.1292	2.1307	2.1322
2.1337						
	2.1352	2.1367	2.1382	2.1396	2.1410	2.1425
2.1439						
	2.1452	2.1466	2.1480	2.1494	2.1507	2.1520
2.1533						
	2.1547	2.1560	2.1572	2.1585	2.1598	2.1611
2.1623						
	2.1635	2.1648	2.1660	2.1672	2.1684	2.1696

2.1708
 2.1789
 2.1866
 2.1939

2.1720 2.1731 2.1743 2.1754 2.1766 2.1777
 2.1800 2.1811 2.1822 2.1833 2.1844 2.1855
 2.1876 2.1887 2.1897 2.1908 2.1918 2.1929
 2.1949 2.1960 2.1970 2.1980 2.1990 2.2000

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.003899 SQ MI
 PER A=0 B=52.16 C=0 D=47.84
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 7.3642 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001865 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.9974 CFS UNIT VOLUME = .9975 B =
 327.55 P60 = 1.9000
 AREA = .002034 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.29593 INCHES = .2695 ACRE-FEET
 PEAK DISCHARGE RATE = 7.98 CFS AT 1.500 HOURS BASIN
 AREA = .0039 SQ. MI.

Basins 4 + 16

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 15:14:33

START TIME=0.0
***** HYDROGRAPH FOR EL RANCHO GRANDE I BARBADOS RUOFF
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.001976 SQ MI
PER A=0 B=20 C=0 D=80
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 02/15/2000
 START TIME (HR:MIN:SEC) = 09:02:22 USER NO.= M_GOODWN.I01
 INPUT FILE = ERGIBAR.DAT

START TIME=0.0
 ***** HYDROGRAPH FOR EL RANCHO GRANDE I BARBADOS RUOFF
 RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
 RAIN ONE=1.90 IN RAIN SIX=2.20 IN
 RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
 DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0013	.0027	.0041	.0055	.0069	.0084
.0099	.0115	.0131	.0147	.0164	.0181	.0199
.0217	.0236	.0256	.0276	.0296	.0318	.0340
.0363	.0387	.0412	.0438	.0465	.0493	.0523
.0554	.0587	.0622	.0675	.0731	.0791	.0920
.1208	.1651	.2289	.3159	.4302	.5759	.7574
.9790	1.1846	1.2704	1.3429	1.4074	1.4661	1.5201
1.5702	1.6171	1.6610	1.7023	1.7413	1.7781	1.8130
1.8460	1.8774	1.9071	1.9353	1.9621	1.9681	1.9736
1.9789	1.9839	1.9887	1.9932	1.9976	2.0018	2.0059
2.0098	2.0136	2.0172	2.0208	2.0242	2.0275	2.0308
2.0339	2.0370	2.0400	2.0430	2.0458	2.0486	2.0514
2.0540	2.0567	2.0592	2.0617	2.0642	2.0666	2.0690
2.0714	2.0737	2.0759	2.0781	2.0803	2.0825	2.0846
2.0867	2.0887	2.0907	2.0927	2.0947	2.0966	2.0985
2.1004	2.1023	2.1041	2.1059	2.1077	2.1095	2.1112
2.1130	2.1147	2.1164	2.1180	2.1197	2.1213	2.1229
2.1245	2.1261	2.1277	2.1292	2.1307	2.1322	2.1337
2.1352	2.1367	2.1382	2.1396	2.1410	2.1425	2.1439
2.1452	2.1466	2.1480	2.1494	2.1507	2.1520	2.1533
2.1547	2.1560	2.1572	2.1585	2.1598	2.1611	2.1623
2.1635	2.1648	2.1660	2.1672	2.1684	2.1696	2.1708
2.1720	2.1731	2.1743	2.1754	2.1766	2.1777	2.1789
2.1800	2.1811	2.1822	2.1833	2.1844	2.1855	2.1866
2.1876	2.1887	2.1897	2.1908	2.1918	2.1929	2.1939
2.1949	2.1960	2.1970	2.1980	2.1990	2.2000	

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.001976 SQ MI
 PER A=0 B=20 C=0 D=80
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE
 UNIT PEAK = 6.2411 CFS UNIT VOLUME = .9976 B = 526.28
 AREA = .001581 SQ MI IA = .10000 INCHES INF = .04000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE
 UNIT PEAK = .97111 CFS UNIT VOLUME = .9863 B = 327.55
 AREA = .000395 SQ MI IA = .50000 INCHES INF = 1.25000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.70931 INCHES = .1801 ACRE-FEET
PEAK DISCHARGE RATE = 5.02 CFS AT 1.500 HOURS BASIN AREA =

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 09:02:22

START TIME=0.0
***** HYDROGRAPH FOR REMAINDER OF PARCEL 12 RUNOFF (PER EL RANCHO TREATMENTS)
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.040305 SQ MI
PER A=0 B=47.23 C=0 D=52.77
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 02/15/2000
 START TIME (HR:MIN:SEC) = 16:32:15 USER NO.= M_GOODWN.I01
 INPUT FILE = PAR12R.DAT

START TIME=0.0
 ***** HYDROGRAPH FOR REMAINDER OF PARCEL 12 RUNOFF (PER EL RANCHO TREATMENT
 RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
 RAIN ONE=1.90 IN RAIN SIX=2.20 IN
 RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
 DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0013	.0027	.0041	.0055	.0069	.0084
.0099	.0115	.0131	.0147	.0164	.0181	.0199
.0217	.0236	.0256	.0276	.0296	.0318	.0340
.0363	.0387	.0412	.0438	.0465	.0493	.0523
.0554	.0587	.0622	.0675	.0731	.0791	.0920
.1208	.1651	.2289	.3159	.4302	.5759	.7574
.9790	1.1846	1.2704	1.3429	1.4074	1.4661	1.5201
1.5702	1.6171	1.6610	1.7023	1.7413	1.7781	1.8130
1.8460	1.8774	1.9071	1.9353	1.9621	1.9681	1.9736
1.9789	1.9839	1.9887	1.9932	1.9976	2.0018	2.0059
2.0098	2.0136	2.0172	2.0208	2.0242	2.0275	2.0308
2.0339	2.0370	2.0400	2.0430	2.0458	2.0486	2.0514
2.0540	2.0567	2.0592	2.0617	2.0642	2.0666	2.0690
2.0714	2.0737	2.0759	2.0781	2.0803	2.0825	2.0846
2.0867	2.0887	2.0907	2.0927	2.0947	2.0966	2.0985
2.1004	2.1023	2.1041	2.1059	2.1077	2.1095	2.1112
2.1130	2.1147	2.1164	2.1180	2.1197	2.1213	2.1229
2.1245	2.1261	2.1277	2.1292	2.1307	2.1322	2.1337
2.1352	2.1367	2.1382	2.1396	2.1410	2.1425	2.1439
2.1452	2.1466	2.1480	2.1494	2.1507	2.1520	2.1533
2.1547	2.1560	2.1572	2.1585	2.1598	2.1611	2.1623
2.1635	2.1648	2.1660	2.1672	2.1684	2.1696	2.1708
2.1720	2.1731	2.1743	2.1754	2.1766	2.1777	2.1789
2.1800	2.1811	2.1822	2.1833	2.1844	2.1855	2.1866
2.1876	2.1887	2.1897	2.1908	2.1918	2.1929	2.1939
2.1949	2.1960	2.1970	2.1980	2.1990	2.2000	

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.040305 SQ MI
 PER A=0 B=47.23 C=0 D=52.77
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE
 UNIT PEAK = 83.971 CFS UNIT VOLUME = .9992 B = 526.28
 AREA = .021269 SQ MI IA = .10000 INCHES INF = .04000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE
 UNIT PEAK = 46.776 CFS UNIT VOLUME = 1.000 B = 327.55
 AREA = .019036 SQ MI IA = .50000 INCHES INF = 1.25000 I
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.35930 INCHES = 2.9219 ACRE-FEET
PEAK DISCHARGE RATE = 85.35 CFS AT 1.500 HOURS BASIN AREA =

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 16:32:15

START TIME=0.0
***** HYDROGRAPH FOR EL RANCHO GRANDE I GIBSON RUNOFF
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.012841 SQ MI
PER A=0 B=50 C=0 D=50
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

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

RUN DATE (MON/DAY/YR) = 02/16/2000

START TIME (HR:MIN:SEC) = 10:15:12

USER NO.=

M_GOODWN.I01

INPUT FILE = ERGIGIB.DAT

START

TIME=0.0

***** HYDROGRAPH FOR EL RANCHO GRANDE I GIBSON RUNOFF

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.90 IN RAIN SIX=2.20 IN

RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA
ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS END TIME = 5.999400

HOURS

.0084	.0000	.0013	.0027	.0041	.0055	.0069
.0199	.0099	.0115	.0131	.0147	.0164	.0181
.0340	.0217	.0236	.0256	.0276	.0296	.0318
.0523	.0363	.0387	.0412	.0438	.0465	.0493
.0920	.0554	.0587	.0622	.0675	.0731	.0791
.7574	.1208	.1651	.2289	.3159	.4302	.5759
1.5201	.9790	1.1846	1.2704	1.3429	1.4074	1.4661
1.8130	1.5702	1.6171	1.6610	1.7023	1.7413	1.7781
1.9736	1.8460	1.8774	1.9071	1.9353	1.9621	1.9681
2.0059	1.9789	1.9839	1.9887	1.9932	1.9976	2.0018
2.0308	2.0098	2.0136	2.0172	2.0208	2.0242	2.0275
2.0514	2.0339	2.0370	2.0400	2.0430	2.0458	2.0486
2.0690	2.0540	2.0567	2.0592	2.0617	2.0642	2.0666
2.0846	2.0714	2.0737	2.0759	2.0781	2.0803	2.0825
2.0985	2.0867	2.0887	2.0907	2.0927	2.0947	2.0966
2.1112	2.1004	2.1023	2.1041	2.1059	2.1077	2.1095
2.1229	2.1130	2.1147	2.1164	2.1180	2.1197	2.1213
2.1337	2.1245	2.1261	2.1277	2.1292	2.1307	2.1322
2.1439	2.1352	2.1367	2.1382	2.1396	2.1410	2.1425
2.1533	2.1452	2.1466	2.1480	2.1494	2.1507	2.1520
2.1623	2.1547	2.1560	2.1572	2.1585	2.1598	2.1611
	2.1635	2.1648	2.1660	2.1672	2.1684	2.1696

2.1708
 2.1789
 2.1866
 2.1939
 2.1720 2.1731 2.1743 2.1754 2.1766 2.1777
 2.1800 2.1811 2.1822 2.1833 2.1844 2.1855
 2.1876 2.1887 2.1897 2.1908 2.1918 2.1929
 2.1949 2.1960 2.1970 2.1980 2.1990 2.2000

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.012841 SQ MI
 PER A=0 B=50 C=0 D=50
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 25.348 CFS UNIT VOLUME = .9989 B =
 526.28 P60 = 1.9000
 AREA = .006421 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 15.777 CFS UNIT VOLUME = .9995 B =
 327.55 P60 = 1.9000
 AREA = .006421 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.32370 INCHES = .9065 ACRE-FEET
 PEAK DISCHARGE RATE = 26.66 CFS AT 1.500 HOURS BASIN
 AREA = .0128 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 10:15:13

START TIME=0.0
***** HYDROGRAPH FOR EL RANCHO GRANDE I GIBSON/UNSER RUNOFF
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.70 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.007274 SQ MI
PER A=0 B=50 C=0 D=50
TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD ID=1 CODE=1
FINISH

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

RUN DATE (MON/DAY/YR) = 02/16/2000

START TIME (HR:MIN:SEC) = 14:29:46

USER NO.=

M_GOODWN.I01

INPUT FILE = GIBUNS.DAT

START

TIME=0.0

***** HYDROGRAPH FOR EL RANCHO GRANDE I GIBSON/UNSER RUNOFF

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.90 IN RAIN SIX=2.20 IN

RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA
ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS END TIME = 5.999400

HOURS

	.0000	.0013	.0027	.0041	.0055	.0069
.0084	.0099	.0115	.0131	.0147	.0164	.0181
.0199	.0217	.0236	.0256	.0276	.0296	.0318
.0340	.0363	.0387	.0412	.0438	.0465	.0493
.0523	.0554	.0587	.0622	.0675	.0731	.0791
.0920	.1208	.1651	.2289	.3159	.4302	.5759
.7574	.9790	1.1846	1.2704	1.3429	1.4074	1.4661
1.5201	1.5702	1.6171	1.6610	1.7023	1.7413	1.7781
1.8130	1.8460	1.8774	1.9071	1.9353	1.9621	1.9681
1.9736	1.9789	1.9839	1.9887	1.9932	1.9976	2.0018
2.0059	2.0098	2.0136	2.0172	2.0208	2.0242	2.0275
2.0308	2.0339	2.0370	2.0400	2.0430	2.0458	2.0486
2.0514	2.0540	2.0567	2.0592	2.0617	2.0642	2.0666
2.0690	2.0714	2.0737	2.0759	2.0781	2.0803	2.0825
2.0846	2.0867	2.0887	2.0907	2.0927	2.0947	2.0966
2.0985	2.1004	2.1023	2.1041	2.1059	2.1077	2.1095
2.1112	2.1130	2.1147	2.1164	2.1180	2.1197	2.1213
2.1229	2.1245	2.1261	2.1277	2.1292	2.1307	2.1322
2.1337	2.1352	2.1367	2.1382	2.1396	2.1410	2.1425
2.1439	2.1452	2.1466	2.1480	2.1494	2.1507	2.1520
2.1533	2.1547	2.1560	2.1572	2.1585	2.1598	2.1611
2.1623	2.1635	2.1648	2.1660	2.1672	2.1684	2.1696

2.1708
 2.1789
 2.1866
 2.1939

2.1720	2.1731	2.1743	2.1754	2.1766	2.1777
2.1800	2.1811	2.1822	2.1833	2.1844	2.1855
2.1876	2.1887	2.1897	2.1908	2.1918	2.1929
2.1949	2.1960	2.1970	2.1980	2.1990	2.2000

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.007274 SQ MI
 PER A=0 B=50 C=0 D=50
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.359 CFS UNIT VOLUME = .9985 B =
 526.28 P60 = 1.9000
 AREA = .003637 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 8.9370 CFS UNIT VOLUME = .9988 B =
 327.55 P60 = 1.9000
 AREA = .003637 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.32370 INCHES = .5135 ACRE-FEET
 PEAK DISCHARGE RATE = 15.11 CFS AT 1.500 HOURS BASIN
 AREA = .0073 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 14:29:47


```

START                                TIME=0.0
*****
*****  HYDROGRAPH FOR GIBSON POND WITH TRENCHDRAIN OPTION
***
**BASIN A
RAINFALL                            TYPE=1 RAIN QUARTER=0.0 IN
                                      RAIN ONE=1.90 IN RAIN SIX=2.20 IN
                                      RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTE NM HYD                      ID=1 HYD NO=101 AREA=0.015125 SQ MI
                                      PER A=0 PER B=40 PER C=0 PER D=60
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=1 CODE=1
*
**BASIN B-1
COMPUTE NM HYD                      ID=2 HYD NO=102 AREA=0.004391 SQ MI
                                      PER A=0 PER B=38 PER C=0 PER D=62
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=2 CODE=1
*
**BASIN B-2
COMPUTE NM HYD                      ID=3 HYD NO=103 AREA=0.001375 SQ MI
                                      PER A=0 PER B=47 PER C=0 PER D=53
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=3 CODE=1
*
**BASIN B-3
COMPUTE NM HYD                      ID=4 HYD NO=104 AREA=0.002469 SQ MI
                                      PER A=0 PER B=54 PER C=0 PER D=46
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=4 CODE=1
*
**BASIN C-1
COMPUTE NM HYD                      ID=5 HYD NO=105 AREA=0.0045 SQ MI
                                      PER A=0 B=49 C=0 D=51
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=5 CODE=1
*
**BASIN C-2
COMPUTE NM HYD                      ID=6 HYD NO=106 AREA=0.001047 SQ MI
                                      PER A=0 PER B=89 PER C=0 PER D=11
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=6 CODE=1
*
**BASIN C-3
COMPUTE NM HYD                      ID=7 HYD NO=107 AREA=0.001516 SQ MI
                                      PER A=0 PER B=20 PER C=0 PER D=80
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=7 CODE=1
*
**BASIN C-4
COMPUTE NM HYD                      ID=8 HYD NO=108 AREA=0.001422 SQ MI
                                      PER A=0 PER B=52 PER C=0 PER D=48
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=8 CODE=1
*
**BASIN C-5
COMPUTE NM HYD                      ID=9 HYD NO=109 AREA=0.003063 SQ MI
                                      PER A=0 B=43 C=0 D=57
                                      TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=9 CODE=1

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*
**BASIN C-6
COMPUTE NM HYD      ID=10 HYD NO=110 AREA=0.002016 SQ MI
                     PER A=0 PER B=43 PER C=0 PER D=57
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=10 CODE=1
PRINT HYD
*
**BASIN C-7
COMPUTE NM HYD      ID=11 HYD NO=111 AREA=0.002063 SQ MI
                     PER A=0 PER B=53 PER C=0 PER D=47
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=11 CODE=1
PRINT HYD
*
**BASIN D-1
COMPUTE NM HYD      ID=12 HYD NO=112 AREA=0.002844 SQ MI
                     PER A=0 PER B=49 PER C=0 PER D=51
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=12 CODE=1
PRINT HYD
*
**BASIN D-2
COMPUTE NM HYD      ID=13 HYD NO=113 AREA=0.000813 SQ MI
                     PER A=0 B=66 C=0 D=34
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=13 CODE=1
PRINT HYD
*
**BASIN D-3
COMPUTE NM HYD      ID=14 HYD NO=114 AREA=0.000828 SQ MI
                     PER A=0 PER B=62 PER C=0 PER D=38
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=14 CODE=1
PRINT HYD
*
**BASIN E-1
COMPUTE NM HYD      ID=15 HYD NO=115 AREA=0.0015 SQ MI
                     PER A=0 PER B=44 PER C=0 PER D=56
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=15 CODE=1
PRINT HYD
*
**BASIN OS-1
COMPUTE NM HYD      ID=16 HYD NO=116 AREA=0.001196 SQ MI
                     PER A=0 PER B=78 PER C=0 PER D=22
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=16 CODE=1
PRINT HYD
*
**BASIN OS-2
COMPUTE NM HYD      ID=17 HYD NO=117 AREA=0.007484 SQ MI
                     PER A=0 B=30 C=0 D=70
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=17 CODE=1
PRINT HYD
**BASIN TMSB
COMPUTE NM HYD      ID=18 HYD NO=118 AREA=0.004453 SQ MI
                     PER A=38.61 B=5.07 C=0 D=56.32
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=18 CODE=1
PRINT HYD
*
**BASIN TMSC
COMPUTE NM HYD      ID=19 HYD NO=119 AREA=0.003891 SQ MI
                     PER A=4.15 B=50.6 C=0 D=45.25
                     TP=0.1333 HR MASS RAINFALL=-1
                     ID=19 CODE=1
PRINT HYD
*
**BASIN 13 LOTS ERGI & 3 LOTS TRACT E

```



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COMPUTE NM HYD      ID=38  HYD NO=138  AREA=0.003899 SQ MI
                     PER A=0 B=52.16 C=0 D=47.84
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=38 CODE=1
*
**BASIN PARCEL 12
COMPUTE NM HYD      ID=39  HYD NO=139  AREA=0.040305 SQ MI
                     PER A=0 B=47.23 C=0 D=52.77
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=39 CODE=1
*
**BASIN EL RANCHO GRANDE I
COMPUTE NM HYD      ID=42  HYD NO=142  AREA=0.046100 SQ MI
                     PER A=0 B=47.23 C=0 D=52.77
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=42 CODE=1
*
**BASIN SILVERADO SUBDIVISION UNITS 1&2
COMPUTE NM HYD      ID=43  HYD NO=143  AREA=0.036431 SQ MI
                     PER A=0 B=48.08 C=0 D=51.92
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=43 CODE=1
*
**BASIN GIBSON BLVD
COMPUTE NM HYD      ID=44  HYD NO=144  AREA=0.012841 SQ MI
                     PER A=0 B=50 C=0 D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=44 CODE=1
*
**BASIN GIBSON/UNSER RUNOFF
COMPUTE NM HYD      ID=48  HYD NO=148  AREA=.007274 SQ MI
                     PER A=0 B=50 C=0 D=50
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=48 CODE=1
*
**BASIN TRACT E
COMPUTE NM HYD      ID=50  HYD NO=150  AREA=0.005809 SQ MI
                     PER A=0 B=51.99 C=0 D=48.01
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=50 CODE=1
*
ADD HYD             ID=20  HYD NO=120  ID=1  ID=2
PRINT HYD           ID=20 CODE=1
*
ADD HYD             ID=21  HYD NO=121  ID=3  ID=4
PRINT HYD           ID=21 CODE=1
*
ADD HYD             ID=22  HYD NO=122  ID=5  ID=6
PRINT HYD           ID=22 CODE=1
*
ADD HYD             ID=23  HYD NO=123  ID=7  ID=8
PRINT HYD           ID=23 CODE=1
*
ADD HYD             ID=24  HYD NO=124  ID=9  ID=10
PRINT HYD           ID=24 CODE=1
*
ADD HYD             ID=25  HYD NO=125  ID=11 ID=12
PRINT HYD           ID=25 CODE=1
*
ADD HYD             ID=26  HYD NO=126  ID=13 ID=14
PRINT HYD           ID=26 CODE=1

```



```

*
ADD HYD          ID=27 HYD NO=127  ID=15  ID=16
PRINT HYD        ID=27 CODE=1
*
ADD HYD          ID=28 HYD NO=128  ID=17  ID=18
PRINT HYD        ID=28 CODE=1
*
ADD HYD          ID=29 HYD NO=129  ID=20  ID=21
PRINT HYD        ID=29 CODE=1
*
ADD HYD          ID=30 HYD NO=130  ID=22  ID=23
PRINT HYD        ID=30 CODE=1
*
ADD HYD          ID=31 HYD NO=131  ID=24  ID=25
PRINT HYD        ID=31 CODE=1
*
ADD HYD          ID=32 HYD NO=132  ID=26  ID=27
PRINT HYD        ID=32 CODE=1
*
ADD HYD          ID=33 HYD NO=133  ID=28  ID=19
PRINT HYD        ID=33 CODE=1
*
ADD HYD          ID=34 HYD NO=134  ID=29  ID=30
PRINT HYD        ID=34 CODE=1
*
ADD HYD          ID=35 HYD NO=135  ID=31  ID=32
PRINT HYD        ID=35 CODE=1
*
ADD HYD          ID=36 HYD NO=136  ID=34  ID=35
PRINT HYD        ID=36 CODE=1
*
ADD HYD          ID=37 HYD NO=137  ID=33  ID=36
PRINT HYD        ID=37 CODE=1
*
ADD HYD          ID=40 HYD NO=140  ID=38  ID=39
PRINT HYD        ID=40 CODE=1
*
ADD HYD          ID=41 HYD NO=141  ID=37  ID=40
PRINT HYD        ID=41 CODE=1
*
ADD HYD          ID=45 HYD NO=145  ID=41  ID=42
PRINT HYD        ID=45 CODE=1
*
ADD HYD          ID=46 HYD NO=146  ID=43  ID=44
PRINT HYD        ID=46 CODE=1
*
ADD HYD          ID=47 HYD NO=147  ID=45  ID=46
PRINT HYD        ID=47 CODE=1
*
ADD HYD          ID=49 HYD NO=149  ID=47  ID=48
PRINT HYD        ID=49 CODE=1
*
ADD HYD          ID=51 HYD NO=151  ID=49  ID=50
PRINT HYD        ID=51 CODE=1
*
*DIVIDE BY MAXIMUM FLOW RATE
DIVIDE HYD        ID=51  Q=33.26  ID I=52  HYD NO=52
                                     ID II=53  HYD NO=153
* ROUTING THROUGH POND
*
ROUTE RESERVOIR  ID=54 HYD NO=154  INFLOW ID=53 CODE=24

```


	OUTFLOW (CFS)	STORAGE (AC-FT)	ELEVATION (FT)
	0.0	0.0	40.0
	46.33	1.545	41.0
	65.51	3.183	42.0
	80.24	4.916	43.0
	92.65	6.750	44.0
	103.59	8.685	45.0
PRINT HYD	ID=54	CODE=1	
FINISH			

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

RUN DATE (MON/DAY/YR) = 05/12/2000

START TIME (HR:MIN:SEC) = 08:05:58

USER NO.=

M_GOODWN.I01

INPUT FILE = GIBPNDTR.DAT

START

TIME=0.0

HYDROGRAPH FOR GIBSON POND WITH TRENCHDRAIN OPTION

**BASIN A

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.90 IN RAIN SIX=2.20 IN

RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA
ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS

END TIME =

5.999400

HOURS

	.0000	.0013	.0027	.0041	.0055	.0069
.0084	.0099	.0115	.0131	.0147	.0164	.0181
.0199	.0217	.0236	.0256	.0276	.0296	.0318
.0340	.0363	.0387	.0412	.0438	.0465	.0493
.0523	.0554	.0587	.0622	.0675	.0731	.0791
.0920	.1208	.1651	.2289	.3159	.4302	.5759
.7574	.9790	1.1846	1.2704	1.3429	1.4074	1.4661
1.5201	1.5702	1.6171	1.6610	1.7023	1.7413	1.7781
1.8130	1.8460	1.8774	1.9071	1.9353	1.9621	1.9681
1.9736	1.9789	1.9839	1.9887	1.9932	1.9976	2.0018
2.0059	2.0098	2.0136	2.0172	2.0208	2.0242	2.0275
2.0308	2.0339	2.0370	2.0400	2.0430	2.0458	2.0486
2.0514	2.0540	2.0567	2.0592	2.0617	2.0642	2.0666
2.0690	2.0714	2.0737	2.0759	2.0781	2.0803	2.0825
2.0846	2.0867	2.0887	2.0907	2.0927	2.0947	2.0966
2.0985	2.1004	2.1023	2.1041	2.1059	2.1077	2.1095
2.1112	2.1130	2.1147	2.1164	2.1180	2.1197	2.1213
2.1229	2.1245	2.1261	2.1277	2.1292	2.1307	2.1322
2.1337	2.1352	2.1367	2.1382	2.1396	2.1410	2.1425
2.1439	2.1452	2.1466	2.1480	2.1494	2.1507	2.1520

2.1533	2.1547	2.1560	2.1572	2.1585	2.1598	2.1611
2.1623	2.1635	2.1648	2.1660	2.1672	2.1684	2.1696
2.1708	2.1720	2.1731	2.1743	2.1754	2.1766	2.1777
2.1789	2.1800	2.1811	2.1822	2.1833	2.1844	2.1855
2.1866	2.1876	2.1887	2.1897	2.1908	2.1918	2.1929
2.1939	2.1949	2.1960	2.1970	2.1980	2.1990	2.2000

COMPUTE NM HYD

ID=1 HYD NO=101 AREA=0.015125 SQ MI
 PER A=0 PER B=40 PER C=0 PER D=60
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 35.829 CFS UNIT VOLUME = .9990 B =
 526.28 P60 = 1.9000
 AREA = .009075 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 14.866 CFS UNIT VOLUME = .9994 B =
 327.55 P60 = 1.9000
 AREA = .006050 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.45223 INCHES = 1.1715 ACRE-FEET
 PEAK DISCHARGE RATE = 33.71 CFS AT 1.500 HOURS BASIN
 AREA = .0151 SQ. MI.

*

**BASIN B-1

COMPUTE NM HYD

ID=2 HYD NO=102 AREA=0.004391 SQ MI
 PER A=0 PER B=38 PER C=0 PER D=62
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.748 CFS UNIT VOLUME = .9982 B =
 526.28 P60 = 1.9000
 AREA = .002722 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.1001 CFS UNIT VOLUME = .9970 B =
 327.55 P60 = 1.9000
 AREA = .001669 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.47794 INCHES = .3461 ACRE-FEET
 PEAK DISCHARGE RATE = 9.93 CFS AT 1.500 HOURS BASIN
 AREA = .0044 SQ. MI.

*

**BASIN B-2
COMPUTE NM HYD

ID=3 HYD NO=103 AREA=0.001375 SQ MI
 PER A=0 PER B=47 PER C=0 PER D=53
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.8771 CFS UNIT VOLUME = .9955 B =
 526.28 P60 = 1.9000
 AREA = .000729 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.5880 CFS UNIT VOLUME = .9919 B =
 327.55 P60 = 1.9000
 AREA = .000646 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.36226 INCHES = .0999 ACRE-FEET
 PEAK DISCHARGE RATE = 2.93 CFS AT 1.500 HOURS BASIN
 AREA = .0014 SQ. MI.

*

**BASIN B-3
COMPUTE NM HYD

ID=4 HYD NO=104 AREA=0.002469 SQ MI

PER A=0 PER B=54 PER C=0 PER D=46
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.4840 CFS UNIT VOLUME = .9969 B =
526.28 P60 = 1.9000
AREA = .001136 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 3.2762 CFS UNIT VOLUME = .9961 B =
327.55 P60 = 1.9000
AREA = .001333 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.27228 INCHES = .1675 ACRE-FEET
PEAK DISCHARGE RATE = 4.99 CFS AT 1.500 HOURS BASIN
AREA = .0025 SQ. MI.

*

**BASIN C-1

COMPUTE NM HYD

ID=5 HYD NO=105 AREA=0.0045 SQ MI
PER A=0 B=49 C=0 D=51
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 9.0608 CFS UNIT VOLUME = .9981 B =
526.28 P60 = 1.9000
AREA = .002295 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.4182 CFS UNIT VOLUME = .9978 B =
327.55 P60 = 1.9000
AREA = .002205 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.33655 INCHES = .3208 ACRE-FEET
 PEAK DISCHARGE RATE = 9.42 CFS AT 1.500 HOURS BASIN
 AREA = .0045 SQ. MI.

*

**BASIN C-2

COMPUTE NM HYD

ID=6 HYD NO=106 AREA=0.001047 SQ MI
 PER A=0 PER B=89 PER C=0 PER D=11
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = .45470 CFS UNIT VOLUME = .9751 B =
 526.28 P60 = 1.9000
 AREA = .000115 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.2897 CFS UNIT VOLUME = .9943 B =
 327.55 P60 = 1.9000
 AREA = .000932 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=6 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = .82240 INCHES = .0459 ACRE-FEET
 PEAK DISCHARGE RATE = 1.56 CFS AT 1.500 HOURS BASIN
 AREA = .0010 SQ. MI.

*

**BASIN C-3

COMPUTE NM HYD

ID=7 HYD NO=107 AREA=0.001516 SQ MI
 PER A=0 PER B=20 PER C=0 PER D=80
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 4.7882 CFS UNIT VOLUME = .9969 B =
 526.28 P60 = 1.9000
 AREA = .001213 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950

SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = .74504 CFS UNIT VOLUME = .9822 B =
 327.55 P60 = 1.9000
 AREA = .000303 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = 1.70931 INCHES = .1382 ACRE-Feet
 PEAK DISCHARGE RATE = 3.86 CFS AT 1.500 HOURS BASIN
 AREA = .0015 SQ. MI.

*

**BASIN C-4

COMPUTE NM HYD

ID=8 HYD NO=108 AREA=0.001422 SQ MI
 PER A=0 PER B=52 PER C=0 PER D=48
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.6948 CFS UNIT VOLUME = .9949 B =
 526.28 P60 = 1.9000
 AREA = .000683 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.8170 CFS UNIT VOLUME = .9926 B =
 327.55 P60 = 1.9000
 AREA = .000739 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.29799 INCHES = .0984 ACRE-Feet
 PEAK DISCHARGE RATE = 2.92 CFS AT 1.500 HOURS BASIN
 AREA = .0014 SQ. MI.

*

**BASIN C-5

COMPUTE NM HYD

ID=9 HYD NO=109 AREA=0.003063 SQ MI
 PER A=0 B=43 C=0 D=57
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.8929 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001746 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 3.2364 CFS UNIT VOLUME = .9961 B =
 327.55 P60 = 1.9000
 AREA = .001317 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=9 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = 1.41367 INCHES = .2309 ACRE-FEET
 PEAK DISCHARGE RATE = 6.70 CFS AT 1.500 HOURS BASIN
 AREA = .0031 SQ. MI.

*

**BASIN C-6

COMPUTE NM HYD

ID=10 HYD NO=110 AREA=0.002016 SQ MI
 PER A=0 PER B=43 PER C=0 PER D=57
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 4.5368 CFS UNIT VOLUME = .9969 B =
 526.28 P60 = 1.9000
 AREA = .001149 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.1301 CFS UNIT VOLUME = .9938 B =
 327.55 P60 = 1.9000
 AREA = .000867 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.41367 INCHES = .1520 ACRE-FEET

PEAK DISCHARGE RATE = 4.41 CFS AT 1.500 HOURS BASIN
AREA = .0020 SQ. MI.

*

**BASIN C-7

COMPUTE NM HYD

ID=11 HYD NO=111 AREA=0.002063 SQ MI
PER A=0 PER B=53 PER C=0 PER D=47
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.8281 CFS UNIT VOLUME = .9965 B =
526.28 P60 = 1.9000
AREA = .000970 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.6867 CFS UNIT VOLUME = .9953 B =
327.55 P60 = 1.9000
AREA = .001093 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD

ID=11 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = 1.28513 INCHES = .1414 ACRE-FEET
PEAK DISCHARGE RATE = 4.20 CFS AT 1.500 HOURS BASIN
AREA = .0021 SQ. MI.

*

**BASIN D-1

COMPUTE NM HYD

ID=12 HYD NO=112 AREA=0.002844 SQ MI
PER A=0 PER B=49 PER C=0 PER D=51
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.7264 CFS UNIT VOLUME = .9973 B =
526.28 P60 = 1.9000
AREA = .001450 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 3.4243 CFS UNIT VOLUME = .9964 B =
327.55 P60 = 1.9000

AREA = .001394 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 112.00

RUNOFF VOLUME = 1.33655 INCHES = .2027 ACRE-FEET
PEAK DISCHARGE RATE = 5.96 CFS AT 1.500 HOURS BASIN
AREA = .0028 SQ. MI.

*

**BASIN D-2

COMPUTE NM HYD

ID=13 HYD NO=113 AREA=0.000813 SQ MI
PER A=0 B=66 C=0 D=34
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.0913 CFS UNIT VOLUME = .9881 B =
526.28 P60 = 1.9000
AREA = .000276 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.3185 CFS UNIT VOLUME = .9903 B =
327.55 P60 = 1.9000
AREA = .000537 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 113.00

RUNOFF VOLUME = 1.11804 INCHES = .0485 ACRE-FEET
PEAK DISCHARGE RATE = 1.50 CFS AT 1.500 HOURS BASIN
AREA = .0008 SQ. MI.

*

**BASIN D-3

COMPUTE NM HYD

ID=14 HYD NO=114 AREA=0.000828 SQ MI
PER A=0 PER B=62 PER C=0 PER D=38
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.2422 CFS UNIT VOLUME = .9897 B =

526.28 P60 = 1.9000
AREA = .000315 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.2615 CFS UNIT VOLUME = .9894 B =
327.55 P60 = 1.9000
AREA = .000513 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=14 CODE=1

PARTIAL HYDROGRAPH 114.00

RUNOFF VOLUME = 1.16945 INCHES = .0516 ACRE-FEET
PEAK DISCHARGE RATE = 1.58 CFS AT 1.500 HOURS BASIN
AREA = .0008 SQ. MI.

*

**BASIN E-1

COMPUTE NM HYD

ID=15 HYD NO=115 AREA=0.0015 SQ MI
PER A=0 PER B=44 PER C=0 PER D=56
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.3164 CFS UNIT VOLUME = .9961 B =
526.28 P60 = 1.9000
AREA = .000840 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.6218 CFS UNIT VOLUME = .9919 B =
327.55 P60 = 1.9000
AREA = .000660 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=15 CODE=1

PARTIAL HYDROGRAPH 115.00

RUNOFF VOLUME = 1.40082 INCHES = .1121 ACRE-FEET
PEAK DISCHARGE RATE = 3.27 CFS AT 1.500 HOURS BASIN
AREA = .0015 SQ. MI.

*
**BASIN OS-1
COMPUTE NM HYD

ID=16 HYD NO=116 AREA=0.001196 SQ MI
PER A=0 PER B=78 PER C=0 PER D=22
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.0388 CFS UNIT VOLUME = .9881 B =
526.28 P60 = 1.9000
AREA = .000263 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.2923 CFS UNIT VOLUME = .9943 B =
327.55 P60 = 1.9000
AREA = .000933 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=16 CODE=1

PARTIAL HYDROGRAPH 116.00

RUNOFF VOLUME = .96379 INCHES = .0615 ACRE-FEET
PEAK DISCHARGE RATE = 1.99 CFS AT 1.500 HOURS BASIN
AREA = .0012 SQ. MI.

*
**BASIN OS-2
COMPUTE NM HYD

ID=17 HYD NO=117 AREA=0.007484 SQ MI
PER A=0 B=30 C=0 D=70
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 20.683 CFS UNIT VOLUME = .9988 B =
526.28 P60 = 1.9000
AREA = .005239 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.5170 CFS UNIT VOLUME = .9978 B =
327.55 P60 = 1.9000
AREA = .002245 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

PRINT HYD

ID=17 CODE=1

PARTIAL HYDROGRAPH 117.00

RUNOFF VOLUME = 1.58077 INCHES = .6310 ACRE-Feet
 PEAK DISCHARGE RATE = 17.83 CFS AT 1.500 HOURS BASIN
 AREA = .0075 SQ. MI.

**BASIN TMSB

COMPUTE NM HYD

ID=18 HYD NO=118 AREA=0.004453 SQ MI
 PER A=38.61 B=5.07 C=0 D=56.32
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 9.9014 CFS UNIT VOLUME = .9982 B =
 526.28 P60 = 1.9000
 AREA = .002508 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .159194HR TP = .133300HR K/TP RATIO = 1.194252
 SHAPE CONSTANT, N = 2.974290
 UNIT PEAK = 4.0816 CFS UNIT VOLUME = .9961 B =
 279.72 P60 = 1.9000
 AREA = .001945 SQ MI IA = .63259 INCHES INF =
 1.62125 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD

ID=18 CODE=1

PARTIAL HYDROGRAPH 118.00

RUNOFF VOLUME = 1.31369 INCHES = .3120 ACRE-Feet
 PEAK DISCHARGE RATE = 8.84 CFS AT 1.500 HOURS BASIN
 AREA = .0045 SQ. MI.

*

**BASIN TMSC

COMPUTE NM HYD

ID=19 HYD NO=119 AREA=0.003891 SQ MI
 PER A=4.15 B=50.6 C=0 D=45.25
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 6.9512 CFS UNIT VOLUME = .9978 B =
 526.28 P60 = 1.9000
 AREA = .001761 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

K = .133199HR TP = .133300HR K/TP RATIO = .999241
SHAPE CONSTANT, N = 3.533011
UNIT PEAK = 5.1577 CFS UNIT VOLUME = .9977 B =
322.73 P60 = 1.9000
AREA = .002130 SQ MI IA = .51137 INCHES INF =
1.28184 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=19 CODE=1

PARTIAL HYDROGRAPH 119.00

RUNOFF VOLUME = 1.25155 INCHES = .2597 ACRE-FEET
PEAK DISCHARGE RATE = 7.72 CFS AT 1.500 HOURS BASIN
AREA = .0039 SQ. MI.

*
**BASIN 13 LOTS ERGI & 3 LOTS TRACT E
COMPUTE NM HYD ID=38 HYD NO=138 AREA=0.003899 SQ MI
PER A=0 B=52.16 C=0 D=47.84
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.3642 CFS UNIT VOLUME = .9978 B =
526.28 P60 = 1.9000
AREA = .001865 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 4.9974 CFS UNIT VOLUME = .9975 B =
327.55 P60 = 1.9000
AREA = .002034 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=38 CODE=1

PARTIAL HYDROGRAPH 138.00

RUNOFF VOLUME = 1.29593 INCHES = .2695 ACRE-FEET
PEAK DISCHARGE RATE = 7.98 CFS AT 1.500 HOURS BASIN
AREA = .0039 SQ. MI.

*
**BASIN PARCEL 12

COMPUTE NM HYD

ID=39 HYD NO=139 AREA=0.040305 SQ MI
PER A=0 B=47.23 C=0 D=52.77
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 83.971 CFS UNIT VOLUME = .9992 B =
526.28 P60 = 1.9000
AREA = .021269 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 46.776 CFS UNIT VOLUME = 1.000 B =
327.55 P60 = 1.9000
AREA = .019036 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD

ID=39 CODE=1

PARTIAL HYDROGRAPH 139.00

RUNOFF VOLUME = 1.35930 INCHES = 2.9219 ACRE-FEET
PEAK DISCHARGE RATE = 85.35 CFS AT 1.500 HOURS BASIN
AREA = .0403 SQ. MI.

*

**BASIN EL RANCHO GRANDE I

COMPUTE NM HYD

ID=42 HYD NO=142 AREA=0.046100 SQ MI
PER A=0 B=47.23 C=0 D=52.77
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 96.044 CFS UNIT VOLUME = .9993 B =
526.28 P60 = 1.9000
AREA = .024327 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 53.502 CFS UNIT VOLUME = 1.000 B =
327.55 P60 = 1.9000
AREA = .021773 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD

ID=42 CODE=1

PARTIAL HYDROGRAPH 142.00

RUNOFF VOLUME = 1.35930 INCHES = 3.3420 ACRE-FEET
PEAK DISCHARGE RATE = 97.62 CFS AT 1.500 HOURS BASIN
AREA = .0461 SQ. MI.

*
**BASIN SILVERADO SUBDIVISION UNITS 1&2
COMPUTE NM HYD ID=43 HYD NO=143 AREA=0.036431 SQ MI
PER A=0 B=48.08 C=0 D=51.92
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 74.677 CFS UNIT VOLUME = .9992 B =
526.28 P60 = 1.9000
AREA = .018915 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 43.041 CFS UNIT VOLUME = 1.000 B =
327.55 P60 = 1.9000
AREA = .017516 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=43 CODE=1

PARTIAL HYDROGRAPH 143.00

RUNOFF VOLUME = 1.34837 INCHES = 2.6199 ACRE-FEET
PEAK DISCHARGE RATE = 76.67 CFS AT 1.500 HOURS BASIN
AREA = .0364 SQ. MI.

*
**BASIN GIBSON BLVD
COMPUTE NM HYD ID=44 HYD NO=144 AREA=0.012841 SQ MI
PER A=0 B=50 C=0 D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 25.348 CFS UNIT VOLUME = .9989 B =
526.28 P60 = 1.9000
AREA = .006421 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

61

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 15.777 CFS UNIT VOLUME = .9995 B =
327.55 P60 = 1.9000
AREA = .006421 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=44 CODE=1

PARTIAL HYDROGRAPH 144.00

RUNOFF VOLUME = 1.32370 INCHES = .9065 ACRE-FEET
PEAK DISCHARGE RATE = 26.66 CFS AT 1.500 HOURS BASIN
AREA = .0128 SQ. MI.

*

**BASIN GIBSON/UNSER RUNOFF
COMPUTE NM HYD ID=48 HYD NO=148 AREA=.007274 SQ MI
PER A=0 B=50 C=0 D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 14.359 CFS UNIT VOLUME = .9985 B =
526.28 P60 = 1.9000
AREA = .003637 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 8.9370 CFS UNIT VOLUME = .9988 B =
327.55 P60 = 1.9000
AREA = .003637 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
METHOD - DT = .033330

PRINT HYD ID=48 CODE=1

PARTIAL HYDROGRAPH 148.00

RUNOFF VOLUME = 1.32370 INCHES = .5135 ACRE-FEET
PEAK DISCHARGE RATE = 15.11 CFS AT 1.500 HOURS BASIN
AREA = .0073 SQ. MI.

*

**BASIN TRACT E.
COMPUTE NM HYD

ID=50 HYD NO=150 AREA=0.005809 SQ MI
PER A=0 B=51.99 C=0 D=48.01
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 11.011 CFS UNIT VOLUME = .9984 B =
 526.28 P60 = 1.9000
 AREA = .002789 SQ MI IA = .10000 INCHES INF =
 .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

K = .130761HR TP = .133300HR K/TP RATIO = .980950
 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 7.4211 CFS UNIT VOLUME = .9985 B =
 327.55 P60 = 1.9000
 AREA = .003020 SQ MI IA = .50000 INCHES INF =
 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER
 METHOD - DT = .033330

PRINT HYD ID=50 CODE=1

PARTIAL HYDROGRAPH 150.00

RUNOFF VOLUME = 1.29812 INCHES = .4022 ACRE-FEET
 PEAK DISCHARGE RATE = 11.89 CFS AT 1.500 HOURS BASIN
 AREA = .0058 SQ. MI.

BASIN 17

*
 ADD HYD ID=20 HYD NO=120 ID=1 ID=2
 PRINT HYD ID=20 CODE=1

PARTIAL HYDROGRAPH 120.00

RUNOFF VOLUME = 1.45799 INCHES = 1.5175 ACRE-FEET
 PEAK DISCHARGE RATE = 43.64 CFS AT 1.500 HOURS BASIN
 AREA = .0195 SQ. MI.

*
 ADD HYD ID=21 HYD NO=121 ID=3 ID=4
 PRINT HYD ID=21 CODE=1

PARTIAL HYDROGRAPH 121.00

RUNOFF VOLUME = 1.30432 INCHES = .2674 ACRE-FEET
 PEAK DISCHARGE RATE = 7.92 CFS AT 1.500 HOURS BASIN
 AREA = .0038 SQ. MI.

*
 ADD HYD ID=22 HYD NO=122 ID=5 ID=6
 PRINT HYD ID=22 CODE=1

PARTIAL HYDROGRAPH 122.00

RUNOFF VOLUME = 1.23942 INCHES = .3667 ACRE-FEET
 PEAK DISCHARGE RATE = 10.99 CFS AT 1.500 HOURS BASIN
 AREA = .0055 SQ. MI.

*

ADD HYD
 PRINT HYD

ID=23 HYD NO=123 ID=7 ID=8
 ID=23 CODE=1

PARTIAL HYDROGRAPH 123.00

RUNOFF VOLUME = 1.51002 INCHES = .2366 ACRE-FEET
 PEAK DISCHARGE RATE = 6.78 CFS AT 1.500 HOURS BASIN
 AREA = .0029 SQ. MI.

*

ADD HYD
 PRINT HYD

ID=24 HYD NO=124 ID=9 ID=10
 ID=24 CODE=1

PARTIAL HYDROGRAPH 124.00

RUNOFF VOLUME = 1.41356 INCHES = .3829 ACRE-FEET
 PEAK DISCHARGE RATE = 11.11 CFS AT 1.500 HOURS BASIN
 AREA = .0051 SQ. MI.

*

ADD HYD
 PRINT HYD

ID=25 HYD NO=125 ID=11 ID=12
 ID=25 CODE=1

PARTIAL HYDROGRAPH 125.00

RUNOFF VOLUME = 1.31482 INCHES = .3441 ACRE-FEET
 PEAK DISCHARGE RATE = 10.16 CFS AT 1.500 HOURS BASIN
 AREA = .0049 SQ. MI.

*

ADD HYD
 PRINT HYD

ID=26 HYD NO=126 ID=13 ID=14
 ID=26 CODE=1

PARTIAL HYDROGRAPH 126.00

RUNOFF VOLUME = 1.14369 INCHES = .1001 ACRE-FEET
 PEAK DISCHARGE RATE = 3.09 CFS AT 1.500 HOURS BASIN
 AREA = .0016 SQ. MI.

*
ADD HYD ID=27 HYD NO=127 ID=15 ID=16
PRINT HYD ID=27 CODE=1

PARTIAL HYDROGRAPH 127.00

RUNOFF VOLUME = 1.20675 INCHES = .1735 ACRE-FEET
PEAK DISCHARGE RATE = 5.25 CFS AT 1.500 HOURS BASIN
AREA = .0027 SQ. MI.

*
ADD HYD ID=28 HYD NO=128 ID=17 ID=18
PRINT HYD ID=28 CODE=1

PARTIAL HYDROGRAPH 128.00

RUNOFF VOLUME = 1.48109 INCHES = .9429 ACRE-FEET
PEAK DISCHARGE RATE = 26.67 CFS AT 1.500 HOURS BASIN
AREA = .0119 SQ. MI.

*
ADD HYD ID=29 HYD NO=129 ID=20 ID=21
PRINT HYD ID=29 CODE=1

PARTIAL HYDROGRAPH 129.00

RUNOFF VOLUME = 1.43270 INCHES = 1.7849 ACRE-FEET
PEAK DISCHARGE RATE = 51.56 CFS AT 1.500 HOURS BASIN
AREA = .0234 SQ. MI.

*
ADD HYD ID=30 HYD NO=130 ID=22 ID=23
PRINT HYD ID=30 CODE=1

PARTIAL HYDROGRAPH 130.00

RUNOFF VOLUME = 1.33312 INCHES = .6033 ACRE-FEET
PEAK DISCHARGE RATE = 17.77 CFS AT 1.500 HOURS BASIN
AREA = .0085 SQ. MI.

*
ADD HYD ID=31 HYD NO=131 ID=24 ID=25
PRINT HYD ID=31 CODE=1

PARTIAL HYDROGRAPH 131.00

RUNOFF VOLUME = 1.36504 INCHES = .7270 ACRE-FEET
PEAK DISCHARGE RATE = 21.27 CFS AT 1.500 HOURS BASIN

AREA = .0100 SQ. MI.

*
ADD HYD ID=32 HYD NO=132 ID=26 ID=27
PRINT HYD ID=32 CODE=1

PARTIAL HYDROGRAPH 132.00

RUNOFF VOLUME = 1.18289 INCHES = .2736 ACRE-FEET
PEAK DISCHARGE RATE = 8.34 CFS AT 1.500 HOURS BASIN
AREA = .0043 SQ. MI.

*
ADD HYD ID=33 HYD NO=133 ID=28 ID=19
PRINT HYD ID=33 CODE=1

PARTIAL HYDROGRAPH 133.00

RUNOFF VOLUME = 1.42465 INCHES = 1.2026 ACRE-FEET
PEAK DISCHARGE RATE = 34.39 CFS AT 1.500 HOURS BASIN
AREA = .0158 SQ. MI.

*
ADD HYD ID=34 HYD NO=134 ID=29 ID=30
PRINT HYD ID=34 CODE=1

PARTIAL HYDROGRAPH 134.00

RUNOFF VOLUME = 1.40617 INCHES = 2.3882 ACRE-FEET
PEAK DISCHARGE RATE = 69.32 CFS AT 1.500 HOURS BASIN
AREA = .0318 SQ. MI.

*
ADD HYD ID=35 HYD NO=135 ID=31 ID=32
PRINT HYD ID=35 CODE=1

PARTIAL HYDROGRAPH 135.00

RUNOFF VOLUME = 1.30988 INCHES = 1.0006 ACRE-FEET
PEAK DISCHARGE RATE = 29.61 CFS AT 1.500 HOURS BASIN
AREA = .0143 SQ. MI.

*
ADD HYD ID=36 HYD NO=136 ID=34 ID=35
PRINT HYD ID=36 CODE=1

PARTIAL HYDROGRAPH 136.00

RUNOFF VOLUME = 1.37630 INCHES = 3.3888 ACRE-FEET
PEAK DISCHARGE RATE = 98.94 CFS AT 1.500 HOURS BASIN
AREA = .0462 SQ. MI.

*
ADD HYD ID=37 HYD NO=137 ID=33 ID=36
PRINT HYD ID=37 CODE=1

PARTIAL HYDROGRAPH 137.00

RUNOFF VOLUME = 1.38864 INCHES = 4.5915 ACRE-FEET
PEAK DISCHARGE RATE = 133.32 CFS AT 1.500 HOURS BASIN
AREA = .0620 SQ. MI.

*
ADD HYD ID=40 HYD NO=140 ID=38 ID=39
PRINT HYD ID=40 CODE=1

PARTIAL HYDROGRAPH 140.00

RUNOFF VOLUME = 1.35370 INCHES = 3.1914 ACRE-FEET
PEAK DISCHARGE RATE = 93.33 CFS AT 1.500 HOURS BASIN
AREA = .0442 SQ. MI.

*
ADD HYD ID=41 HYD NO=141 ID=37 ID=40
PRINT HYD ID=41 CODE=1

PARTIAL HYDROGRAPH 141.00

RUNOFF VOLUME = 1.37410 INCHES = 7.7828 ACRE-FEET
PEAK DISCHARGE RATE = 226.65 CFS AT 1.500 HOURS BASIN
AREA = .1062 SQ. MI.

*
ADD HYD ID=45 HYD NO=145 ID=41 ID=42
PRINT HYD ID=45 CODE=1

PARTIAL HYDROGRAPH 145.00

RUNOFF VOLUME = 1.36962 INCHES = 11.1249 ACRE-FEET
PEAK DISCHARGE RATE = 324.27 CFS AT 1.500 HOURS BASIN
AREA = .1523 SQ. MI.

*

ADD HYD ID=46 HYD NO=146 ID=43 ID=44
PRINT HYD ID=46 CODE=1

PARTIAL HYDROGRAPH 146.00

RUNOFF VOLUME = 1.34193 INCHES = 3.5264 ACRE-FEET
PEAK DISCHARGE RATE = 103.33 CFS AT 1.500 HOURS BASIN
AREA = .0493 SQ. MI.

*
ADD HYD ID=47 HYD NO=147 ID=45 ID=46
PRINT HYD ID=47 CODE=1

PARTIAL HYDROGRAPH 147.00

RUNOFF VOLUME = 1.36285 INCHES = 14.6512 ACRE-FEET
PEAK DISCHARGE RATE = 427.60 CFS AT 1.500 HOURS BASIN
AREA = .2016 SQ. MI.

*
ADD HYD ID=49 HYD NO=149 ID=47 ID=48
PRINT HYD ID=49 CODE=1

PARTIAL HYDROGRAPH 149.00

RUNOFF VOLUME = 1.36148 INCHES = 15.1647 ACRE-FEET
PEAK DISCHARGE RATE = 442.71 CFS AT 1.500 HOURS BASIN
AREA = .2088 SQ. MI.

*
ADD HYD ID=51 HYD NO=151 ID=49 ID=50
PRINT HYD ID=51 CODE=1

PARTIAL HYDROGRAPH 151.00

RUNOFF VOLUME = 1.35977 INCHES = 15.5669 ACRE-FEET
PEAK DISCHARGE RATE = 454.60 CFS AT 1.500 HOURS BASIN
AREA = .2147 SQ. MI.

*
*DIVIDE BY MAXIMUM FLOW RATE
DIVIDE HYD ID=51 Q=33.26 ID I=52 HYD NO=52
ID II=53 HYD NO=153

* ROUTING THROUGH POND
*
ROUTE RESERVOIR ID=54 HYD NO=154 INFLOW ID=53 CODE=24
OUTFLOW(CFS) STORAGE(AC-FT)

ELEVATION(FT) 0.0 0.0

40.0	46.33	1.545
41.0	65.51	3.183
42.0	80.24	4.916
43.0	92.65	6.750
44.0	103.59	8.685
45.0		

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	293.78	43.34	5.531	84.40
2.40	.00	42.79	4.552	77.15
3.20	.00	40.60	.920	27.59
4.00	.00	40.08	.127	3.80
4.80	.00	40.01	.017	.52
5.60	.00	40.00	.002	.07
6.40	.00	40.00	.000	.01
7.20	.00	40.00	.000	.00

PEAK DISCHARGE = 94.652 CFS - PEAK OCCURS AT HOUR 1.87

MAXIMUM WATER SURFACE ELEVATION = 44.183

MAXIMUM STORAGE = 7.1041 AC-FT INCREMENTAL TIME =
.033330HRS

PRINT HYD ID=54 CODE=1

PARTIAL HYDROGRAPH 154.00

RUNOFF VOLUME = 1.35977 INCHES = 11.5606 ACRE-FEET
PEAK DISCHARGE RATE = 94.65 CFS AT 1.866 HOURS BASIN
AREA = .1594 SQ. MI.

FINISH

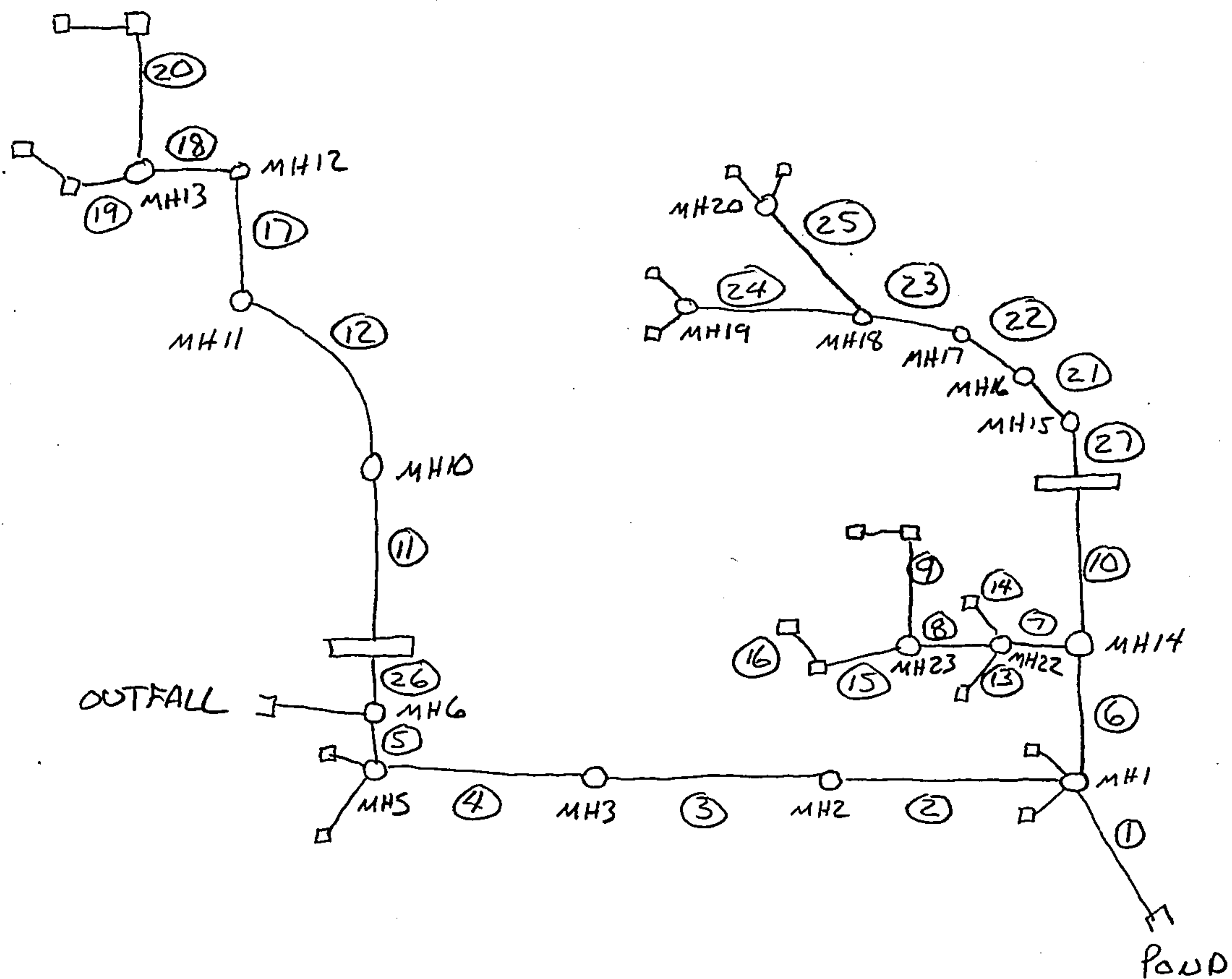
NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 08:05:59

HYDRAULIC REPORT FOR

69

EL RANCHO GRANDE I
GIBSON BLVD STORMDRAIN
INTERIOR STORMDRAIN
TRENCHDRAIN OPTION



LINE 1 / Q = 415.0 / HT = 66 / WID = 66 / N = .013 / L = 199 / JLC = .25

1 / Outfall

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	45.29	63.50	40.00	17.62	50.11	22.11	4.5	23.56
UPSTRM	48.23	66.00	41.76	17.47	52.97	0.00	8.99	23.76

Drainage area (ac)	=	0	Slope of invert (%)	=	0.884
Runoff coefficient	=	0	Slope energy grade line (%)	=	1.437
Time of conc (min)	=	13	Critical depth (in)	=	63.50
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	380.3
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	109.2
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	415	Confluence angle (deg)	=	45
Default Q (cfs)	=	415.05	Natural ground elev (ft)	=	56.25
Line capac. (cfs)	=	315.8	Line storage (cuft)	=	4708

LINE 2 / Q = 204.7 / HT = 48 / WID = 48 / N = .013 / L = 400 / JLC = .25

 2 / DNLN = 1

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	49.42	48.00	41.77	16.29	53.54	0.00	10.47	12.56
UPSTRM	57.54	48.00	51.11	16.29	61.66	0.00	12.88	12.57

Drainage area (ac) = 0	Slope of invert (%) = 2.335
Runoff coefficient = 0	Slope energy grade line (%) = 2.031
Time of conc (min) = 11	Critical depth (in) = 46.61
Inlet time (min) = 0	Req'd length curb inlet (ft) = 187.5
Intensity (in/hr) = 0.00	Req'd grate area (sf) = 53.8
Cumulative C*A = 0.0	Depth at inlet opening (in) = 6
Flow contrib (cfs) = 204.6	Confluence angle (deg) = 0
Default Q (cfs) = 204.68	Natural ground elev (ft) = 68
Line capac. (cfs) = 219.5	Line storage (cuft) = 5026

LINE 3 / Q = 204.7 / HT = 48 / WID = 48 / N = .013 / L = 400 / JLC = .25

 3 / DNLN = 2

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	58.57	48.00	51.11	16.29	62.69	0.00	12.88	12.56
UPSTRM	66.69	48.00	60.46	16.29	70.81	0.00	8.54	12.57

Drainage area (ac)	=	0	Slope of invert (%)	=	2.337
Runoff coefficient	=	0	Slope energy grade line (%)	=	2.031
Time of conc (min)	=	9	Critical depth (in)	=	46.61
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	187.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	53.8
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	204.6	Confluence angle (deg)	=	0
Default Q (cfs)	=	204.68	Natural ground elev (ft)	=	73
Line capac. (cfs)	=	219.6	Line storage (cuft)	=	5026

LINE 4 / Q = 204.7 / HT = 48 / WID = 48 / N = .013 / L = 354 / JLC = .25

4 / DNLN = 3

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	67.72	48.00	60.46	16.29	71.84	0.00	8.54	12.56
UPSTRM	74.91	48.00	68.73	16.29	79.03	0.00	4.96	12.57

Drainage area (ac)	=	0	Slope of invert (%)	=	2.336
Runoff coefficient	=	0	Slope energy grade line (%)	=	2.031
Time of conc (min)	=	7	Critical depth (in)	=	46.61
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	187.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	53.8
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	204.6	Confluence angle (deg)	=	0
Default Q (cfs)	=	204.68	Natural ground elev (ft)	=	77.7
Line capac. (cfs)	=	219.6	Line storage (cuft)	=	4448

LINE 5 / Q = 193.9 / HT = 54 / WID = 54 / N = .013 / L = 72 / JLC = .25

5 / DNLN = 4

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	75.94	54.00	68.73	12.19	78.25	0.00	4.46	15.90
UPSTRM	76.64	54.00	69.45	12.19	78.95	0.00	3.7	15.90

Drainage area (ac)	=	0	Slope of invert (%)	=	1.000
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.972
Time of conc (min)	=	6	Critical depth (in)	=	48.63
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	177.6
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	51.0
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	193.8	Confluence angle (deg)	=	90
Default Q (cfs)	=	193.88	Natural ground elev (ft)	=	77.65
Line capac. (cfs)	=	196.7	Line storage (cuft)	=	1145

LINE 6 / Q = 199.6 / HT = 54 / WID = 54 / N = .013 / L = 209 / JLC = .25

 6 / DNLN = 1

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	49.42	54.00	41.76	12.55	51.86	0.00	9.99	15.90
UPSTRM	51.57	54.00	43.66	12.55	54.01	0.00	6.08	15.90

Drainage area (ac) = 0	Slope of invert (%) = 0.909
Runoff coefficient = 0	Slope energy grade line (%) = 1.030
Time of conc (min) = 5	Critical depth (in) = 49.41
Inlet time (min) = 0	Req'd length curb inlet (ft) = 182.9
Intensity (in/hr) = 0.00	Req'd grate area (sf) = 52.5
Cumulative C*A = 0.0	Depth at inlet opening (in) = 6
Flow contrib (cfs) = 199.5	Confluence angle (deg) = -45
Default Q (cfs) = 199.57	Natural ground elev (ft) = 54.24
Line capac. (cfs) = 187.5	Line storage (cuft) = 3324

LINE 7 / Q = 57.8 / HT = 36 / WID = 36 / N = .013 / L = 185 / JLC = .25

 7 / DNLN = 6

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	52.18	36.00	43.66	8.18	53.22	0.00	7.58	7.07
UPSTRM	53.57	36.00	47.72	8.18	54.61	0.00	8.73	7.07

Drainage area (ac) = 0	Slope of invert (%) = 2.195
Runoff coefficient = 0	Slope energy grade line (%) = 0.751
Time of conc (min) = 1	Critical depth (in) = 29.07
Inlet time (min) = 0	Req'd length curb inlet (ft) = 53.0
Intensity (in/hr) = 0.00	Req'd grate area (sf) = 15.2
Cumulative C*A = 0.0	Depth at inlet opening (in) = 6
Flow contrib (cfs) = 57.7	Confluence angle (deg) = 90
Default Q (cfs) = 57.8	Natural ground elev (ft) = 59.46
Line capac. (cfs) = 98.8	Line storage (cuft) = 1308

LINE 8 / Q = 29.8 / HT = 24 / WID = 24 / N = .013 / L = 50 / JLC = .25

8 / DNLN = 7

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	53.83	24.00	47.72	9.49	55.23	0.00	9.73	3.14
UPSTRM	54.70	24.00	50.00	9.49	56.10	0.00	8.7	3.14

Drainage area (ac)	=	0	Slope of invert (%)	=	4.560
Runoff coefficient	=	0	Slope energy grade line (%)	=	1.736
Time of conc (min)	=	0	Critical depth (in)	=	22.58
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	27.3
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	7.8
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	29.7	Confluence angle (deg)	=	0
Default Q (cfs)	=	29.8	Natural ground elev (ft)	=	60.71
Line capac. (cfs)	=	48.3	Line storage (cuft)	=	157

LINE 9 / Q = 18.4 / HT = 18 / WID = 18 / N = .013 / L = 75 / JLC = .25

9 / DNLN = 8

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	55.05	18.00	50.50	10.41	56.73	0.00	8.7	1.77
UPSTRM	57.77	18.00	55.57	10.41	59.46	0.00	4.4	1.77

Drainage area (ac)	=	0	Slope of invert (%)	=	6.760
Runoff coefficient	=	0	Slope energy grade line (%)	=	3.632
Time of conc (min)	=	0	Critical depth (in)	=	17.62
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	16.9
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	4.8
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	18.3	Confluence angle (deg)	=	90
Default Q (cfs)	=	18.4	Natural ground elev (ft)	=	61.48
Line capac. (cfs)	=	27.3	Line storage (cuft)	=	133

LINE 10 / Q = 141.8 / HT = 42 / WID = 42 / N = .013 / L = 50 / JLC = .25

10 / DNLN = 6

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	52.18	42.00	43.66	14.74	55.55	0.00	7.08	9.62
UPSTRM	53.17	42.00	44.10	14.74	56.55	0.00	8.96	9.62

Drainage area (ac)	=	0	Slope of invert (%)	=	0.880
Runoff coefficient	=	0	Slope energy grade line (%)	=	1.986
Time of conc (min)	=	4	Critical depth (in)	=	40.79
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	129.9
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	37.3
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	141.7	Confluence angle (deg)	=	0
Default Q (cfs)	=	141.77	Natural ground elev (ft)	=	56.56
Line capac. (cfs)	=	94.4	Line storage (cuft)	=	481

LINE 11 / Q = 34.4 / HT = 36 / WID = 36 / N = .013 / L = 272 / JLC = .25

11 / DNLN = 26

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	78.02	36.00	69.83	4.87	78.39	0.00	5.19	7.07
UPSTRM	78.74	36.00	72.98	4.87	79.11	0.00	5.51	7.07

Drainage area (ac)	=	0	Slope of invert (%)	=	1.158
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.266
Time of conc (min)	=	5	Critical depth (in)	=	22.43
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	31.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	9.0
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	34.4	Confluence angle (deg)	=	0
Default Q (cfs)	=	34.4	Natural ground elev (ft)	=	81.5
Line capac. (cfs)	=	71.8	Line storage (cuft)	=	1922

LINE 12 / Q = 34.4 / HT = 30 / WID = 30 / N = .013 / L = 450 / JLC = .25

12 / DNLN = 11

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	78.83	30.00	72.98	7.01	79.60	0.00	6.01	4.91
UPSTRM	82.00	30.00	78.25	7.01	82.76	0.00	5.43	4.91

Drainage area (ac)	=	0	Slope of invert (%)	=	1.171
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.704
Time of conc (min)	=	2	Critical depth (in)	=	23.52
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	31.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	9.0
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	34.4	Confluence angle (deg)	=	45
Default Q (cfs)	=	34.4	Natural ground elev (ft)	=	86.18
Line capac. (cfs)	=	44.4	Line storage (cuft)	=	2209

LINE 13 / Q = 14.0 / HT = 18 / WID = 18 / N = .013 / L = 25 / JLC = .25

 13 / DNLN = 7

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	55.31	13.35	54.20	9.96	56.85	15.76	3.75	1.41
UPSTRM	56.25	13.35	54.75	9.96	57.79	15.76	3.68	1.41

Drainage area (ac)	=	0	Slope of invert (%)	=	2.200
Runoff coefficient	=	0	Slope energy grade line (%)	=	3.742
Time of conc (min)	=	0	Critical depth (in)	=	16.71
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	12.8
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	3.7
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	14	Confluence angle (deg)	=	45
Default Q (cfs)	=	14	Natural ground elev (ft)	=	59.94
Line capac. (cfs)	=	15.6	Line storage (cuft)	=	35

LINE 14 / Q = 14.0 / HT = 18 / WID = 18 / N = .013 / L = 25 / JLC = .25

 14 / DNLN = 7

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	55.59	16.71	54.20	8.18	56.63	9.28	3.75	1.71
UPSTRM	56.32	18.00	54.50	7.92	57.29	0.00	3.7	1.77

Drainage area (ac)	=	0	Slope of invert (%)	=	1.200
Runoff coefficient	=	0	Slope energy grade line (%)	=	2.632
Time of conc (min)	=	0	Critical depth (in)	=	16.71
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	12.8
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	3.7
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	14	Confluence angle (deg)	=	-45
Default Q (cfs)	=	14	Natural ground elev (ft)	=	59.7
Line capac. (cfs)	=	11.5	Line storage (cuft)	=	43

LINE 15 / Q = 11.0 / HT = 18 / WID = 18 / N = .013 / L = 30 / JLC = .25

 15 / DNLN = 8

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	56.00	10.83	55.10	9.91	57.53	17.63	4.11	1.11
UPSTRM	56.76	10.83	55.86	9.91	58.29	17.63	3.82	1.11

Drainage area (ac)	=	0	Slope of invert (%)	=	2.533
Runoff coefficient	=	0	Slope energy grade line (%)	=	2.533
Time of conc (min)	=	0	Critical depth (in)	=	15.19
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	10.1
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	2.9
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	11	Confluence angle (deg)	=	0
Default Q (cfs)	=	11	Natural ground elev (ft)	=	61.19
Line capac. (cfs)	=	16.7	Line storage (cuft)	=	33

LINE 16 / Q = 5.5 / HT = 18 / WID = 18 / N = .013 / L = 30 / JLC = .25

 16 / DNLN = 15

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	57.14	15.40	55.86	3.37	57.32	12.16	3.82	1.63
UPSTRM	57.21	10.78	56.22	4.98	57.60	17.64	3.93	1.10

Drainage area (ac)	=	0	Slope of invert (%)	=	1.200
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.932
Time of conc (min)	=	0	Critical depth (in)	=	10.74
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	5.0
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	1.4
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	5.5	Confluence angle (deg)	=	90
Default Q (cfs)	=	5.5	Natural ground elev (ft)	=	61.66
Line capac. (cfs)	=	11.5	Line storage (cuft)	=	41

LINE 17 / Q = 34.4 / HT = 30 / WID = 30 / N = .013 / L = 176 / JLC = .25

 17 / DNLN = 12

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	82.19	30.00	78.25	7.01	82.95	0.00	5.43	4.91
UPSTRM	83.43	30.00	80.31	7.01	84.19	0.00	5.08	4.91

Drainage area (ac)	=	0	Slope of invert (%)	=	1.170
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.704
Time of conc (min)	=	1	Critical depth (in)	=	23.52
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	31.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	9.0
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	34.4	Confluence angle (deg)	=	90
Default Q (cfs)	=	34.4	Natural ground elev (ft)	=	87.89
Line capac. (cfs)	=	44.4	Line storage (cuft)	=	864

LINE 18 / Q = 34.4 / HT = 30 / WID = 30 / N = .013 / L = 146 / JLC = .25

 18 / DNLN = 17

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	83.62	30.00	80.31	7.01	84.38	0.00	5.08	4.91
UPSTRM	85.07	23.52	83.11	8.33	86.15	24.69	3.29	4.13

Drainage area (ac)	=	0	Slope of invert (%)	=	1.918
Runoff coefficient	=	0	Slope energy grade line (%)	=	1.208
Time of conc (min)	=	0	Critical depth (in)	=	23.52
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	31.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	9.0
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	34.4	Confluence angle (deg)	=	90
Default Q (cfs)	=	34.4	Natural ground elev (ft)	=	88.9
Line capac. (cfs)	=	56.8	Line storage (cuft)	=	660

LINE 19 / Q = 18.0 / HT = 18 / WID = 18 / N = .013 / L = 55 / JLC = .25

 19 / DNLN = 18

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	85.34	18.00	83.11	10.19	86.95	0.00	4.29	1.77
UPSTRM	87.34	17.99	85.44	10.19	88.95	1.02	2.27	1.77

Drainage area (ac)	=	0	Slope of invert (%)	=	4.236
Runoff coefficient	=	0	Slope energy grade line (%)	=	3.639
Time of conc (min)	=	0	Critical depth (in)	=	17.62
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	16.5
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	4.7
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	18	Confluence angle (deg)	=	15
Default Q (cfs)	=	18	Natural ground elev (ft)	=	89.22
Line capac. (cfs)	=	21.6	Line storage (cuft)	=	97

LINE 20 / Q = 16.4 / HT = 18 / WID = 18 / N = .013 / L = 85 / JLC = .25

 20 / DNLN = 18

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	85.34	18.00	83.11	9.28	86.68	0.00	4.29	1.77
UPSTRM	87.56	17.37	85.77	9.38	88.93	6.62	2.28	1.75

Drainage area (ac)	=	0	Slope of invert (%)	=	3.129
Runoff coefficient	=	0	Slope energy grade line (%)	=	2.646
Time of conc (min)	=	0	Critical depth (in)	=	17.32
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	15.0
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	4.3
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	16.3	Confluence angle (deg)	=	90
Default Q (cfs)	=	16.4	Natural ground elev (ft)	=	89.55
Line capac. (cfs)	=	18.6	Line storage (cuft)	=	149

LINE 21 / Q = 45.2 / HT = 36 / WID = 36 / N = .013 / L = 50 / JLC = .25

 21 / DNLN = 27

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	56.28	36.00	48.46	6.40	56.91	0.00	6.29	7.07
UPSTRM	56.51	36.00	48.75	6.39	57.14	0.00	6.31	7.07

Drainage area (ac)	=	0	Slope of invert (%)	=	0.580
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.459
Time of conc (min)	=	2	Critical depth (in)	=	25.71
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	41.4
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	11.9
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	45.2	Confluence angle (deg)	=	30
Default Q (cfs)	=	45.2	Natural ground elev (ft)	=	58.07
Line capac. (cfs)	=	50.8	Line storage (cuft)	=	353

LINE 22 / Q = 45.2 / HT = 36 / WID = 36 / N = .013 / L = 98 / JLC = .25

 22 / DNLN = 21

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	56.67	36.00	48.75	6.40	57.30	0.00	6.31	7.07
UPSTRM	57.12	36.00	49.17	6.39	57.75	0.00	6.4	7.07

Drainage area (ac) =	0	Slope of invert (%) =	0.429
Runoff coefficient =	0	Slope energy grade line (%) =	0.459
Time of conc (min) =	1	Critical depth (in) =	25.71
Inlet time (min) =	0	Req'd length curb inlet (ft) =	41.4
Intensity (in/hr) =	0.00	Req'd grate area (sf) =	11.9
Cumulative C*A =	0.0	Depth at inlet opening (in) =	6
Flow contrib (cfs) =	45.2	Confluence angle (deg) =	30
Default Q (cfs) =	45.2	Natural ground elev (ft) =	58.57
Line capac. (cfs) =	43.7	Line storage (cuft) =	693

LINE 23 / Q = 45.2 / HT = 36 / WID = 36 / N = .013 / L = 45 / JLC = .25

 23 / DNLN = 22

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	57.28	36.00	49.17	6.40	57.91	0.00	6.4	7.07
UPSTRM	57.48	36.00	49.53	6.39	58.12	0.00	6.35	7.07

Drainage area (ac)	=	0	Slope of invert (%)	=	0.800
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.459
Time of conc (min)	=	1	Critical depth (in)	=	25.71
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	41.4
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	11.9
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	45.2	Confluence angle (deg)	=	20
Default Q (cfs)	=	45.2	Natural ground elev (ft)	=	58.88
Line capac. (cfs)	=	59.7	Line storage (cuft)	=	318

LINE 24 / Q = 35.0 / HT = 30 / WID = 30 / N = .013 / L = 145 / JLC = .25

24 / DNLN = 23

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	57.64	30.00	49.73	7.13	58.43	0.00	6.65	4.91
UPSTRM	58.90	30.00	52.07	7.13	59.69	0.00	5.09	4.91

Drainage area (ac)	=	0	Slope of invert (%)	=	1.614
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.865
Time of conc (min)	=	0	Critical depth (in)	=	23.72
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	32.1
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	9.2
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	35	Confluence angle (deg)	=	10
Default Q (cfs)	=	35	Natural ground elev (ft)	=	59.67
Line capac. (cfs)	=	52.1	Line storage (cuft)	=	712

LINE 25 / Q = 10.2 / HT = 36 / WID = 36 / N = .013 / L = 47 / JLC = .25

 25 / DNLN = 23

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	57.64	36.00	49.53	1.44	57.67	0.00	6.35	7.07
UPSTRM	57.66	36.00	49.84	1.44	57.69	0.00	6.16	7.07

Drainage area (ac) = 0	Slope of invert (%) = 0.660
Runoff coefficient = 0	Slope energy grade line (%) = 0.041
Time of conc (min) = 0	Critical depth (in) = 12.21
Inlet time (min) = 0	Req'd length curb inlet (ft) = 9.3
Intensity (in/hr) = 0.00	Req'd grate area (sf) = 2.7
Cumulative C*A = 0.0	Depth at inlet opening (in) = 6
Flow contrib (cfs) = 10.1	Confluence angle (deg) = -20
Default Q (cfs) = 10.2	Natural ground elev (ft) = 59.01
Line capac. (cfs) = 54.2	Line storage (cuft) = 332

LINE 26 / Q = 108.5 / HT = 48 / WID = 48 / N = .013 / L = 38 / JLC = .25

 27 / DNLN = 5

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	77.22	48.00	69.45	8.64	78.38	0.00	4.2	12.56
UPSTRM	77.73	48.00	69.83	8.64	78.89	0.00	4.19	12.57

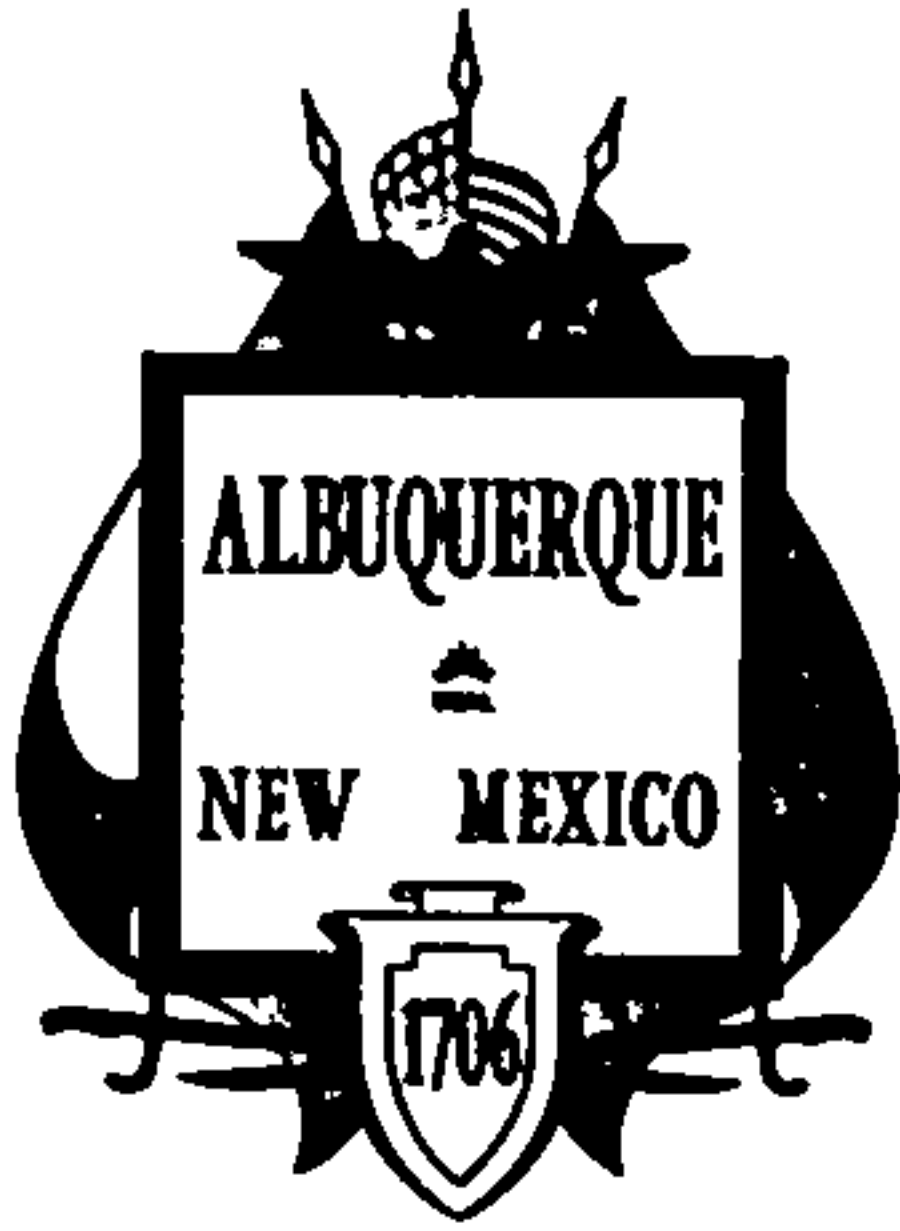
Drainage area (ac)	=	0	Slope of invert (%)	=	1.000
Runoff coefficient	=	0	Slope energy grade line (%)	=	1.333
Time of conc (min)	=	6	Critical depth (in)	=	36.96
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	99.4
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	28.5
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	108.5	Confluence angle (deg)	=	0
Default Q (cfs)	=	108.53	Natural ground elev (ft)	=	78.03
Line capac. (cfs)	=	143.6	Line storage (cuft)	=	477

LINE 27 / Q = 45.2 / HT = 36 / WID = 36 / N = .013 / L = 423 / JLC = .25

 33 / DNLN = 10

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	54.02	36.00	46.26	6.40	54.65	0.00	7.3	7.07
UPSTRM	56.12	36.00	46.89	6.39	56.75	0.00	7.86	7.07

Drainage area (ac)	=	0	Slope of invert (%)	=	0.149
Runoff coefficient	=	0	Slope energy grade line (%)	=	0.459
Time of conc (min)	=	2	Critical depth (in)	=	25.71
Inlet time (min)	=	0	Req'd length curb inlet (ft)	=	41.4
Intensity (in/hr)	=	0.00	Req'd grate area (sf)	=	11.9
Cumulative C*A	=	0.0	Depth at inlet opening (in)	=	6
Flow contrib (cfs)	=	45.2	Confluence angle (deg)	=	0
Default Q (cfs)	=	45.2	Natural ground elev (ft)	=	57.76
Line capac. (cfs)	=	25.7	Line storage (cuft)	=	2990



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 29, 2003

James D. Hughes, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: EL RANCHO GRANDE UNIT 4B (M-9/D19A)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 4/6/2001
Engineers Certification dated 1/16/2003

Dear Doug:

Based upon the information provided in your Engineers Certification resubmittal dated 1/17/2003, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

If you have any questions, please call me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Development & Bldg. Ser. Division

BLB

c: Arlene Portillo, COA--Project # 645685

✓ File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

M-9/819A

PROJECT TITLE: E1 Rancho Grande I Unit 4B ZONE MAP/DRG. FILE #: 4429 & N-9

DRB #: _____ EPC#: _____ WORK ORDER#: 64560-85

LEGAL DESCR: A Tract of Land situate within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, projected Section 4, Township 9 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico

CITY ADDRESS: Rancho Grande I filed in the office of Bernalillo County Clerk on March 24, 2000, Volume 2000C, Folio 90, together with Parcels 7A-1C

ENGINEERING FIRM: Mark Goodwin & Assoc., P.A.
ADDRESS: P.O. Box 90606, Alb. NM, 87199
CITY, STATE: Alb NM 87199

CONTACT: James D. Hughes, P.E.
PHONE: 528-2260
ZIP CODE: 87199

OWNER: Corb, Inc.
ADDRESS: 6361 Indian School Rd. NE
CITY, STATE: Alb NM 87110

CONTACT: Bo Johnson
PHONE: 881-9190
ZIP CODE: 87110

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: Aldrich Land Surveying
ADDRESS: P.O. Box 30701
CITY, STATE: Alb NM

CONTACT: Tim Aldrich
PHONE: 884-1990
ZIP CODE: 87190

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

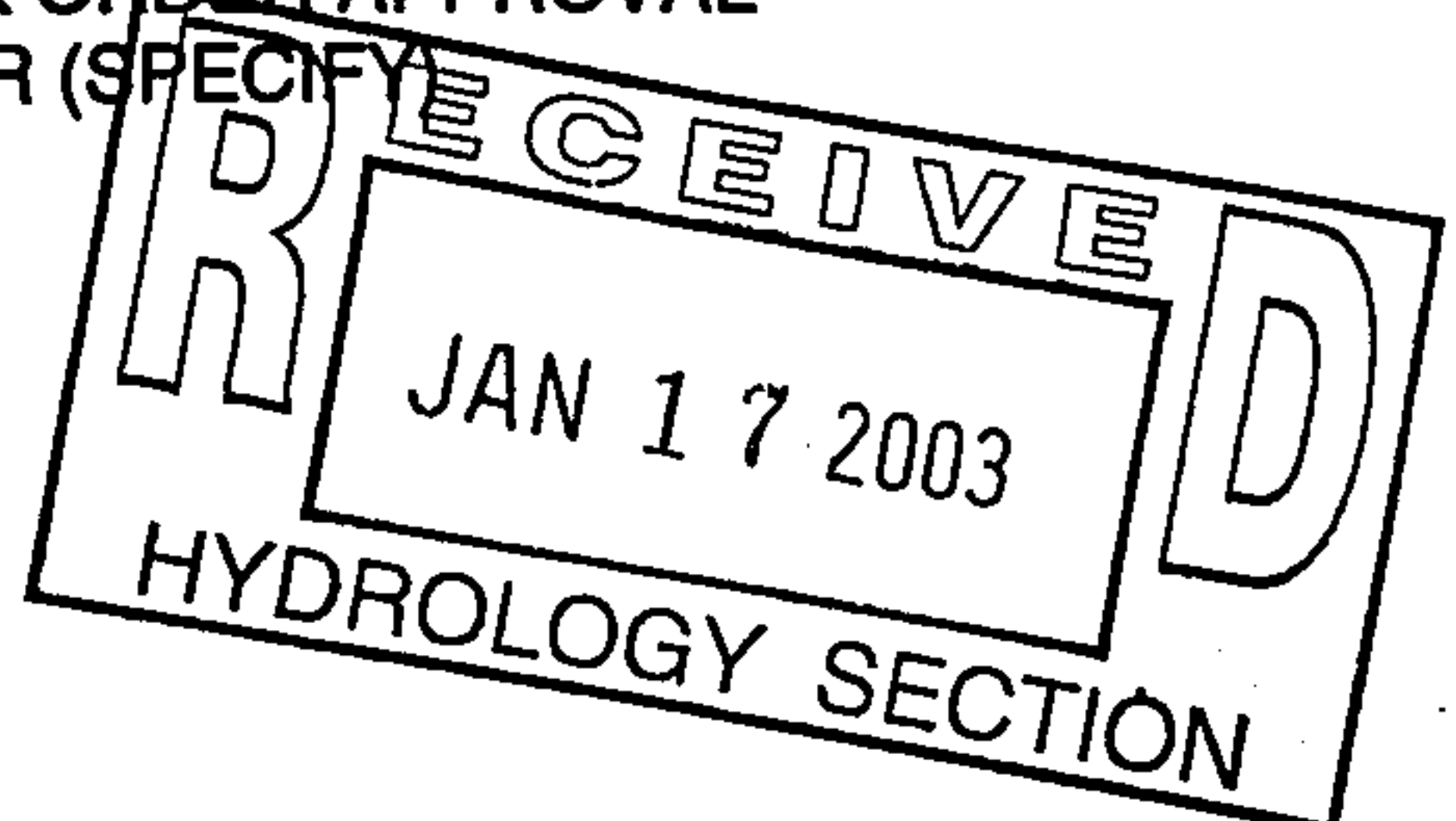
- ☐ DRAINAGE REPORT
- ☒ DRAINAGE PLAN
- ☒ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☒ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☒ ENGINEERS CERTIFICATION (TCL)
- ☒ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☒ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ 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 (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED



DATE SUBMITTED: 1/16/03 BY: Monique DeStefano for James D. Hughes

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

D. Mark Goodwin and Associates, P.A.
Consulting Engineers

P.O. Box 90606 ♦ Albuquerque, NM 87199
(505) 828-2200 ♦ (505) 797-9539 fax
e-mail: dm@swcp.com

LETTER OF TRANSMITTAL

TO: Brad Bingham
City of Albuquerque
Hydrology

DATE: January 17, 2003

El Rancho Grande Unit 4B

We are sending:

Quantity	Date	Description
1		Grading & Drainage Plan
1		Application

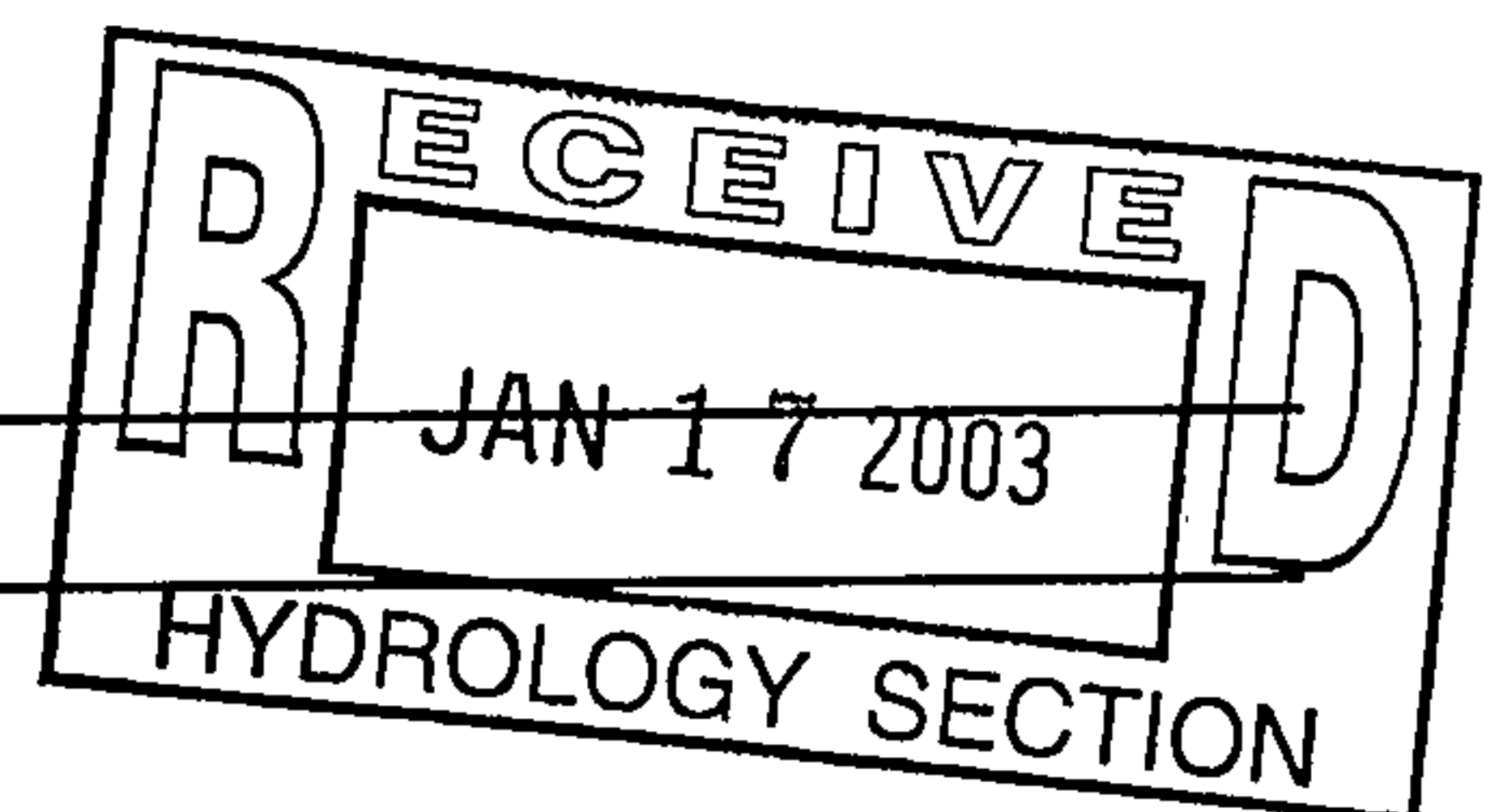
___ For your approval

___ For your records

___ As you requested

___ For your comments

___ Pre Design Meeting



Received _____

Project Engineer James D. Hughes,

SIGNED: _____

Bernadette Mares
Bernadette Mares



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 8, 2003

James D. Hughes, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: EL RANCHO GRANDE UNIT 4B (M-9/D19A)
Acceptance of Engineers Certification and Release of Financial Guaranty

Dear Doug:

Based on the information provided in your submittal dated 12/3/2002, the above referenced project **can not** be approved for Release of SIA and Financial Guaranty at this time.

As per Richard Dourte's phone message on 1/8/2003, the following item must be addressed in order to recommend the release of the financial guaranty for the above mentioned project.

- The exception #6 concerning the block wall, adjacent to lots 1 and 23 in Block 18 on Mustang Ridge Dr, being built in the City right-of-way and obstructing the clear site triangle. Prior to release of financial guaranty, the wall must be moved out of the City right of way.

When the above item has been addressed and the corrected Engineers Certification resubmitted to our office, we will again review the submittal for the release of Financial Guaranty.

Please contact Richard Dourte at 924-3990, for any questions regarding this issue.

Sincerely,

Teresa A. Martin, P.E.
Hydrology Plan Checker
Development & Bldg. Ser. Division
PLB

c: file

DRAINAGE INFORMATION SHEET

M-9/D19A

PROJECT TITLE: El Rancho Grande I Unit 4B ZONE ATLAS#: M-9 & N-9
 DRB#: _____ EPC# _____ WORKORDER#: 6456.85

LEGAL DESCRIPTION: A Tract of Land situate within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, projected Section 4, Township 9 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of Parcel 7B, El Rancho Grande I filed in the office of Bernalillo County Clerk on March 24, 2000, Volume 2000C, Folio 90, together with Parcels 7A-1C

CITY ADDRESS: _____

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	James D. Hughes, PE
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	Curb, Inc.	CONTACT:	Bo Johnson
ADDRESS:	6301 Indian School Rd. NE, Albuquerque, NM 87110	PHONE:	881-9190
ARCHITECT:	_____	CONTACT:	_____
ADDRESS:	_____	PHONE:	_____
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldrich
ADDRESS:	P.O. Box 30701, Albuquerque, NM 87190	PHONE:	884-1990
CONTRACTOR:	_____	CONTACT:	_____
ADDRESS:	_____	PHONE:	_____

TYPE OF SUBMITTAL:

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

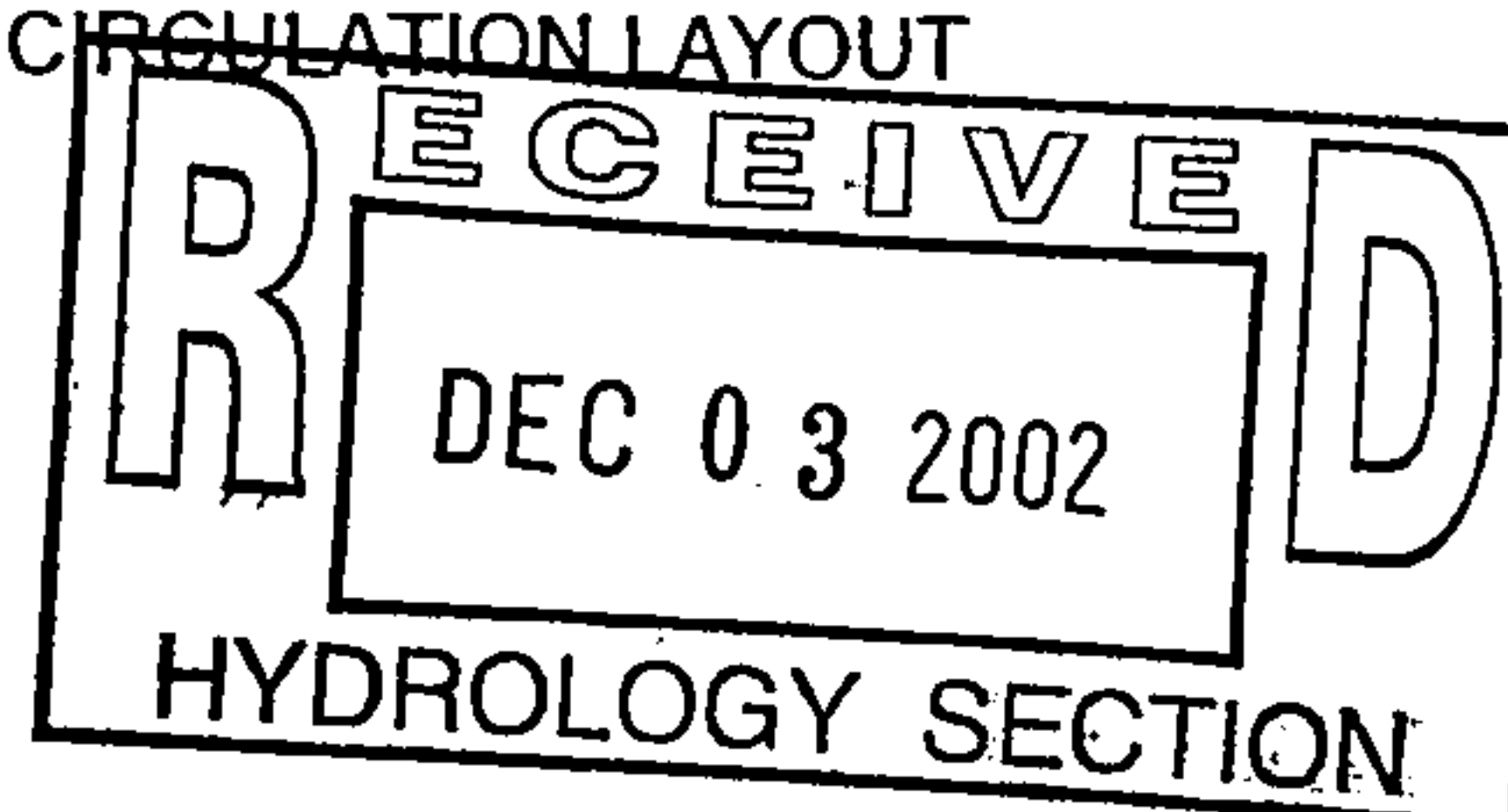
PRE-DESIGN MEETING:

- ☐ 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
- ☐ CERTIFICATION OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ OTHER
- ☒ RELEASE OF FINANCIAL GUARANTY
- ☐ TRAFFIC CIRCULATION LAYOUT

DATE SUBMITTED: 12-3-02
 BY: James D. Hughes
 James D. Hughes, PE



facsimile TRANSMITTAL

to: Don Morales — City of Albuquerque
Nilo Salgado — City of Albuquerque Traffic
Brad Bingham — City of Albuquerque Hydrology
Rick Squires — Bo-Kay

fax #: 857-8042
924-3864
924-3864
899-2851

re: El Rancho Grande Unit 4B

date: December 11, 2002

pages: 5 , including this cover sheet.

From the desk of..

JAMES D. HUGHES, PE
Senior Engineer

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

(505) 828-2200
Fax: (505) 797-9539



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

December 10, 2002

Mr. Don Morales
City of Albuquerque
P.O. Box 1293 Building F
Albuquerque, NM 87103

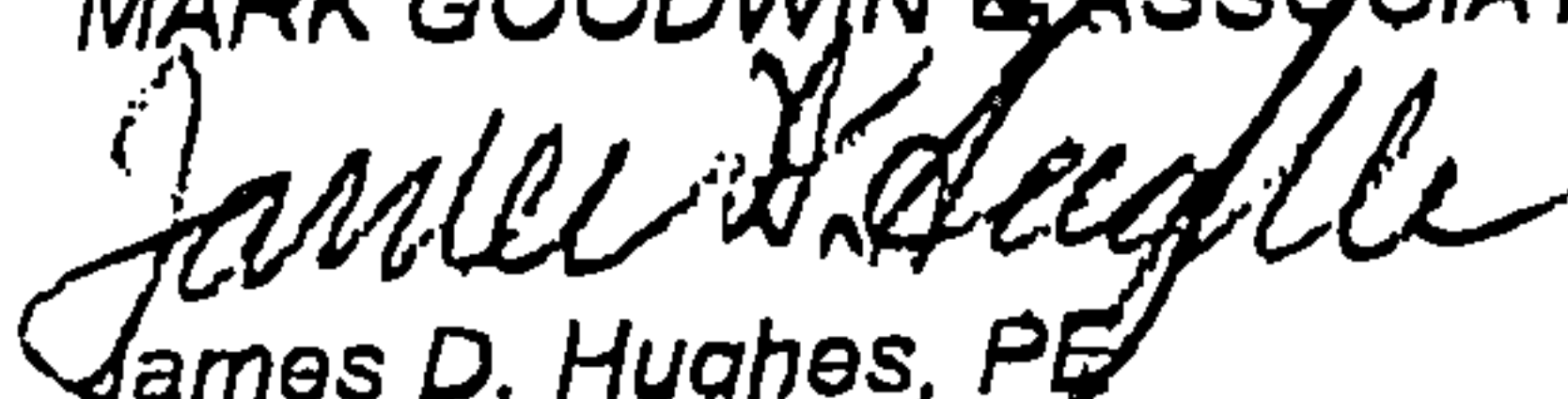
Re: **El Rancho Grande Unit 4B**

Dear Mr. Morales:

The City of Albuquerque Traffic and Hydrology Engineers, Nilo Salgado and Brad Bingham have authorized the substitution of Wheel Chair Accessible Driveways in place of Wheel Chair Ramps at Lots 37, 47 & 50 in accordance with the attached plans and details. Please let me know if you see any problems with the design.

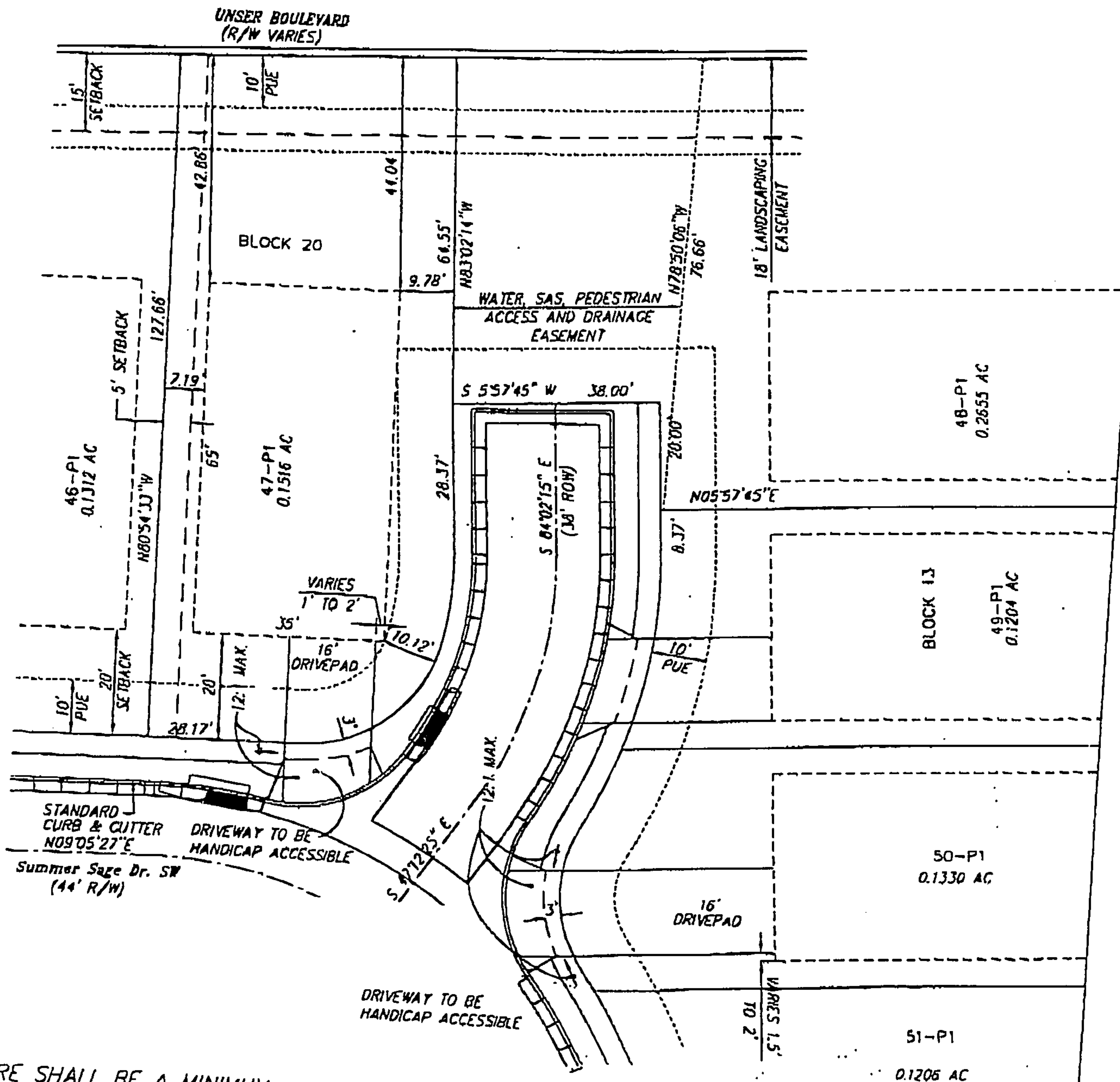
Sincerely

MARK GOODWIN & ASSOCIATES, PA


James D. Hughes, PE
Senior Engineer

JDH/bm

xc: Nilo Salgado — City of Albuquerque Traffic
Brad Bingham — City of Albuquerque Hydrology
Rick Squires — Bo-Kay Construction Management



NOTE: THERE SHALL BE A MINIMUM DISTANCE OF 10' BETWEEN BUILDINGS.

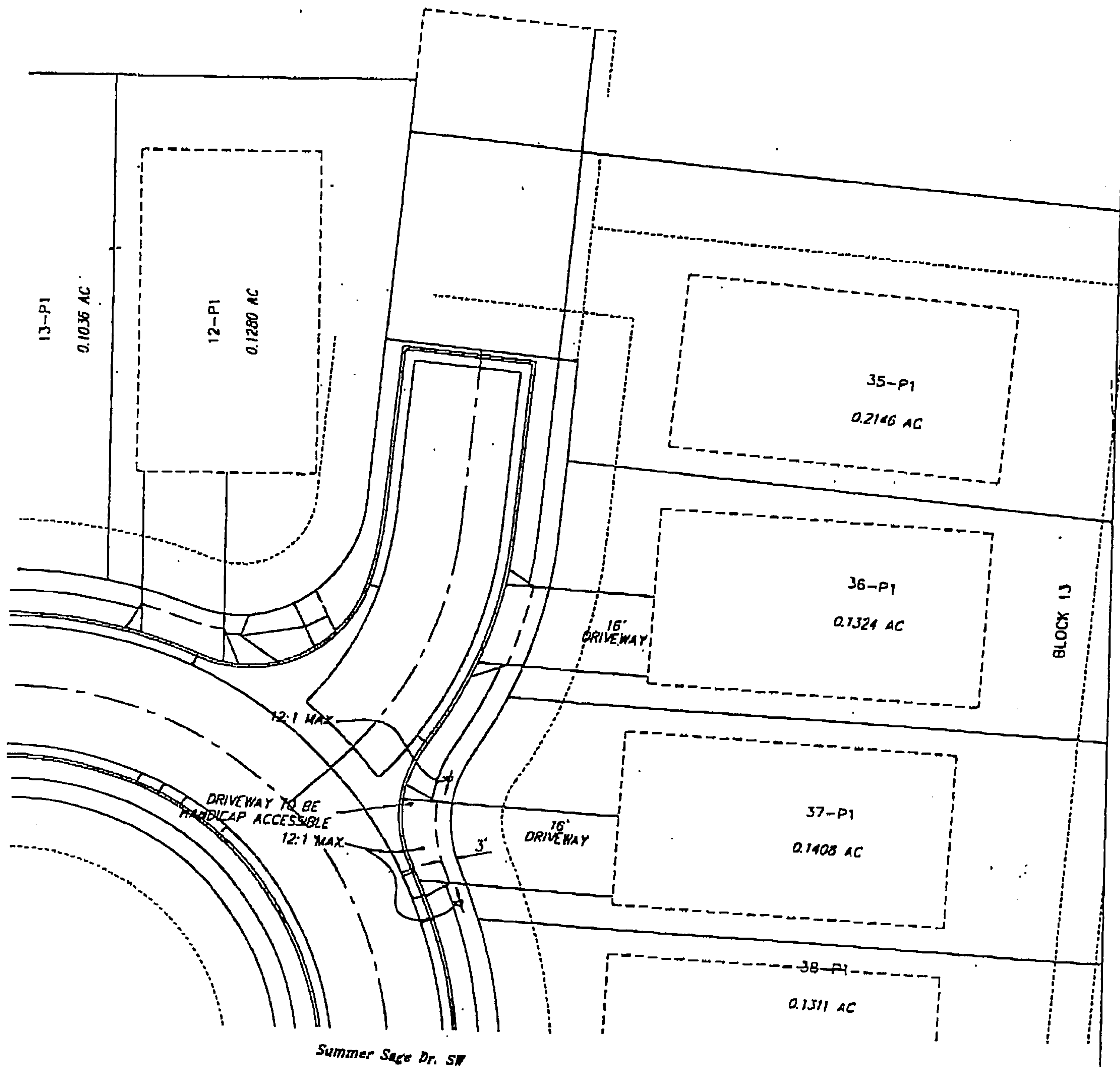
DRIVEWAY PLANS

EL RANCHO GRANDE I - UNIT 4B

LOTS 47 & 50, BLOCK 13

SCALE: 1" = 30'

10/23/02
L47-B13



NOTE: THERE SHALL BE A MINIMUM
DISTANCE OF 10' BETWEEN BUILDINGS.

DRIVEWAY PLANS

LOT 37, BLOCK 13

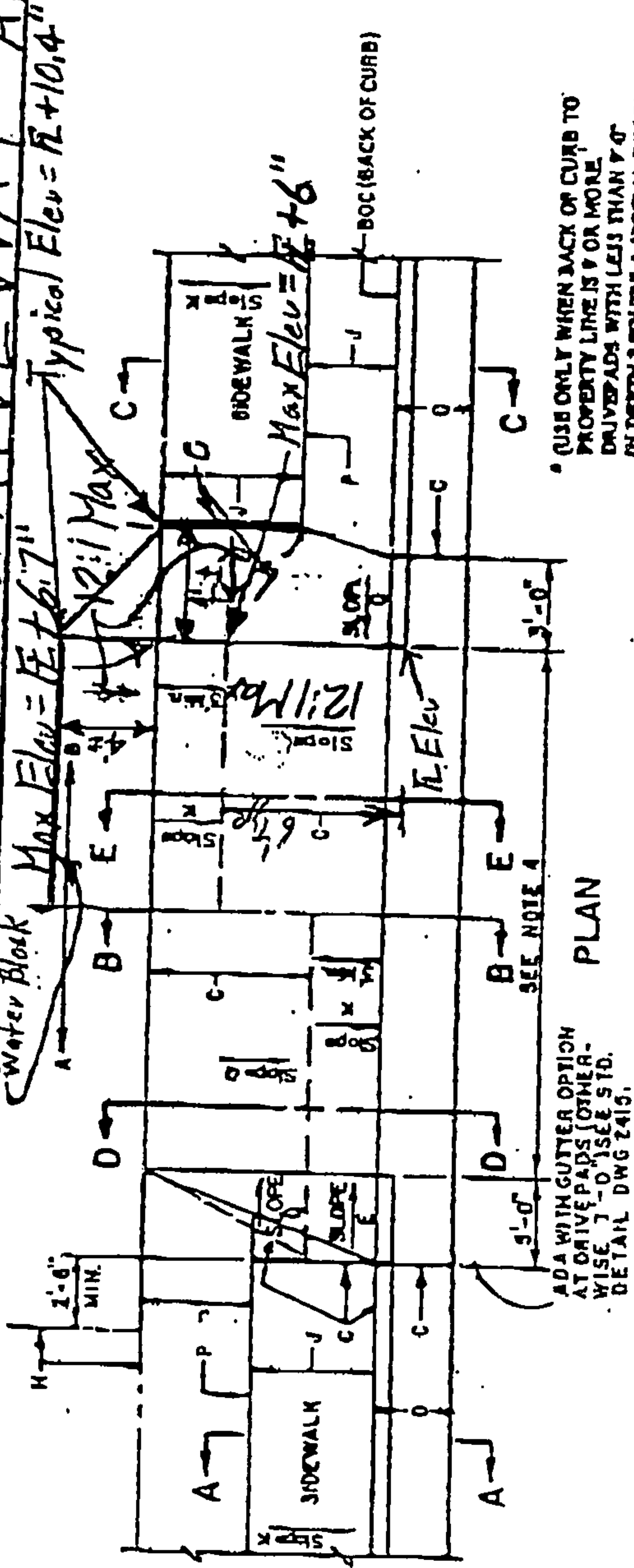
EL RANCHO GRANDE I - UNIT 4B



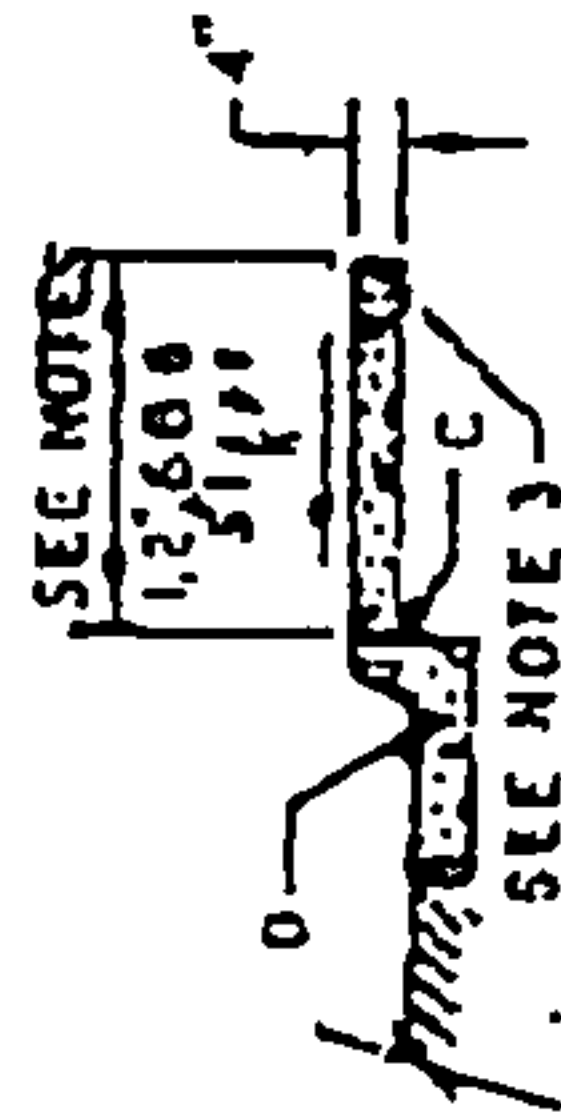
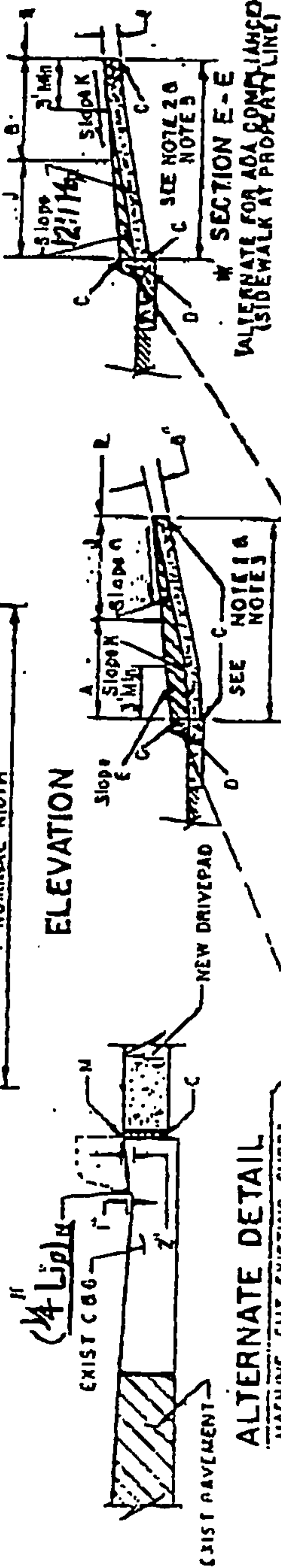
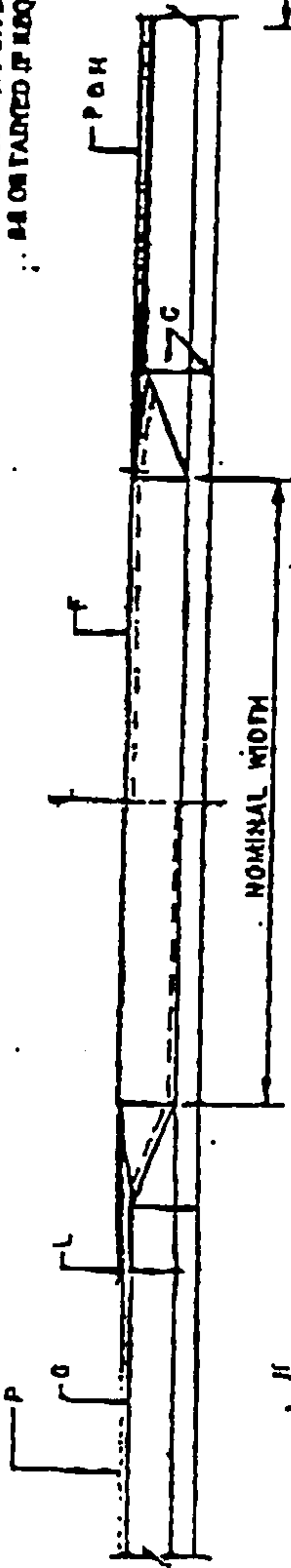
SCALE: 1" = 30'

10/23/02
L47-B13

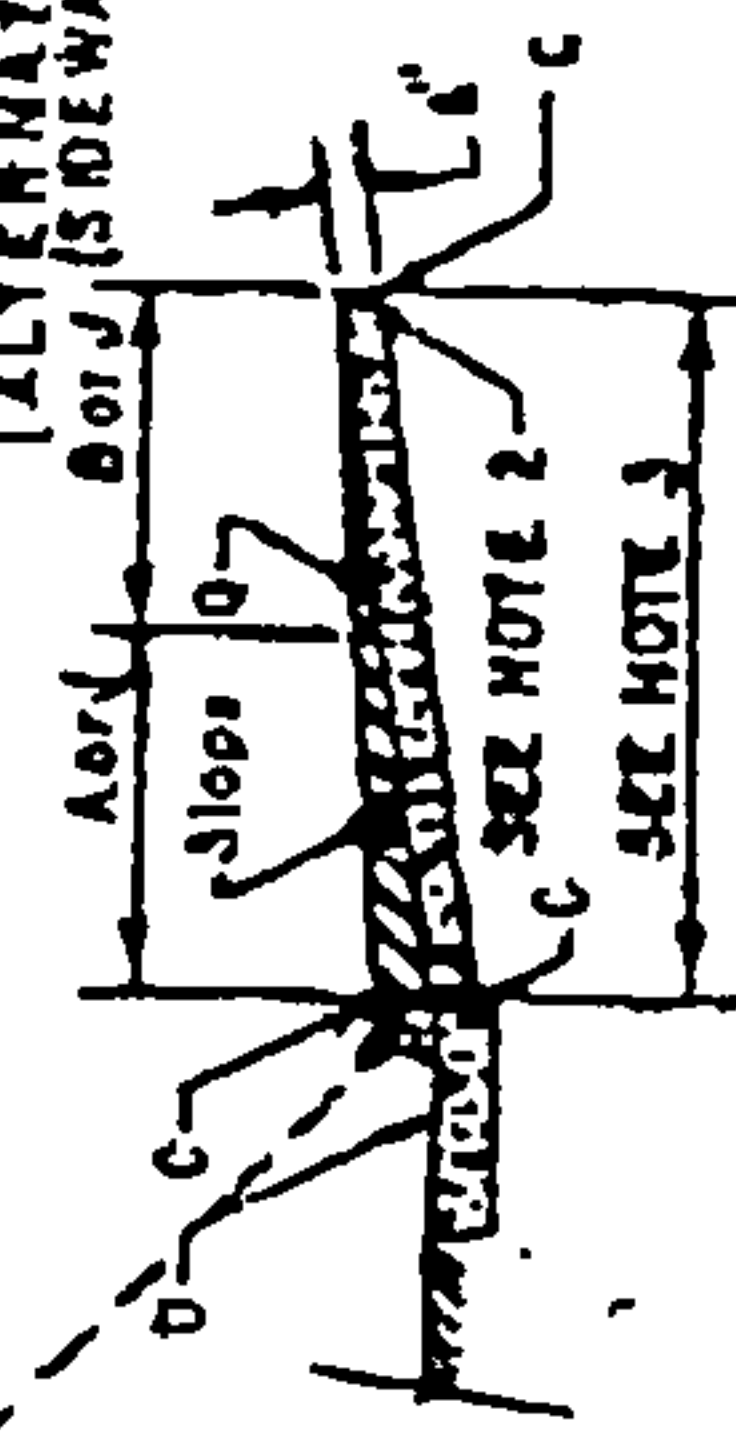
WHEEL CHAIR ACCESS DRIVEWAY AT STUB STREET



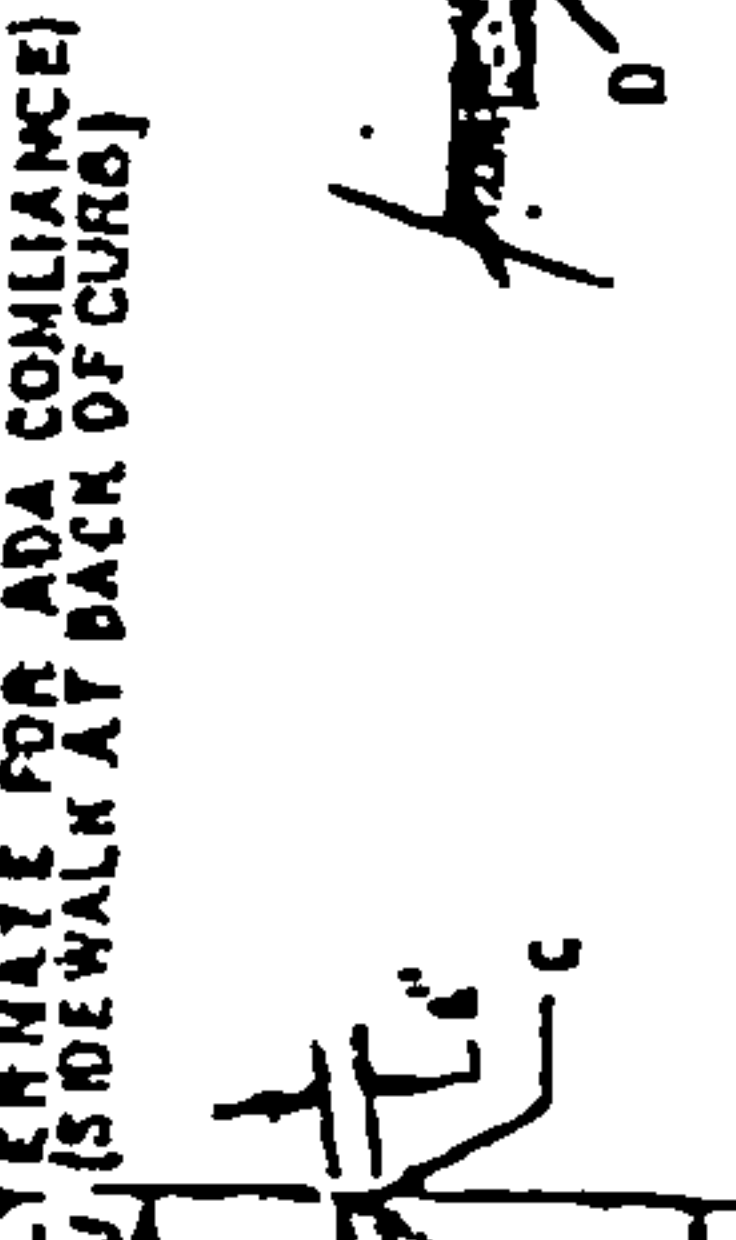
* CURB ONLY WHEN BACK OF CURB TO PROPERTY LINE IS 9' OR MORE. DRIVEPADS WITH LESS THAN 9' IN DEPTH REQUIRE A SPECIAL DESIGN BY THE CITY ENGINEER. ADDITIONAL RIGHT-OF-WAY OR EASEMENTS SHALL BE OBTAINED IF REQUIRED.



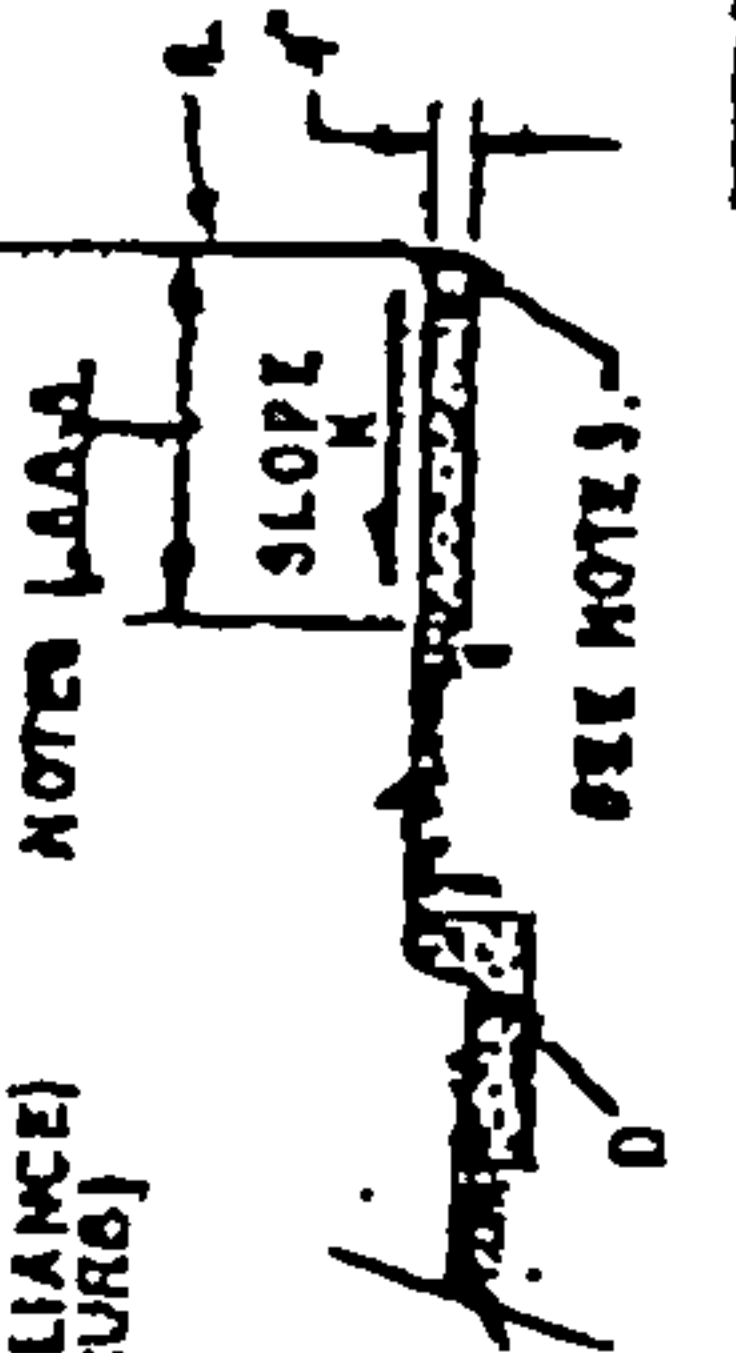
SECTION A-A



SECTION B-B
(ADA COMPLIANCE NOT REQUIRED OR POSSIBLE W/O ADDITIONAL ROW ACQUISITION)



SECTION D-D



SECTION E-E

GENERAL NOTES

1. DEVIATIONS FROM THESE STANDARDS SHALL BE SUBMITTED TO THE CITY ENGINEER AND/OR TRAFFIC ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
1. REQUEST FOR SIGNATURE VARIANCES SHALL BE SUBMITTED TO THE DEVELOPMENT REVIEW BOARD.
2. THE 1/4" EXP. JT. WHEN SIDEWALK OR DRIVEPAD ADJUTS BLOCKS, FENCES, WALLS OR OTHER IMMOVABLE OBJECTS.
4. ALL DRIVEPADS SHALL BE A MIN. DISTANCE OF 4" AND SHALL BE CONSTRUCTED FROM BACK OF CURB TO 2/2.
3. DRIVEPADS WIDER THAN 18" (NOMINAL) SHALL HAVE A 1/4" EXP. JT. AT MIDPOINT. DRIVEPADS WIDER THAN 36" SHALL HAVE 3 OR MORE 1/4" EXP. JTS. SQUARE SPACES, MAX. SPACING IS 18" APART.
4. SIDEWALK AT THE BACK OF CURB SHALL BE 36" WIDE. VARIANCE IS APPROVED.
1. FOR SIDEWALK WIDTH, SEE CHAPTER 11 THE DEVELOPMENT PROCESS MANUAL.
2. SIDEWALK UNDER SIDEWALK & DRIVEPAD SHALL BE CONTACTED AS PER SECTION 101.
3. ADA - AMERICANS WITH DISABILITIES ACT.

CONSTRUCTION NOTES

- A. CURB TYPE SIDEWALK.
- B. OFFSET SIDEWALK.
- C. 1/2" EXPANSION JOINT ADJACENT TO FIELD CONDITIONS ON REPLACEMENT WORK.
- D. CURB AND GUTTER.
- E. SLOPE TO BE ADJUSTED TO PROVIDE A UNIFORM TRANSITION BETWEEN SIDEWALK AND DRIVEPAD. (NOTIFY ENGINEER (VERTICAL) TO HORIZONTAL) (1/4" EXP. JT. 3/2).
- F. TOP OF DRIVEPAD.
- G. TOP OF CURB.
- H. PROPERTY LINE.
- I. VARIABLE WIDTH.
- J. SLOPE (VERTICAL) TO HORIZONTAL.
- K. THE FINISH GRADE ELEVATION DIFFERENCE BETWEEN TOP OF DRIVEPAD AT PROPERTY LINE AND TOP OF CURB AS DETERMINED BY A SLOPE OF (VERTICAL) TO HORIZONTAL FROM TOP OF CURB TO TOP OF DRIVEPAD AND ANY DEVIATION FROM THIS SLOPE MUST BE APPROVED BY THE CITY ENGINEER.
- L. LAW CUT EXISTING CONCRETE FROM BACKSIDE OF CURB WITH SLOPE TOWARD FLOWLINE.
- M. EXPOSED CUT EDGES SHALL BE FINISHED TO MATCH EXISTING HARD EDGE 1/4" LIP.
- N. OUTSIDE EDGES OF SIDEWALK.
- O. SLOPE REQUIRED TO MEET CURB OR SET BOUNDS ELEVATIONS (PROPERTY LINE OR DOC, ETC.)

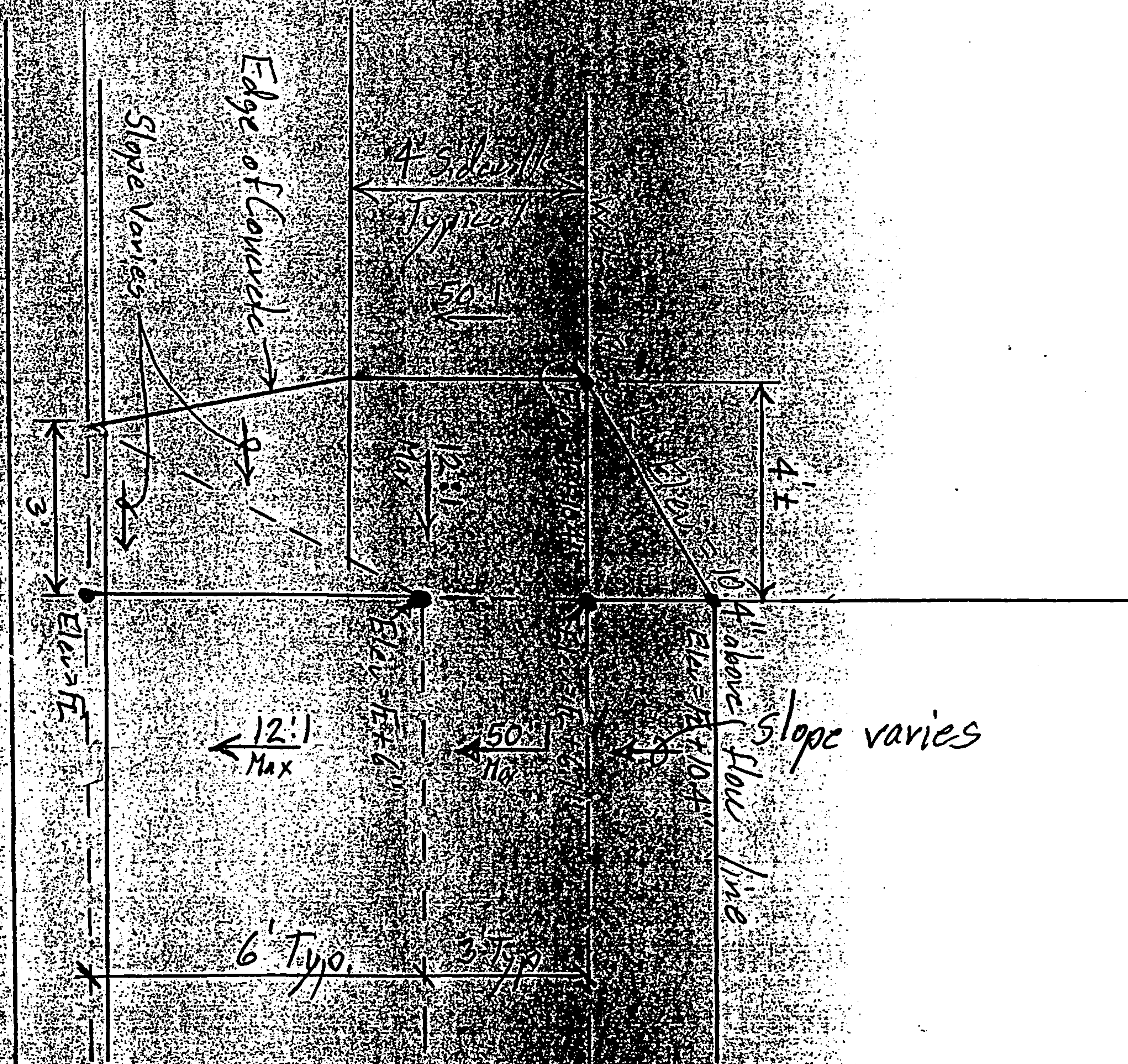
CITY OF ALBUQUERQUE

PAVING
DRIVEPADS

DWG. 2425 AC

ALA 0204

REVISION
1/1/04
3/00/04
12-5-02



11:00pm
 12/11/02
 Muehleberg
 312



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

September 12, 2001

Brad Bingham
City of Albuquerque (Hydrology Dept.)
Plaza del Sol
6202nd NW
Albuquerque, NM 87103

Re: El Rancho Grande Unit 4A

M 9 / D 19 A

Dear Mr. Bingham :

The purpose of this letter is to obtain permission to delete two inlet as a field change to this work order. The total developed 100 yr peak flow to the intersection of Mustang Ridge and Fence Post Road is 60.74 cfs. The four inlets on the west side of the street are designed to intercept 22.86 cfs, leaving 37.88 cfs as surface drainage. The undeveloped natural flow to that intersection is 47.40 cfs. So if just two of the inlets are constructed (# 9 and # 13) the 100 yr. flows will be handled as planned. Please allow inlets # 11 and # 14 to be deleted from the Unit 4A work order.

Sincerely,

MARK GOODWIN & ASSOCIATION, PA

James D. Hughes
James D. Hughes P.E.
Senior Engineer

attachments: AHYMO & copy of Grading Plan

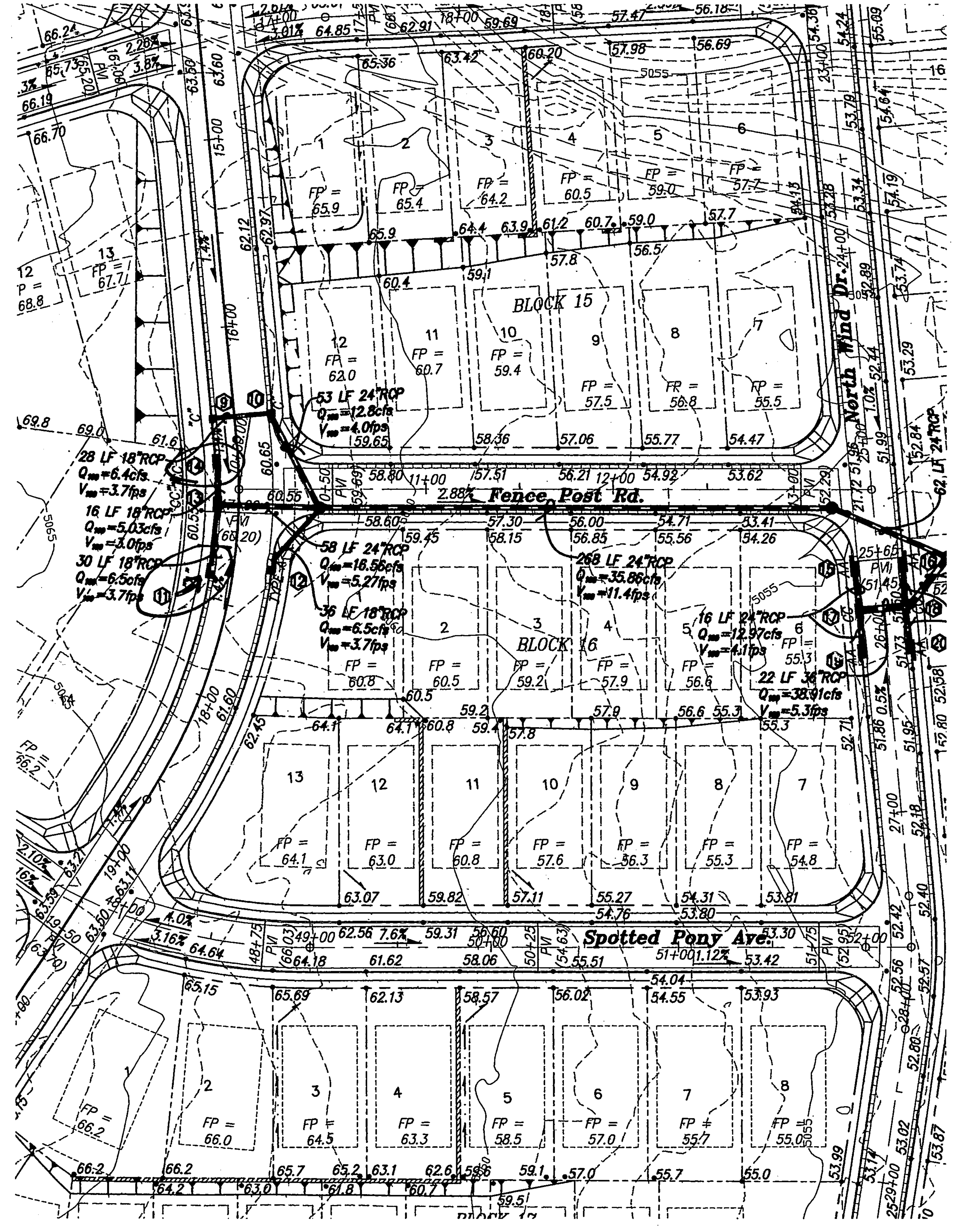
xc: Bo Johnson

JDH/mcm

Brad Bingham

I CONCUR

\\elrancho.gr.4a



AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 RUN DATE (MON/DAY/YR) = 09/12/2001
 START TIME (HR:MIN:SEC) = 10:31:48 USER NO. = M_GOODWN.I01
 INPUT FILE = ERGUNDEV.DAT

***** EL RANCHO GRANDE UNIT 4A
 ***** UNDEVELOPED CONDITIONS UPSTREAM
 ***** 100-YEAR 6-HOUR STORM EVENT
 ***** SEPT 12, 2001

RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
 RAIN ONE=1.90 IN RAIN SIX=2.20 IN
 RAIN DAY=2.67 IN DT=0.0333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
 DT = .033300 HOURS END TIME = 5.994000 HOURS

.0000	.0013	.0027	.0041	.0055	.0069	.0084
.0099	.0115	.0131	.0147	.0164	.0181	.0199
.0217	.0236	.0255	.0275	.0296	.0317	.0339
.0362	.0386	.0411	.0437	.0464	.0492	.0522
.0553	.0586	.0621	.0673	.0729	.0789	.0913
.1196	.1634	.2264	.3124	.4256	.5701	.7500
.9698	1.1808	1.2673	1.3402	1.4049	1.4637	1.5178
1.5681	1.6150	1.6590	1.7004	1.7395	1.7764	1.8113
1.8444	1.8758	1.9056	1.9338	1.9607	1.9678	1.9733
1.9786	1.9836	1.9884	1.9930	1.9974	2.0016	2.0056
2.0095	2.0133	2.0170	2.0205	2.0240	2.0273	2.0306
2.0337	2.0368	2.0398	2.0428	2.0456	2.0484	2.0512
2.0538	2.0565	2.0590	2.0615	2.0640	2.0664	2.0688
2.0712	2.0735	2.0757	2.0779	2.0801	2.0823	2.0844
2.0865	2.0885	2.0906	2.0925	2.0945	2.0965	2.0984
2.1003	2.1021	2.1039	2.1058	2.1076	2.1093	2.1111
2.1128	2.1145	2.1162	2.1179	2.1195	2.1211	2.1228
2.1243	2.1259	2.1275	2.1290	2.1306	2.1321	2.1336
2.1351	2.1365	2.1380	2.1394	2.1409	2.1423	2.1437
2.1451	2.1465	2.1478	2.1492	2.1505	2.1519	2.1532
2.1545	2.1558	2.1571	2.1584	2.1596	2.1609	2.1621
2.1634	2.1646	2.1658	2.1670	2.1682	2.1694	2.1706
2.1718	2.1730	2.1741	2.1753	2.1764	2.1776	2.1787
2.1798	2.1809	2.1820	2.1831	2.1842	2.1853	2.1864
2.1875	2.1885	2.1896	2.1906	2.1917	2.1927	2.1938
2.1948	2.1958	2.1968	2.1978	2.1988	2.1998	

COMPUTE NM HYD ID=1 HYD NO=101.0 AREA=0.053 SQ MI
 PER A=90 PER B=10 PER C=0 PER D=0
 TP=0.133 HR MASS RAINFALL=-1

K = .159351HR TP = .133000HR K/TP RATIO = 1.198131 SHAPE CONSTANT, N = 2.965443
 UNIT PEAK = 111.18 CFS UNIT VOLUME = .9996 B = 278.99 P60 = 1.9000

AREA = .053000 SQ MI IA = .63500 INCHES INF = 1.62800 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

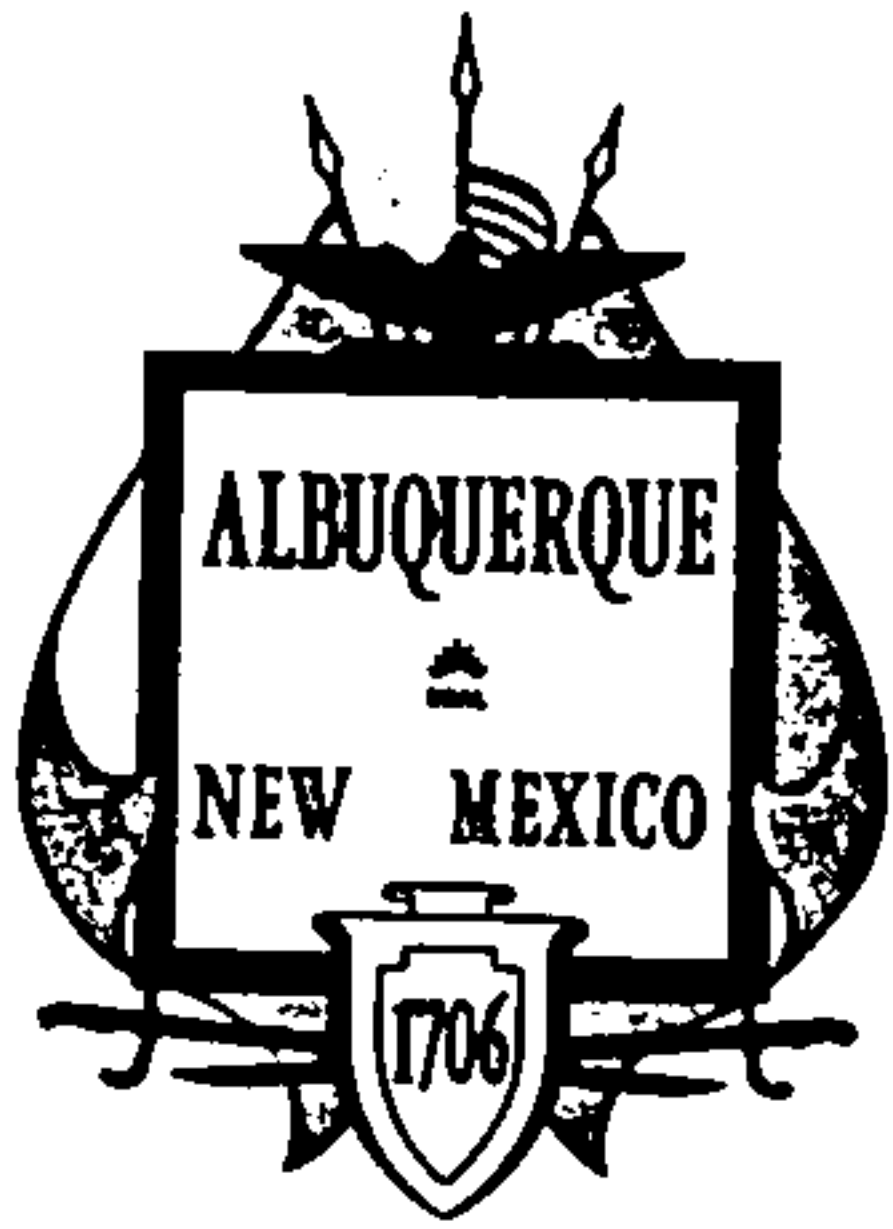
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = .46877 INCHES = 1.3251 ACRE-FEET
PEAK DISCHARGE RATE = 47.40 CFS AT 1.532 HOURS BASIN AREA = .0530 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:31:49



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 10, 2002

James D. Hughes, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: EL RANCHO GRANDE UNIT 4A (M-9/D19A)
Engineers Certification For Release of Financial Guaranty
Engineers Stamp dated 4/6/2001
Engineers Certification dated 5/2/2002

Dear Mr. Hughes:

Based upon the information provided in your Engineers Certification submittal dated 10/8/2002, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty for Unit 4A only.

If you have any questions, please call me at 924-3981.

Sincerely,

Teresa A. Martin

Hydrology Plan Checker

Development & Bldg. Ser. Division

6/3

c: Arlene Portillo, COA--Project # 645684

✓ File

DRAINAGE INFORMATION SHEET

M-9/D19A

PROJECT TITLE: El Rancho Grande I Units 4A & 4B ZONE ATLAS#: M-9 & N-9

DRB#: _____ EPC# _____ WORKORDER#: 6456.84

LEGAL DESCRIPTION: A Tract of Land situate within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, projected Section 4, Township 9 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of Parcel 7B, El Rancho Grande I filed in the office of Bernalillo County Clerk on March 24, 2000, Volume 2000C, Folio 90, together with Parcels 7A-1C

CITY ADDRESS: _____

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	James D. Hughes, PE
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	Curb, Inc.	CONTACT:	Bo Johnson
ADDRESS:	6301 Indian School Rd. NE, Albuq., NM 87110	PHONE:	881-9190
ARCHITECT:	_____	CONTACT:	_____
ADDRESS:	_____	PHONE:	_____
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldrich
ADDRESS:	P.O. Box 30701, Albuquerque, NM 87190	PHONE:	884-1990
CONTRACTOR:	_____	CONTACT:	_____
ADDRESS:	_____	PHONE:	_____

TYPE OF SUBMITTAL:

CHECK TYPE OF APPROVAL SOUGHT:

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

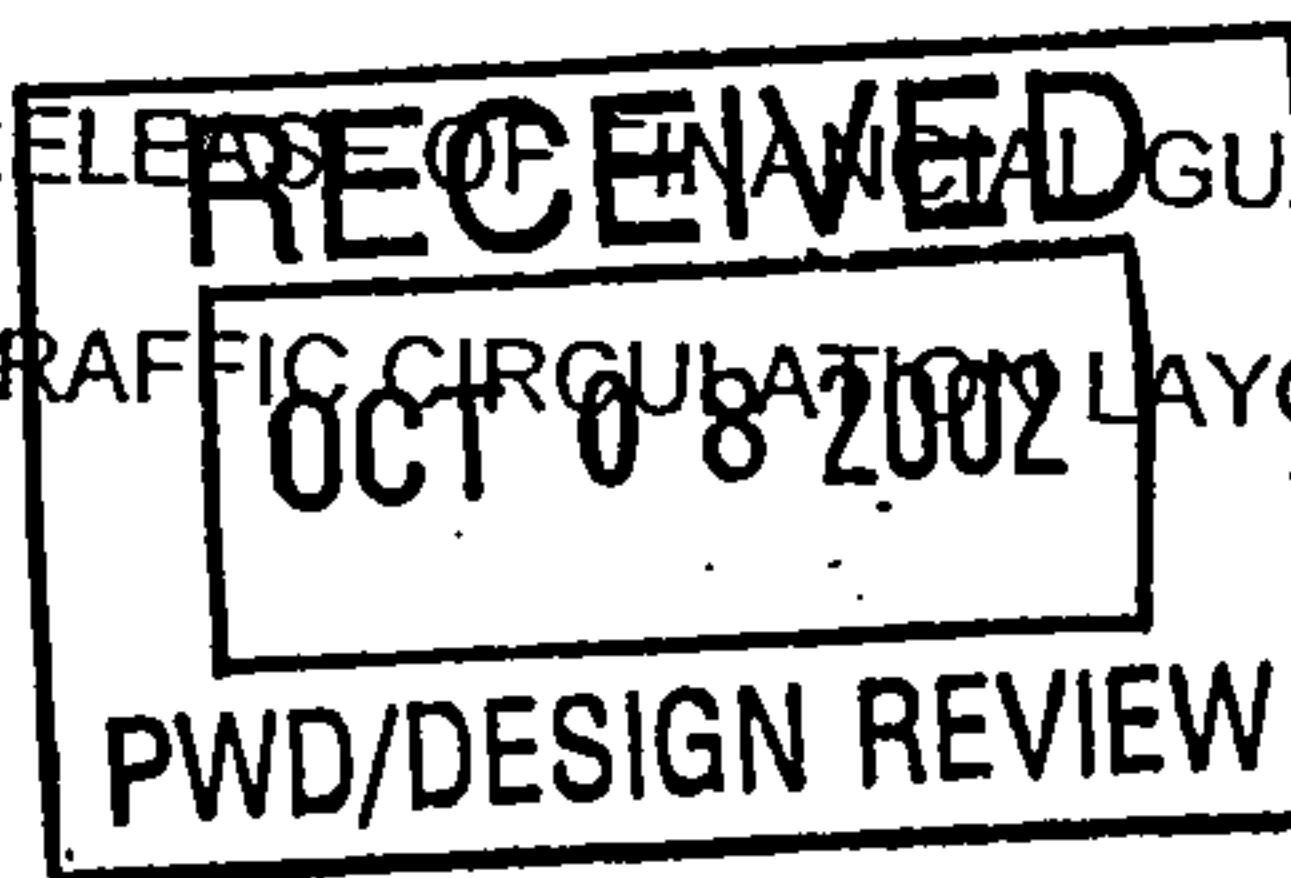
- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATION OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT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

PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

☒ RELEASE OF FINANCIAL GUARANTY

☐ TRAFFIC CIRCULATION LAYOUT



DATE SUBMITTED: 10-8-02

BY: James D. Hughes
James D. Hughes, PE



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

June 4, 2001

Mr. Brad Bingham
City of Albuquerque
Hydrology Division
PO Box 1293
Albuquerque, NM 87102

Re: El Rancho Grande I, Unit 4B

Dear Mr. Bingham:

Attached please find the Hydraulic grade line calculations and the profile to the Amole Channel. Note that this profile and calculations are tied into the existing arroyo, even though it is to be deepened and concrete lined in the near future (one or two years). So this storm sewer could be built now. This design uses the flows from the approved drainage report which includes only residential development south of Blake. If commercial property is developed there the design can be revised prior to construction.

Please contact our office if you have any questions or comments.

Sincerely,

MARK GOODWIN & ASSOCIATES, PA

James D. Hughes, PE
Senior Engineer

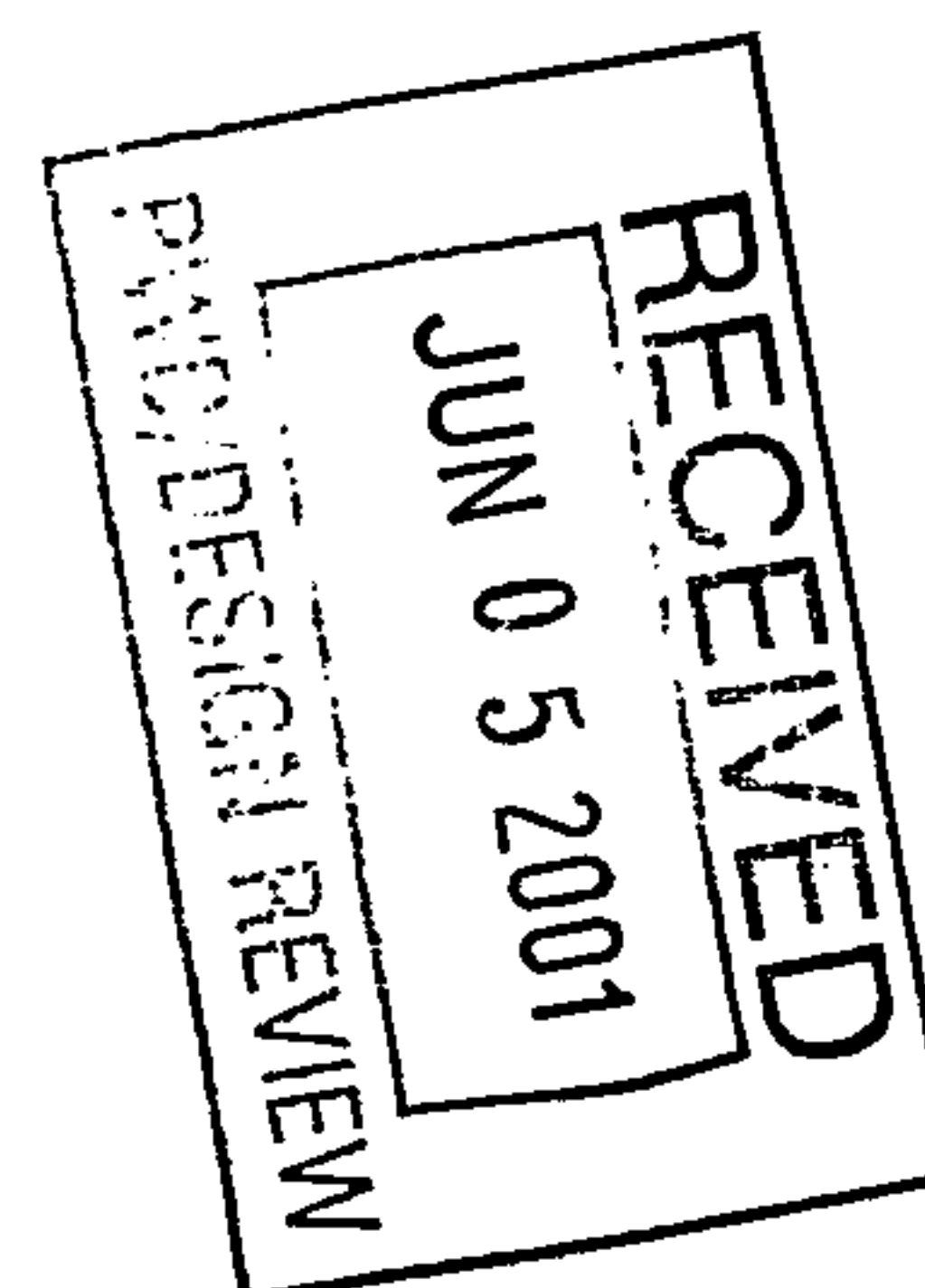
JDH/sb

Attachment

XC: Bo Johnson

f:\elrancho.gr4\hydraulic.lin

M-9/D19A
File



Unit 4B #1

Version
Serial Number

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Input file : UNSER2.DAT
Output file: UNSER2.OUT
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T2

SO	989.70	19.80	11				24.00
TS	999.00	19.90	10		.013		
TS	1000.00	20.00	3		.013		
R	1160.00	21.60	3		.013		
JX	1163.00	22.10	3	5	.013	94.8	22.60
TS	1166.00	22.60	1		.013		
R	1610.00	24.21	1		.013		
R	1955.00	25.90	1		.013		
JX	1959.00	26.00	1	8	.013	7.9	28.50
R	2084.00	26.60	1		.013		
JX	2087.00	26.70	1	8	.013	9.6	29.20
TS	2090.00	27.60	2		.013		
R	2204.00	28.80	2		.013		
R	2210.00	30.30	2		.013		
R	2302.00	36.50	2		.013		
JX	2305.00	36.60	2	7	.013	~~38.5~~ 39.4	38.50
TS	2308.00	38.00	6		.013		
R	2362.00	38.50	6		.013		
JX	2364.00	39.00	6	7	.013	38.8	39.00
TS	2366.00	39.50	8		.013		
R	2380.00	39.70	8		.013		
SH			8				

SH

SP

PAGE 1

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		ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH			DIA	ID NO.	PIER	
0	L/ELEM	SO					SF AVE	HF			NORM DEPTH				ZR	

0	989.70	19.80	4.20	24.00	209.9	2.08	.07	24.07	.00	1.33			50.00	24.00	.00	0 .00
OTRANS STR		.01075													.00	
0	999.00	19.90	2.37	22.27	209.9	16.08	4.02	26.29	.00	3.56			50.00	5.50	.00	0 .00
OTRANS STR		.10000					.01152	.01							.00	
0	1000.00	20.00	3.29	23.29	209.9	14.13	3.10	26.40	.00	4.06			5.50	.00	.00	0 .00
OTRANS STR		.10000					.00870	.00							.00	
0	1000.00	20.00	3.29	23.29	209.9	14.13	3.10	26.40	.00	4.06			5.50	.00	.00	0 .00
0	77.51	.01000					.00824	.64			3.15				.00	
0	1077.51	20.78	3.42	24.19	209.9	13.53	2.84	27.04	.00	4.06			5.50	.00	.00	0 .00
0	43.45	.01000					.00734	.32			3.15				.00	
0	1120.96	21.21	3.56	24.77	209.9	12.90	2.58	27.36	.00	4.06			5.50	.00	.00	0 .00
0	23.84	.01000					.00652	.16			3.15				.00	
0	1144.80	21.45	3.71	25.16	209.9	12.30	2.35	27.51	.00	4.06			5.50	.00	.00	0 .00
0	11.82	.01000					.00580	.07			3.15				.00	
0	1156.62	21.57	3.88	25.44	209.9	11.72	2.14	27.58	.00	4.06			5.50	.00	.00	0 .00
0	3.38	.01000					.00518	.02			3.15				.00	
0	1160.00	21.60	4.06	25.66	209.9	11.18	1.94	27.60	.00	4.06			5.50	.00	.00	0 .00
OJUNCT STR		.16667					.00303	.01							.00	
0	1163.00	22.10	6.18	28.28	115.1	4.84	.36	28.64	.00	2.97			5.50	.00	.00	0 .00
OTRANS STR		.16667					.00230	.01							.00	
0	1166.00	22.60	5.33	27.93	115.1	7.24	.81	28.74	.00	3.16			4.50	.00	.00	0 .00
0	444.00	.00363					.00343	1.52			3.58				.00	

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PAGE 2

WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD SF AVE	ENERGY GRD.EL. HF	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0 L/ELEM	SO													
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
0 1610.00	24.21	5.28	29.49	115.1	7.24	.81	30.30	.00	3.16	4.50	.00	.00	0 .00	
0 345.00	.00490					.00343	1.18		3.15			.00		
0 1955.00	25.90	4.81	30.71	115.1	7.24	.81	31.52	.00	3.16	4.50	.00	.00	0 .00	
0JUNCT STR	.02500					.00320	.01					.00		
0 1959.00	26.00	4.91	30.91	107.2	6.74	.71	31.62	.00	3.05	4.50	.00	.00	0 .00	
0 118.44	.00480					.00297	.35		3.01			.00		
0 2077.44	26.57	4.73	31.30	107.2	6.74	.71	32.00	.00	3.05	4.50	.00	.00	0 .00	
0HYDRAULIC JUMP												.00		
0 2077.44	26.57	1.88	28.44	107.2	17.08	4.54	32.98	.00	3.05	4.50	.00	.00	0 .00	
0 6.56	.00480					.02300	.15		3.01			.00		
0 2084.00	26.60	1.85	28.45	107.2	17.34	4.67	33.13	.00	3.05	4.50	.00	.00	0 .00	
0JUNCT STR	.03333					.02917	.09					.00		
0 2087.00	26.70	1.58	28.28	97.6	19.52	5.92	34.21	.00	2.90	4.50	.00	.00	0 .00	
OTRANS STR	.30000					.03052	.09					.00		
0 2090.00	27.60	1.95	29.55	97.6	17.68	4.86	34.41	.00	3.04	3.50	.00	.00	0 .00	

OTRANS STR	.30000						.02618	.00						.00		
0 2090.00	27.60	1.95	29.55	97.6	17.68		4.86	34.41	.00	3.04		3.50	.00	.00	0	.00
0 14.33	.01053						.02719	.39			2.71		.00			
0 2104.33	27.75	1.91	29.66	97.6	18.19		5.14	34.80	.00	3.04		3.50	.00	.00	0	.00
0 22.67	.01053						.03008	.68			2.71		.00			
0 2127.00	27.99	1.84	29.83	97.6	19.08		5.66	35.48	.00	3.04		3.50	.00	.00	0	.00
0 21.09	.01053						.03412	.72			2.71		.00			
1																

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						

0 2148.09	28.21	1.77	29.98	97.6	20.01	6.22	36.20	.00	3.04		3.50	.00	.00	0	.00	
0 19.75	.01053					.03873	.77			2.71			.00			
0 2167.84	28.42	1.70	30.12	97.6	20.99	6.84	36.97	.00	3.04		3.50	.00	.00	0	.00	
0 18.59	.01053					.04400	.82			2.71			.00			
0 2186.43	28.62	1.64	30.26	97.6	22.01	7.53	37.79	.00	3.04		3.50	.00	.00	0	.00	
0 17.57	.01053					.05003	.88			2.71			.00			
0 2204.00	28.80	1.58	30.38	97.6	23.08	8.28	38.66	.00	3.04		3.50	.00	.00	0	.00	
0 2.91	.25000					.05053	.15			1.04			.00			
0 2206.91	29.53	1.63	31.16	97.6	22.18	7.65	38.81	.00	3.04		3.50	.00	.00	0	.00	
0 3.09	.25000					.04494	.14			1.04			.00			
0 2210.00	30.30	1.69	31.99	97.6	21.15	6.95	38.95	.00	3.04		3.50	.00	.00	0	.00	
0 2.27	.06739					.04179	.09			1.48			.00			
0 2212.27	30.45	1.70	32.15	97.6	21.05	6.88	39.04	.00	3.04		3.50	.00	.00	0	.00	
0 19.77	.06739					.03903	.77			1.48			.00			
0 2232.05	31.79	1.77	33.55	97.6	20.07	6.26	39.81	.00	3.04		3.50	.00	.00	0	.00	
0 15.18	.06739					.03438	.52			1.48			.00			
0 2247.22	32.81	1.83	34.64	97.6	19.13	5.69	40.33	.00	3.04		3.50	.00	.00	0	.00	
0 12.03	.06739					.03031	.36			1.48			.00			
0 2259.25	33.62	1.90	35.52	97.6	18.24	5.17	40.70	.00	3.04		3.50	.00	.00	0	.00	
0 9.72	.06739					.02674	.26			1.48			.00			
0 2268.97	34.27	1.98	36.25	97.6	17.39	4.70	40.96	.00	3.04		3.50	.00	.00	0	.00	
0 7.96	.06739					.02362	.19			1.48			.00			
1																

PAGE 4

WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						

0 2276.94	34.81	2.06	36.87	97.6	16.58	4.27	41.14	.00	3.04		3.50	.00	.00	0	.00	
0 6.55	.06739					.02089	.14			1.48			.00			

0	2283.48	35.25	2.14	37.39	97.6	15.81	3.89	41.28	.00	3.04		3.50	.00	.00	0	.00
0	5.41	.06739					.01851	.10			1.48		.00			
0	2288.89	35.62	2.23	37.85	97.6	15.08	3.53	41.38	.00	3.04		3.50	.00	.00	0	.00
0	4.44	.06739					.01642	.07			1.48		.00			
0	2293.33	35.92	2.33	38.24	97.6	14.37	3.21	41.45	.00	3.04		3.50	.00	.00	0	.00
0	3.62	.06739					.01460	.05			1.48		.00			
0	2296.94	36.16	2.43	38.59	97.6	13.71	2.92	41.51	.00	3.04		3.50	.00	.00	0	.00
0	2.88	.06739					.01302	.04			1.48		.00			
0	2299.82	36.35	2.54	38.89	97.6	13.07	2.65	41.54	.00	3.04		3.50	.00	.00	0	.00
0	2.18	.06739					.01165	.03			1.48		.00			
0	2302.00	36.50	2.66	39.16	97.6	12.46	2.41	41.57	.00	3.04		3.50	.00	.00	0	.00
0	JUNCT STR	.03333					.01770	.05					.00			
0	2305.00	36.60	1.48	38.08	58.2	15.11	3.55	41.62	.00	2.39		3.50	.00	.00	0	.00
0	TRANS STR	.46667					.01667	.05					.00			
0	2308.00	38.00	2.27	40.27	58.2	10.14	1.60	41.87	.00	2.47		3.00	.00	.00	0	.00
0	43.23	.00926					.00866	.37			2.24		.00			
0	2351.23	38.40	2.35	40.75	58.2	9.81	1.50	42.24	.00	2.47		3.00	.00	.00	0	.00
0	10.77	.00926					.00795	.09			2.24		.00			
0	2362.00	38.50	2.47	40.97	58.2	9.35	1.36	42.33	.00	2.47		3.00	.00	.00	0	.00
0	JUNCT STR	.25000					.00420	.01					.00			

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						
0 2364.00	39.00	4.27	43.27	19.4	2.74	.12	43.39	.00	1.41		3.00	.00	.00	0	.00	
0 TRANS STR	.25000					.00410	.01						.00			
0 2366.00	39.50	3.40	42.90	19.4	6.18	.59	43.49	.00	1.58		2.00	.00	.00	0	.00	
0 14.00	.01429					.00735	.10			1.25			.00			
0 2380.00	39.70	3.51	43.21	19.4	6.18	.59	43.80	.00	1.58		2.00	.00	.00	0	.00	

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Original version by Los Angeles County Public Works
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Apr 30, 2001 13: 5:12

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Input file : UNSER22.DAT
Output file: UNSER22.OUT
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Unit 4B #2

T1 UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

T3 MAIN LINE ANALYSIS

SO	989.70	19.80	11				24.00		
TS	999.00	19.90	10		.013				
TS	1000.00	20.00	3		.013				
R	1160.00	21.60	3		.013				
JX	1163.00	22.10	3	5	.013	94.8	22.60	90.	
TS	1166.00	22.60	1		.013				
R	1610.00	24.21	1		.013				1
R	1955.00	25.90	1		.013				1
JX	1959.00	26.00	1	8	.013	7.9	28.50	45.	
R	2084.00	26.60	1		.013				1
JX	2087.00	26.70	1	8	.013	9.6	29.20	45.	
TS	2090.00	27.60	2		.013				
R	2204.00	28.80	2		.013			45.	1
R	2210.00	30.30	2		.013				
R	2302.00	36.50	2		.013			45.	1
JX	2305.00	36.60	2	6	.013	58.2	38.50	50.	
TS	2308.00	38.50	7		.013				
R	2319.00	38.66	7		.013			45.	1
JX	2322.00	38.76	7	8	.013	19.4	39.00	90.	
TS	2325.00	39.16	8		.013				
R	2359.00	39.50	8		.013			90.	1
SH			8						

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PAGE 1

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Q3
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Q4

INVERT-3
22.60

INVERT-4
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PHI 3
90.00

PHI 4
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N
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N
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0

N
.013

0

N
.013

Q3
7.

Q4

INVERT-3
28.50

INVERT-4
00

PHI 3
45 00

PHI 4
00

0

0 ELEMENT NO 11 IS A JUNCTION
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2084.00 26.60 1 .013 .00 .00 .00 1
* * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2087.00 26.70 1 8 0 .013 9.6 .0 29.20 .00 45.00 .00
1
0
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A TRANSITION
U/S DATA STATION INVERT SECT N
2090.00 27.60 2 .013
* * * * *
0 ELEMENT NO 13 IS A REACH
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2204.00 28.80 2 .013 .00 .00 45.00 1
* * * * *
0 ELEMENT NO 14 IS A REACH
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2210.00 30.30 2 .013 .00 .00 .00 0
* * * * *
0 ELEMENT NO 15 IS A REACH
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2302.00 36.50 2 .013 .00 .00 45.00 1
* * * * *
0 ELEMENT NO 16 IS A JUNCTION
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2305.00 36.60 2 6 0 .013 58.2 .0 38.50 .00 50.00 .00
* * * * *
0 ELEMENT NO 17 IS A TRANSITION
U/S DATA STATION INVERT SECT N
2308.00 38.50 7 .013
* * * * *
0 ELEMENT NO 18 IS A REACH
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2319.00 38.66 7 .013 .00 .00 45.00 1
* * * * *
0 ELEMENT NO 19 IS A JUNCTION
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2322.00 38.76 7 8 0 .013 19.4 .0 39.00 .00 90.00 .00
* * * * *
0 ELEMENT NO 20 IS A TRANSITION
U/S DATA STATION INVERT SECT N
2325.00 39.16 8 .013
* * * * *
0 ELEMENT NO 21 IS A REACH
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2359.00 39.50 8 .013 .00 .00 90.00 1
* * * * *
0 ELEMENT NO 22 IS A SYSTEM HEADWORKS
U/S DATA STATION INVERT SECT W S ELEV
2359.00 39.50 8 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO	AVBPR

0 L/ELEM	ELEV SO	OF FLOW	ELEV	HEAD SF AVE	GRD.EL. HF	ELEV	DEPTH	NORM DEPTH	DIA	ID NO.	PIER			

0 989.70	19.80	4.20	24.00	209.3	2.08	.07	24.07	.00	1.33	50.00	24.00	.00	0	.00
0TRANS STR	.01075											.00		
0 999.00	19.90	2.37	22.27	209.3	16.08	4.02	26.28	.00	3.56	50.00	5.50	.00	0	.00
0TRANS STR	.10000					.01153	.01					.00		
0 1000.00	20.00	3.29	23.29	209.3	14.12	3.10	26.39	.00	4.05	5.50	.00	.00	0	.00
0 78.33	.01000					.00824	.65		3.14			.00		
0 1078.33	20.78	3.41	24.20	209.3	13.51	2.84	27.03	.00	4.05	5.50	.00	.00	0	.00
0 42.97	.01000					.00733	.31		3.14			.00		
0 1121.29	21.21	3.56	24.77	209.3	12.88	2.58	27.35	.00	4.05	5.50	.00	.00	0	.00
0 23.58	.01000					.00651	.15		3.14			.00		
0 1144.87	21.45	3.71	25.16	209.3	12.28	2.34	27.50	.00	4.05	5.50	.00	.00	0	.00
0 11.65	.01000					.00579	.07		3.14			.00		
0 1156.53	21.57	3.87	25.44	209.3	11.71	2.13	27.57	.00	4.05	5.50	.00	.00	0	.00
0 3.47	.01000					.00517	.02		3.14			.00		
0 1160.00	21.60	4.05	25.65	209.3	11.16	1.94	27.59	.00	4.05	5.50	.00	.00	0	.00
0JUNCT STR	.16667					.00302	.01					.00		
0 1163.00	22.10	6.17	28.27	114.5	4.82	.36	28.63	.00	2.97	5.50	.00	.00	0	.00
0TRANS STR	.16667					.00228	.01					.00		
0 1166.00	22.60	5.32	27.92	114.5	7.20	.81	28.72	.00	3.15	4.50	.00	.00	0	.00
0 444.00	.00363					.00339	1.51		3.56			.00		
0 1610.00	24.21	5.25	29.46	114.5	7.20	.81	30.27	.00	3.15	4.50	.00	.00	0	.00
0 345.00	.00490					.00339	1.17		3.13			.00		

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WATER SURFACE PROFILE LISTING

UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		

0 1955.00	25.90	4.77	30.67	114.5	7.20	.81	31.48	.00	3.15	4.50	.00	.00	0	.00
0JUNCT STR	.02500					.00316	.01					.00		
0 1959.00	26.00	4.87	30.87	106.6	6.70	.70	31.57	.00	3.04	4.50	.00	.00	0	.00
0 115.97	.00480					.00294	.34		3.00			.00		
0 2074.97	26.56	4.69	31.25	106.6	6.70	.70	31.95	.00	3.04	4.50	.00	.00	0	.00
0HYDRAULIC JUMP												.00		
0 2074.97	26.56	1.88	28.44	106.6	16.93	4.45	32.89	.00	3.04	4.50	.00	.00	0	.00
0 9.03	.00480					.02268	.20		3.00			.00		
0 2084.00	26.60	1.85	28.45	106.6	17.26	4.63	33.08	.00	3.04	4.50	.00	.00	0	.00
0JUNCT STR	.03333					.02898	.09					.00		
0 2087.00	26.70	1.58	28.28	97.0	19.45	5.88	34.16	.00	2.89	4.50	.00	.00	0	.00
0TRANS STR	.30000					.03033	.09					.00		
0 2090.00	27.60	1.95	29.55	97.0	17.60	4.82	34.37	.00	3.03	3.50	.00	.00	0	.00
0 14.12	.01053					.02695	.38		2.69			.00		
0 2104.12	27.75	1.91	29.65	97.0	18.10	5.09	34.75	.00	3.03	3.50	.00	.00	0	.00

0	22.73	.01053					.02980	.68			2.69			.00		
0	2126.86	27.99	1.84	29.82	97.0	18.98	5.60	35.42	.00	3.03		3.50	.00	.00	0	.00
0	21.14	.01053					.03380	.71			2.69			.00		
0	2148.00	28.21	1.77	29.98	97.0	19.91	6.16	36.14	.00	3.03		3.50	.00	.00	0	.00
0	19.79	.01053					.03837	.76			2.69			.00		
0	2167.78	28.42	1.70	30.12	97.0	20.88	6.78	36.90	.00	3.03		3.50	.00	.00	0	.00
0	18.62	.01053					.04359	.81			2.69			.00		

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						

0	2186.40	28.61	1.64	30.25	97.0	21.90	7.45	37.71	.00	3.03		3.50	.00	.00	0	.00
0	17.60	.01053					.04957	.87			2.69			.00		
0	2204.00	28.80	1.58	30.38	97.0	22.97	8.20	38.58	.00	3.03		3.50	.00	.00	0	.00
0	2.96	.25000					.05002	.15			1.04			.00		
0	2206.96	29.54	1.63	31.17	97.0	22.06	7.56	38.73	.00	3.03		3.50	.00	.00	0	.00
0	3.04	.25000					.04444	.14			1.04			.00		
0	2210.00	30.30	1.69	31.99	97.0	21.03	6.87	38.87	.00	3.03		3.50	.00	.00	0	.00
0	.00	.25000					.04160	.00			1.04			.00		
0	2210.00	30.30	1.69	31.99	97.0	21.03	6.87	38.87	.00	3.03		3.50	.00	.00	0	.00
0	10.65	.06739					.04032	.43			1.48			.00		
0	2220.65	31.02	1.73	32.74	97.0	20.54	6.55	39.30	.00	3.03		3.50	.00	.00	0	.00
0	17.27	.06739					.03671	.63			1.48			.00		
0	2237.91	32.18	1.79	33.97	97.0	19.58	5.96	39.93	.00	3.03		3.50	.00	.00	0	.00
0	13.48	.06739					.03234	.44			1.48			.00		
0	2251.40	33.09	1.86	34.95	97.0	18.67	5.42	40.37	.00	3.03		3.50	.00	.00	0	.00
0	10.81	.06739					.02852	.31			1.48			.00		
0	2262.21	33.82	1.93	35.75	97.0	17.80	4.92	40.67	.00	3.03		3.50	.00	.00	0	.00
0	8.78	.06739					.02517	.22			1.48			.00		
0	2270.99	34.41	2.01	36.42	97.0	16.97	4.48	40.90	.00	3.03		3.50	.00	.00	0	.00
0	7.22	.06739					.02225	.16			1.48			.00		
0	2278.21	34.90	2.09	36.99	97.0	16.18	4.07	41.06	.00	3.03		3.50	.00	.00	0	.00
0	5.95	.06739					.01969	.12			1.48			.00		

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						

0	2284.16	35.30	2.18	37.47	97.0	15.43	3.70	41.17	.00	3.03		3.50	.00	.00	0	.00
0	4.91	.06739					.01745	.09			1.48			.00		

0	2289.07	35.63	2.27	37.90	97.0	14.71	3.36	41.26	.00	3.03		3.50	.00	.00	0	.00
0	4.02	.06739					.01550	.06			1.48		.00			
0	2293.10	35.90	2.36	38.26	97.0	14.03	3.06	41.32	.00	3.03		3.50	.00	.00	0	.00
0	3.24	.06739					.01379	.04			1.48		.00			
0	2296.34	36.12	2.47	38.59	97.0	13.37	2.78	41.37	.00	3.03		3.50	.00	.00	0	.00
0	2.54	.06739					.01231	.03			1.48		.00			
0	2298.88	36.29	2.58	38.87	97.0	12.75	2.53	41.40	.00	3.03		3.50	.00	.00	0	.00
0	1.89	.06739					.01104	.02			1.48		.00			
0	2300.77	36.42	2.70	39.12	97.0	12.16	2.30	41.42	.00	3.03		3.50	.00	.00	0	.00
0	1.23	.06739					.00995	.01			1.48		.00			
0	2302.00	36.50	2.84	39.34	97.0	11.59	2.09	41.43	.00	3.03		3.50	.00	.00	0	.00
0	JUNCT STR	.03333					.02355	.07					.00			
0	2305.00	36.60	1.06	37.66	38.8	15.81	3.89	41.54	.00	1.94		3.50	.00	.00	0	.00
0	TRANS STR	.63333					.02405	.07					.00			
0	2308.00	38.50	1.90	40.40	38.8	9.70	1.46	41.86	.00	2.10		2.50	.00	.00	0	.00
0	TRANS STR	.63333					.01045	.00					.00			
0	2308.00	38.50	1.90	40.40	38.8	9.70	1.46	41.86	.00	2.10		2.50	.00	.00	0	.00
0	.14	.01455					.01044	.00			1.67		.00			
0	2308.14	38.50	1.90	40.40	38.8	9.69	1.46	41.86	.00	2.10		2.50	.00	.00	0	.00
0	8.38	.01455					.00993	.08			1.67		.00			

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD SF AVE	ENERGY GRD.EL. HF	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR	
0 L/ELEM	SO									NORM DEPTH			ZR			
0	2316.52	38.62	1.99	40.62	38.8	9.24	1.33	41.95	.00	2.10		2.50	.00	.00	0	.00
0	2.48	.01455				.00899	.02			1.67			.00			
0	2319.00	38.66	2.10	40.76	38.8	8.81	1.21	41.97	.00	2.10		2.50	.00	.00	0	.00
0	JUNCT STR	.03333				.00540	.02						.00			
0	2322.00	38.76	3.79	42.55	19.4	3.95	.24	42.79	.00	1.49		2.50	.00	.00	0	.00
0	TRANS STR	.13333				.00480	.01						.00			
0	2325.00	39.16	3.12	42.28	19.4	6.18	.59	42.87	.00	1.58		2.00	.00	.00	0	.00
0	34.00	.01000				.00735	.25			1.42			.00			
0	2359.00	39.50	3.24	42.74	19.4	6.18	.59	43.33	.00	1.58		2.00	.00	.00	0	.00

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Apr 30, 2001 13:48:37

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Input file : UNSER23.DAT
Output file: UNSER23.OUT
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INPUT FILE LISTING

Unit 4 B #3
Unse - Intet North of Blake

SO	989.70	19.80	11				24.00		
TS	999.00	19.90	10		.013				
TS	1000.00	20.00	3		.013				
R	1160.00	21.60	3		.013				
JX	1163.00	22.10	3	5	.013	94.8	22.60	90.	
TS	1166.00	22.60	1		.013				
R	1610.00	24.21	1		.013				1
R	1955.00	25.90	1		.013				1
JX	1959.00	26.00	1	8	.013	7.9	28.50	45.	
R	2084.00	26.60	1		.013				1
JX	2087.00	26.70	1	2	.013	96.9	29.20	45.	
TS	2090.00	29.60	9		.013				
R	2155.00	30.25	9		.013			90.	1
SH			9						

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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

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[illegible]

PAGE NO 1

PAGE NO 2

OHEADING LINE NO 3 IS -
0 MAIN LINE ANALYSIS

0	ELEMENT NO	1	IS A SYSTEM OUTLET	*	*	*
			U/S DATA	STATION	INVERT	SECT
				989.70	19.80	11

0 ELEMENT NO	2 IS A TRANSITION	STATION	INVERT	SECT	N
	U/S DATA	999.00	19.90	10	.013

0 ELEMENT NO	3 IS A TRANSITION	STATION	INVERT	SECT	N
	U/S DATA	1000.00	20.00	3	.013

0 ELEMENT NO	4 IS A REACH	STATION	INVERT	SECT	N
	U/S DATA	1160.00	21.60	3	.013

0 ELEMENT NO	5 IS A JUNCTION													
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4		
	1163.00	22.10	3	5	0	.013	94.8	.0	22.60	.00	90.00	.00		

0 ELEMENT NO	6 IS A TRANSITION	*	*	*	
U/S DATA	STATION	INVERT	SECT	N	
	1166.00	22.60	1	.013	

0 ELEMENT NO	7 IS A REACH	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
		1610.00	24.21	1	.013	.00	.00	.00	1

0 ELEMENT NO	8 IS A REACH	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
		1955.00	25.90	1	.013	.00	.00	.00	1

0 ELEMENT NO	9 IS A JUNCTION													
	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
		1959.00	26.00	1	8	0	.013	7.9	.0	28.50	.00	45.00	.00	

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
2084.00	26.60	1	.013	.00	.00	.00	1	

0 ELEMENT NO	11 IS A JUNCTION													
	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
		2087.00	26.70	1	2	0	.013	96.9	.0	29.20	.00	45.00	.00	

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A TRANSITION * * *

PAGE NO 3

U/S DATA STATION INVERT SECT N
2090.00 29.60 9 .013
0 ELEMENT NO 13 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2155.00 30.25 9 .013 .00 .00 90.00 1
0 ELEMENT NO 14 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
2155.00 30.25 9 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

ERROR MESSAGE NO. 32 - CRITICAL DEPTH MAY BE INACCURATE IN ELEMENT 2 INCREMENT = .000010
ERROR MESSAGE NO. 32 - CRITICAL DEPTH MAY BE INACCURATE IN ELEMENT 1 INCREMENT = .000010

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH	DIA	ID NO.	PIER		
	SO					SF AVE	HF							
0 989.70	19.80	4.20	24.00	204.3	2.03	.06	24.06	.00	1.31	50.00	24.00	.00	0	.00
OTRANS STR	.01075											.00		
0 999.00	19.90	2.32	22.22	204.3	15.99	3.97	26.20	.00	3.50	50.00	5.50	.00	0	.00
OTRANS STR	.10000					.01154	.01					.00		
0 1000.00	20.00	3.24	23.24	204.3	14.04	3.06	26.30	.00	4.00	5.50	.00	.00	0	.00
0 6.04	.01000					.00866	.05					.00		
0 1006.04	20.06	3.25	23.31	204.3	14.00	3.05	26.35	.00	4.00	5.50	.00	.00	0	.00
0 77.81	.01000					.00814	.63					.00		
0 1083.86	20.84	3.38	24.22	204.3	13.35	2.77	26.99	.00	4.00	5.50	.00	.00	0	.00
0 39.70	.01000					.00721	.29					.00		
0 1123.56	21.24	3.52	24.75	204.3	12.73	2.52	27.27	.00	4.00	5.50	.00	.00	0	.00
0 22.19	.01000					.00640	.14					.00		
0 1145.75	21.46	3.67	25.12	204.3	12.14	2.29	27.41	.00	4.00	5.50	.00	.00	0	.00
0 10.94	.01000					.00569	.06					.00		
0 1156.69	21.57	3.83	25.39	204.3	11.57	2.08	27.48	.00	4.00	5.50	.00	.00	0	.00
0 3.31	.01000					.00507	.02					.00		
0 1160.00	21.60	4.00	25.60	204.3	11.03	1.89	27.49	.00	4.00	5.50	.00	.00	0	.00
0JUNCT STR	.16667					.00292	.01					.00		
0 1163.00	22.10	6.08	28.18	109.5	4.61	.33	28.51	.00	2.90	5.50	.00	.00	0	.00
OTRANS STR	.16667					.00208	.01					.00		
0 1166.00	22.60	5.26	27.86	109.5	6.88	.74	28.60	.00	3.08	4.50	.00	.00	0	.00
0 444.00	.00363					.00310	1.38					.00		

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WATER SURFACE PROFILE LISTING
UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0 1610.00	24.21	5.07	29.28	109.5	6.88	.74	30.01	.00	3.08		4.50	.00	.00	0	.00
0 335.21	.00490					.00308	1.03			3.03			.00		
0 1945.21	25.85	4.50	30.35	109.5	6.88	.74	31.09	.00	3.08		4.50	.00	.00	0	.00
0 9.79	.00490					.00300	.03			3.03			.00		
0 1955.00	25.90	4.48	30.38	109.5	6.89	.74	31.12	.00	3.08		4.50	.00	.00	0	.00
0JUNCT STR	.02500					.00280	.01						.00		
0 1959.00	26.00	4.57	30.57	101.6	6.39	.63	31.20	.00	2.96		4.50	.00	.00	0	.00
0 36.85	.00480					.00265	.10			2.90			.00		
0 1995.85	26.18	4.50	30.68	101.6	6.39	.63	31.31	.00	2.96		4.50	.00	.00	0	.00
0 88.15	.00480					.00247	.22			2.90			.00		
0 2084.00	26.60	4.27	30.87	101.6	6.52	.66	31.53	.00	2.96		4.50	.00	.00	0	.00
0JUNCT STR	.03333					.00116	.00						.00		
0 2087.00	26.70	4.83	31.53	4.7	.30	.00	31.53	.00	.61		4.50	.00	.00	0	.00
0TRANS STR	.96667					.00100	.00						.00		
0 2090.00	29.60	1.85	31.45	4.7	2.66	.11	31.56	.00	.83		1.50	.00	.00	0	.00
0 48.00	.01000					.00198	.10			.70			.00		
0 2138.00	30.08	1.50	31.58	4.7	2.66	.11	31.69	.00	.83		1.50	.00	.00	0	.00
0 15.70	.01000					.00185	.03			.70			.00		
0 2153.70	30.24	1.36	31.60	4.7	2.79	.12	31.72	.00	.83		1.50	.00	.00	0	.00
0 1.30	.01000					.00176	.00			.70			.00		
0 2155.00	30.25	1.35	31.60	4.7	2.81	.12	31.72	.00	.83		1.50	.00	.00	0	.00

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Apr 30, 2001 17:22:18

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Input file : UNSER24.DAT
Output file: UNSER24.OUT
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Unit 4B #4
Blake 24"

T1 UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

T3 MAIN LINE ANALYSIS

SO	989.70	19.80	11				24.00			
TS	999.00	19.90	10		.013					
TS	1000.00	20.00	3		.013					
R	1160.00	21.60	3		.013					
JX	1163.00	22.10	3	5	.013	94.8	22.60	90.		
TS	1166.00	22.60	1		.013					
R	1610.00	24.21	1		.013					1
R	1955.00	25.90	1		.013					1
JX	1958.00	26.00	1	1	.013	106.5	26.00	01.		
TS	1961.00	28.50	8		.013					
R	2029.00	29.18	8		.013				75.	1
JX	2035.00	29.38	8	9	.013	2.9	29.83	45.		
R	2080.00	29.83	8		.013				15.	
JX	2083.00	29.93	8	9	.013	2.5	29.20	45.		
TS	2086.00	30.33	9		.013					
R	2133.00	30.80	9		.013				75.	
SH			9							

SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

[illegible]

PAGE 1

CD	7	4			2.50					
CD	8	4			2.00					
CD	9	4			1.50					
CD	10	2	0	.00	50.00	5.50			.00	
CD	11	2	0	.00	50.00	24.00			.00	
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00	

1
0

WATER SURFACE PROFILE - TITLE CARD LISTING

PAGE NO 1

OHEADING LINE NO 1 IS -

0 UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

OHEADING LINE NO 2 IS -

0

OHEADING LINE NO 3 IS -

0 MAIN LINE ANALYSIS

1
0

WATER SURFACE PROFILE - ELEMENT CARD LISTING

PAGE NO 2

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT
	989.70	19.80	11

W S ELEV
24.00

0 ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT
	999.00	19.90	10

N
.013

0 ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT
	1000.00	20.00	3

N
.013

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT
	1160.00	21.60	3

N
.013

RADIUS	ANGLE	ANG PT	MAN H

0 ELEMENT NO 5 IS A JUNCTION * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2
	1163.00	22.10	3	5	0

N
.013

Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
94.8	.0	22.60	.00	90.00	.00

0 ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT
	1166.00	22.60	1

N
.013

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT
	1610.00	24.21	1

N
.013

RADIUS	ANGLE	ANG PT	MAN H
.00	.00	.00	1

0 ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT
	1955.00	25.90	1

N
.013

RADIUS	ANGLE	ANG PT	MAN H
.00	.00	.00	1

0 ELEMENT NO 9 IS A JUNCTION * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2
	1958.00	26.00	1	1	0

N
.013

Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
106.5	.0	26.00	.00	1.00	.00

0 ELEMENT NO 10 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT
	1961.00	28.50	8

N
.013

0 ELEMENT NO 11 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT
	2029.00	29.18	8

N
.013

RADIUS	ANGLE	ANG PT	MAN H
.00	.00	75.00	1

0 ELEMENT NO 12 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2035.00	29.38	8	9	0	.013	2.9	.0	29.83	.00	45.00	.00

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 13 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2080.00	29.83	8	.013	.00	.00	15.00	0

0 ELEMENT NO 14 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2083.00	29.93	8	9	0	.013	2.5	.0	29.20	.00	45.00	.00

0 ELEMENT NO 15 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N
	2086.00	30.33	9	.013

0 ELEMENT NO 16 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2133.00	30.80	9	.013	.00	.00	75.00	0

0 ELEMENT NO 17 IS A SYSTEM HEADWORKS

U/S DATA	STATION	INVERT	SECT	W S ELEV
	2133.00	30.80	9	.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING

UNSER BLAKE INTERSECTION TO UNSER AMOLE ARROYO

MAIN LINE ANALYSIS

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH	DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF							
0 989.70	19.80	4.20	24.00	209.2	2.08	.07	24.07	.00	1.33	50.00	24.00	.00	0	.00
0TRANS STR	.01075											.00		
0 999.00	19.90	2.37	22.27	209.2	16.08	4.02	26.28	.00	3.56	50.00	5.50	.00	0	.00
0TRANS STR	.10000					.01153	.01					.00		
0 1000.00	20.00	3.29	23.29	209.2	14.12	3.10	26.39	.00	4.05	5.50	.00	.00	0	.00
0 78.74	.01000					.00823	.65			3.14		.00		
0 1078.74	20.79	3.41	24.20	209.2	13.50	2.83	27.03	.00	4.05	5.50	.00	.00	0	.00
0 42.76	.01000					.00732	.31			3.14		.00		
0 1121.51	21.22	3.56	24.77	209.2	12.87	2.58	27.35	.00	4.05	5.50	.00	.00	0	.00
0 23.47	.01000					.00650	.15			3.14		.00		
0 1144.98	21.45	3.71	25.16	209.2	12.27	2.34	27.50	.00	4.05	5.50	.00	.00	0	.00
0 11.59	.01000					.00579	.07			3.14		.00		
0 1156.57	21.57	3.87	25.44	209.2	11.70	2.13	27.57	.00	4.05	5.50	.00	.00	0	.00
0 3.43	.01000					.00516	.02			3.14		.00		
0 1160.00	21.60	4.05	25.65	209.2	11.16	1.93	27.58	.00	4.05	5.50	.00	.00	0	.00
0JUNCT STR	.16667					.00302	.01					.00		
0 1163.00	22.10	6.17	28.27	114.4	4.82	.36	28.63	.00	2.97	5.50	.00	.00	0	.00

0	2109.56	30.57	1.07	31.64	2.5	1.85	.05	31.69	.00	.60		1.50	.00	.00	0	.00
0	4.43	.01000					.00081	.00			.50		.00			
0	2113.98	30.61	1.03	31.64	2.5	1.94	.06	31.70	.00	.60		1.50	.00	.00	0	.00
0	4.09	.01000					.00091	.00			.50		.00			
0	2118.07	30.65	.99	31.64	2.5	2.03	.06	31.70	.00	.60		1.50	.00	.00	0	.00
0	3.63	.01000					.00102	.00			.50		.00			
0	2121.70	30.69	.95	31.63	2.5	2.13	.07	31.70	.00	.60		1.50	.00	.00	0	.00
0	3.50	.01000					.00115	.00			.50		.00			
0	2125.20	30.72	.91	31.63	2.5	2.23	.08	31.71	.00	.60		1.50	.00	.00	0	.00
0	3.13	.01000					.00130	.00			.50		.00			
0	2128.33	30.75	.87	31.63	2.5	2.34	.09	31.71	.00	.60		1.50	.00	.00	0	.00
0	2.99	.01000					.00147	.00			.50		.00			
0	2131.32	30.78	.84	31.62	2.5	2.46	.09	31.72	.00	.60		1.50	.00	.00	0	.00
0	1.68	.01000					.00162	.00			.50		.00			
0	2133.00	30.80	.82	31.62	2.5	2.53	.10	31.72	.00	.60		1.50	.00	.00	0	.00
0	.00	.01000					.00084	.00			.50		.00			
0	2133.00	30.80	.82	31.62	2.5	2.53	.10	31.72	.00	.60		1.50	.00	.00	0	.00

DRAINAGE INFORMATION SHEET

M-9/D19A

PROJECT TITLE:	El Rancho Grande I Units 4A & 4B	ZONE ATLAS#:	~~M-9-D19~~
DRB#:	EPC#	WORKORDER#:	
LEGAL DESCRIPTION:	A Tract of Land situate within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, projected Section 4, Township 9 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of Parcel 7B, El Rancho Grande I filed in the office of Bernalillo County Clerk on March 24, 2000, Volume 2000C, Folio 90, together with Parcels 7A-1C		
CITY ADDRESS:			
ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	James D. Hughes, PE
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	Curb, Inc.	CONTACT:	Bo Johnson
ADDRESS:	6301 Indian School Rd. NE, Albuq., NM 87110	PHONE:	881-9190
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldrich
ADDRESS:	P.O. Box 30701, Albuquerque, NM 87190	PHONE:	884-1990
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN (Amended)
☒ EROSION CONTROL
☐ ENGINEER'S CERTIFICATION
☐ OTHER
☐ EASEMENT VACATION

PRE-DESIGN MEETING:

- ☐ YES
☒ NO
☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
☒ PRELIMINARY PLAT APPROVAL (Amended Grading)
☐ 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
☐ CERTIFICATION OF OCCUPANCY APPROVAL
☒ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER
☐ RELEASE OF FINANCIAL GUARANTY
☐ TRAFFIC CIRCULATION LAYOUT

DATE SUBMITTED:

4-9-01

BY:

James D. Hughes, PE

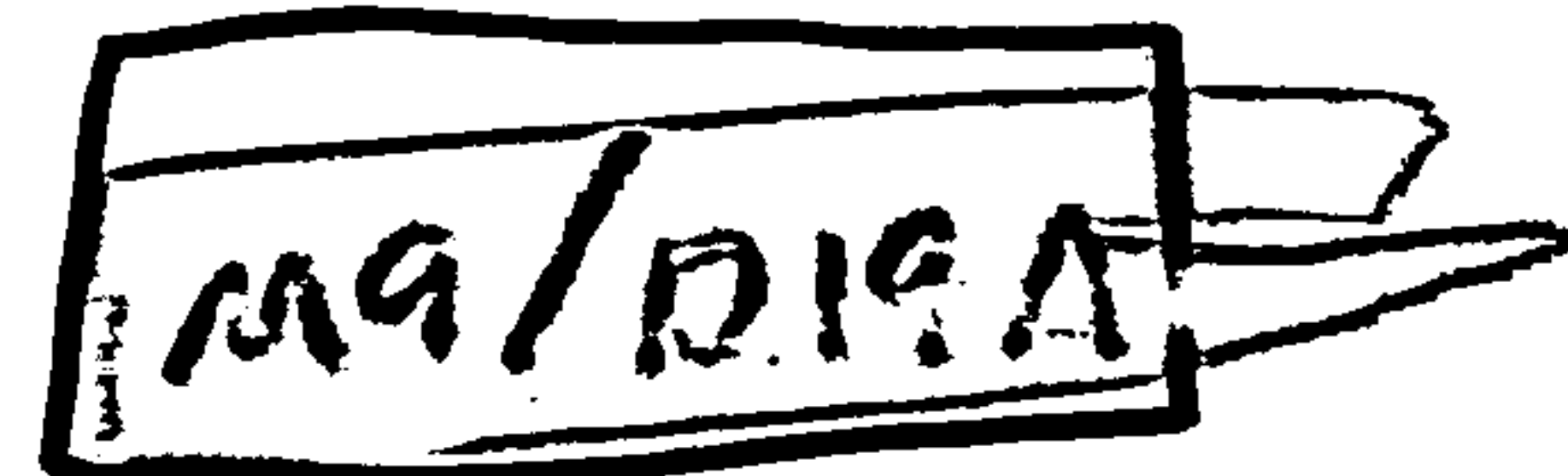


D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

April 18, 2001

Mr. Brad Bingham
Hydrology Division
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103



Re: El Rancho Grande I, Unit 4A

Dear Mr. Bingham:

Attached please find the Hydraulic Grade Line Calculations and revised AHYMO run. The peak discharge from the Unser/Gibson Pond does not occur at the same time that the peak occurs in the Unser Drainage Basin just below the pond. Since the discharge table that was input into AHYMO in the drainage report is based on HGL calcs that assumed the peaks occurred simultaneously, a new discharge rating table was developed from HGL calcs that used the off-set peaks from the first AHYMO and the AHYMO was re-run this time resulting in the same combined peak as the model in an iterative process running both the hydraulics and hydrology several times.

The peak flow in the 24" storm sewer in Unser occurs at 1.499 hrs into the storm which is 42 minutes ahead of the peak stage in the Unser/Gibson Pond. When the Unser storm sewer peaks at 17.12 cfs from Basin 109 and 110 combined, the flow from the pond is only 35.4 cfs. The resulting HGL from this combination of 100 year flows is less critical than the HGL that results when the pond is flowing at peak flow (12.19 cfs at 2.20 hrs into the storm). At that time the flow in the Unser pipes is only 3.1 cfs. HGL calcs for both cases are included and the worst case is shown on the attached revised version of Sheet 36.

Note also that the Unser/Gibson Pond is a public pond that was originally included with the El Rancho Grande I, Unit 1 Infrastructure.

Please call if you have any questions or concerns.

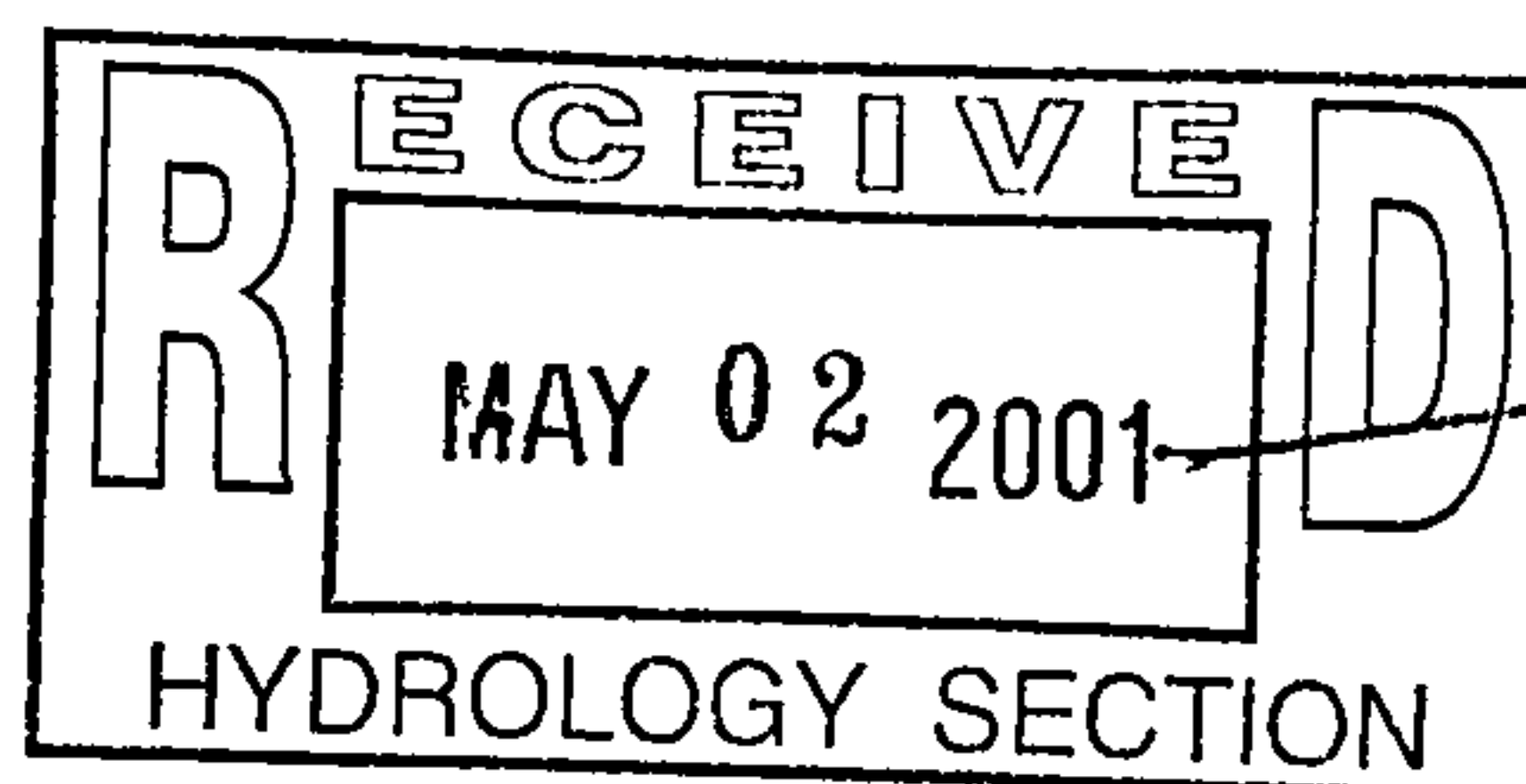
Sincerely,

MARK GOODWIN & ASSOCIATES, PA

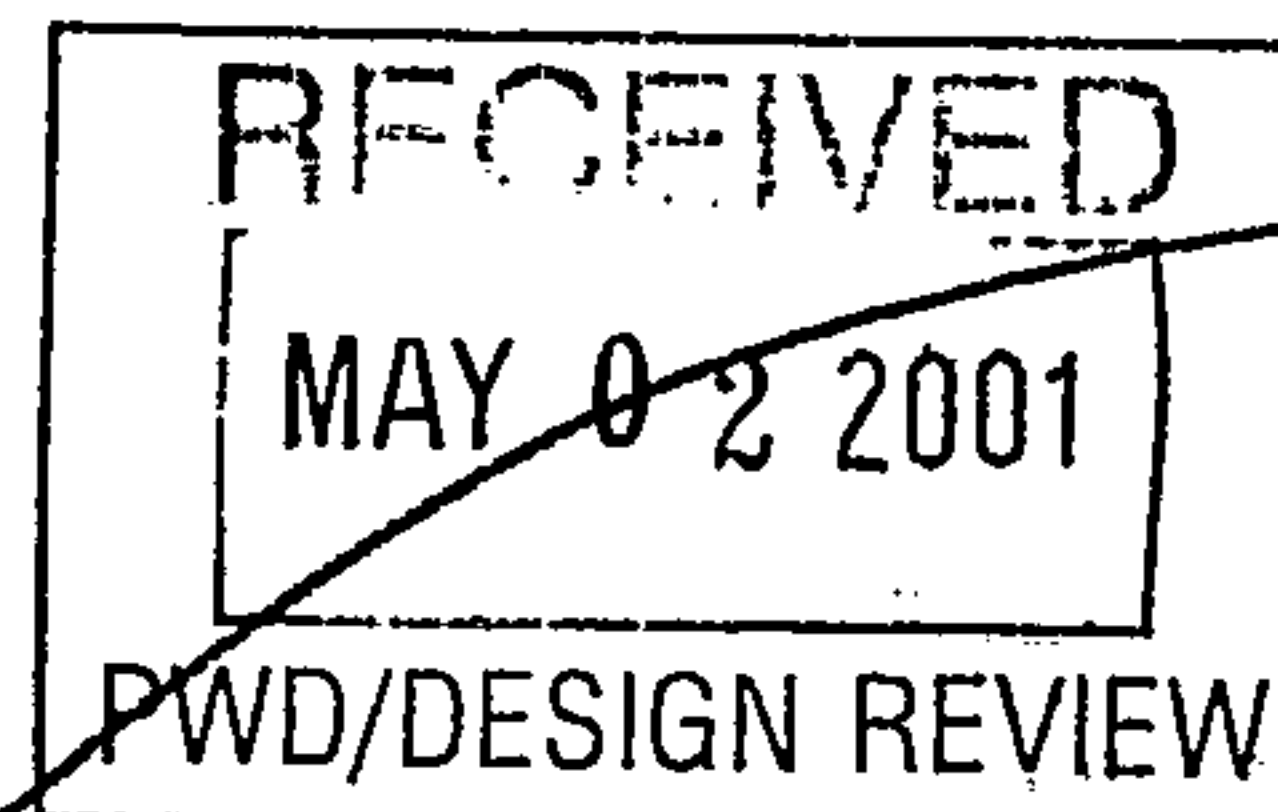
James D. Hughes, PE
Senior Engineer

JDH/sw

f:\elrancho.gr4\drainage.ltr



BM
11:00am



PAGE 1
Y(9) Y(10)

PAGE NO 1

PAGE NO 2

* * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
1	1379.00	111.00	2	8	0	.013	5.0	.0	111.50	.00	45.00	.00	
0	WATER SURFACE PROFILE - ELEMENT CARD LISTING											PAGE NO 3	
0 ELEMENT NO 12 IS A REACH	*	*	*										
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 13 IS A JUNCTION	1698.00	118.00	2			.013				.00	.00	.00	1
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
0 ELEMENT NO 14 IS A REACH	1702.00	118.10	2	8	0	.013	5.0	.0	118.60	.00	45.00	.00	
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 15 IS A REACH	1895.00	123.10	2			.013				.00	.00	.00	1
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 16 IS A JUNCTION	2017.00	125.20	2			.013				.00	.00	.00	0
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
0 ELEMENT NO 17 IS A REACH	2018.00	125.30	2	8	0	.013	7.0	.0	125.90	.00	45.00	.00	
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 18 IS A REACH	2311.05	130.20	2			.013				.00	.00	.00	1
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 19 IS A REACH	2690.00	138.00	2			.013				.00	.00	.00	0
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 20 IS A JUNCTION	2713.00	138.20	2			.013				.00	.00	.00	0
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
0 ELEMENT NO 21 IS A REACH	2717.00	138.30	2	8	0	.013	3.2	.0	139.80	.00	45.00	.00	
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
1	2820.00	139.70	2			.013				.00	.00	.00	1
0	WATER SURFACE PROFILE - ELEMENT CARD LISTING											PAGE NO 4	
0 ELEMENT NO 22 IS A REACH	*	*	*										
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT	MAN H
0 ELEMENT NO 23 IS A TRANSITION	2924.00	140.00	2			.013				.00	.00	.00	0
U/S DATA	STATION	INVERT	SECT			N							
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING	2925.00	140.00	10			.013							
0 ELEMENT NO 24 IS A TRANSITION	*	*	*										
U/S DATA	STATION	INVERT	SECT			N							
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING	2936.00	140.00	11			.013							
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS	*	*	*										
U/S DATA	STATION	INVERT	SECT			N							
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING	2936.00	140.00	11							W S ELEV	.00		

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	

0	374.70	92.95	5.47	98.42	132.6	8.34	1.08	99.50	.00	3.39	4.50	.00	.00	0	.00
0	53.87	.01940					.00455	.24					.00		
0	428.57	94.00	4.69	98.69	132.6	8.34	1.08	99.77	.00	3.39	2.21	4.50	.00	0	.00
OHYDRAULIC JUMP															
0	428.57	94.00	2.35	96.35	132.6	15.76	3.86	100.21	.00	3.39		4.50	.00	0	.00
0	39.43	.01940					.01509	.59					.00		
0	468.00	94.76	2.41	97.17	132.6	15.32	3.65	100.81	.00	3.39	2.21	4.50	.00	0	.00
0	JUNCT STR	.01000					.01722	.03					.00		
0	470.00	94.78	2.10	96.88	123.6	16.94	4.46	101.34	.00	3.27		4.50	.00	0	.00
OTRANS STR															
0	472.00	94.80	2.61	97.41	123.6	16.09	.01919	.04					.00		
0	140.95	.01853					4.02	101.43	.00	3.27		3.50	.00	0	.00
0	612.95	97.41	2.61	100.02	123.6	16.04	.01840	2.59			2.60		.00		
0	212.66	.01853					4.00	104.02	.00	3.27		3.50	.00	0	.00
0	825.61	101.35	2.74	104.09	123.6	15.29	.01741	3.70			2.60		.00		
0	67.39	.01853					3.63	107.73	.00	3.27		3.50	.00	0	.00
0	893.00	102.60	2.88	105.48	123.6	14.58	.01573	1.06			2.60		.00		
OJUNCT STR															
0	897.00	102.70	2.82	105.52	122.6	14.74	.01513	.06				3.50	.00	0	.00
0	29.41	.01750					3.38	108.90	.00	3.27		3.50	.00	0	.00
0	926.41	103.21	2.89	106.10	122.6	14.43	.01498	.44			2.65		.00		
0	37.51	.01750					3.24	109.34	.00	3.27		3.50	.00	0	.00
1							.01408	.53			2.65		.00		

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	

0	963.92	103.87	3.05	106.93	122.6	13.76	2.94	109.87	.00	3.27		3.50	.00	0	.00
0	13.08	.01750					.01316	.17					.00		
0	977.00	104.10	3.27	107.37	122.6	13.12	2.68	110.04	.00	3.27	2.65	3.50	.00	0	.00
OJUNCT STR															
0	981.00	104.20	4.10	108.30	112.6	11.70	.01268	.05				3.50	.00	0	.00
0	98.32	.01539					.01253	1.23		3.19		3.50	.00	0	.00
0	1079.32	105.71	3.85	109.56	112.6	11.70	2.13	111.69	.00	3.19	2.60	3.50	.00	0	.00
OHYDRAULIC JUMP															
0	1079.32	105.71	2.54	108.25	112.6	15.07	3.53	111.78	.00	3.19		3.50	.00	0	.00
0	125.99	.01539					.01720	2.17				3.50	.00	0	.00
0	1205.32	107.65	2.44	110.09	112.6	15.72	3.84	113.93	.00	3.19	2.60	3.50	.00	0	.00

0	74.68	.01539															
0	1280.00	108.80	2.34	111.14	112.6	16.49	.01917	1.43			2.60		.00				
0	96.00	.02187					4.23	115.36	.00	3.19		3.50	.00	.00	0	.00	
0	1376.00	110.90	2.43	113.33	112.6	15.83	.01932	1.85			2.28		.00				
0	JUNCT STR	.03333					3.89	117.22	.00	3.19		3.50	.00	.00	0	.00	
0	1379.00	111.00	2.20	113.20	107.6	16.88	.02017	.06					.00				
0	61.29	.02194					4.43	117.63	.00	3.15		3.50	.00	.00	0	.00	
0	1440.29	112.34	2.20	114.55	107.6	16.88	.02197	1.35			2.20		.00				
0	257.71	.02194					4.43	118.97	.00	3.15		3.50	.00	.00	0	.00	
0	1698.00	118.00	2.29	120.29	107.6	16.13	.02080	5.36			2.20		.00				
0	JUNCT STR	.02500					4.05	124.34	.00	3.15		3.50	.00	.00	0	.00	
1							.02174	.09					.00				

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0	1702.00	118.10	2.08	120.18	102.6	17.25	4.63	124.80	.00	3.10					
0	65.93	.02591					.02310	1.52			2.02	3.50	.00	.00	0
0	1767.93	119.81	2.12	121.93	102.6	16.82	4.40	126.33	.00	3.10		3.50	.00	.00	0
0	64.69	.02591					.02109	1.36			2.02	3.50	.00	.00	0
0	1832.62	121.48	2.21	123.69	102.6	16.04	4.00	127.69	.00	3.10		3.50	.00	.00	0
0	37.55	.02591					.01870	.70			2.02	3.50	.00	.00	0
0	1870.17	122.46	2.30	124.76	102.6	15.30	3.64	128.39	.00	3.10		3.50	.00	.00	0
0	24.83	.02591					.01662	.41			2.02	3.50	.00	.00	0
0	1895.00	123.10	2.40	125.50	102.6	14.58	3.31	128.81	.00	3.10		3.50	.00	.00	0
0	8.68	.01721					.01559	.14			2.32	3.50	.00	.00	0
0	1903.68	123.25	2.41	125.66	102.6	14.54	3.28	128.94	.00	3.10		3.50	.00	.00	0
0	75.58	.01721					.01469	1.11			2.32	3.50	.00	.00	0
0	1979.26	124.55	2.52	127.07	102.6	13.86	2.99	130.05	.00	3.10		3.50	.00	.00	0
0	37.74	.01721					.01314	.50			2.32	3.50	.00	.00	0
0	2017.00	125.20	2.63	127.83	102.6	13.22	2.71	130.55	.00	3.10		3.50	.00	.00	0
0	JUNCT STR	.10001					.01465	.01				3.50	.00	.00	0
0	2018.00	125.30	2.22	127.52	95.6	14.84	3.42	130.94	.00	3.02		3.50	.00	.00	0
0	179.20	.01672					.01743	3.12			2.23	3.50	.00	.00	0
0	2197.20	128.30	2.18	130.47	95.6	15.21	3.59	134.07	.00	3.02		3.50	.00	.00	0
0	113.85	.01672					.01913	2.18			2.23	3.50	.00	.00	0
0	2311.05	130.20	2.09	132.29	95.6	15.95	3.95	136.24	.00	3.02		3.50	.00	.00	0
0	156.93	.02058					.01975	3.10			2.08		.00		
1													.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0	2467.98	133.43	2.13	135.56	95.6	15.61	3.79	139.35	.00	3.02		3.50	.00	.00	0


```
Input file : erg4a.dat
Output file: erg4a.out
```

INPUT FILE LISTING

T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1								
R	468.00	94.76	1		.013		98.42				
JX	470.00	94.78	1	8	.013	9.0					1
TS	472.00	94.80	2		.013		95.17	45.			
R	893.00	102.6	2		.013						
JX	897.00	102.7	2	8	.013	1.0			45.		1
R	977.00	104.1	2		.013		103.8	90.			
JX	981.00	104.2	2	8	.013	10.0					
R	1280.00	108.8	2		.013		104.9	45.			
R	1376.00	110.9	2		.013						1
JX	1379.00	111.0	2	8	.013	5.0					
R	1698.00	118.0	2		.013		111.5	45.			
JX	1702.00	118.1	2	8	.013	5.0					1
R	1895.00	123.1	2		.013		118.6	45.			
R	2017.00	125.2	2		.013						1
JX	2018.00	125.3	2	8	.013	7.0					
R	2311.05	130.2	2		.013		125.9	45.			
R	2690.00	138.0	2		.013						1
R	2713.00	138.2	2		.013						
JX	2717.00	138.3	2	8	.013	3.2					
R	2820.00	139.7	2		.013		139.8	45.			
R	2924.00	140.0	2		.013						1
TS	2925.00	140.0	10		.013						
TS	2936.00	140.0	11		.013						
SH			11								

1

SP

[illegible]

PAGE 1
Y(9) Y(10)

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1379.00	111.00	2	8	0	.013	5.0	.0	111.50	.00	45.00	.00
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 12 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1698.00	118.00	2			.013				.00	.00	.00 1
0 ELEMENT NO 13 IS A JUNCTION												
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1702.00	118.10	2	8	0	.013	5.0	.0	118.60	.00	45.00	.00
0 ELEMENT NO 14 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1895.00	123.10	2			.013				.00	.00	.00 1
0 ELEMENT NO 15 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2017.00	125.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 16 IS A JUNCTION												
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2018.00	125.30	2	8	0	.013	7.0	.0	125.90	.00	45.00	.00
0 ELEMENT NO 17 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2311.05	130.20	2			.013				.00	.00	.00 1
0 ELEMENT NO 18 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2690.00	138.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 19 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2713.00	138.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 20 IS A JUNCTION												
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2717.00	138.30	2	8	0	.013	3.2	.0	139.80	.00	45.00	.00
0 ELEMENT NO 21 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2820.00	139.70	2			.013				.00	.00	.00 1
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 22 IS A REACH												
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2924.00	140.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 23 IS A TRANSITION												
U/S DATA	STATION	INVERT	SECT			N						
	2925.00	140.00	10			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 24 IS A TRANSITION												
U/S DATA	STATION	INVERT	SECT			N						
	2936.00	140.00	11			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS												
U/S DATA	STATION	INVERT	SECT			N						
	2936.00	140.00	11			.013						
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING												

1 ** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0 374.70	92.95	5.47	98.42	161.4	10.15	1.60	100.02	.00	3.71		4.50	.00	.00	0	.00
0 38.89	.01940					.00674	.26			2.48			.00		
0 413.59	93.70	5.01	98.71	161.4	10.15	1.60	100.31	.00	3.71		4.50	.00	.00	0	.00
OHYDRAULIC JUMP															
0 413.59	93.70	2.63	96.33	161.4	16.73	4.35	100.68	.00	3.71		4.50	.00	.00	0	.00
0 54.41	.01940					.01559	.85			2.48			.00		
0 468.00	94.76	2.70	97.46	161.4	16.23	4.09	101.55	.00	3.71		4.50	.00	.00	0	.00
0JUNCT STR	.01000					.01718	.03						.00		
0 470.00	94.78	2.40	97.18	152.4	17.67	4.85	102.03	.00	3.62		4.50	.00	.00	0	.00
0TRANS STR	.01000					.01978	.04						.00		
0 472.00	94.80	3.39	98.19	152.4	15.98	3.97	102.16	.00	3.39		3.50	.00	.00	0	.00
0 12.50	.01853					.02140	.27			3.50			.00		
0 484.50	95.03	3.50	98.53	152.4	15.84	3.90	102.43	.00	3.39		3.50	.00	.00	0	.00
0 408.50	.01853					.02278	9.31			3.50			.00		
0 893.00	102.60	5.49	108.09	152.4	15.84	3.90	111.99	.00	3.39		3.50	.00	.00	0	.00
0JUNCT STR	.02500					.02280	.09						.00		
0 897.00	102.70	5.59	108.29	151.4	15.74	3.85	112.14	.00	3.39		3.50	.00	.00	0	.00
0 80.00	.01750					.02264	1.81			3.50			.00		
0 977.00	104.10	6.00	110.10	151.4	15.74	3.85	113.95	.00	3.39		3.50	.00	.00	0	.00
0JUNCT STR	.02500					.02120	.08						.00		
0 981.00	104.20	6.89	111.09	141.4	14.70	3.36	114.45	.00	3.36		3.50	.00	.00	0	.00
0 299.00	.01539					.01975	5.91			3.50			.00		

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0 1280.00	108.80	8.37	117.17	141.4	14.70	3.36	120.52	.00	3.36		3.50	.00	.00	0	.00
0 96.00	.02187					.01975	1.90			2.72			.00		
0 1376.00	110.90	8.16	119.06	141.4	14.70	3.36	122.42	.00	3.36		3.50	.00	.00	0	.00
0JUNCT STR	.03333					.01907	.06						.00		
0 1379.00	111.00	8.57	119.57	136.4	14.18	3.12	122.69	.00	3.34		3.50	.00	.00	0	.00
0 319.00	.02194					.01838	5.86			2.63			.00		
0 1698.00	118.00	7.59	125.59	136.4	14.18	3.12	128.71	.00	3.34		3.50	.00	.00	0	.00
0JUNCT STR	.02500					.01772	.07						.00		
0 1702.00	118.10	7.99	126.09	131.4	13.66	2.90	128.99	.00	3.32		3.50	.00	.00	0	.00
0 193.00	.02591					.01706	3.29			2.39			.00		
0 1895.00	123.10	6.43	129.53	131.4	13.66	2.90	132.43	.00	3.32		3.50	.00	.00	0	.00

4-17-01

RUN DATE (MON/DAY/YR) =04/17/2001
USER NO.= M GOODWN.I01

		FROM	TO		PEAK	RUNOFF		TIME TO	CFS	PAGE =	1
COMMAND	HYDROGRAPH IDENTIFICATION	ID NO.	ID NO.	AREA (SQ MI)	DISCHARGE (CFS)	VOLUME (AC-FT)	RUNOFF (INCHES)	PEAK (HOURS)	PER ACRE	NOTATION	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.480
COMPUTE NM HYD	101.00	-	3	.03270	42.31	1.374	.78799	1.499	2.022	PER IMP=	50.00
ROUTE	101.10	3	1	.03270	19.74	1.374	.78800	1.632	.943		
COMPUTE NM HYD	102.00	-	2	.05410	48.68	2.421	.83894	1.665	1.406	PER IMP=	56.00
ADD HYD	102.10	1& 2	3	.08680	68.39	3.795	.81972	1.632	1.231		
COMPUTE NM HYD	103.00	-	2	.04990	58.63	2.205	.82868	1.532	1.836	PER IMP=	55.00
ADD HYD	103.10	3& 2	1	.13670	118.71	6.000	.82299	1.598	1.357		
COMPUTE NM HYD	104.00	-	2	.05320	54.06	2.351	.82868	1.598	1.588	PER IMP=	55.00
COMPUTE NM HYD	105.00	-	3	.03630	63.10	2.262	1.16817	1.499	2.716	PER IMP=	90.00
ROUTE RESERVOIR	105.10	3	7	.03630	36.51	2.262	1.16817	1.665	1.572	AC-FT=	.618
ADD HYD	105.20	2& 7	4	.08950	89.70	4.613	.96636	1.598	1.566		
COMPUTE NM HYD	111.00	-	5	.00450	6.28	.214	.89281	1.499	2.179	PER IMP=	65.00
ADD HYD	111.10	4& 5	2	.09400	94.12	4.827	.96284	1.598	1.565		
COMPUTE NM HYD	106.00	-	3	.02400	42.96	1.495	1.16817	1.499	2.797	PER IMP=	90.00
ADD HYD	106.10	2& 3	4	.11800	127.15	6.322	1.00460	1.565	1.684		
COMPUTE NM HYD	107.00	-	2	.05010	67.15	2.214	.82868	1.499	2.094	PER IMP=	55.00
ADD HYD	107.10	4& 2	3	.16810	190.19	8.536	.95217	1.532	1.768		
COMPUTE NM HYD	108.00	-	2	.00450	7.66	.261	1.08825	1.499	2.658	PER IMP=	80.00
ADD HYD	108.10	3& 2	4	.17260	197.54	8.798	.95571	1.532	1.788		
ADD HYD	108.20	4& 1	5	.30930	307.99	14.798	.89705	1.565	1.556		
ROUTE RESERVOIR	108.30	5	3	.30930	92.43	14.797	.89703	2.098	.467	AC-FT=	8.340
COMPUTE NM HYD	109.00	-	2	.00560	7.81	.267	.89281	1.499	2.179	PER IMP=	65.00
ADD HYD	109.10	3& 2	4	.31490	93.72	15.064	.89696	2.065	.465		
COMPUTE NM HYD	110.00	-	2	.00180	2.52	.086	.89281	1.499	2.184	PER IMP=	65.00
ADD HYD	110.10	4& 2	1	.31670	94.21	15.150	.89693	2.065	.465		
COMPUTE NM HYD	201.00	-	1	.00590	8.23	.281	.89281	1.499	2.179	PER IMP=	65.00
COMPUTE NM HYD	202.00	-	2	.03580	47.99	1.582	.82868	1.499	2.094	PER IMP=	55.00
COMPUTE NM HYD	203.00	-	3	.00300	5.02	.175	1.09583	1.499	2.616	PER IMP=	85.00
COMPUTE NM HYD	204.00	-	4	.00830	11.57	.395	.89281	1.499	2.178	PER IMP=	65.00
COMPUTE NM HYD	205.00	-	5	.03500	46.91	1.547	.82868	1.499	2.094	PER IMP=	55.00
COMPUTE NM HYD	302.00	-	7	.01050	8.48	.254	.45308	1.532	1.262	PER IMP=	20.00

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 04/17/2001
START TIME (HR:MIN:SEC) = 13:38:50 USER NO.= M_GOODWN.I01
INPUT FILE = alt#4-10.dat

START TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 10-YEAR 6-HOUR STORM EVENT
***** JAN. 11, 2001
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.27 IN RAIN SIX=1.48 IN
RAIN DAY=1.78 IN DT=0.0333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .033300 HOURS END TIME = 5.994000 HOURS

.0000	.0010	.0020	.0030	.0040	.0051	.0062
.0073	.0084	.0096	.0108	.0120	.0132	.0145
.0159	.0172	.0187	.0201	.0216	.0232	.0248
.0265	.0282	.0300	.0319	.0339	.0360	.0381
.0404	.0428	.0454	.0488	.0526	.0566	.0649
.0838	.1131	.1552	.2127	.2884	.3849	.5052
.6521	.7931	.8510	.8996	.9429	.9822	1.0184
1.0520	1.0834	1.1128	1.1405	1.1666	1.1912	1.2146
1.2367	1.2577	1.2776	1.2965	1.3144	1.3192	1.3230
1.3266	1.3301	1.3333	1.3365	1.3395	1.3424	1.3452
1.3478	1.3504	1.3530	1.3554	1.3578	1.3601	1.3623
1.3645	1.3666	1.3687	1.3707	1.3727	1.3746	1.3765
1.3783	1.3801	1.3819	1.3837	1.3854	1.3871	1.3887
1.3903	1.3919	1.3935	1.3950	1.3965	1.3980	1.3995
1.4009	1.4023	1.4037	1.4051	1.4065	1.4078	1.4092
1.4105	1.4118	1.4130	1.4143	1.4155	1.4168	1.4180
1.4192	1.4204	1.4215	1.4227	1.4238	1.4250	1.4261
1.4272	1.4283	1.4294	1.4305	1.4315	1.4326	1.4336
1.4347	1.4357	1.4367	1.4377	1.4387	1.4397	1.4407
1.4416	1.4426	1.4436	1.4445	1.4454	1.4464	1.4473
1.4482	1.4491	1.4500	1.4509	1.4518	1.4527	1.4535
1.4544	1.4553	1.4561	1.4570	1.4578	1.4586	1.4595
1.4603	1.4611	1.4619	1.4627	1.4635	1.4643	1.4651
1.4659	1.4667	1.4674	1.4682	1.4690	1.4697	1.4705
1.4712	1.4720	1.4727	1.4734	1.4742	1.4749	1.4756
1.4763	1.4771	1.4778	1.4785	1.4792	1.4799	

COMPUTE NM HYD ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
PER A=0 PER B=25 PER C=25 PER D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 64.551 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .016350 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .124683HR TP = .133300HR K/TP RATIO = .935354 SHAPE CONSTANT, N = 3.781209
 UNIT PEAK = 41.741 CFS UNIT VOLUME = .9999 B = 340.31 P60 = 1.2700
 AREA = .016350 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = .78799 INCHES = 1.3743 ACRE-FEET
 PEAK DISCHARGE RATE = 42.31 CFS AT 1.499 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
 FRICTION SLOPE=.02 'n'=.017 LAST STA=34

DIST	ELEV
0	1
1.0	0
16.0	0.32
33.0	0
34.0	1

RATING CURVE VALLEY SECTION 4.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
.00	.00	.00	.00
.05	.14	.15	5.37
.11	.57	.98	10.74
.16	1.27	2.88	16.11
.21	2.26	6.20	21.47
.26	3.53	11.23	26.84
.32	5.09	18.27	32.21
.37	6.81	29.33	32.74
.42	8.53	42.63	32.84
.47	10.26	57.83	32.95
.53	12.00	74.82	33.05
.58	13.74	93.51	33.16
.63	15.49	113.83	33.26
.68	17.24	135.71	33.37
.74	19.00	159.09	33.47
.79	20.77	183.94	33.58
.84	22.54	210.19	33.68
.89	24.31	237.83	33.79
.95	26.09	266.81	33.89
1.00	27.88	297.10	34.00

COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.053	.141	.15	1.1237
.105	.565	.98	.7079
.158	1.271	2.88	.5402
.211	2.260	6.20	.4459
.263	3.532	11.23	.3843
.316	5.086	18.27	.3403
.368	6.805	29.33	.2835
.421	8.531	42.63	.2446
.474	10.262	57.83	.2169
.526	11.999	74.82	.1960
.579	13.741	93.51	.1796
.632	15.489	113.83	.1663
.684	17.243	135.71	.1553
.737	19.002	159.09	.1460
.789	20.766	183.94	.1380
.842	22.537	210.19	.1310
.895	24.312	237.83	.1249
.947	26.093	266.81	.1195
1.000	27.880	297.10	.1147

ROUTE ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = .78800 INCHES = 1.3743 ACRE-FEET
PEAK DISCHARGE RATE = 19.74 CFS AT 1.632 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
PER A=0 PER B=24 PER C=20 PER D=56
TP=0.27 HR MASS RAINFALL=-1

K = .147150HR TP = .270000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 59.052 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 1.2700
AREA = .030296 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .255651HR TP = .270000HR K/TP RATIO = .946857 SHAPE CONSTANT, N = 3.733406
UNIT PEAK = 29.710 CFS UNIT VOLUME = .9996 B = 336.99 P60 = 1.2700
AREA = .023804 SQ MI IA = .43182 INCHES INF = 1.05909 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = .83894 INCHES = 2.4206 ACRE-FEET
 PEAK DISCHARGE RATE = 48.68 CFS AT 1.665 HOURS BASIN AREA = .0541 SQ. MI.

ADD HYD ID=3 HYD NO=102.1 ID=1 & 2
 PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 102.10

RUNOFF VOLUME = .81972 INCHES = 3.7948 ACRE-FEET
 PEAK DISCHARGE RATE = 68.39 CFS AT 1.632 HOURS BASIN AREA = .0868 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.17 HR MASS RAINFALL=-1

K = .092650HR TP = .170000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 84.963 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
 AREA = .027445 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .161400HR TP = .170000HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
 UNIT PEAK = 44.416 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
 AREA = .022455 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = .82868 INCHES = 2.2054 ACRE-FEET
 PEAK DISCHARGE RATE = 58.63 CFS AT 1.532 HOURS BASIN AREA = .0499 SQ. MI.

ADD HYD ID=1 HYD NO=103.1 ID=3 & 2
 PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 103.10

RUNOFF VOLUME = .82299 INCHES = 6.0001 ACRE-FEET
 PEAK DISCHARGE RATE = 118.71 CFS AT 1.598 HOURS BASIN AREA = .1367 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.22 HR MASS RAINFALL=-1

K = .119900HR TP = .220000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 69.995 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
AREA = .029260 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .208871HR TP = .220000HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 36.591 CFS UNIT VOLUME = .9997 B = 336.26 P60 = 1.2700
AREA = .023940 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = .82868 INCHES = 2.3512 ACRE-FEET
PEAK DISCHARGE RATE = 54.06 CFS AT 1.598 HOURS BASIN AREA = .0532 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.14 HR MASS RAINFALL=-1

K = .076300HR TP = .140000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 122.81 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.2700
AREA = .032670 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .113235HR TP = .140000HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
UNIT PEAK = 9.9171 CFS UNIT VOLUME = .9989 B = 382.48 P60 = 1.2700
AREA = .003630 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.16817 INCHES = 2.2616 ACRE-FEET
PEAK DISCHARGE RATE = 63.10 CFS AT 1.499 HOURS BASIN AREA = .0363 SQ. MI.

ROUTE RESERVOIR ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	70.2
12.0	0.14	72.2
24.7	0.36	74.2
38.0	0.65	76.2
46.0	1.04	78.2
53.6	1.54	80.2

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	70.20	.000	.00
.80	.00	70.20	.000	.00
1.60	46.48	75.85	.599	35.64
2.40	2.56	71.41	.085	7.26
3.20	.27	70.27	.005	.44
4.00	.13	70.22	.002	.13
4.80	.20	70.23	.002	.18
5.59	.33	70.25	.004	.30
6.39	.04	70.22	.001	.11
7.19	.00	70.20	.000	.00

PEAK DISCHARGE = 36.510 CFS - PEAK OCCURS AT HOUR 1.67
 MAXIMUM WATER SURFACE ELEVATION = 75.976
 MAXIMUM STORAGE = .6175 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=7 CODE=0

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.499	25.9	2.997	.8	4.495	.2	5.994	.4
.033	.0	1.532	30.2	3.030	.7	4.529	.2	6.027	.4
.067	.0	1.565	33.6	3.064	.6	4.562	.2	6.061	.4
.100	.0	1.598	35.6	3.097	.6	4.595	.2	6.094	.4
.133	.0	1.632	36.5	3.130	.5	4.629	.2	6.127	.4
.167	.0	1.665	36.5	3.163	.5	4.662	.2	6.160	.3
.200	.0	1.698	36.0	3.197	.4	4.695	.2	6.194	.3
.233	.0	1.732	35.1	3.230	.4	4.729	.2	6.227	.3
.266	.0	1.765	34.0	3.263	.4	4.762	.2	6.260	.2
.300	.0	1.798	32.8	3.297	.3	4.795	.2	6.294	.2
.333	.0	1.832	31.5	3.330	.3	4.828	.2	6.327	.2
.366	.0	1.865	30.2	3.363	.3	4.862	.2	6.360	.1
.400	.0	1.898	29.0	3.397	.3	4.895	.2	6.394	.1
.433	.0	1.931	27.7	3.430	.2	4.928	.2	6.427	.1
.466	.0	1.965	26.5	3.463	.2	4.962	.2	6.460	.1
.500	.0	1.998	25.2	3.496	.2	4.995	.2	6.493	.1
.533	.0	2.031	23.9	3.530	.2	5.028	.2	6.527	.1

.566	.0	2.065	22.5	3.563	.2	5.062	.2	6.560	.1
.599	.0	2.098	21.0	3.596	.2	5.095	.2	6.593	.0
.633	.0	2.131	19.5	3.630	.2	5.128	.2	6.627	.0
.666	.0	2.165	17.9	3.663	.2	5.161	.2	6.660	.0
.699	.0	2.198	16.2	3.696	.2	5.195	.2	6.693	.0
.733	.0	2.231	14.6	3.730	.2	5.228	.2	6.727	.0
.766	.0	2.264	13.1	3.763	.2	5.261	.2	6.760	.0
.799	.0	2.298	11.7	3.796	.1	5.295	.3	6.793	.0
.832	.0	2.331	9.9	3.829	.1	5.328	.3	6.826	.0
.866	.0	2.364	8.5	3.863	.1	5.361	.3	6.860	.0
.899	.0	2.398	7.3	3.896	.1	5.395	.3	6.893	.0
.932	.0	2.431	6.2	3.929	.1	5.428	.3	6.926	.0
.966	.0	2.464	5.4	3.963	.1	5.461	.3	6.960	.0
.999	.0	2.497	4.7	3.996	.1	5.494	.3	6.993	.0
1.032	.0	2.531	4.1	4.029	.1	5.528	.3	7.026	.0
1.066	.0	2.564	3.5	4.063	.1	5.561	.3	7.060	.0
1.099	.0	2.597	3.1	4.096	.1	5.594	.3	7.093	.0
1.132	.0	2.631	2.7	4.129	.1	5.628	.3	7.126	.0
1.166	.0	2.664	2.4	4.162	.1	5.661	.3	7.159	.0
1.199	.0	2.697	2.1	4.196	.1	5.694	.3	7.193	.0
1.232	.1	2.731	1.9	4.229	.1	5.728	.3	7.226	.0
1.265	.4	2.764	1.7	4.262	.1	5.761	.3	7.259	.0
1.299	1.3	2.797	1.5	4.296	.1	5.794	.3	7.293	.0
1.332	3.3	2.830	1.3	4.329	.1	5.827	.3	7.326	.0
1.365	6.4	2.864	1.2	4.362	.1	5.861	.4		
1.399	10.9	2.897	1.1	4.396	.1	5.894	.4		
1.432	15.3	2.930	1.0	4.429	.1	5.927	.4		
1.465	20.4	2.964	.9	4.462	.1	5.961	.4		

RUNOFF VOLUME = 1.16817 INCHES = 2.2616 ACRE-FEET
 PEAK DISCHARGE RATE = 36.51 CFS AT 1.665 HOURS BASIN AREA = .0363 SQ. MI.

ADD HYD ID=4 HYD NO=105.2 ID=2 & 7
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 105.20

RUNOFF VOLUME = .96636 INCHES = 4.6127 ACRE-FEET
 PEAK DISCHARGE RATE = 89.70 CFS AT 1.598 HOURS BASIN AREA = .0895 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 11.548 CFS UNIT VOLUME = .9984 B = 526.28 P60 = 1.2700
 AREA = .002925 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 3.6316 CFS UNIT VOLUME = .9963 B = 307.36 P60 = 1.2700
AREA = .001575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = .89281 INCHES = .2143 ACRE-FEET
PEAK DISCHARGE RATE = 6.28 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 111.10

RUNOFF VOLUME = .96284 INCHES = 4.8270 ACRE-FEET
PEAK DISCHARGE RATE = 94.12 CFS AT 1.598 HOURS BASIN AREA = .0940 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=106.0 AREA=0.0240 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 85.278 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .021600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .107816HR TP = .133300HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
UNIT PEAK = 6.8863 CFS UNIT VOLUME = .9986 B = 382.48 P60 = 1.2700
AREA = .002400 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.16817 INCHES = 1.4953 ACRE-FEET
PEAK DISCHARGE RATE = 42.96 CFS AT 1.499 HOURS BASIN AREA = .0240 SQ. MI.

ADD HYD ID=4 HYD NO=106.1 ID=2 & 3
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 106.10

RUNOFF VOLUME = 1.00460 INCHES = 6.3222 ACRE-FEET
PEAK DISCHARGE RATE = 127.15 CFS AT 1.565 HOURS BASIN AREA = .1180 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 108.79 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .027555 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 56.871 CFS UNIT VOLUME = .9999 B = 336.26 P60 = 1.2700
AREA = .022545 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = .82868 INCHES = 2.2142 ACRE-FEET
PEAK DISCHARGE RATE = 67.15 CFS AT 1.499 HOURS BASIN AREA = .0501 SQ. MI.

ADD HYD ID=3 HYD NO=107.1 ID=4 & 2
PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 107.10

RUNOFF VOLUME = .95217 INCHES = 8.5364 ACRE-FEET
PEAK DISCHARGE RATE = 190.19 CFS AT 1.532 HOURS BASIN AREA = .1681 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
PER A=0 PER B=0 PER C=20 PER D=80
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 14.213 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.2700
AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .107816HR TP = .133300HR K/TP RATIO = .808822 SHAPE CONSTANT, N = 4.423424
UNIT PEAK = 2.5824 CFS UNIT VOLUME = .9954 B = 382.48 P60 = 1.2700
AREA = .000900 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.08825 INCHES = .2612 ACRE-FEET
PEAK DISCHARGE RATE = 7.66 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=4 HYD NO=108.1 ID=3 & 2
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 108.10

RUNOFF VOLUME = .95571 INCHES = 8.7976 ACRE-FEET
PEAK DISCHARGE RATE = 197.54 CFS AT 1.532 HOURS BASIN AREA = .1726 SQ. MI.

ADD HYD ID=5 HYD NO=108.2 ID=4 & 1
PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 108.20

RUNOFF VOLUME = .89705 INCHES = 14.7977 ACRE-FEET
PEAK DISCHARGE RATE = 307.99 CFS AT 1.565 HOURS BASIN AREA = .3093 SQ. MI.

ROUTE RESERVOIR ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	40.0
9.6	1.38	41.0
21.9	2.82	42.0
42.8	4.32	43.0
65.4	5.89	44.0
85.2	7.51	45.0

100.0	9.21	46.0
111.7	10.97	47.0
118.5	12.80	48.0
121.0	14.69	49.0
122.3	16.66	50.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)

.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	295.78	43.02	4.354	43.29
2.40	32.07	45.03	7.561	85.65
3.20	4.76	42.96	4.260	41.96
4.00	1.63	41.81	2.546	19.56
4.80	1.38	41.17	1.629	11.73
5.59	1.91	40.81	1.112	7.73
6.39	.56	40.58	.794	5.52
7.19	.11	40.37	.513	3.57
7.99	.04	40.24	.328	2.28
8.79	.02	40.15	.208	1.45
9.59	.01	40.10	.132	.92
10.39	.00	40.06	.084	.58
11.19	.00	40.04	.053	.37
11.99	.00	40.02	.034	.23
12.79	.00	40.02	.021	.15
13.59	.00	40.01	.013	.09
14.39	.00	40.01	.008	.06
15.18	.00	40.00	.005	.04
15.98	.00	40.00	.003	.02
16.78	.00	40.00	.002	.01
17.58	.00	40.00	.001	.01
18.38	.00	40.00	.001	.01
19.18	.00	40.00	.001	.00

PEAK DISCHARGE = 92.429 CFS - PEAK OCCURS AT HOUR 2.10
 MAXIMUM WATER SURFACE ELEVATION = 45.488
 MAXIMUM STORAGE = 8.3403 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=3 CODE=0

PARTIAL HYDROGRAPH 108.30

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	19.6	7.992	2.3	11.988	.2	15.984	.0
.033	.0	4.029	19.1	8.025	2.2	12.021	.2	16.017	.0
.067	.0	4.063	18.7	8.059	2.2	12.055	.2	16.051	.0
.100	.0	4.096	18.3	8.092	2.2	12.088	.2	16.084	.0
.133	.0	4.129	17.9	8.125	2.1	12.121	.2	16.117	.0
.167	.0	4.162	17.6	8.158	2.1	12.155	.2	16.151	.0

.200	.0	4.196	17.2	8.192	2.0	12.188	.2	16.184	.0
.233	.0	4.229	16.8	8.225	2.0	12.221	.2	16.217	.0
.266	.0	4.262	16.5	8.258	2.0	12.254	.2	16.250	.0
.300	.0	4.296	16.1	8.292	1.9	12.288	.2	16.284	.0
.333	.0	4.329	15.8	8.325	1.9	12.321	.2	16.317	.0
.366	.0	4.362	15.4	8.358	1.9	12.354	.2	16.350	.0
.400	.0	4.396	15.1	8.392	1.8	12.388	.2	16.384	.0
.433	.0	4.429	14.8	8.425	1.8	12.421	.2	16.417	.0
.466	.0	4.462	14.5	8.458	1.8	12.454	.2	16.450	.0
.500	.0	4.495	14.2	8.491	1.7	12.488	.2	16.484	.0
.533	.0	4.529	13.9	8.525	1.7	12.521	.2	16.517	.0
.566	.0	4.562	13.6	8.558	1.7	12.554	.2	16.550	.0
.599	.0	4.595	13.3	8.591	1.6	12.587	.2	16.583	.0
.633	.0	4.629	13.0	8.625	1.6	12.621	.2	16.617	.0
.666	.0	4.662	12.8	8.658	1.6	12.654	.2	16.650	.0
.699	.0	4.695	12.5	8.691	1.5	12.687	.2	16.683	.0
.733	.0	4.729	12.2	8.725	1.5	12.721	.2	16.717	.0
.766	.0	4.762	12.0	8.758	1.5	12.754	.2	16.750	.0
.799	.0	4.795	11.7	8.791	1.5	12.787	.1	16.783	.0
.832	.0	4.828	11.5	8.824	1.4	12.821	.1	16.817	.0
.866	.0	4.862	11.3	8.858	1.4	12.854	.1	16.850	.0
.899	.0	4.895	11.0	8.891	1.4	12.887	.1	16.883	.0
.932	.0	4.928	10.8	8.924	1.3	12.920	.1	16.916	.0
.966	.0	4.962	10.6	8.958	1.3	12.954	.1	16.950	.0
.999	.0	4.995	10.4	8.991	1.3	12.987	.1	16.983	.0
1.032	.0	5.028	10.2	9.024	1.3	13.020	.1	17.016	.0
1.066	.0	5.062	10.0	9.058	1.2	13.054	.1	17.050	.0
1.099	.0	5.095	9.8	9.091	1.2	13.087	.1	17.083	.0
1.132	.0	5.128	9.6	9.124	1.2	13.120	.1	17.116	.0
1.166	.0	5.161	9.4	9.158	1.2	13.154	.1	17.150	.0
1.199	.0	5.195	9.3	9.191	1.2	13.187	.1	17.183	.0
1.232	.0	5.228	9.1	9.224	1.1	13.220	.1	17.216	.0
1.265	.1	5.261	9.0	9.257	1.1	13.253	.1	17.249	.0
1.299	.4	5.295	8.9	9.291	1.1	13.287	.1	17.283	.0
1.332	.9	5.328	8.7	9.324	1.1	13.320	.1	17.316	.0
1.365	2.0	5.361	8.6	9.357	1.1	13.353	.1	17.349	.0
1.399	3.8	5.395	8.5	9.391	1.0	13.387	.1	17.383	.0
1.432	6.4	5.428	8.3	9.424	1.0	13.420	.1	17.416	.0
1.465	10.1	5.461	8.2	9.457	1.0	13.453	.1	17.449	.0
1.499	15.8	5.494	8.1	9.491	1.0	13.487	.1	17.483	.0
1.532	22.5	5.528	8.0	9.524	1.0	13.520	.1	17.516	.0
1.565	33.2	5.561	7.8	9.557	.9	13.553	.1	17.549	.0
1.598	43.3	5.594	7.7	9.590	.9	13.586	.1	17.583	.0
1.632	52.7	5.628	7.6	9.624	.9	13.620	.1	17.616	.0
1.665	61.0	5.661	7.5	9.657	.9	13.653	.1	17.649	.0
1.698	67.8	5.694	7.4	9.690	.9	13.686	.1	17.682	.0
1.732	73.0	5.728	7.3	9.724	.9	13.720	.1	17.716	.0
1.765	77.4	5.761	7.2	9.757	.8	13.753	.1	17.749	.0
1.798	81.2	5.794	7.1	9.790	.8	13.786	.1	17.782	.0
1.832	84.3	5.827	7.0	9.824	.8	13.820	.1	17.816	.0
1.865	86.5	5.861	6.9	9.857	.8	13.853	.1	17.849	.0
1.898	88.0	5.894	6.8	9.890	.8	13.886	.1	17.882	.0

1.931	89.3	5.927	6.7	9.923	.8	13.919	.1	17.916	.0
1.965	90.3	5.961	6.7	9.957	.7	13.953	.1	17.949	.0
1.998	91.1	5.994	6.6	9.990	.7	13.986	.1	17.982	.0
2.031	91.8	6.027	6.5	10.023	.7	14.019	.1	18.015	.0
2.065	92.2	6.061	6.4	10.057	.7	14.053	.1	18.049	.0
2.098	92.4	6.094	6.3	10.090	.7	14.086	.1	18.082	.0
2.131	92.4	6.127	6.3	10.123	.7	14.119	.1	18.115	.0
2.165	92.2	6.160	6.2	10.157	.7	14.153	.1	18.149	.0
2.198	91.7	6.194	6.1	10.190	.7	14.186	.1	18.182	.0
2.231	91.0	6.227	6.0	10.223	.6	14.219	.1	18.215	.0
2.264	90.1	6.260	5.9	10.256	.6	14.252	.1	18.249	.0
2.298	89.2	6.294	5.8	10.290	.6	14.286	.1	18.282	.0
2.331	88.1	6.327	5.7	10.323	.6	14.319	.1	18.315	.0
2.364	86.9	6.360	5.6	10.356	.6	14.352	.1	18.348	.0
2.398	85.6	6.394	5.5	10.390	.6	14.386	.1	18.382	.0
2.431	84.0	6.427	5.4	10.423	.6	14.419	.1	18.415	.0
2.464	82.1	6.460	5.3	10.456	.6	14.452	.1	18.448	.0
2.497	80.2	6.493	5.2	10.490	.6	14.486	.1	18.482	.0
2.531	78.3	6.527	5.1	10.523	.5	14.519	.1	18.515	.0
2.564	76.4	6.560	5.1	10.556	.5	14.552	.1	18.548	.0
2.597	74.5	6.593	5.0	10.589	.5	14.585	.1	18.582	.0
2.631	72.6	6.627	4.9	10.623	.5	14.619	.1	18.615	.0
2.664	70.7	6.660	4.8	10.656	.5	14.652	.1	18.648	.0
2.697	68.9	6.693	4.7	10.689	.5	14.685	.0	18.681	.0
2.731	67.0	6.727	4.6	10.723	.5	14.719	.0	18.715	.0
2.764	65.2	6.760	4.5	10.756	.5	14.752	.0	18.748	.0
2.797	63.1	6.793	4.5	10.789	.5	14.785	.0	18.781	.0
2.830	61.1	6.826	4.4	10.823	.5	14.819	.0	18.815	.0
2.864	59.1	6.860	4.3	10.856	.4	14.852	.0	18.848	.0
2.897	57.1	6.893	4.2	10.889	.4	14.885	.0	18.881	.0
2.930	55.3	6.926	4.1	10.922	.4	14.918	.0	18.915	.0
2.964	53.4	6.960	4.1	10.956	.4	14.952	.0	18.948	.0
2.997	51.6	6.993	4.0	10.989	.4	14.985	.0	18.981	.0
3.030	49.9	7.026	3.9	11.022	.4	15.018	.0	19.014	.0
3.064	48.2	7.060	3.8	11.056	.4	15.052	.0	19.048	.0
3.097	46.6	7.093	3.8	11.089	.4	15.085	.0	19.081	.0
3.130	45.0	7.126	3.7	11.122	.4	15.118	.0	19.114	.0
3.163	43.4	7.159	3.6	11.156	.4	15.152	.0	19.148	.0
3.197	42.0	7.193	3.6	11.189	.4	15.185	.0	19.181	.0
3.230	40.6	7.226	3.5	11.222	.4	15.218	.0	19.214	.0
3.263	39.2	7.259	3.4	11.255	.4	15.251	.0	19.248	.0
3.297	37.9	7.293	3.4	11.289	.3	15.285	.0	19.281	.0
3.330	36.6	7.326	3.3	11.322	.3	15.318	.0	19.314	.0
3.363	35.4	7.359	3.3	11.355	.3	15.351	.0	19.347	.0
3.397	34.2	7.393	3.2	11.389	.3	15.385	.0	19.381	.0
3.430	33.0	7.426	3.1	11.422	.3	15.418	.0	19.414	.0
3.463	31.9	7.459	3.1	11.455	.3	15.451	.0	19.447	.0
3.496	30.8	7.492	3.0	11.489	.3	15.485	.0	19.481	.0
3.530	29.7	7.526	3.0	11.522	.3	15.518	.0	19.514	.0
3.563	28.7	7.559	2.9	11.555	.3	15.551	.0	19.547	.0
3.596	27.7	7.592	2.9	11.588	.3	15.584	.0	19.581	.0
3.630	26.8	7.626	2.8	11.622	.3	15.618	.0	19.614	.0

3.663	25.9	7.659	2.7	11.655	.3	15.651	.0	19.647	.0
3.696	25.0	7.692	2.7	11.688	.3	15.684	.0	19.680	.0
3.730	24.1	7.726	2.6	11.722	.3	15.718	.0	19.714	.0
3.763	23.3	7.759	2.6	11.755	.3	15.751	.0	19.747	.0
3.796	22.5	7.792	2.6	11.788	.3	15.784	.0	19.780	.0
3.829	21.8	7.825	2.5	11.822	.3	15.818	.0	19.814	.0
3.863	21.3	7.859	2.5	11.855	.3	15.851	.0	19.847	.0
3.896	20.9	7.892	2.4	11.888	.2	15.884	.0	19.880	.0
3.929	20.4	7.925	2.4	11.921	.2	15.917	.0	19.914	.0
3.963	20.0	7.959	2.3	11.955	.2	15.951	.0	19.947	.0

RUNOFF VOLUME = .89703 INCHES = 14.7974 ACRE-FEET
 PEAK DISCHARGE RATE = 92.43 CFS AT 2.098 HOURS BASIN AREA = .3093 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.371 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.2700
 AREA = .003640 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
 UNIT PEAK = 4.5194 CFS UNIT VOLUME = .9971 B = 307.36 P60 = 1.2700
 AREA = .001960 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = .89281 INCHES = .2667 ACRE-FEET
 PEAK DISCHARGE RATE = 7.81 CFS AT 1.499 HOURS BASIN AREA = .0056 SQ. MI.

ADD HYD ID=4 HYD NO=109.1 SUM IDS 3 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 109.10

RUNOFF VOLUME = .89696 INCHES = 15.0640 ACRE-FEET
 PEAK DISCHARGE RATE = 93.72 CFS AT 2.065 HOURS BASIN AREA = .3149 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.6192 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.2700
AREA = .001170 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 1.4527 CFS UNIT VOLUME = .9903 B = 307.36 P60 = 1.2700
AREA = .000630 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = .89281 INCHES = .0857 ACRE-FEET
PEAK DISCHARGE RATE = 2.52 CFS AT 1.499 HOURS BASIN AREA = .0018 SQ. MI.

ADD HYD ID=1 HYD NO=110.1 SUM IDS 4 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 110.10

RUNOFF VOLUME = .89693 INCHES = 15.1497 ACRE-FEET
PEAK DISCHARGE RATE = 94.21 CFS AT 2.065 HOURS BASIN AREA = .3167 SQ. MI.

COMPUTE NM HYD ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 15.141 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.2700
AREA = .003835 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 4.7615 CFS UNIT VOLUME = .9971 B = 307.36 P60 = 1.2700
AREA = .002065 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 201.00

RUNOFF VOLUME = .89281 INCHES = .2809 ACRE-FEET
 PEAK DISCHARGE RATE = 8.23 CFS AT 1.499 HOURS BASIN AREA = .0059 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 77.737 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
 AREA = .019690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
 UNIT PEAK = 40.638 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
 AREA = .016110 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 202.00

RUNOFF VOLUME = .82868 INCHES = 1.5822 ACRE-FEET
 PEAK DISCHARGE RATE = 47.99 CFS AT 1.499 HOURS BASIN AREA = .0358 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
 PER A=0 PER B=15 PER C=0 PER D=85
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.068 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.2700
 AREA = .002550 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
 UNIT PEAK = 1.0376 CFS UNIT VOLUME = .9867 B = 307.36 P60 = 1.2700
 AREA = .000450 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 203.00

RUNOFF VOLUME = 1.09583 INCHES = .1753 ACRE-FEET
PEAK DISCHARGE RATE = 5.02 CFS AT 1.499 HOURS BASIN AREA = .0030 SQ. MI.

COMPUTE NM HYD ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 21.300 CFS UNIT VOLUME = .9988 B = 526.28 P60 = 1.2700
AREA = .005395 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .141549HR TP = .133300HR K/TP RATIO = 1.061885 SHAPE CONSTANT, N = 3.325462
UNIT PEAK = 6.6984 CFS UNIT VOLUME = .9980 B = 307.36 P60 = 1.2700
AREA = .002905 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = .89281 INCHES = .3952 ACRE-FEET
PEAK DISCHARGE RATE = 11.57 CFS AT 1.499 HOURS BASIN AREA = .0083 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 76.000 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.2700
AREA = .019250 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .126557HR TP = .133300HR K/TP RATIO = .949413 SHAPE CONSTANT, N = 3.722979
UNIT PEAK = 39.730 CFS UNIT VOLUME = .9998 B = 336.26 P60 = 1.2700
AREA = .015750 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 205.00

RUNOFF VOLUME = .82868 INCHES = 1.5469 ACRE-FEET
PEAK DISCHARGE RATE = 46.91 CFS AT 1.499 HOURS BASIN AREA = .0350 SQ. MI.

COMPUTE NM HYD ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2909 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 1.2700
AREA = .002100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .137333HR TP = .133300HR K/TP RATIO = 1.030252 SHAPE CONSTANT, N = 3.426319
UNIT PEAK = 19.844 CFS UNIT VOLUME = .9995 B = 314.91 P60 = 1.2700
AREA = .008400 SQ MI IA = .48125 INCHES INF = 1.19750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA 302.00

RUNOFF VOLUME = .45308 INCHES = .2537 ACRE-FEET
PEAK DISCHARGE RATE = 8.48 CFS AT 1.532 HOURS BASIN AREA = .0105 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 13:38:51

4-17-01

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RUN DATE (MON/DAY/YR) =04/17/2001
USER NO.= M_GOODWN.I01

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		FROM	TO	AREA	PEAK	RUNOFF	RUNOFF	TIME TO	CFS	PAGE =	1
COMMAND	HYDROGRAPH IDENTIFICATION	ID NO.	ID NO.	(SQ MI)	DISCHARGE (CFS)	VOLUME (AC-FT)	(INCHES)	PEAK (HOURS)	PER ACRE	NOTATION	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.220
COMPUTE NM HYD	101.00	-	3	.03270	72.46	2.462	1.41183	1.499	3.462	PER IMP=	50.00
ROUTE	101.10	3	1	.03270	40.50	2.462	1.41183	1.632	1.935		
COMPUTE NM HYD	102.00	-	2	.05410	82.42	4.254	1.47432	1.665	2.381	PER IMP=	56.00
ADD HYD	102.10	1& 2	3 ✓	.08680	122.89	6.716	1.45075	1.632	2.212		
COMPUTE NM HYD	103.00	-	2	.04990	99.23	3.889	1.46127	1.532	3.107	PER IMP=	55.00
ADD HYD	103.10	3& 2	1	.13670	208.87	10.605	1.45459	1.598	2.387		
COMPUTE NM HYD	104.00	-	2	.05320	91.59	4.146	1.46127	1.598	2.690	PER IMP=	55.00
COMPUTE NM HYD	105.00	-	3	.03630	96.87	3.658	1.88924	1.499	4.170	PER IMP=	90.00
ROUTE RESERVOIR	105.10	3	7	.03630	47.06	3.658	1.88923	1.698	2.026	AC-FT=	1.110
ADD HYD	105.20	2& 7	4	.08950	137.21	7.804	1.63484	1.598	2.395		
COMPUTE NM HYD	111.00	-	5	.00450	10.41	.367	1.53124	1.499	3.613	PER IMP=	65.00
ADD HYD	111.10	4& 5	2	.09400	144.63	8.171	1.62987	1.598	2.404		
COMPUTE NM HYD	106.00	-	3	.02400	65.87	2.418	1.88924	1.499	4.288	PER IMP=	90.00
ADD HYD	106.10	2& 3	4	.11800	196.59	10.589	1.68262	1.565	2.603		
COMPUTE NM HYD	107.00	-	2	.05010	113.50	3.905	1.46127	1.499	3.540	PER IMP=	55.00
ADD HYD	107.10	4& 2	3	.16810	305.21	14.494	1.61665	1.532	2.837		
COMPUTE NM HYD	108.00	-	2	.00450	11.93	.430	1.79252	1.499	4.141	PER IMP=	80.00
ADD HYD	108.10	3& 2	4	.17260	316.64	14.924	1.62123	1.532	2.866		
ADD HYD	108.20	4& 1	5	.30930	509.84	25.529	1.54758	1.565	2.576		
ROUTE RESERVOIR	108.30	5	3	.30930	121.19	25.528	1.54755	2.198	.612	AC-FT=	14.983
COMPUTE NM HYD	109.00	-	2	.00560	12.95	.457	1.53124	1.499	3.612	PER IMP=	65.00
ADD HYD	109.10	3& 2	4	.31490	123.43	25.986	1.54726	2.031	.612		
COMPUTE NM HYD	110.00	-	2	.00180	4.17	.147	1.53124	1.499	3.621	PER IMP=	65.00
ADD HYD	110.10	4& 2	1	.31670	124.28	26.133	1.54717	2.031	.613		
COMPUTE NM HYD	201.00	-	1	.00590	13.64	.482	1.53124	1.499	3.612	PER IMP=	65.00
COMPUTE NM HYD	202.00	-	2	.03580	81.11	2.790	1.46127	1.499	3.540	PER IMP=	55.00
COMPUTE NM HYD	203.00	-	3	.00300	7.86	.287	1.79108	1.499	4.091	PER IMP=	85.00
COMPUTE NM HYD	204.00	-	4	.00830	19.18	.678	1.53124	1.499	3.611	PER IMP=	65.00
COMPUTE NM HYD	205.00	-	5	.03500	79.30	2.728	1.46127	1.499	3.540	PER IMP=	55.00

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 04/17/2001
START TIME (HR:MIN:SEC) = 13:36:11 USER NO.= M_GOODWN.I01
INPUT FILE = alt#4-99.dat

START TIME=0.0
***** EL RANCHO GRANDE I, UNIT 4.
***** 100-YEAR 6-HOUR STORM EVENT
***** JAN. 10, 2001
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.22 IN
RAIN DAY=2.67 IN DT=0.0333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.033300 HOURS			END TIME = 5.994000 HOURS		
.0000	.0015	.0030	.0046	.0062	.0079	.0095
.0113	.0130	.0148	.0167	.0186	.0205	.0226
.0246	.0267	.0289	.0312	.0335	.0360	.0385
.0411	.0438	.0466	.0495	.0525	.0557	.0591
.0626	.0664	.0703	.0755	.0811	.0871	.0995
.1278	.1716	.2346	.3206	.4338	.5783	.7582
.9780	1.1890	1.2755	1.3484	1.4131	1.4719	1.5260
1.5763	1.6232	1.6672	1.7086	1.7477	1.7846	1.8195
1.8526	1.8840	1.9138	1.9420	1.9689	1.9761	1.9819
1.9873	1.9925	1.9974	2.0022	2.0067	2.0111	2.0153
2.0193	2.0233	2.0271	2.0308	2.0343	2.0378	2.0412
2.0445	2.0477	2.0509	2.0539	2.0569	2.0598	2.0627
2.0655	2.0682	2.0709	2.0736	2.0762	2.0787	2.0812
2.0837	2.0861	2.0884	2.0908	2.0931	2.0953	2.0975
2.0997	2.1019	2.1040	2.1061	2.1082	2.1102	2.1122
2.1142	2.1162	2.1181	2.1200	2.1219	2.1238	2.1256
2.1275	2.1293	2.1310	2.1328	2.1345	2.1363	2.1380
2.1397	2.1413	2.1430	2.1446	2.1462	2.1478	2.1494
2.1510	2.1525	2.1541	2.1556	2.1571	2.1586	2.1601
2.1616	2.1631	2.1645	2.1659	2.1674	2.1688	2.1702
2.1716	2.1730	2.1743	2.1757	2.1770	2.1784	2.1797
2.1810	2.1823	2.1836	2.1849	2.1862	2.1875	2.1887
2.1900	2.1912	2.1924	2.1937	2.1949	2.1961	2.1973
2.1985	2.1997	2.2009	2.2020	2.2032	2.2043	2.2055
2.2066	2.2078	2.2089	2.2100	2.2111	2.2122	2.2133
2.2144	2.2155	2.2166	2.2177	2.2187	2.2198	

COMPUTE NM HYD ID=3 HYD NO=101.0 AREA=0.0327 SQ MI
PER A=0 PER B=25 PER C=25 PER D=50
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 64.551 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .016350 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .118483HR TP = .133300HR K/TP RATIO = .888844 SHAPE CONSTANT, N = 3.990548
 UNIT PEAK = 43.486 CFS UNIT VOLUME = 1.000 B = 354.54 P60 = 1.9000
 AREA = .016350 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD

ID=3 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.41183 INCHES = 2.4622 ACRE-FEET
 PEAK DISCHARGE RATE = 72.46 CFS AT 1.499 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE RATING CURVE CID=1 VS NO=4 CODE=1 EL MIN=0 EL MAX=1.0 FT SLOPE=.02
 FRICTION SLOPE=.02 'n'=.017 LAST STA=34

DIST	ELEV
0	1
1.0	0
16.0	0.32
33.0	0
34.0	1

RATING CURVE VALLEY SECTION 4.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
.00	.00	.00	.00
.05	.14	.15	5.37
.11	.57	.98	10.74
.16	1.27	2.88	16.11
.21	2.26	6.20	21.47
.26	3.53	11.23	26.84
.32	5.09	18.27	32.21
.37	6.81	29.33	32.74
.42	8.53	42.63	32.84
.47	10.26	57.83	32.95
.53	12.00	74.82	33.05
.58	13.74	93.51	33.16
.63	15.49	113.83	33.26
.68	17.24	135.71	33.37
.74	19.00	159.09	33.47
.79	20.77	183.94	33.58
.84	22.54	210.19	33.68
.89	24.31	237.83	33.79
.95	26.09	266.81	33.89
1.00	27.88	297.10	34.00

COMPUTE TRAVEL TIME ID=1 REACH NO=1 NO VS=1 L=4400 FT SLP=.02

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ. FT.	FLOW RATE CFS	TRAVEL TIME HRS
.053	.141	.15	1.1237
.105	.565	.98	.7079
.158	1.271	2.88	.5402
.211	2.260	6.20	.4459
.263	3.532	11.23	.3843
.316	5.086	18.27	.3403
.368	6.805	29.33	.2835
.421	8.531	42.63	.2446
.474	10.262	57.83	.2169
.526	11.999	74.82	.1960
.579	13.741	93.51	.1796
.632	15.489	113.83	.1663
.684	17.243	135.71	.1553
.737	19.002	159.09	.1460
.789	20.766	183.94	.1380
.842	22.537	210.19	.1310
.895	24.312	237.83	.1249
.947	26.093	266.81	.1195
1.000	27.880	297.10	.1147

ROUTE ID=1 HYD NO=101.1 INFLOW ID=3 DT=0 HR
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 1.41183 INCHES = 2.4622 ACRE-FEET
PEAK DISCHARGE RATE = 40.50 CFS AT 1.632 HOURS BASIN AREA = .0327 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=102.0 AREA=0.0541 SQ MI
PER A=0 PER B=24 PER C=20 PER D=56
TP=0.27 HR MASS RAINFALL=-1

K = .147150HR TP = .270000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 59.052 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 1.9000
AREA = .030296 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .242249HR TP = .270000HR K/TP RATIO = .897217 SHAPE CONSTANT, N = 3.950834
UNIT PEAK = 31.023 CFS UNIT VOLUME = .9996 B = 351.88 P60 = 1.9000
AREA = .023804 SQ MI IA = .43182 INCHES INF = 1.05909 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.47432 INCHES = 4.2539 ACRE-FEET
 PEAK DISCHARGE RATE = 82.42 CFS AT 1.665 HOURS BASIN AREA = .0541 SQ. MI.

ADD HYD ID=3 HYD NO=102.1 ID=1 & 2
 PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 102.10

RUNOFF VOLUME = 1.45075 INCHES = 6.7160 ACRE-FEET
 PEAK DISCHARGE RATE = 122.89 CFS AT 1.632 HOURS BASIN AREA = .0868 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=103.0 AREA=0.0499 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.17 HR MASS RAINFALL=-1

K = .092650HR TP = .170000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 84.963 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
 AREA = .027445 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .152843HR TP = .170000HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
 UNIT PEAK = 46.402 CFS UNIT VOLUME = .9999 B = 351.29 P60 = 1.9000
 AREA = .022455 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.46127 INCHES = 3.8889 ACRE-FEET
 PEAK DISCHARGE RATE = 99.23 CFS AT 1.532 HOURS BASIN AREA = .0499 SQ. MI.

ADD HYD ID=1 HYD NO=103.1 ID=3 & 2
 PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 103.10

RUNOFF VOLUME = 1.45459 INCHES = 10.6049 ACRE-FEET
 PEAK DISCHARGE RATE = 208.87 CFS AT 1.598 HOURS BASIN AREA = .1367 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=104.0 AREA=0.0532 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.22 HR MASS RAINFALL=-1

K = .119900HR TP = .220000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 69.995 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
AREA = .029260 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .197797HR TP = .220000HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 38.227 CFS UNIT VOLUME = .9997 B = 351.29 P60 = 1.9000
AREA = .023940 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.46127 INCHES = 4.1461 ACRE-FEET
PEAK DISCHARGE RATE = 91.59 CFS AT 1.598 HOURS BASIN AREA = .0532 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=105.0 AREA=0.0363 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.14 HR MASS RAINFALL=-1

K = .076300HR TP = .140000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 122.81 CFS UNIT VOLUME = 1.000 B = 526.28 P60 = 1.9000
AREA = .032670 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .111543HR TP = .140000HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 10.038 CFS UNIT VOLUME = .9988 B = 387.15 P60 = 1.9000
AREA = .003630 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 105.00

RUNOFF VOLUME = 1.88924 INCHES = 3.6575 ACRE-FEET
PEAK DISCHARGE RATE = 96.87 CFS AT 1.499 HOURS BASIN AREA = .0363 SQ. MI.

ROUTE RESERVOIR ID=7 HYD NO=105.1 INFLOW ID=3 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	70.2
12.0	0.14	72.2
24.7	0.36	74.2
38.0	0.65	76.2
46.0	1.04	78.2
53.6	1.54	80.2

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	70.20	.000	.00
.80	.00	70.20	.000	.00
1.60	71.43	78.11	1.022	45.63
2.40	4.37	72.88	.214	16.29
3.20	.85	70.39	.013	1.14
4.00	.52	70.29	.006	.54
4.80	.50	70.28	.006	.50
5.59	.58	70.29	.007	.57
6.39	.06	70.23	.002	.18
7.19	.00	70.20	.000	.00

PEAK DISCHARGE = 47.057 CFS - PEAK OCCURS AT HOUR 1.70
 MAXIMUM WATER SURFACE ELEVATION = 78.478
 MAXIMUM STORAGE = 1.1096 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=7 CODE=0

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.499	37.7	2.997	1.8	4.495	.5	5.994	.6
.033	.0	1.532	41.1	3.030	1.6	4.529	.5	6.027	.6
.067	.0	1.565	43.8	3.064	1.5	4.562	.5	6.061	.6
.100	.0	1.598	45.6	3.097	1.4	4.595	.5	6.094	.6
.133	.0	1.632	46.6	3.130	1.3	4.629	.5	6.127	.6
.167	.0	1.665	47.0	3.163	1.2	4.662	.5	6.160	.5
.200	.0	1.698	47.1	3.197	1.1	4.695	.5	6.194	.5
.233	.0	1.732	46.9	3.230	1.1	4.729	.5	6.227	.4
.266	.0	1.765	46.7	3.263	1.0	4.762	.5	6.260	.4
.300	.0	1.798	46.3	3.297	1.0	4.795	.5	6.294	.3
.333	.0	1.832	45.7	3.330	.9	4.828	.5	6.327	.3
.366	.0	1.865	45.0	3.363	.9	4.862	.5	6.360	.2
.400	.0	1.898	44.2	3.397	.8	4.895	.5	6.394	.2
.433	.0	1.931	43.4	3.430	.8	4.928	.5	6.427	.2
.466	.0	1.965	42.4	3.463	.8	4.962	.5	6.460	.1
.500	.0	1.998	41.5	3.496	.7	4.995	.5	6.493	.1
.533	.0	2.031	40.5	3.530	.7	5.028	.5	6.527	.1

.566	.0	2.065	39.5	3.563	.7	5.062	.5	6.560	.1
.599	.0	2.098	38.4	3.596	.7	5.095	.5	6.593	.1
.633	.0	2.131	36.3	3.630	.7	5.128	.5	6.627	.1
.666	.0	2.165	33.6	3.663	.6	5.161	.5	6.660	.1
.699	.0	2.198	30.9	3.696	.6	5.195	.5	6.693	.0
.733	.0	2.231	28.2	3.730	.6	5.228	.5	6.727	.0
.766	.0	2.264	25.8	3.763	.6	5.261	.5	6.760	.0
.799	.0	2.298	23.2	3.796	.6	5.295	.5	6.793	.0
.832	.0	2.331	20.6	3.829	.6	5.328	.5	6.826	.0
.866	.0	2.364	18.3	3.863	.6	5.361	.5	6.860	.0
.899	.0	2.398	16.3	3.896	.6	5.395	.5	6.893	.0
.932	.0	2.431	14.5	3.929	.6	5.428	.5	6.926	.0
.966	.0	2.464	12.9	3.963	.5	5.461	.6	6.960	.0
.999	.0	2.497	11.3	3.996	.5	5.494	.6	6.993	.0
1.032	.0	2.531	9.6	4.029	.5	5.528	.6	7.026	.0
1.066	.0	2.564	8.2	4.063	.5	5.561	.6	7.060	.0
1.099	.0	2.597	7.0	4.096	.5	5.594	.6	7.093	.0
1.132	.0	2.631	6.1	4.129	.5	5.628	.6	7.126	.0
1.166	.0	2.664	5.3	4.162	.5	5.661	.6	7.159	.0
1.199	.1	2.697	4.6	4.196	.5	5.694	.6	7.193	.0
1.232	.6	2.731	4.0	4.229	.5	5.728	.6	7.226	.0
1.265	1.9	2.764	3.6	4.262	.5	5.761	.6	7.259	.0
1.299	4.2	2.797	3.2	4.296	.5	5.794	.6	7.293	.0
1.332	7.8	2.830	2.8	4.329	.5	5.827	.6	7.326	.0
1.365	12.7	2.864	2.6	4.362	.5	5.861	.6	7.359	.0
1.399	17.5	2.897	2.3	4.396	.5	5.894	.6	7.393	.0
1.432	23.9	2.930	2.1	4.429	.5	5.927	.6	7.426	.0
1.465	30.5	2.964	1.9	4.462	.5	5.961	.6		

RUNOFF VOLUME = 1.88923 INCHES = 3.6575 ACRE-FEET
 PEAK DISCHARGE RATE = 47.06 CFS AT 1.698 HOURS BASIN AREA = .0363 SQ. MI.

ADD HYD ID=4 HYD NO=105.2 ID=2 & 7
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 105.20

RUNOFF VOLUME = 1.63484 INCHES = 7.8036 ACRE-FEET
 PEAK DISCHARGE RATE = 137.21 CFS AT 1.598 HOURS BASIN AREA = .0895 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=111.0 AREA=0.0045 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 11.548 CFS UNIT VOLUME = .9984 B = 526.28 P60 = 1.9000
 AREA = .002925 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 3.8702 CFS UNIT VOLUME = .9967 B = 327.55 P60 = 1.9000
AREA = .001575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 111.00

RUNOFF VOLUME = 1.53124 INCHES = .3675 ACRE-FEET
PEAK DISCHARGE RATE = 10.41 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=2 HYD NO=111.1 ID=4 & 5
PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 111.10

RUNOFF VOLUME = 1.62987 INCHES = 8.1710 ACRE-FEET
PEAK DISCHARGE RATE = 144.63 CFS AT 1.598 HOURS BASIN AREA = .0940 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=106.0 AREA=0.0240 SQ MI
PER A=0 PER B=0 PER C=10 PER D=90
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 85.278 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .021600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .106205HR TP = .133300HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 6.9704 CFS UNIT VOLUME = .9986 B = 387.15 P60 = 1.9000
AREA = .002400 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 106.00

RUNOFF VOLUME = 1.88924 INCHES = 2.4182 ACRE-FEET
PEAK DISCHARGE RATE = 65.87 CFS AT 1.499 HOURS BASIN AREA = .0240 SQ. MI.

ADD HYD ID=4 HYD NO=106.1 ID=2 & 3
PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 106.10

RUNOFF VOLUME = 1.68262 INCHES = 10.5892 ACRE-FEET
PEAK DISCHARGE RATE = 196.59 CFS AT 1.565 HOURS BASIN AREA = .1180 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=107.0 AREA=0.0501 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 108.79 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .027555 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 59.414 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
AREA = .022545 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = 1.46127 INCHES = 3.9045 ACRE-FEET
PEAK DISCHARGE RATE = 113.50 CFS AT 1.499 HOURS BASIN AREA = .0501 SQ. MI.

ADD HYD ID=3 HYD NO=107.1 ID=4 & 2
PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 107.10

RUNOFF VOLUME = 1.61665 INCHES = 14.4937 ACRE-FEET
PEAK DISCHARGE RATE = 305.21 CFS AT 1.532 HOURS BASIN AREA = .1681 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=108.0 AREA=0.0045 SQ MI
PER A=0 PER B=0 PER C=20 PER D=80
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.213 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.9000
 AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .106205HR TP = .133300HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
 UNIT PEAK = 2.6139 CFS UNIT VOLUME = .9957 B = 387.15 P60 = 1.9000
 AREA = .000900 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 1.79252 INCHES = .4302 ACRE-FEET
 PEAK DISCHARGE RATE = 11.93 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

ADD HYD ID=4 HYD NO=108.1 ID=3 & 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 108.10

RUNOFF VOLUME = 1.62123 INCHES = 14.9239 ACRE-FEET
 PEAK DISCHARGE RATE = 316.64 CFS AT 1.532 HOURS BASIN AREA = .1726 SQ. MI.

ADD HYD ID=5 HYD NO=108.2 ID=4 & 1
 PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 108.20

RUNOFF VOLUME = 1.54758 INCHES = 25.5288 ACRE-FEET
 PEAK DISCHARGE RATE = 509.84 CFS AT 1.565 HOURS BASIN AREA = .3093 SQ. MI.

ROUTE RESERVOIR ID=3 HYD NO=108.3 INFLOW ID=5 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0	0.0	40.0
9.6	1.38	41.0
21.9	2.82	42.0
42.8	4.32	43.0
65.4	5.89	44.0
85.2	7.51	45.0

100.0	9.21	46.0
111.7	10.97	47.0
118.5	12.80	48.0
121.0	14.69	49.0
122.3	16.66	50.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	40.00	.000	.00
.80	.00	40.00	.000	.00
1.60	489.14	44.94	7.407	83.94
2.40	59.10	48.83	14.360	120.56
3.20	10.04	45.66	8.628	94.93
4.00	4.39	43.10	4.477	45.07
4.80	3.33	41.91	2.688	20.77
5.59	3.48	41.30	1.809	13.26
6.39	.91	40.93	1.282	8.92
7.19	.17	40.60	.829	5.77
7.99	.07	40.38	.529	3.68
8.79	.03	40.24	.337	2.34
9.59	.02	40.15	.214	1.49
10.39	.01	40.10	.136	.94
11.19	.00	40.06	.086	.60
11.99	.00	40.04	.054	.38
12.79	.00	40.02	.034	.24
13.59	.00	40.02	.022	.15
14.39	.00	40.01	.014	.10
15.18	.00	40.01	.009	.06
15.98	.00	40.00	.005	.04
16.78	.00	40.00	.003	.02
17.58	.00	40.00	.002	.02
18.38	.00	40.00	.001	.01
19.18	.00	40.00	.001	.01

PEAK DISCHARGE = 121.193 CFS - PEAK OCCURS AT HOUR 2.20

MAXIMUM WATER SURFACE ELEVATION = 49.149

MAXIMUM STORAGE = 14.9830 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD

ID=3 CODE=0

PARTIAL HYDROGRAPH 108.30

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	45.1	7.992	3.7	11.988	.4	15.984	.0
.033	.0	4.029	43.5	8.025	3.6	12.021	.4	16.017	.0
.067	.0	4.063	42.0	8.059	3.5	12.055	.4	16.051	.0
.100	.0	4.096	40.6	8.092	3.5	12.088	.4	16.084	.0
.133	.0	4.129	39.2	8.125	3.4	12.121	.4	16.117	.0
.167	.0	4.162	37.9	8.158	3.4	12.155	.3	16.151	.0

.200	.0	4.196	36.6	8.192	3.3	12.188	.3	16.184	.0
.233	.0	4.229	35.4	8.225	3.2	12.221	.3	16.217	.0
.266	.0	4.262	34.2	8.258	3.2	12.254	.3	16.250	.0
.300	.0	4.296	33.0	8.292	3.1	12.288	.3	16.284	.0
.333	.0	4.329	31.9	8.325	3.0	12.321	.3	16.317	.0
.366	.0	4.362	30.9	8.358	3.0	12.354	.3	16.350	.0
.400	.0	4.396	29.8	8.392	2.9	12.388	.3	16.384	.0
.433	.0	4.429	28.8	8.425	2.9	12.421	.3	16.417	.0
.466	.0	4.462	27.9	8.458	2.8	12.454	.3	16.450	.0
.500	.0	4.495	27.0	8.491	2.8	12.488	.3	16.484	.0
.533	.0	4.529	26.1	8.525	2.7	12.521	.3	16.517	.0
.566	.0	4.562	25.2	8.558	2.7	12.554	.3	16.550	.0
.599	.0	4.595	24.4	8.591	2.6	12.587	.3	16.583	.0
.633	.0	4.629	23.6	8.625	2.6	12.621	.3	16.617	.0
.666	.0	4.662	22.9	8.658	2.5	12.654	.3	16.650	.0
.699	.0	4.695	22.1	8.691	2.5	12.687	.3	16.683	.0
.733	.0	4.729	21.6	8.725	2.4	12.721	.2	16.717	.0
.766	.0	4.762	21.2	8.758	2.4	12.754	.2	16.750	.0
.799	.0	4.795	20.8	8.791	2.3	12.787	.2	16.783	.0
.832	.0	4.828	20.4	8.824	2.3	12.821	.2	16.817	.0
.866	.0	4.862	20.0	8.858	2.3	12.854	.2	16.850	.0
.899	.0	4.895	19.6	8.891	2.2	12.887	.2	16.883	.0
.932	.0	4.928	19.2	8.924	2.2	12.920	.2	16.916	.0
.966	.0	4.962	18.8	8.958	2.1	12.954	.2	16.950	.0
.999	.0	4.995	18.5	8.991	2.1	12.987	.2	16.983	.0
1.032	.0	5.028	18.1	9.024	2.1	13.020	.2	17.016	.0
1.066	.0	5.062	17.8	9.058	2.0	13.054	.2	17.050	.0
1.099	.0	5.095	17.4	9.091	2.0	13.087	.2	17.083	.0
1.132	.0	5.128	17.1	9.124	1.9	13.120	.2	17.116	.0
1.166	.0	5.161	16.8	9.158	1.9	13.154	.2	17.150	.0
1.199	.0	5.195	16.5	9.191	1.9	13.187	.2	17.183	.0
1.232	.2	5.228	16.2	9.224	1.8	13.220	.2	17.216	.0
1.265	.5	5.261	15.9	9.257	1.8	13.253	.2	17.249	.0
1.299	1.2	5.295	15.6	9.291	1.8	13.287	.2	17.283	.0
1.332	2.5	5.328	15.3	9.324	1.7	13.320	.2	17.316	.0
1.365	4.6	5.361	15.0	9.357	1.7	13.353	.2	17.349	.0
1.399	7.8	5.395	14.8	9.391	1.7	13.387	.2	17.383	.0
1.432	13.0	5.428	14.5	9.424	1.6	13.420	.2	17.416	.0
1.465	20.7	5.461	14.2	9.457	1.6	13.453	.2	17.449	.0
1.499	35.4	5.494	14.0	9.491	1.6	13.487	.2	17.483	.0
1.532	52.8	5.528	13.7	9.524	1.5	13.520	.2	17.516	.0
1.565	69.7	5.561	13.5	9.557	1.5	13.553	.2	17.549	.0
1.598	83.9	5.594	13.3	9.590	1.5	13.586	.2	17.583	.0
1.632	93.5	5.628	13.0	9.624	1.5	13.620	.1	17.616	.0
1.665	101.4	5.661	12.8	9.657	1.4	13.653	.1	17.649	.0
1.698	106.9	5.694	12.6	9.690	1.4	13.686	.1	17.682	.0
1.732	111.7	5.728	12.4	9.724	1.4	13.720	.1	17.716	.0
1.765	114.1	5.761	12.2	9.757	1.4	13.753	.1	17.749	.0
1.798	116.2	5.794	12.0	9.790	1.3	13.786	.1	17.782	.0
1.832	118.0	5.827	11.8	9.824	1.3	13.820	.1	17.816	.0
1.865	118.9	5.861	11.6	9.857	1.3	13.853	.1	17.849	.0
1.898	119.4	5.894	11.4	9.890	1.3	13.886	.1	17.882	.0

1.931	119.8	5.927	11.2	9.923	1.2	13.919	.1	17.916	.0
1.965	120.2	5.961	11.1	9.957	1.2	13.953	.1	17.949	.0
1.998	120.5	5.994	10.9	9.990	1.2	13.986	.1	17.982	.0
2.031	120.8	6.027	10.7	10.023	1.2	14.019	.1	18.015	.0
2.065	121.0	6.061	10.6	10.057	1.1	14.053	.1	18.049	.0
2.098	121.1	6.094	10.4	10.090	1.1	14.086	.1	18.082	.0
2.131	121.2	6.127	10.2	10.123	1.1	14.119	.1	18.115	.0
2.165	121.2	6.160	10.1	10.157	1.1	14.153	.1	18.149	.0
2.198	121.2	6.194	9.9	10.190	1.1	14.186	.1	18.182	.0
2.231	121.2	6.227	9.7	10.223	1.0	14.219	.1	18.215	.0
2.264	121.1	6.260	9.5	10.256	1.0	14.252	.1	18.249	.0
2.298	121.1	6.294	9.4	10.290	1.0	14.286	.1	18.282	.0
2.331	121.0	6.327	9.2	10.323	1.0	14.319	.1	18.315	.0
2.364	120.8	6.360	9.1	10.356	1.0	14.352	.1	18.348	.0
2.398	120.6	6.394	8.9	10.390	.9	14.386	.1	18.382	.0
2.431	120.3	6.427	8.8	10.423	.9	14.419	.1	18.415	.0
2.464	120.1	6.460	8.6	10.456	.9	14.452	.1	18.448	.0
2.497	119.8	6.493	8.5	10.490	.9	14.486	.1	18.482	.0
2.531	119.5	6.527	8.3	10.523	.9	14.519	.1	18.515	.0
2.564	119.2	6.560	8.2	10.556	.9	14.552	.1	18.548	.0
2.597	118.9	6.593	8.0	10.589	.8	14.585	.1	18.582	.0
2.631	118.6	6.627	7.9	10.623	.8	14.619	.1	18.615	.0
2.664	117.9	6.660	7.7	10.656	.8	14.652	.1	18.648	.0
2.697	117.0	6.693	7.6	10.689	.8	14.685	.1	18.681	.0
2.731	116.1	6.727	7.5	10.723	.8	14.719	.1	18.715	.0
2.764	115.1	6.760	7.3	10.756	.8	14.752	.1	18.748	.0
2.797	114.2	6.793	7.2	10.789	.8	14.785	.1	18.781	.0
2.830	113.2	6.826	7.1	10.823	.7	14.819	.1	18.815	.0
2.864	112.3	6.860	6.9	10.856	.7	14.852	.1	18.848	.0
2.897	111.0	6.893	6.8	10.889	.7	14.885	.1	18.881	.0
2.930	109.3	6.926	6.7	10.922	.7	14.918	.1	18.915	.0
2.964	107.6	6.960	6.6	10.956	.7	14.952	.1	18.948	.0
2.997	105.9	6.993	6.4	10.989	.7	14.985	.1	18.981	.0
3.030	104.2	7.026	6.3	11.022	.7	15.018	.1	19.014	.0
3.064	102.6	7.060	6.2	11.056	.6	15.052	.1	19.048	.0
3.097	100.9	7.093	6.1	11.089	.6	15.085	.1	19.081	.0
3.130	99.1	7.126	6.0	11.122	.6	15.118	.1	19.114	.0
3.163	97.0	7.159	5.9	11.156	.6	15.152	.1	19.148	.0
3.197	94.9	7.193	5.8	11.189	.6	15.185	.1	19.181	.0
3.230	92.9	7.226	5.7	11.222	.6	15.218	.1	19.214	.0
3.263	90.9	7.259	5.6	11.255	.6	15.251	.1	19.248	.0
3.297	89.0	7.293	5.5	11.289	.6	15.285	.1	19.281	.0
3.330	87.1	7.326	5.4	11.322	.6	15.318	.1	19.314	.0
3.363	85.2	7.359	5.3	11.355	.5	15.351	.1	19.347	.0
3.397	82.7	7.393	5.2	11.389	.5	15.385	.1	19.381	.0
3.430	80.2	7.426	5.1	11.422	.5	15.418	.1	19.414	.0
3.463	77.8	7.459	5.0	11.455	.5	15.451	.1	19.447	.0
3.496	75.4	7.492	4.9	11.489	.5	15.485	.1	19.481	.0
3.530	73.1	7.526	4.8	11.522	.5	15.518	.0	19.514	.0
3.563	70.9	7.559	4.7	11.555	.5	15.551	.0	19.547	.0
3.596	68.8	7.592	4.6	11.588	.5	15.584	.0	19.581	.0
3.630	66.7	7.626	4.5	11.622	.5	15.618	.0	19.614	.0

3.663	64.6	7.659	4.4	11.655	.5	15.651	.0	19.647	.0
3.696	62.3	7.692	4.4	11.688	.4	15.684	.0	19.680	.0
3.730	60.1	7.726	4.3	11.722	.4	15.718	.0	19.714	.0
3.763	57.9	7.759	4.2	11.755	.4	15.751	.0	19.747	.0
3.796	55.9	7.792	4.1	11.788	.4	15.784	.0	19.780	.0
3.829	53.9	7.825	4.0	11.822	.4	15.818	.0	19.814	.0
3.863	52.0	7.859	4.0	11.855	.4	15.851	.0	19.847	.0
3.896	50.2	7.892	3.9	11.888	.4	15.884	.0	19.880	.0
3.929	48.4	7.925	3.8	11.921	.4	15.917	.0	19.914	.0
3.963	46.7	7.959	3.8	11.955	.4	15.951	.0	19.947	.0

RUNOFF VOLUME = 1.54755 INCHES = 25.5282 ACRE-FEET
 PEAK DISCHARGE RATE = 121.19 CFS AT 2.198 HOURS BASIN AREA = .3093 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=109.0 AREA=0.0056 SQ MI
 PER A=0 PER B=35 PER C=0 PER D=65
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.371 CFS UNIT VOLUME = .9985 B = 526.28 P60 = 1.9000
 AREA = .003640 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 4.8162 CFS UNIT VOLUME = .9975 B = 327.55 P60 = 1.9000
 AREA = .001960 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = 1.53124 INCHES = .4573 ACRE-FEET
 PEAK DISCHARGE RATE = 12.95 CFS AT 1.499 HOURS BASIN AREA = .0056 SQ. MI.

ADD HYD ID=4 HYD NO=109.1 SUM IDS 3 2
 PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 109.10

RUNOFF VOLUME = 1.54726 INCHES = 25.9855 ACRE-FEET
 PEAK DISCHARGE RATE = 123.43 CFS AT 2.031 HOURS BASIN AREA = .3149 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=110.0 AREA=0.0018 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.6192 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.9000
AREA = .001170 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 1.5481 CFS UNIT VOLUME = .9911 B = 327.55 P60 = 1.9000
AREA = .000630 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.53124 INCHES = .1470 ACRE-FEET
PEAK DISCHARGE RATE = 4.17 CFS AT 1.499 HOURS BASIN AREA = .0018 SQ. MI.

ADD HYD ID=1 HYD NO=110.1 SUM IDS 4 2
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 110.10

RUNOFF VOLUME = 1.54717 INCHES = 26.1325 ACRE-FEET
PEAK DISCHARGE RATE = 124.28 CFS AT 2.031 HOURS BASIN AREA = .3167 SQ. MI.

COMPUTE NM HYD ID=1 HYD NO=201.0 AREA=0.0059 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 15.141 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.9000
AREA = .003835 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.0742 CFS UNIT VOLUME = .9975 B = 327.55 P60 = 1.9000
AREA = .002065 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 201.00

RUNOFF VOLUME = 1.53124 INCHES = .4818 ACRE-FEET
 PEAK DISCHARGE RATE = 13.64 CFS AT 1.499 HOURS BASIN AREA = .0059 SQ. MI.

COMPUTE NM HYD ID=2 HYD NO=202.0 AREA=0.0358 SQ MI
 PER A=0 PER B=25 PER C=20 PER D=55
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 77.737 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
 AREA = .019690 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
 UNIT PEAK = 42.456 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
 AREA = .016110 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 202.00

RUNOFF VOLUME = 1.46127 INCHES = 2.7900 ACRE-FEET
 PEAK DISCHARGE RATE = 81.11 CFS AT 1.499 HOURS BASIN AREA = .0358 SQ. MI.

COMPUTE NM HYD ID=3 HYD NO=203.0 AREA=0.0030 SQ MI
 PER A=0 PER B=15 PER C=0 PER D=85
 TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.068 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.9000
 AREA = .002550 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 1.1058 CFS UNIT VOLUME = .9874 B = 327.55 P60 = 1.9000
 AREA = .000450 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 203.00

RUNOFF VOLUME = 1.79108 INCHES = .2866 ACRE-FEET
PEAK DISCHARGE RATE = 7.86 CFS AT 1.499 HOURS BASIN AREA = .0030 SQ. MI.

COMPUTE NM HYD ID=4 HYD NO=204.0 AREA=0.0083 SQ MI
PER A=0 PER B=35 PER C=0 PER D=65
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 21.300 CFS UNIT VOLUME = .9988 B = 526.28 P60 = 1.9000
AREA = .005395 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 7.1383 CFS UNIT VOLUME = .9983 B = 327.55 P60 = 1.9000
AREA = .002905 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 1.53124 INCHES = .6778 ACRE-FEET
PEAK DISCHARGE RATE = 19.18 CFS AT 1.499 HOURS BASIN AREA = .0083 SQ. MI.

COMPUTE NM HYD ID=5 HYD NO=205.0 AREA=0.0350 SQ MI
PER A=0 PER B=25 PER C=20 PER D=55
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 76.000 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .019250 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .119847HR TP = .133300HR K/TP RATIO = .899078 SHAPE CONSTANT, N = 3.942132
UNIT PEAK = 41.507 CFS UNIT VOLUME = 1.000 B = 351.29 P60 = 1.9000
AREA = .015750 SQ MI IA = .43333 INCHES INF = 1.06333 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 205.00

RUNOFF VOLUME = 1.46127 INCHES = 2.7277 ACRE-FEET
PEAK DISCHARGE RATE = 79.30 CFS AT 1.499 HOURS BASIN AREA = .0350 SQ. MI.

COMPUTE NM HYD ID=7 HYD NO=302.0 AREA=0.0105 SQ MI
PER A=0 PER B=70 PER C=10 PER D=20
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2909 CFS UNIT VOLUME = .9980 B = 526.28 P60 = 1.9000
AREA = .002100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .127691HR TP = .133300HR K/TP RATIO = .957924 SHAPE CONSTANT, N = 3.688764
UNIT PEAK = 21.038 CFS UNIT VOLUME = .9996 B = 333.86 P60 = 1.9000
AREA = .008400 SQ MI IA = .48125 INCHES INF = 1.19750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA 302.00

RUNOFF VOLUME = .97483 INCHES = .5459 ACRE-FEET
PEAK DISCHARGE RATE = 17.61 CFS AT 1.499 HOURS BASIN AREA = .0105 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 13:36:12

STORM DRAIN ANALYSIS PLUS

Original version by Los Angeles County Public Works
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Version 00000
Serial Number 00000000

Apr 17, 2001 10:42:14

Input file : erg4a.dat
Output file: erg4a.out

INPUT FILE LISTING

T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1			98.42				
R	468.00	94.76	1		.013				1	
JX	470.00	94.78	1	8	.013	9.0	95.17	45.		
TS	472.00	94.80	2		.013					
R	893.00	102.6	2		.013				45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.		
R	977.00	104.1	2		.013					
JX	981.00	104.2	2	8	.013	10.0	104.9	45.		
R	1280.00	108.8	2		.013					1
R	1376.00	110.9	2		.013					
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.		1
R	1698.00	118.0	2		.013					1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.		1
R	1895.00	123.1	2		.013					
R	2017.00	125.2	2		.013					
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.		1
R	2311.05	130.2	2		.013					
R	2690.00	138.0	2		.013					
R	2713.00	138.2	2		.013					
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.		1
R	2820.00	139.7	2		.013					
R	2924.00	140.0	2		.013					
TS	2925.00	140.0	10		.013					
TS	2936.00	140.0	11		.013					
SH			11							

1

SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

0	CARD	SECT	CHN	NO OF	AVE PIER	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
	CODE	NO	TYPE	PIERS	WIDTH	DIAMETER	WIDTH			DROP										
	CD	1	4			4.50														

4-17-01

Multiple Storm Plus HGL's
for AHYMD POND Routing

CD	2	4			3.50				
CD	3	4			5.50				
CD	4	4			5.00				
CD	5	4			4.00				
CD	6	4			3.00				
CD	7	4			2.50				
CD	8	4			2.00				
CD	9	4			1.50				
CD	10	2	0	.00	50.00	3.50			.00
CD	11	2	0	.00	50.00	22.00			.00
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00

PAGE NO 1

1
0 WATER SURFACE PROFILE - TITLE CARD LISTING
0
0 HEADING LINE NO 1 IS -
0 POND OUTFALL @ UNSER-GIBSON INTERSECTION
0
0 HEADING LINE NO 2 IS -
0
0 HEADING LINE NO 3 IS -
0
0 MAIN LINE ANALYSIS

PAGE NO 2

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING
0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *
U/S DATA STATION INVERT SECT W S ELEV
374.70 92.95 1 98.42
0 ELEMENT NO 2 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
468.00 94.76 1 .013 .00 .00 .00 1
0 ELEMENT NO 3 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
470.00 94.78 1 8 0 .013 9.0 .0 95.17 .00 45.00 .00
0 ELEMENT NO 4 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
472.00 94.80 2 .013
0 ELEMENT NO 5 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
893.00 102.60 2 .013 .00 .00 45.00 1
0 ELEMENT NO 6 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
897.00 102.70 2 8 0 .013 1.0 .0 103.80 .00 90.00 .00
0 ELEMENT NO 7 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
977.00 104.10 2 .013 .00 .00 .00 0
0 ELEMENT NO 8 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
981.00 104.20 2 8 0 .013 10.0 .0 104.90 .00 45.00 .00
0 ELEMENT NO 9 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1280.00 108.80 2 .013 .00 .00 .00 1
0 ELEMENT NO 10 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1376.00 110.90 2 .013 .00 .00 .00 0
0 ELEMENT NO 11 IS A JUNCTION * * * * * *

1
0 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1379.00 111.00 2 8 0 .013 5.0 .0 111.50 .00 45.00 .00
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1698.00 118.00 2 .013 .00 .00 .00 1
0 ELEMENT NO 13 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1702.00 118.10 2 8 0 .013 5.0 .0 118.60 .00 45.00 .00
0 ELEMENT NO 14 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1895.00 123.10 2 .013 .00 .00 .00 1
0 ELEMENT NO 15 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2017.00 125.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 16 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2018.00 125.30 2 8 0 .013 7.0 .0 125.90 .00 45.00 .00
0 ELEMENT NO 17 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2311.05 130.20 2 .013 .00 .00 .00 1
0 ELEMENT NO 18 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2690.00 138.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 19 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2713.00 138.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 20 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2717.00 138.30 2 8 0 .013 3.2 .0 139.80 .00 45.00 .00
0 ELEMENT NO 21 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2820.00 139.70 2 .013 .00 .00 .00 1
PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 22 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2924.00 140.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 23 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2925.00 140.00 10 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 24 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2936.00 140.00 11 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
2936.00 140.00 11 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1 PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0 374.70	92.95	5.47	98.42	150.2	9.44	1.39	99.81	.00	3.60		4.50	.00	.00	0	.00
0 44.55	.01940					.00583	.26			2.38			.00		
0 419.25	93.81	4.90	98.71	150.2	9.44	1.39	100.10	.00	3.60		4.50	.00	.00	0	.00
OHYDRAULIC JUMP															
0 419.25	93.81	2.52	96.34	150.2	16.37	4.16	100.50	.00	3.60		4.50	.00	.00	0	.00
0 48.75	.01940					.01534	.75			2.38			.00		
0 468.00	94.76	2.59	97.35	150.2	15.84	3.90	101.25	.00	3.60		4.50	.00	.00	0	.00
0 JUNCT STR	.01000					.01704	.03						.00		
0 470.00	94.78	2.29	97.07	141.2	17.35	4.68	101.75	.00	3.49		4.50	.00	.00	0	.00
0 TRANS STR	.01000					.01897	.04						.00		
0 472.00	94.80	2.98	97.78	141.2	16.20	4.08	101.85	.00	3.36		3.50	.00	.00	0	.00
0 TRANS STR	.01000					.01854	.00						.00		
0 472.00	94.80	2.98	97.78	141.2	16.20	4.08	101.85	.00	3.36		3.50	.00	.00	0	.00
0 35.39	.01853					.01854	.66			2.98			.00		
0 507.39	95.46	2.98	98.43	141.2	16.20	4.08	102.51	.00	3.36		3.50	.00	.00	0	.00
0 300.28	.01853					.01802	5.41			2.98			.00		
0 807.67	101.02	3.12	104.13	141.2	15.61	3.79	107.92	.00	3.36		3.50	.00	.00	0	.00
0 85.33	.01853					.01733	1.48			2.98			.00		
0 893.00	102.60	3.36	105.96	141.2	14.88	3.44	109.40	.00	3.36		3.50	.00	.00	0	.00
0 JUNCT STR	.02500					.01829	.07						.00		
0 897.00	102.70	3.52	106.22	140.2	14.57	3.30	109.52	.00	3.36		3.50	.00	.00	0	.00
0 80.00	.01750					.01942	1.55			3.07			.00		
1															

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0 977.00	104.10	3.67	107.77	140.2	14.57	3.30	111.07	.00	3.36		3.50	.00	.00	0	.00
0 JUNCT STR	.02500					.01808	.07						.00		
0 981.00	104.20	4.48	108.68	130.2	13.53	2.85	111.53	.00	3.31		3.50	.00	.00	0	.00
0 299.00	.01539					.01675	5.01			3.03			.00		
0 1280.00	108.80	5.03	113.83	130.2	13.53	2.85	116.68	.00	3.31		3.50	.00	.00	0	.00
0 96.00	.02187					.01675	1.61			2.54			.00		
0 1376.00	110.90	4.54	115.44	130.2	13.53	2.85	118.28	.00	3.31		3.50	.00	.00	0	.00
0 JUNCT STR	.03333					.01612	.05						.00		
0 1379.00	111.00	4.90	115.90	125.2	13.01	2.63	118.53	.00	3.28		3.50	.00	.00	0	.00
0 101.71	.02194					.01549	1.58			2.46			.00		
0 1480.71	113.23	4.28	117.51	125.2	13.01	2.63	120.14	.00	3.28		3.50	.00	.00	0	.00

OHYDRAULIC JUMP																
0	1480.71	113.23	2.47	115.70	125.2	17.28	4.64	120.34	.00	3.28		3.50	.00	.00	0	.00
0	217.29	.02194					.02091	4.54			2.46		.00	.00		
0	1698.00	118.00	2.54	120.54	125.2	16.72	4.34	124.89	.00	3.28		3.50	.00	.00	0	.00
0	JUNCT STR	.02500					.02188	.09					.00	.00		
0	1702.00	118.10	2.32	120.42	120.2	17.77	4.91	125.33	.00	3.25		3.50	.00	.00	0	.00
0	68.64	.02591					.02286	1.57			2.24		.00	.00		
0	1770.64	119.88	2.38	122.25	120.2	17.28	4.64	126.89	.00	3.25		3.50	.00	.00	0	.00
0	62.83	.02591					.02088	1.31			2.24		.00	.00		
0	1833.47	121.51	2.48	123.99	120.2	16.47	4.22	128.21	.00	3.25		3.50	.00	.00	0	.00
0	37.15	.02591					.01865	.69			2.24		.00	.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER		
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR			
0	1870.62	122.47	2.60	125.06	120.2	15.71	3.83	128.90	.00	3.25		3.50	.00	.00	0	.00
0	24.38	.02591					.01673	.41			2.24		.00			
0	1895.00	123.10	2.72	125.82	120.2	14.98	3.49	129.31	.00	3.25		3.50	.00	.00	0	.00
0	8.74	.01721					.01579	.14			2.62		.00			
0	1903.74	123.25	2.73	125.98	120.2	14.93	3.46	129.44	.00	3.25		3.50	.00	.00	0	.00
0	78.29	.01721					.01499	1.17			2.62		.00			
0	1982.03	124.60	2.87	127.47	120.2	14.23	3.15	130.62	.00	3.25		3.50	.00	.00	0	.00
0	34.97	.01721					.01367	.48			2.62		.00			
0	2017.00	125.20	3.03	128.23	120.2	13.57	2.86	131.09	.00	3.25		3.50	.00	.00	0	.00
0	JUNCT STR	.10001					.01502	.02					.00			
0	2018.00	125.30	2.51	127.81	113.2	15.32	3.65	131.46	.00	3.20		3.50	.00	.00	0	.00
0	JUNCT STR	.10001					.01695	.00					.00			
0	2018.00	125.30	2.51	127.81	113.2	15.32	3.65	131.46	.00	3.20		3.50	.00	.00	0	.00
0	176.47	.01672					.01749	3.09			2.52		.00			
0	2194.47	128.25	2.45	130.70	113.2	15.73	3.85	134.55	.00	3.20		3.50	.00	.00	0	.00
0	116.58	.01672					.01914	2.23			2.52		.00			
0	2311.05	130.20	2.35	132.55	113.2	16.50	4.23	136.78	.00	3.20		3.50	.00	.00	0	.00
0	.00	.01672					.02025	.00			2.52		.00			
0	2311.05	130.20	2.35	132.55	113.2	16.50	4.23	136.78	.00	3.20		3.50	.00	.00	0	.00
0	101.62	.02058					.02002	2.03			2.33		.00			
0	2412.67	132.29	2.37	134.66	113.2	16.35	4.15	138.81	.00	3.20		3.50	.00	.00	0	.00
0	146.83	.02058					.01873	2.75			2.33		.00			

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER		
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR			
0	2559.50	135.31	2.47	137.78	113.2	15.59	3.78	141.56	.00	3.20		3.50	.00	.00	0	.00

0	59.64	.02058					.01672	1.00			2.33		.00		
0	2619.14	136.54	2.58	139.13	113.2	14.86	3.43	142.56	.00	3.20		3.50	.00	.00	0 .00
0	33.63	.02058					.01499	.50			2.33		.00		
0	2652.77	137.23	2.71	139.94	113.2	14.17	3.12	143.06	.00	3.20		3.50	.00	.00	0 .00
0	20.76	.02058					.01352	.28			2.33		.00		
0	2673.53	137.66	2.85	140.51	113.2	13.51	2.84	143.34	.00	3.20		3.50	.00	.00	0 .00
0	12.06	.02058					.01230	.15			2.33		.00		
0	2685.59	137.91	3.00	140.91	113.2	12.88	2.58	143.49	.00	3.20		3.50	.00	.00	0 .00
0	4.41	.02058					.01139	.05			2.33		.00		
0	2690.00	138.00	3.20	141.20	113.2	12.28	2.34	143.54	.00	3.20		3.50	.00	.00	0 .00
0	23.00	.00870					.01116	.26			3.50		.00		
0	2713.00	138.20	3.42	141.62	113.2	11.83	2.18	143.80	.00	3.20		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.01162	.05					.00		
0	2717.00	138.30	3.63	141.93	110.0	11.43	2.03	143.96	.00	3.17		3.50	.00	.00	0 .00
0	103.00	.01359					.01195	1.23			2.69		.00		
0	2820.00	139.70	3.56	143.26	110.0	11.43	2.03	145.29	.00	3.17		3.50	.00	.00	0 .00
0	104.00	.00289					.01195	1.24			3.50		.00		
0	2924.00	140.00	4.50	144.50	110.0	11.43	2.03	146.53	.00	3.17		3.50	.00	.00	0 .00
0	TRANS STR	.00000					.00660	.01					.00		
0	2925.00	140.00	6.32	146.32	110.0	4.97	.38	146.71	.00	3.13		50.00	3.50	.00	0 .00
0	TRANS STR	.00000					.00062	.01					.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH	DIA	ID NO.	PIER		
0 L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
0	2936.00	140.00	6.74	146.74	110.0	.74	.01	146.75	.00	.92	50.00	22.00	.00	0 .00

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Apr 17, 2001 11: 0: 3

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Input file : erg4a.dat
Output file: erg4a.out
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T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1				98.42			
R	468.00	94.76	1		.013					1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.		
TS	472.00	94.80	2		.013					
R	893.00	102.6	2		.013				45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.		
R	977.00	104.1	2		.013					
JX	981.00	104.2	2	8	.013	10.0	104.9	45.		
R	1280.00	108.8	2		.013					1
R	1376.00	110.9	2		.013					
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.		
R	1698.00	118.0	2		.013					1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.		
R	1895.00	123.1	2		.013					1
R	2017.00	125.2	2		.013					
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.		
R	2311.05	130.2	2		.013					1
R	2690.00	138.0	2		.013					
R	2713.00	138.2	2		.013					
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.		
R	2820.00	139.7	2		.013					1
R	2924.00	140.0	2		.013					
TS	2925.00	140.0	10		.013					
TS	2936.00	140.0	11		.013					
SH			11							

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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

[illegible]

1
0 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1379.00 111.00 2 8 0 .013 5.0 .0 111.50 .00 45.00 .00
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1698.00 118.00 2 .013 .00 .00 .00 1
0 ELEMENT NO 13 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1702.00 118.10 2 8 0 .013 5.0 .0 118.60 .00 45.00 .00
0 ELEMENT NO 14 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1895.00 123.10 2 .013 .00 .00 .00 1
0 ELEMENT NO 15 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2017.00 125.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 16 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2018.00 125.30 2 8 0 .013 7.0 .0 125.90 .00 45.00 .00
0 ELEMENT NO 17 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2311.05 130.20 2 .013 .00 .00 .00 1
0 ELEMENT NO 18 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2690.00 138.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 19 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2713.00 138.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 20 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2717.00 138.30 2 8 0 .013 3.2 .0 139.80 .00 45.00 .00
0 ELEMENT NO 21 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2820.00 139.70 2 .013 .00 .00 .00 1

PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 22 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2924.00 140.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 23 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2925.00 140.00 10 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 24 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2936.00 140.00 11 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
2936.00 140.00 11 .00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0	374.70	92.95	5.47	98.42	100.2	6.30	.62	99.04	.00	2.94	4.50	.00	.00	0 .00
0	58.88	.01940					.00258	.15		1.88			.00	
0	433.58	94.09	4.50	98.59	100.2	6.30	.62	99.21	.00	2.94	4.50	.00	.00	0 .00
0	19.61	.01940					.00241	.05		1.88			.00	
0	453.20	94.47	4.11	98.58	100.2	6.58	.67	99.26	.00	2.94	4.50	.00	.00	0 .00
OHYDRAULIC JUMP														
0	453.20	94.47	2.05	96.53	100.2	14.18	3.13	99.65	.00	2.94	4.50	.00	.00	0 .00
0	14.80	.01940					.01392	.21		1.88			.00	
0	468.00	94.76	2.08	96.84	100.2	13.92	3.01	99.85	.00	2.94	4.50	.00	.00	0 .00
OJUNCT STR .01000														
0	470.00	94.78	1.76	96.54	91.2	15.82	3.89	100.43	.00	2.80	4.50	.00	.00	0 .00
OTRANS STR .01000														
0	472.00	94.80	2.09	96.89	91.2	15.24	3.61	100.50	.00	2.96	3.50	.00	.00	0 .00
OTRANS STR .01000														
0	472.00	94.80	2.09	96.89	91.2	15.24	3.61	100.50	.00	2.96	3.50	.00	.00	0 .00
0	65.19	.01853					.01855	1.21		2.09			.00	
0	537.19	96.01	2.09	98.09	91.2	15.24	3.61	101.71	.00	2.96	3.50	.00	.00	0 .00
0	236.51	.01853					.01767	4.18		2.09			.00	
0	773.70	100.39	2.16	102.55	91.2	14.66	3.34	105.88	.00	2.96	3.50	.00	.00	0 .00
0	79.18	.01853					.01583	1.25		2.09			.00	
0	852.88	101.86	2.25	104.10	91.2	13.98	3.04	107.14	.00	2.96	3.50	.00	.00	0 .00
0	40.12	.01853					.01405	.56		2.09			.00	
														PAGE 2

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0	893.00	102.60	2.34	104.94	91.2	13.33	2.76	107.70	.00	2.96	3.50	.00	.00	0 .00
OJUNCT STR .02500														
0	897.00	102.70	2.30	105.00	90.2	13.47	2.82	107.82	.00	2.95	3.50	.00	.00	0 .00
OJUNCT STR .02500														
0	897.00	102.70	2.30	105.00	90.2	13.47	2.82	107.82	.00	2.95	3.50	.00	.00	0 .00
0	14.19	.01750					.01337	.19		2.11			.00	
0	911.19	102.95	2.33	105.28	90.2	13.24	2.73	108.01	.00	2.95	3.50	.00	.00	0 .00
0	28.47	.01750					.01238	.35		2.11			.00	
0	939.66	103.45	2.43	105.88	90.2	12.63	2.48	108.36	.00	2.95	3.50	.00	.00	0 .00
0	17.85	.01750					.01104	.20		2.11			.00	
0	957.51	103.76	2.54	106.30	90.2	12.04	2.25	108.56	.00	2.95	3.50	.00	.00	0 .00

0	11.26	.01750					.00988	.11			2.11		.00		
0	968.77	103.96	2.66	106.62	90.2	11.48	2.05	108.67	.00	2.95		3.50	.00	.00	0 .00
0	6.18	.01750					.00889	.05			2.11		.00		
0	974.95	104.06	2.80	106.86	90.2	10.95	1.86	108.72	.00	2.95		3.50	.00	.00	0 .00
0	2.05	.01750					.00806	.02			2.11		.00		
0	977.00	104.10	2.95	107.05	90.2	10.43	1.69	108.74	.00	2.95		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.00702	.03					.00		
0	981.00	104.20	3.73	107.93	80.2	8.34	1.08	109.01	.00	2.80		3.50	.00	.00	0 .00
0	3.39	.01539					.00635	.02			2.04		.00		
0	984.39	104.25	3.69	107.95	80.2	8.34	1.08	109.03	.00	2.80		3.50	.00	.00	0 .00

OHYDRAULIC JUMP

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	984.39	104.25	2.04	106.29	80.2	13.80	2.96	109.25	.00	2.80		3.50	.00	.00	0 .00
0	20.92	.01539				.01547	.32			2.04			.00		
0	1005.31	104.57	2.04	106.61	80.2	13.80	2.96	109.57	.00	2.80		3.50	.00	.00	0 .00
0	197.94	.01539				.01649	3.26			2.04			.00		
0	1203.25	107.62	1.96	109.58	80.2	14.48	3.26	112.83	.00	2.80		3.50	.00	.00	0 .00
0	76.75	.01539				.01867	1.43			2.04			.00		
0	1280.00	108.80	1.88	110.68	80.2	15.18	3.58	114.27	.00	2.80		3.50	.00	.00	0 .00
0	33.57	.02187				.01948	.65			1.83			.00		
0	1313.57	109.53	1.91	111.44	80.2	14.97	3.48	114.92	.00	2.80		3.50	.00	.00	0 .00
0	62.43	.02187				.01801	1.12			1.83			.00		
0	1376.00	110.90	1.98	112.88	80.2	14.28	3.17	116.05	.00	2.80		3.50	.00	.00	0 .00
0	JUNCT STR	.03333				.01940	.06						.00		
0	1379.00	111.00	1.76	112.76	75.2	15.52	3.74	116.50	.00	2.71		3.50	.00	.00	0 .00
0	JUNCT STR	.03333				.02192	.00						.00		
0	1379.00	111.00	1.76	112.76	75.2	15.52	3.74	116.50	.00	2.71		3.50	.00	.00	0 .00
0	5.28	.02194				.02192	.12			1.76			.00		
0	1384.28	111.12	1.76	112.88	75.2	15.52	3.74	116.62	.00	2.71		3.50	.00	.00	0 .00
0	199.24	.02194				.02142	4.27			1.76			.00		
0	1583.52	115.49	1.78	117.27	75.2	15.25	3.61	120.89	.00	2.71		3.50	.00	.00	0 .00
0	114.48	.02194				.01968	2.25			1.76			.00		
0	1698.00	118.00	1.85	119.85	75.2	14.54	3.29	123.14	.00	2.71		3.50	.00	.00	0 .00
0	JUNCT STR	.02500				.02145	.09						.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	1702.00	118.10	1.64	119.74	70.2	15.89	3.92	123.66	.00	2.63		3.50	.00	.00	0 .00

OJUNCT STR	.02500					.02446	.00						.00		
0 1702.00	118.10	1.64	119.74	70.2	15.89	3.92	123.66	.00	2.63		3.50	.00	.00	0	.00
0 80.82	.02591					.02350	1.90			1.61		.00	.00		
0 1782.82	120.19	1.68	121.87	70.2	15.41	3.69	125.56	.00	2.63		3.50	.00	.00	0	.00
0 57.46	.02591					.02118	1.22			1.61		.00	.00		
0 1840.27	121.68	1.74	123.42	70.2	14.69	3.36	126.78	.00	2.63		3.50	.00	.00	0	.00
0 32.82	.02591					.01865	.61			1.61		.00	.00		
0 1873.10	122.53	1.81	124.34	70.2	14.01	3.05	127.39	.00	2.63		3.50	.00	.00	0	.00
0 21.90	.02591					.01644	.36			1.61		.00	.00		
0 1895.00	123.10	1.88	124.98	70.2	13.36	2.77	127.75	.00	2.63		3.50	.00	.00	0	.00
0 .71	.01721					.01540	.01			1.82		.00	.00		
0 1895.71	123.11	1.88	124.99	70.2	13.36	2.77	127.76	.00	2.63		3.50	.00	.00	0	.00
0 65.78	.01721					.01449	.95			1.82		.00	.00		
0 1961.49	124.24	1.95	126.19	70.2	12.73	2.52	128.71	.00	2.63		3.50	.00	.00	0	.00
0 34.20	.01721					.01279	.44			1.82		.00	.00		
0 1995.69	124.83	2.03	126.86	70.2	12.14	2.29	129.15	.00	2.63		3.50	.00	.00	0	.00
0 21.31	.01721					.01131	.24			1.82		.00	.00		
0 2017.00	125.20	2.11	127.31	70.2	11.58	2.08	129.39	.00	2.63		3.50	.00	.00	0	.00
OJUNCT STR	.10001					.01368	.01					.00	.00		
0 2018.00	125.30	1.72	127.02	63.2	13.43	2.80	129.82	.00	2.49		3.50	.00	.00	0	.00
OJUNCT STR	.10001					.01674	.00					.00	.00		

PAGE 5

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0 2018.00	125.30	1.72	127.02	63.2	13.43	2.80	129.82	.00	2.49		3.50	.00	.00	0	.00
0 15.12	.01672					.01674	.25			1.72		.00	.00		
0 2033.12	125.55	1.72	127.27	63.2	13.43	2.80	130.08	.00	2.49		3.50	.00	.00	0	.00
0 184.48	.01672					.01738	3.21			1.72		.00	.00		
0 2217.59	128.64	1.68	130.32	63.2	13.80	2.96	133.28	.00	2.49		3.50	.00	.00	0	.00
0 93.46	.01672					.01924	1.80			1.72		.00	.00		
0 2311.05	130.20	1.62	131.82	63.2	14.48	3.26	135.08	.00	2.49		3.50	.00	.00	0	.00
0 .00	.01672					.02048	.00			1.72		.00	.00		
0 2311.05	130.20	1.62	131.82	63.2	14.48	3.26	135.08	.00	2.49		3.50	.00	.00	0	.00
0 111.94	.02058					.02032	2.28			1.62		.00	.00		
0 2422.99	132.50	1.63	134.13	63.2	14.40	3.22	137.35	.00	2.49		3.50	.00	.00	0	.00
0 142.56	.02058					.01896	2.70			1.62		.00	.00		
0 2565.56	135.44	1.69	137.13	63.2	13.73	2.93	140.06	.00	2.49		3.50	.00	.00	0	.00
0 51.63	.02058					.01669	.86			1.62		.00	.00		
0 2617.18	136.50	1.76	138.26	63.2	13.09	2.66	140.92	.00	2.49		3.50	.00	.00	0	.00
0 29.73	.02058					.01470	.44			1.62		.00	.00		
0 2646.92	137.11	1.82	138.94	63.2	12.48	2.42	141.36	.00	2.49		3.50	.00	.00	0	.00
0 19.53	.02058					.01295	.25			1.62		.00	.00		
0 2666.45	137.52	1.89	139.41	63.2	11.90	2.20	141.61	.00	2.49		3.50	.00	.00	0	.00
0 13.76	.02058					.01143	.16			1.62		.00	.00		
0 2680.21	137.80	1.97	139.77	63.2	11.35	2.00	141.77	.00	2.49		3.50	.00	.00	0	.00
0 9.79	.02058					.01009	.10			1.62		.00	.00		

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0 2690.00	138.00	2.05	140.05	63.2	10.82	1.82	141.86	.00	2.49		3.50	.00	.00	.00
0 23.00	.00870					.00960	.22			2.10			.00	
0 2713.00	138.20	2.03	140.23	63.2	10.93	1.86	142.09	.00	2.49		3.50	.00	.00	.00
0JUNCT STR	.02500					.01070	.04						.00	
0 2717.00	138.30	1.86	140.16	60.0	11.57	2.08	142.24	.00	2.43		3.50	.00	.00	.00
0 32.86	.01359					.01121	.37			1.77			.00	
0 2749.86	138.75	1.90	140.65	60.0	11.22	1.96	142.61	.00	2.43		3.50	.00	.00	.00
0 29.68	.01359					.01012	.30			1.77			.00	
0 2779.54	139.15	1.98	141.13	60.0	10.70	1.78	142.91	.00	2.43		3.50	.00	.00	.00
0 17.80	.01359					.00894	.16			1.77			.00	
0 2797.33	139.39	2.06	141.45	60.0	10.20	1.62	143.07	.00	2.43		3.50	.00	.00	.00
0 11.09	.01359					.00791	.09			1.77			.00	
0 2808.42	139.54	2.14	141.68	60.0	9.73	1.47	143.15	.00	2.43		3.50	.00	.00	.00
0 6.78	.01359					.00701	.05			1.77			.00	
0 2815.21	139.63	2.23	141.86	60.0	9.27	1.34	143.20	.00	2.43		3.50	.00	.00	.00
0 3.73	.01359					.00622	.02			1.77			.00	
0 2818.94	139.69	2.32	142.01	60.0	8.84	1.22	143.22	.00	2.43		3.50	.00	.00	.00
0 1.06	.01359					.00552	.01			1.77			.00	
0 2820.00	139.70	2.43	142.13	60.0	8.43	1.10	143.23	.00	2.43		3.50	.00	.00	.00
0 4.30	.00289					.00492	.02			3.50			.00	
0 2824.30	139.71	2.54	142.25	60.0	8.04	1.00	143.25	.00	2.43		3.50	.00	.00	.00
0 18.28	.00289					.00441	.08			3.50			.00	

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0 2842.57	139.77	2.66	142.42	60.0	7.66	.91	143.33	.00	2.43		3.50	.00	.00	.00
0 44.67	.00289					.00396	.18			3.50			.00	
0 2887.25	139.89	2.79	142.68	60.0	7.30	.83	143.51	.00	2.43		3.50	.00	.00	.00
0 36.75	.00289					.00368	.14			3.50			.00	
0 2924.00	140.00	2.85	142.85	60.0	7.15	.79	143.65	.00	2.43		3.50	.00	.00	.00
0TRANS STR	.00000					.00269	.00						.00	
0 2925.00	140.00	3.25	143.25	60.0	5.27	.43	143.68	.00	2.09		50.00	3.50	.00	.00
0TRANS STR	.00000					.00090	.01						.00	
0 2936.00	140.00	3.73	143.73	60.0	.73	.01	143.74	.00	.61		50.00	22.00	.00	.00

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Apr 17, 2001 11: 1: 9

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Input file : erg4a.dat
Output file: erg4a.out
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T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1				98.42			
R	468.00	94.76	1		.013					1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.		
TS	472.00	94.80	2		.013					
R	893.00	102.6	2		.013				45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.		
R	977.00	104.1	2		.013					
JX	981.00	104.2	2	8	.013	10.0	104.9	45.		
R	1280.00	108.8	2		.013					1
R	1376.00	110.9	2		.013					
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.		
R	1698.00	118.0	2		.013					1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.		
R	1895.00	123.1	2		.013					1
R	2017.00	125.2	2		.013					
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.		
R	2311.05	130.2	2		.013					1
R	2690.00	138.0	2		.013					
R	2713.00	138.2	2		.013					
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.		
R	2820.00	139.7	2		.013					1
R	2924.00	140.0	2		.013					
TS	2925.00	140.0	10		.013					
TS	2936.00	140.0	11		.013					
SH			11							

[illegible]

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1379.00	111.00	2	8	0	.013	5.0	.0	111.50	.00	45.00	.00
PAGE NO 3												
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 12 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1698.00	118.00	2			.013				.00	.00	.00 1
0 ELEMENT NO 13 IS A JUNCTION	*	*	*	*	*		*		*		*	
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1702.00	118.10	2	8	0	.013	5.0	.0	118.60	.00	45.00	.00
0 ELEMENT NO 14 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1895.00	123.10	2			.013				.00	.00	.00 1
0 ELEMENT NO 15 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2017.00	125.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 16 IS A JUNCTION	*	*	*	*	*		*		*		*	
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2018.00	125.30	2	8	0	.013	7.0	.0	125.90	.00	45.00	.00
0 ELEMENT NO 17 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2311.05	130.20	2			.013				.00	.00	.00 1
0 ELEMENT NO 18 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2690.00	138.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 19 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2713.00	138.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 20 IS A JUNCTION	*	*	*	*	*		*		*		*	
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2717.00	138.30	2	8	0	.013	3.2	.0	139.80	.00	45.00	.00
0 ELEMENT NO 21 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2820.00	139.70	2			.013				.00	.00	.00 1
PAGE NO 4												
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 22 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2924.00	140.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 23 IS A TRANSITION	*	*	*									
U/S DATA	STATION	INVERT	SECT			N						
	2925.00	140.00	10			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 24 IS A TRANSITION	*	*	*									
U/S DATA	STATION	INVERT	SECT			N						
	2936.00	140.00	11			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS	*	*	*				*		*			
U/S DATA	STATION	INVERT	SECT							W S ELEV		
	2936.00	140.00	11							.00		
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING												

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					

0	374.70	92.95	5.47	98.42	120.2	7.56	.89	99.31	.00	3.23	4.50	.00	.00	0	.00
0	62.39	.01940					.00374	.23		2.09			.00		
0	437.09	94.16	4.52	98.68	120.2	7.56	.89	99.57	.00	3.23	4.50	.00	.00	0	.00
OHYDRAULIC JUMP													.00		
0	437.09	94.16	2.23	96.39	120.2	15.28	3.63	100.02	.00	3.23	4.50	.00	.00	0	.00
0	30.91	.01940					.01484	.46		2.09			.00		
0	468.00	94.76	2.28	97.04	120.2	14.86	3.43	100.47	.00	3.23	4.50	.00	.00	0	.00
OJUNCT STR													.00		
0	470.00	94.78	1.97	96.75	111.2	16.57	4.27	101.02	.00	3.10	4.50	.00	.00	0	.00
OTRANS STR													.00		
0	472.00	94.80	2.40	97.20	111.2	15.85	3.90	101.10	.00	3.18	3.50	.00	.00	0	.00
0	242.76	.01853					.01807	4.39		2.39			.00		
0	714.76	99.30	2.44	101.74	111.2	15.53	3.75	105.49	.00	3.18	3.50	.00	.00	0	.00
0	125.30	.01853					.01669	2.09		2.39			.00		
0	840.06	101.62	2.55	104.17	111.2	14.81	3.41	107.58	.00	3.18	3.50	.00	.00	0	.00
0	52.94	.01853					.01495	.79		2.39			.00		
0	893.00	102.60	2.67	105.27	111.2	14.12	3.10	108.37	.00	3.18	3.50	.00	.00	0	.00
OJUNCT STR													.00		
0	897.00	102.70	2.62	105.32	110.2	14.27	3.16	108.48	.00	3.17	3.50	.00	.00	0	.00
0	28.36	.01750					.01405	.40		2.43			.00		
0	925.36	103.20	2.69	105.89	110.2	13.87	2.99	108.88	.00	3.17	3.50	.00	.00	0	.00
0	29.96	.01750					.01296	.39		2.43			.00		
														PAGE	2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					

0	955.32	103.72	2.83	106.55	110.2	13.23	2.72	109.27	.00	3.17	3.50	.00	.00	0	.00
0	16.12	.01750					.01178	.19		2.43			.00		
0	971.44	104.00	2.98	106.99	110.2	12.61	2.47	109.46	.00	3.17	3.50	.00	.00	0	.00
0	5.56	.01750					.01088	.06		2.43			.00		
0	977.00	104.10	3.17	107.27	110.2	12.02	2.25	109.52	.00	3.17	3.50	.00	.00	0	.00
OJUNCT STR													.00		
0	981.00	104.20	3.97	108.17	100.2	10.41	1.69	109.85	.00	3.07	3.50	.00	.00	0	.00
0	26.83	.01539					.00992	.27		2.37			.00		
0	1007.83	104.61	3.83	108.44	100.2	10.41	1.69	110.13	.00	3.07	3.50	.00	.00	0	.00
OHYDRAULIC JUMP													.00		
0	1007.83	104.61	2.35	106.97	100.2	14.56	3.30	110.26	.00	3.07	3.50	.00	.00	0	.00

0	35.98	.01539					.01581	.57			2.37		.00		
0	1043.81	105.17	2.35	107.51	100.2	14.60	3.31	110.83	.00	3.07		3.50	.00	.00	0 .00
0	160.07	.01539					.01686	2.70			2.37		.00		
0	1203.88	107.63	2.25	109.88	100.2	15.31	3.64	113.53	.00	3.07		3.50	.00	.00	0 .00
0	76.12	.01539					.01899	1.45			2.37		.00		
0	1280.00	108.80	2.16	110.96	100.2	16.06	4.01	114.97	.00	3.07		3.50	.00	.00	0 .00
0	2.49	.02187					.02011	.05			2.10		.00		
0	1282.49	108.85	2.16	111.02	100.2	16.05	4.00	115.02	.00	3.07		3.50	.00	.00	0 .00
0	93.51	.02187					.01895	1.77			2.10		.00		
0	1376.00	110.90	2.25	113.15	100.2	15.30	3.64	116.79	.00	3.07		3.50	.00	.00	0 .00
0	JUNCT STR	.03333					.01985	.06					.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	1379.00	111.00	2.03	113.03	95.2	16.41	4.18	117.22	.00	3.01		3.50	.00	.00	0 .00
0	111.92	.02194					.02182	2.44		2.03			.00		
0	1490.92	113.46	2.04	115.49	95.2	16.38	4.17	119.66	.00	3.01		3.50	.00	.00	0 .00
0	207.08	.02194					.02052	4.25		2.03			.00		
0	1698.00	118.00	2.12	120.12	95.2	15.61	3.79	123.91	.00	3.01		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.02166	.09					.00		
0	1702.00	118.10	1.91	120.01	90.2	16.80	4.39	124.40	.00	2.95		3.50	.00	.00	0 .00
0	70.33	.02591					.02324	1.63		1.87			.00		
0	1772.33	119.92	1.95	121.87	90.2	16.36	4.16	126.03	.00	2.95		3.50	.00	.00	0 .00
0	62.54	.02591					.02111	1.32		1.87			.00		
0	1834.87	121.54	2.03	123.57	90.2	15.60	3.78	127.35	.00	2.95		3.50	.00	.00	0 .00
0	36.12	.02591					.01866	.67		1.87			.00		
0	1870.99	122.48	2.11	124.59	90.2	14.87	3.44	128.03	.00	2.95		3.50	.00	.00	0 .00
0	24.01	.02591					.01652	.40		1.87			.00		
0	1895.00	123.10	2.20	125.30	90.2	14.18	3.12	128.42	.00	2.95		3.50	.00	.00	0 .00
0	30.92	.01721					.01524	.47		2.12			.00		
0	1925.92	123.63	2.23	125.86	90.2	13.98	3.04	128.89	.00	2.95		3.50	.00	.00	0 .00
0	59.00	.01721					.01413	.83		2.12			.00		
0	1984.92	124.65	2.32	126.97	90.2	13.33	2.76	129.73	.00	2.95		3.50	.00	.00	0 .00
0	32.08	.01721					.01256	.40		2.12			.00		
0	2017.00	125.20	2.42	127.62	90.2	12.71	2.51	130.13	.00	2.95		3.50	.00	.00	0 .00
0	JUNCT STR	.10001					.01433	.01					.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	2018.00	125.30	2.03	127.33	83.2	14.38	3.21	130.54	.00	2.85		3.50	.00	.00	0 .00

0	185.83	.01672					.01740	3.23			2.03		.00		
0	2203.83	128.41	1.99	130.40	83.2	14.75	3.38	133.78	.00	2.85		3.50	.00	.00	0 .00
0	107.22	.01672					.01917	2.06			2.03		.00		
0	2311.05	130.20	1.91	132.11	83.2	15.47	3.72	135.83	.00	2.85		3.50	.00	.00	0 .00
0	.00	.01672					.02036	.00			2.03		.00		
0	2311.05	130.20	1.91	132.11	83.2	15.47	3.72	135.83	.00	2.85		3.50	.00	.00	0 .00
0	147.96	.02058					.01991	2.95			1.90		.00		
0	2459.01	133.25	1.94	135.18	83.2	15.20	3.59	138.78	.00	2.85		3.50	.00	.00	0 .00
0	110.27	.02058					.01832	2.02			1.90		.00		
0	2569.28	135.52	2.02	137.53	83.2	14.50	3.27	140.80	.00	2.85		3.50	.00	.00	0 .00
0	49.15	.02058					.01619	.80			1.90		.00		
0	2618.43	136.53	2.10	138.62	83.2	13.82	2.97	141.59	.00	2.85		3.50	.00	.00	0 .00
0	29.40	.02058					.01433	.42			1.90		.00		
0	2647.83	137.13	2.18	139.32	83.2	13.18	2.70	142.01	.00	2.85		3.50	.00	.00	0 .00
0	19.46	.02058					.01270	.25			1.90		.00		
0	2667.29	137.53	2.28	139.81	83.2	12.57	2.45	142.26	.00	2.85		3.50	.00	.00	0 .00
0	13.45	.02058					.01128	.15			1.90		.00		
0	2680.73	137.81	2.37	140.18	83.2	11.98	2.23	142.41	.00	2.85		3.50	.00	.00	0 .00
0	9.27	.02058					.01005	.09			1.90		.00		
0	2690.00	138.00	2.48	140.48	83.2	11.42	2.03	142.51	.00	2.85		3.50	.00	.00	0 .00
0	23.00	.00870					.00960	.22			2.56		.00		
1															

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

0 STATION	INVERT ELEV	MAIN LINE ANALYSIS		Q	VEL	VEL HEAD	ENERGY GRD. EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL ZR	NO PIER	AVBPR
		DEPTH OF FLOW	W.S. ELEV			SF AVE								
0 L/ELEM	SO						HF							

0	2713.00	138.20	2.45	140.65	83.2	11.55	2.07	142.73	.00	2.85		3.50	.00	.00
0	JUNCT STR	.02500					.01077	.04				.00		
0	2717.00	138.30	2.22	140.52	80.0	12.41	2.39	142.92	.00	2.79		3.50	.00	.00
0	9.22	.01359					.01172	.11			2.12	.00		
0	2726.22	138.43	2.24	140.66	80.0	12.33	2.36	143.02	.00	2.79		3.50	.00	.00
0	45.89	.01359					.01098	.50			2.12	.00		
0	2772.11	139.05	2.33	141.38	80.0	11.76	2.15	143.53	.00	2.79		3.50	.00	.00
0	24.64	.01359					.00976	.24			2.12	.00		
0	2796.76	139.38	2.43	141.82	80.0	11.21	1.95	143.77	.00	2.79		3.50	.00	.00
0	13.83	.01359					.00871	.12			2.12	.00		
0	2810.59	139.57	2.54	142.11	80.0	10.69	1.78	143.89	.00	2.79		3.50	.00	.00
0	7.15	.01359					.00779	.06			2.12	.00		
0	2817.74	139.67	2.66	142.33	80.0	10.19	1.61	143.94	.00	2.79		3.50	.00	.00
0	2.26	.01359					.00701	.02			2.12	.00		
0	2820.00	139.70	2.79	142.49	80.0	9.72	1.47	143.96	.00	2.79		3.50	.00	.00
0	4.55	.00289					.00635	.03			3.50	.00		
0	2824.55	139.71	2.94	142.66	80.0	9.26	1.33	143.99	.00	2.79		3.50	.00	.00
0	18.93	.00289					.00583	.11			3.50	.00		
0	2843.48	139.77	3.12	142.89	80.0	8.83	1.21	144.10	.00	2.79		3.50	.00	.00
0	50.36	.00289					.00556	.28			3.50	.00		
0	2893.84	139.91	3.37	143.28	80.0	8.42	1.10	144.38	.00	2.79		3.50	.00	.00
0	30.16	.00289					.00571	.17			3.50	.00		

MAIN LINE ANALYSIS

[illegible]

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Input file : erg4a.dat
Output file: erg4a.out
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T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1				98.42		
R	468.00	94.76	1		.013				1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.	
TS	472.00	94.80	2		.013				
R	893.00	102.6	2		.013			45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.	
R	977.00	104.1	2		.013				
JX	981.00	104.2	2	8	.013	10.0	104.9	45.	
R	1280.00	108.8	2		.013				1
R	1376.00	110.9	2		.013				
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.	
R	1698.00	118.0	2		.013				1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.	
R	1895.00	123.1	2		.013				1
R	2017.00	125.2	2		.013				
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.	
R	2311.05	130.2	2		.013				1
R	2690.00	138.0	2		.013				
R	2713.00	138.2	2		.013				
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.	
R	2820.00	139.7	2		.013				1
R	2924.00	140.0	2		.013				
TS	2925.00	140.0	10		.013				
TS	2936.00	140.0	11		.013				
SH			11						

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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

[illegible]

1
0 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1379.00 111.00 2 8 0 .013 5.0 .0 111.50 .00 45.00 .00
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1698.00 118.00 2 .013 .00 .00 .00 1
0 ELEMENT NO 13 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1702.00 118.10 2 8 0 .013 5.0 .0 118.60 .00 45.00 .00
0 ELEMENT NO 14 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1895.00 123.10 2 .013 .00 .00 .00 1
0 ELEMENT NO 15 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2017.00 125.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 16 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2018.00 125.30 2 8 0 .013 7.0 .0 125.90 .00 45.00 .00
0 ELEMENT NO 17 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2311.05 130.20 2 .013 .00 .00 .00 1
0 ELEMENT NO 18 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2690.00 138.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 19 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2713.00 138.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 20 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2717.00 138.30 2 8 0 .013 3.2 .0 139.80 .00 45.00 .00
0 ELEMENT NO 21 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2820.00 139.70 2 .013 .00 .00 .00 1
PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 22 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2924.00 140.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 23 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2925.00 140.00 10 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 24 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2936.00 140.00 11 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS * *
U/S DATA STATION INVERT SECT W S ELEV
2936.00 140.00 11 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	374.70	92.95	5.47	98.42	140.2	8.82	1.21	99.63	.00	3.48	4.50	.00	.00	0	.00
0	49.12	.01940					.00508	.25		2.28			.00		
0	423.82	93.90	4.79	98.69	140.2	8.82	1.21	99.90	.00	3.48	4.50	.00	.00	0	.00
OHYDRAULIC JUMP															
0	423.82	93.90	2.43	96.33	140.2	16.03	3.99	100.32	.00	3.48	4.50	.00	.00	0	.00
0	44.18	.01940					.01524	.67		2.28			.00		
0	468.00	94.76	2.48	97.24	140.2	15.59	3.78	101.02	.00	3.48	4.50	.00	.00	0	.00
OJUNCT STR .01000															
0	470.00	94.78	2.18	96.96	131.2	17.16	4.57	101.54	.00	3.37	4.50	.00	.00	0	.00
OTRANS STR .01000															
0	472.00	94.80	2.74	97.54	131.2	16.21	4.09	101.63	.00	3.32	3.50	.00	.00	0	.00
OTRANS STR .01000															
0	472.00	94.80	2.74	97.54	131.2	16.21	4.09	101.63	.00	3.32	3.50	.00	.00	0	.00
0	67.56	.01853					.01854	1.25		2.74			.00		
0	539.56	96.05	2.74	98.80	131.2	16.21	4.09	102.88	.00	3.32	3.50	.00	.00	0	.00
0	272.32	.01853					.01778	4.84		2.74			.00		
0	811.88	101.10	2.87	103.96	131.2	15.55	3.76	107.72	.00	3.32	3.50	.00	.00	0	.00
0	81.12	.01853					.01631	1.32		2.74			.00		
0	893.00	102.60	3.03	105.63	131.2	14.83	3.42	109.05	.00	3.32	3.50	.00	.00	0	.00
OJUNCT STR .02500															
0	897.00	102.70	2.96	105.66	130.2	15.02	3.51	109.16	.00	3.31	3.50	.00	.00	0	.00
0	53.63	.01750					.01548	.83		2.80			.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	950.63	103.64	3.08	106.72	130.2	14.50	3.27	109.99	.00	3.31	3.50	.00	.00	0	.00
0	26.37	.01750					.01476	.39		2.80			.00		
0	977.00	104.10	3.31	107.41	130.2	13.82	2.97	110.38	.00	3.31	3.50	.00	.00	0	.00
OJUNCT STR .02500															
0	981.00	104.20	4.17	108.37	120.2	12.49	2.43	110.79	.00	3.25	3.50	.00	.00	0	.00
0	233.71	.01539					.01427	3.34		2.76			.00		
0	1214.71	107.80	4.00	111.80	120.2	12.49	2.43	114.22	.00	3.25	3.50	.00	.00	0	.00
OHYDRAULIC JUMP															
0	1214.71	107.80	2.55	110.34	120.2	16.02	3.99	114.33	.00	3.25	3.50	.00	.00	0	.00
0	65.29	.01539					.01939	1.27		2.76			.00		
0	1280.00	108.80	2.45	111.25	120.2	16.70	4.34	115.59	.00	3.25	3.50	.00	.00	0	.00

0	96.00	.02187					.01947	1.87			2.38		.00		
0	1376.00	110.90	2.54	113.44	120.2	16.08	4.02	117.46	.00	3.25		3.50	.00	.00	0 .00
0	JUNCT STR	.03333					.02027	.06					.00		
0	1379.00	111.00	2.31	113.31	115.2	17.10	4.54	117.85	.00	3.21		3.50	.00	.00	0 .00
0	59.47	.02194					.02194	1.31			2.31		.00		
0	1438.47	112.30	2.31	114.61	115.2	17.10	4.54	119.16	.00	3.21		3.50	.00	.00	0 .00
0	259.53	.02194					.02090	5.42			2.31		.00		
0	1698.00	118.00	2.40	120.40	115.2	16.41	4.19	124.58	.00	3.21		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.02181	.09					.00		
0	1702.00	118.10	2.18	120.28	110.2	17.50	4.76	125.04	.00	3.17		3.50	.00	.00	0 .00
0	65.34	.02591					.02302	1.50			2.12		.00		
1															PAGE 3

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0	1767.34	119.79	2.23	122.02	110.2	17.06	4.52	126.54	.00	3.17		3.50	.00	.00	0 .00
0	64.84	.02591				.02103	1.36			2.12			.00		
0	1832.18	121.47	2.32	123.79	110.2	16.26	4.11	127.90	.00	3.17		3.50	.00	.00	0 .00
0	37.85	.02591				.01870	.71			2.12			.00		
0	1870.03	122.45	2.42	124.88	110.2	15.51	3.74	128.61	.00	3.17		3.50	.00	.00	0 .00
0	24.97	.02591				.01668	.42			2.12			.00		
0	1895.00	123.10	2.53	125.63	110.2	14.78	3.40	129.03	.00	3.17		3.50	.00	.00	0 .00
0	82.83	.01721				.01492	1.24			2.44			.00		
0	1977.83	124.53	2.65	127.18	110.2	14.09	3.09	130.26	.00	3.17		3.50	.00	.00	0 .00
0	39.17	.01721				.01341	.53			2.44			.00		
0	2017.00	125.20	2.78	127.98	110.2	13.44	2.81	130.79	.00	3.17		3.50	.00	.00	0 .00
0	JUNCT STR	.10001				.01481	.01						.00		
0	2018.00	125.30	2.34	127.64	103.2	15.07	3.53	131.17	.00	3.10		3.50	.00	.00	0 .00
0	JUNCT STR	.10001				.01691	.00						.00		
0	2018.00	125.30	2.34	127.64	103.2	15.07	3.53	131.17	.00	3.10		3.50	.00	.00	0 .00
0	181.66	.01672				.01750	3.18			2.35			.00		
0	2199.66	128.34	2.29	130.63	103.2	15.49	3.73	134.35	.00	3.10		3.50	.00	.00	0 .00
0	111.39	.01672				.01924	2.14			2.35			.00		
0	2311.05	130.20	2.20	132.40	103.2	16.24	4.10	136.50	.00	3.10		3.50	.00	.00	0 .00
0	.00	.01672				.02038	.00			2.35			.00		
0	2311.05	130.20	2.20	132.40	103.2	16.24	4.10	136.50	.00	3.10		3.50	.00	.00	0 .00
0	205.45	.02058				.01939	3.98			2.19			.00		
1															PAGE 4

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0	2516.50	134.43	2.27	136.70	103.2	15.59	3.78	140.48	.00	3.10		3.50	.00	.00	0 .00

PAGE 5

WATER SURFACE PROFILE LISTING

1

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Apr 17, 2001 10:42:14

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Input file : erg4a.dat
Output file: erg4a.out
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T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1			98.42			
R	468.00	94.76	1		.013				1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.	
TS	472.00	94.80	2		.013				
R	893.00	102.6	2		.013			45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.	
R	977.00	104.1	2		.013				
JX	981.00	104.2	2	8	.013	10.0	104.9	45.	
R	1280.00	108.8	2		.013				1
R	1376.00	110.9	2		.013				
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.	
R	1698.00	118.0	2		.013				1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.	
R	1895.00	123.1	2		.013				1
R	2017.00	125.2	2		.013				
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.	
R	2311.05	130.2	2		.013				1
R	2690.00	138.0	2		.013				
R	2713.00	138.2	2		.013				
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.	
R	2820.00	139.7	2		.013				1
R	2924.00	140.0	2		.013				
TS	2925.00	140.0	10		.013				
TS	2936.00	140.0	11		.013				
SH			11						

[illegible]

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1379.00	111.00	2	8	0	.013	5.0	.0	111.50	.00	45.00	.00
PAGE NO 3												
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 12 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1698.00	118.00	2			.013				.00	.00	.00 1
0 ELEMENT NO 13 IS A JUNCTION	*	*	*	*			*		*			
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1702.00	118.10	2	8	0	.013	5.0	.0	118.60	.00	45.00	.00
0 ELEMENT NO 14 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	1895.00	123.10	2			.013				.00	.00	.00 1
0 ELEMENT NO 15 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2017.00	125.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 16 IS A JUNCTION	*	*	*	*			*		*			
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2018.00	125.30	2	8	0	.013	7.0	.0	125.90	.00	45.00	.00
0 ELEMENT NO 17 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2311.05	130.20	2			.013				.00	.00	.00 1
0 ELEMENT NO 18 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2690.00	138.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 19 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2713.00	138.20	2			.013				.00	.00	.00 0
0 ELEMENT NO 20 IS A JUNCTION	*	*	*	*			*		*			
U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2717.00	138.30	2	8	0	.013	3.2	.0	139.80	.00	45.00	.00
0 ELEMENT NO 21 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2820.00	139.70	2			.013				.00	.00	.00 1
PAGE NO 4												
WATER SURFACE PROFILE - ELEMENT CARD LISTING												
0 ELEMENT NO 22 IS A REACH	*	*	*									
U/S DATA	STATION	INVERT	SECT			N				RADIUS	ANGLE	ANG PT MAN H
	2924.00	140.00	2			.013				.00	.00	.00 0
0 ELEMENT NO 23 IS A TRANSITION	*	*	*									
U/S DATA	STATION	INVERT	SECT			N						
	2925.00	140.00	10			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 24 IS A TRANSITION	*	*	*									
U/S DATA	STATION	INVERT	SECT			N						
	2936.00	140.00	11			.013						
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS	*	*	*				*					
U/S DATA	STATION	INVERT	SECT							W S ELEV		
	2936.00	140.00	11							.00		
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING												

HYDRAULIC JUMP														
0	1480.71	113.23	2.47	115.70	125.2	17.28	4.64	120.34	.00	3.28		3.50	.00	.00
0	217.29	.02194					.02091	4.54			2.46		.00	0 .00
0	1698.00	118.00	2.54	120.54	125.2	16.72	4.34	124.89	.00	3.28		3.50	.00	.00
0	JUNCT STR	.02500					.02188	.09					.00	0 .00
0	1702.00	118.10	2.32	120.42	120.2	17.77	4.91	125.33	.00	3.25		3.50	.00	.00
0	68.64	.02591					.02286	1.57			2.24		.00	0 .00
0	1770.64	119.88	2.38	122.25	120.2	17.28	4.64	126.89	.00	3.25		3.50	.00	.00
0	62.83	.02591					.02088	1.31			2.24		.00	0 .00
0	1833.47	121.51	2.48	123.99	120.2	16.47	4.22	128.21	.00	3.25		3.50	.00	.00
0	37.15	.02591					.01865	.69			2.24		.00	0 .00
1														

PAGE 3

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
	SO					SF AVE	HF			NORM DEPTH			ZR	

0	1870.62	122.47	2.60	125.06	120.2	15.71	3.83	128.90	.00	3.25		3.50	.00	0 .00
0	24.38	.02591					.01673	.41			2.24		.00	
0	1895.00	123.10	2.72	125.82	120.2	14.98	3.49	129.31	.00	3.25		3.50	.00	0 .00
0	8.74	.01721					.01579	.14			2.62		.00	
0	1903.74	123.25	2.73	125.98	120.2	14.93	3.46	129.44	.00	3.25		3.50	.00	0 .00
0	78.29	.01721					.01499	1.17			2.62		.00	
0	1982.03	124.60	2.87	127.47	120.2	14.23	3.15	130.62	.00	3.25		3.50	.00	0 .00
0	34.97	.01721					.01367	.48			2.62		.00	
0	2017.00	125.20	3.03	128.23	120.2	13.57	2.86	131.09	.00	3.25		3.50	.00	0 .00
0	JUNCT STR	.10001					.01502	.02					.00	
0	2018.00	125.30	2.51	127.81	113.2	15.32	3.65	131.46	.00	3.20		3.50	.00	0 .00
0	JUNCT STR	.10001					.01695	.00					.00	
0	2018.00	125.30	2.51	127.81	113.2	15.32	3.65	131.46	.00	3.20		3.50	.00	0 .00
0	176.47	.01672					.01749	3.09			2.52		.00	
0	2194.47	128.25	2.45	130.70	113.2	15.73	3.85	134.55	.00	3.20		3.50	.00	0 .00
0	116.58	.01672					.01914	2.23			2.52		.00	
0	2311.05	130.20	2.35	132.55	113.2	16.50	4.23	136.78	.00	3.20		3.50	.00	0 .00
0	.00	.01672					.02025	.00			2.52		.00	
0	2311.05	130.20	2.35	132.55	113.2	16.50	4.23	136.78	.00	3.20		3.50	.00	0 .00
0	101.62	.02058					.02002	2.03			2.33		.00	
0	2412.67	132.29	2.37	134.66	113.2	16.35	4.15	138.81	.00	3.20		3.50	.00	0 .00
0	146.83	.02058					.01873	2.75			2.33		.00	
1														

PAGE 4

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
	SO					SF AVE	HF			NORM DEPTH			ZR	

0	2559.50	135.31	2.47	137.78	113.2	15.59	3.78	141.56	.00	3.20		3.50	.00	0 .00

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
	SO					SF AVE	HF			NORM DEPTH			ZR		

0 374.70	92.95	5.47	98.42	150.2	9.44	1.39	99.81	.00	3.60		4.50	.00	.00	0	.00
0 44.55	.01940					.00583	.26			2.38			.00		
0 419.25	93.81	4.90	98.71	150.2	9.44	1.39	100.10	.00	3.60		4.50	.00	.00	0	.00
0HYDRAULIC JUMP															
0 419.25	93.81	2.52	96.34	150.2	16.37	4.16	100.50	.00	3.60		4.50	.00	.00	0	.00
0 48.75	.01940					.01534	.75			2.38			.00		
0 468.00	94.76	2.59	97.35	150.2	15.84	3.90	101.25	.00	3.60		4.50	.00	.00	0	.00
0JUNCT STR	.01000					.01704	.03						.00		
0 470.00	94.78	2.29	97.07	141.2	17.35	4.68	101.75	.00	3.49		4.50	.00	.00	0	.00
0TRANS STR	.01000					.01897	.04						.00		
0 472.00	94.80	2.98	97.78	141.2	16.20	4.08	101.85	.00	3.36		3.50	.00	.00	0	.00
0TRANS STR	.01000					.01854	.00						.00		
0 472.00	94.80	2.98	97.78	141.2	16.20	4.08	101.85	.00	3.36		3.50	.00	.00	0	.00
0 35.39	.01853					.01854	.66			2.98			.00		
0 507.39	95.46	2.98	98.43	141.2	16.20	4.08	102.51	.00	3.36		3.50	.00	.00	0	.00
0 300.28	.01853					.01802	5.41			2.98			.00		
0 807.67	101.02	3.12	104.13	141.2	15.61	3.79	107.92	.00	3.36		3.50	.00	.00	0	.00
0 85.33	.01853					.01733	1.48			2.98			.00		
0 893.00	102.60	3.36	105.96	141.2	14.88	3.44	109.40	.00	3.36		3.50	.00	.00	0	.00
0JUNCT STR	.02500					.01829	.07						.00		
0 897.00	102.70	3.52	106.22	140.2	14.57	3.30	109.52	.00	3.36		3.50	.00	.00	0	.00
0 80.00	.01750					.01942	1.55			3.07			.00		

1

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
	SO					SF AVE	HF			NORM DEPTH			ZR		

0 977.00	104.10	3.67	107.77	140.2	14.57	3.30	111.07	.00	3.36		3.50	.00	.00	0	.00
0JUNCT STR	.02500					.01808	.07						.00		
0 981.00	104.20	4.48	108.68	130.2	13.53	2.85	111.53	.00	3.31		3.50	.00	.00	0	.00
0 299.00	.01539					.01675	5.01			3.03			.00		
0 1280.00	108.80	5.03	113.83	130.2	13.53	2.85	116.68	.00	3.31		3.50	.00	.00	0	.00
0 96.00	.02187					.01675	1.61			2.54			.00		
0 1376.00	110.90	4.54	115.44	130.2	13.53	2.85	118.28	.00	3.31		3.50	.00	.00	0	.00
0JUNCT STR	.03333					.01612	.05						.00		
0 1379.00	111.00	4.90	115.90	125.2	13.01	2.63	118.53	.00	3.28		3.50	.00	.00	0	.00
0 101.71	.02194					.01549	1.58			2.46			.00		
0 1480.71	113.23	4.28	117.51	125.2	13.01	2.63	120.14	.00	3.28		3.50	.00	.00	0	.00

0	59.64	.02058					.01672	1.00			2.33			.00		
0	2619.14	136.54	2.58	139.13	113.2	14.86	3.43	142.56	.00	3.20		3.50	.00	.00	0	.00
0	33.63	.02058					.01499	.50			2.33			.00		
0	2652.77	137.23	2.71	139.94	113.2	14.17	3.12	143.06	.00	3.20		3.50	.00	.00	0	.00
0	20.76	.02058					.01352	.28			2.33			.00		
0	2673.53	137.66	2.85	140.51	113.2	13.51	2.84	143.34	.00	3.20		3.50	.00	.00	0	.00
0	12.06	.02058					.01230	.15			2.33			.00		
0	2685.59	137.91	3.00	140.91	113.2	12.88	2.58	143.49	.00	3.20		3.50	.00	.00	0	.00
0	4.41	.02058					.01139	.05			2.33			.00		
0	2690.00	138.00	3.20	141.20	113.2	12.28	2.34	143.54	.00	3.20		3.50	.00	.00	0	.00
0	23.00	.00870					.01116	.26			3.50			.00		
0	2713.00	138.20	3.42	141.62	113.2	11.83	2.18	143.80	.00	3.20		3.50	.00	.00	0	.00
0	JUNCT STR	.02500					.01162	.05						.00		
0	2717.00	138.30	3.63	141.93	110.0	11.43	2.03	143.96	.00	3.17		3.50	.00	.00	0	.00
0	103.00	.01359					.01195	1.23			2.69			.00		
0	2820.00	139.70	3.56	143.26	110.0	11.43	2.03	145.29	.00	3.17		3.50	.00	.00	0	.00
0	104.00	.00289					.01195	1.24			3.50			.00		
0	2924.00	140.00	4.50	144.50	110.0	11.43	2.03	146.53	.00	3.17		3.50	.00	.00	0	.00
0	TRANS STR	.00000					.00660	.01						.00		
0	2925.00	140.00	6.32	146.32	110.0	4.97	.38	146.71	.00	3.13		50.00	3.50	.00	0	.00
0	TRANS STR	.00000					.00062	.01						.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

0	STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0	L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
		SO					SF AVE	HF			NORM DEPTH					
0	2936.00	140.00	6.74	146.74	110.0	.74	.01	146.75	.00	.92		50.00	22.00	.00	0	.00

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Apr 17, 2001 11: 4:56

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Input file : erg4a.dat
Output file: erg4a.out
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T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T3 MAIN LINE ANALYSIS

TS	MAIN LINE	TRANSITION	WAVELENGTH	FLUX	WAVELENGTH	FLUX	WAVELENGTH	FLUX	WAVELENGTH	FLUX
SO	374.70	92.95	1					98.42		
R	468.00	94.76	1		.013					1
JX	470.00	94.78	1	8	.013	9.0		95.17	45.	
TS	472.00	94.80	2		.013					
R	893.00	102.6	2		.013				45.	1
JX	897.00	102.7	2	8	.013	1.0		103.8	90.	
R	977.00	104.1	2		.013					
JX	981.00	104.2	2	8	.013	10.0		104.9	45.	
R	1280.00	108.8	2		.013					1
R	1376.00	110.9	2		.013					
JX	1379.00	111.0	2	8	.013	5.0		111.5	45.	
R	1698.00	118.0	2		.013					1
JX	1702.00	118.1	2	8	.013	5.0		118.6	45.	
R	1895.00	123.1	2		.013					1
R	2017.00	125.2	2		.013					
JX	2018.00	125.3	2	8	.013	7.0		125.9	45.	
R	2311.05	130.2	2		.013					1
R	2690.00	138.0	2		.013					
R	2713.00	138.2	2		.013					
JX	2717.00	138.3	2	8	.013	3.2		139.8	45.	
R	2820.00	139.7	2		.013					1
R	2924.00	140.0	2		.013					
TS	2925.00	140.0	10		.013					
TS	2936.00	140.0	11		.013					
SH			11							

SP

[illegible]

1
0 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1379.00 111.00 2 8 0 .013 5.0 .0 111.50 .00 45.00 .00
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1698.00 118.00 2 .013 .00 .00 .00 1
0 ELEMENT NO 13 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1702.00 118.10 2 8 0 .013 5.0 .0 118.60 .00 45.00 .00
0 ELEMENT NO 14 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1895.00 123.10 2 .013 .00 .00 .00 1
0 ELEMENT NO 15 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2017.00 125.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 16 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2018.00 125.30 2 8 0 .013 7.0 .0 125.90 .00 45.00 .00
0 ELEMENT NO 17 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2311.05 130.20 2 .013 .00 .00 .00 1
0 ELEMENT NO 18 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2690.00 138.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 19 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2713.00 138.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 20 IS A JUNCTION * * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2717.00 138.30 2 8 0 .013 3.2 .0 139.80 .00 45.00 .00
0 ELEMENT NO 21 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2820.00 139.70 2 .013 .00 .00 .00 1
PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 22 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2924.00 140.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 23 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2925.00 140.00 10 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 24 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2936.00 140.00 11 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
2936.00 140.00 11 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR		

0	374.70	92.95	5.47	98.42	160.2	10.07	1.58	100.00	.00	3.70	4.50	.00	.00	0	.00
0	40.56	.01940					.00664	.27		2.47			.00		
0	415.26	93.74	4.99	98.72	160.2	10.07	1.58	100.30	.00	3.70	4.50	.00	.00	0	.00
OHYDRAULIC JUMP															
0	415.26	93.74	2.63	96.36	160.2	16.63	4.30	100.66	.00	3.70	4.50	.00	.00	0	.00
0	52.74	.01940					.01539	.81		2.47			.00		
0	468.00	94.76	2.70	97.46	160.2	16.10	4.03	101.49	.00	3.70	4.50	.00	.00	0	.00
OJUNCT STR .01000															
0	470.00	94.78	2.40	97.18	151.2	17.56	4.79	101.97	.00	3.61	4.50	.00	.00	0	.00
OTRANS STR .01000															
0	472.00	94.80	3.39	98.19	151.2	15.86	3.91	102.10	.00	3.39	3.50	.00	.00	0	.00
0	14.66	.01853					.02105	.31		3.50			.00		
0	486.66	95.07	3.50	98.57	151.2	15.72	3.84	102.41	.00	3.39	3.50	.00	.00	0	.00
0	406.34	.01853					.02242	9.11		3.50			.00		
0	893.00	102.60	5.33	107.93	151.2	15.72	3.84	111.77	.00	3.39	3.50	.00	.00	0	.00
OJUNCT STR .02500															
0	897.00	102.70	5.43	108.13	150.2	15.61	3.79	111.91	.00	3.39	3.50	.00	.00	0	.00
0	80.00	.01750					.02229	1.78		3.50			.00		
0	977.00	104.10	5.81	109.91	150.2	15.61	3.79	113.70	.00	3.39	3.50	.00	.00	0	.00
OJUNCT STR .02500															
0	981.00	104.20	6.69	110.89	140.2	14.57	3.30	114.19	.00	3.36	3.50	.00	.00	0	.00
0	299.00	.01539					.01942	5.81		3.50			.00		

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PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR		

0	1280.00	108.80	8.06	116.86	140.2	14.57	3.30	120.16	.00	3.36	3.50	.00	.00	0	.00
0	96.00	.02187					.01942	1.86		2.70			.00		
0	1376.00	110.90	7.83	118.73	140.2	14.57	3.30	122.03	.00	3.36	3.50	.00	.00	0	.00
OJUNCT STR .03333															
0	1379.00	111.00	8.23	119.23	135.2	14.05	3.07	122.30	.00	3.33	3.50	.00	.00	0	.00
0	319.00	.02194					.01806	5.76		2.61			.00		
0	1698.00	118.00	7.14	125.14	135.2	14.05	3.07	128.21	.00	3.33	3.50	.00	.00	0	.00
OJUNCT STR .02500															
0	1702.00	118.10	7.54	125.64	130.2	13.53	2.85	128.49	.00	3.31	3.50	.00	.00	0	.00
0	193.00	.02591					.01675	3.23		2.38			.00		
0	1895.00	123.10	5.92	129.02	130.2	13.53	2.85	131.86	.00	3.31	3.50	.00	.00	0	.00

0	122.00	.01721					.01675	2.04			2.83		.00		
0	2017.00	125.20	5.86	131.06	130.2	13.53	2.85	133.90	.00	3.31		3.50	.00	.00	0 .00
0	JUNCT STR	.10001					.01587	.02					.00		
0	2018.00	125.30	6.33	131.63	123.2	12.81	2.55	134.18	.00	3.27		3.50	.00	.00	0 .00
0	293.05	.01672					.01499	4.39			2.71		.00		
0	2311.05	130.20	5.96	136.16	123.2	12.81	2.55	138.70	.00	3.27		3.50	.00	.00	0 .00
0	378.95	.02058					.01499	5.68			2.49		.00		
0	2690.00	138.00	3.84	141.84	123.2	12.81	2.55	144.39	.00	3.27		3.50	.00	.00	0 .00
0	23.00	.00870					.01499	.34			3.50		.00		
0	2713.00	138.20	3.98	142.18	123.2	12.81	2.55	144.73	.00	3.27		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.01461	.06					.00		

1

PAGE 3

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	2717.00	138.30	4.20	142.50	120.0	12.47	2.42	144.91	.00	3.25		3.50	.00	.00	0 .00
0	103.00	.01359					.01423	1.47			2.95		.00		
0	2820.00	139.70	4.38	144.08	120.0	12.47	2.42	146.50	.00	3.25		3.50	.00	.00	0 .00
0	104.00	.00289					.01423	1.48			3.50		.00		
0	2924.00	140.00	5.56	145.56	120.0	12.47	2.42	147.98	.00	3.25		3.50	.00	.00	0 .00
0	TRANS STR	.00000					.00756	.01					.00		
0	2925.00	140.00	7.91	147.91	120.0	4.34	.29	148.20	.00	3.32		50.00	3.50	.00	0 .00
0	TRANS STR	.00000					.00045	.00					.00		
0	2936.00	140.00	8.23	148.23	120.0	.66	.01	148.23	.00	.97		50.00	22.00	.00	0 .00

1

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Apr 17, 2001 11: 6: 6

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Input file : erg4a.dat
Output file: erg4a.out
```

T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1				98.42		
R	468.00	94.76	1		.013				1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.	
TS	472.00	94.80	2		.013				
R	893.00	102.6	2		.013			45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.	
R	977.00	104.1	2		.013				
JX	981.00	104.2	2	8	.013	10.0	104.9	45.	
R	1280.00	108.8	2		.013				1
R	1376.00	110.9	2		.013				
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.	
R	1698.00	118.0	2		.013				1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.	
R	1895.00	123.1	2		.013				1
R	2017.00	125.2	2		.013				
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.	
R	2311.05	130.2	2		.013				1
R	2690.00	138.0	2		.013				
R	2713.00	138.2	2		.013				
JX	2717.00	138.3	2	8	.013	3.2	139.8	45.	
R	2820.00	139.7	2		.013				1
R	2924.00	140.0	2		.013				
TS	2925.00	140.0	10		.013				
TS	2936.00	140.0	11		.013				
SH			11						

1

SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

[illegible]

1
0 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1379.00 111.00 2 8 0 .013 5.0 .0 111.50 .00 45.00 .00
PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1698.00 118.00 2 .013 .00 .00 .00 1
0 ELEMENT NO 13 IS A JUNCTION * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
1702.00 118.10 2 8 0 .013 5.0 .0 118.60 .00 45.00 .00
0 ELEMENT NO 14 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1895.00 123.10 2 .013 .00 .00 .00 1
0 ELEMENT NO 15 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2017.00 125.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 16 IS A JUNCTION * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2018.00 125.30 2 8 0 .013 7.0 .0 125.90 .00 45.00 .00
0 ELEMENT NO 17 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2311.05 130.20 2 .013 .00 .00 .00 1
0 ELEMENT NO 18 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2690.00 138.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 19 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2713.00 138.20 2 .013 .00 .00 .00 0
0 ELEMENT NO 20 IS A JUNCTION * * *
U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
2717.00 138.30 2 8 0 .013 3.2 .0 139.80 .00 45.00 .00
0 ELEMENT NO 21 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2820.00 139.70 2 .013 .00 .00 .00 1
PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 22 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
2924.00 140.00 2 .013 .00 .00 .00 0
0 ELEMENT NO 23 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2925.00 140.00 10 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 24 IS A TRANSITION * * *
U/S DATA STATION INVERT SECT N
2936.00 140.00 11 .013
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
0 ELEMENT NO 25 IS A SYSTEM HEADWORKS * * *
U/S DATA STATION INVERT SECT W S ELEV
2936.00 140.00 11 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1 PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
	SO					SF AVE	HF			NORM DEPTH			ZR	

0	374.70	92.95	5.47	98.42	170.2	10.70	1.78	100.20	.00	3.80	4.50	.00	.00	.00
0	25.27	.01940					.00749	.19		2.57			.00	
0	399.97	93.44	5.19	98.63	170.2	10.70	1.78	100.41	.00	3.80	4.50	.00	.00	.00
OHYDRAULIC JUMP														.00
0	399.97	93.44	2.65	96.09	170.2	17.46	4.74	100.83	.00	3.80	4.50	.00	.00	.00
0	68.03	.01940					.01707	1.16		2.57			.00	
0	468.00	94.76	2.70	97.46	170.2	17.07	4.53	101.99	.00	3.80	4.50	.00	.00	.00
OJUNCT STR														.00
0	470.00	94.78	2.42	97.20	161.2	18.46	5.30	102.50	.00	3.71	4.50	.00	.00	.00
OTRANS STR														.00
0	472.00	94.80	3.41	98.21	161.2	16.86	4.42	102.63	.00	3.41	3.50	.00	.00	.00
0	5.22	.01853					.02405	.13		3.50			.00	
0	477.22	94.90	3.50	98.40	161.2	16.75	4.36	102.76	.00	3.41	3.50	.00	.00	.00
0	415.78	.01853					.02549	10.60		3.50			.00	
0	893.00	102.60	6.69	109.29	161.2	16.75	4.36	113.65	.00	3.41	3.50	.00	.00	.00
OJUNCT STR														.00
0	897.00	102.70	6.80	109.50	160.2	16.65	4.31	113.80	.00	3.41	3.50	.00	.00	.00
0	80.00	.01750					.02535	2.03		3.50			.00	
0	977.00	104.10	7.42	111.52	160.2	16.65	4.31	115.83	.00	3.41	3.50	.00	.00	.00
OJUNCT STR														.00
0	981.00	104.20	8.39	112.59	150.2	15.61	3.79	116.38	.00	3.39	3.50	.00	.00	.00
0	299.00	.01539					.02229	6.66		3.50			.00	

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
	SO					SF AVE	HF			NORM DEPTH			ZR	

0	1280.00	108.80	10.64	119.44	150.2	15.61	3.79	123.23	.00	3.39	3.50	.00	.00	.00
0	96.00	.02187					.02229	2.14		2.90			.00	
0	1376.00	110.90	10.68	121.58	150.2	15.61	3.79	125.37	.00	3.39	3.50	.00	.00	.00
OJUNCT STR														.00
0	1379.00	111.00	11.12	122.12	145.2	15.09	3.54	125.66	.00	3.37	3.50	.00	.00	.00
0	319.00	.02194					.02083	6.64		2.79			.00	
0	1698.00	118.00	10.95	128.95	145.2	15.09	3.54	132.48	.00	3.37	3.50	.00	.00	.00
OJUNCT STR														.00
0	1702.00	118.10	11.39	129.49	140.2	14.57	3.30	132.79	.00	3.36	3.50	.00	.00	.00
0	193.00	.02591					.01942	3.75		2.51			.00	
0	1895.00	123.10	10.30	133.40	140.2	14.57	3.30	136.70	.00	3.36	3.50	.00	.00	.00

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WATER SURFACE PROFILE LISTING

MAIN LINE ANALYSIS

1

STORM DRAIN ANALYSIS PLUS

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Version
Serial Number

May 1, 2001 13:28:30

Input file : UNS4A.DAT
Output file: UNS4A.OUT

Unser/Gibson 24" Peak in Unser

INPUT FILE LISTING

T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1			98.42			
R	468.00	94.76	1	.013					1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.	
TS	472.00	94.80	2	.013					
R	893.00	102.6	2	.013				45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.	
R	977.00	104.1	2	.013					
JX	981.00	104.2	2	8	.013	10.0	104.9	45.	
R	1280.00	108.8	2	.013					1
R	1376.00	110.9	2	.013					
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.	
R	1698.00	118.0	2	.013					1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.	
R	1895.00	123.1	2	.013					1
R	2017.00	125.2	2	.013					
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.	
R	2311.05	130.2	2	.013					1
R	2590.00	135.9	2	.013					
JX	2592.00	136.0	2	2	.013	35.4	135.9	01.	
TS	2594.00	137.4	8	.013					
R	2601.00	137.5	8	.013				45.	1
R	2713.00	139.0	8	.013				45.	1
R	2910.00	139.5	8	.013				45.	1
JX	2914.00	139.6	8	8	.013	6.5	145.9	45.	
R	3026.00	139.8	8	.013					
JX	3030.00	139.9	8	8	.013	6.5	145.9	45.	
R	3430.00	140.7	8	.013					
SH			8						

SP

PAGE 1

CD	1	4			4.50				
CD	2	4			3.50				
CD	3	4			5.50				
CD	4	4			5.00				
CD	5	4			4.00				
CD	6	4			3.00				
CD	7	4			2.50				
CD	8	4			2.00				
CD	9	4			1.50				
CD	10	2	0	.00	50.00	3.50			.00
CD	11	2	0	.00	50.00	22.00			.00
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00

PAGE NO 1

0HEADING LINE NO 1 IS -

0HEADING LINE NO 2 IS -

1

PAGE NO 2

0 ELEMENT NO

[illegible]

		U/S DATA	STATION	INVERT	SECT		N				RADIUS	ANGLE	ANG PT	MAN H
			2910.00	139.50	8		.013				.00	.00	45.00	1
0	ELEMENT NO 24 IS A JUNCTION		*	*	*	*		*		*				
		U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
			2914.00	139.60	8	8	0	.013	6.5	.0	145.90	.00	45.00	.00
0	ELEMENT NO 25 IS A REACH		*	*	*									
		U/S DATA	STATION	INVERT	SECT			N			RADIUS	ANGLE	ANG PT	MAN H
			3026.00	139.80	8			.013			.00	.00	.00	0
0	ELEMENT NO 26 IS A JUNCTION		*	*	*	*			*		*		*	
		U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
			3030.00	139.90	8	8	0	.013	6.5	.0	145.90	.00	45.00	.00
0	ELEMENT NO 27 IS A REACH		*	*	*									
		U/S DATA	STATION	INVERT	SECT			N			RADIUS	ANGLE	ANG PT	MAN H
			3430.00	140.70	8			.013			.00	.00	.00	0
0	ELEMENT NO 28 IS A SYSTEM HEADWORKS				*				*					
		U/S DATA	STATION	INVERT	SECT						W S ELEV			
			3430.00	140.70	8						.00			

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0	STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
		ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0	L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	374.70	92.95	5.47	98.42	89.6	5.63	.49	98.91	.00	2.78		4.50	.00	.00	0	.00
0	56.86	.01940					.00206	.12			1.77			.00		
0	431.56	94.05	4.50	98.55	89.6	5.63	.49	99.05	.00	2.78		4.50	.00	.00	0	.00
0	21.04	.01940					.00193	.04			1.77			.00		
0	452.60	94.46	4.08	98.54	89.6	5.91	.54	99.09	.00	2.78		4.50	.00	.00	0	.00
0	10.72	.01940					.00188	.02			1.77			.00		
0	463.32	94.67	3.84	98.51	89.6	6.20	.60	99.11	.00	2.78		4.50	.00	.00	0	.00
0	.48	.01940					.00195	.00			1.77			.00		
0	463.80	94.68	3.83	98.51	89.6	6.21	.60	99.11	.00	2.78		4.50	.00	.00	0	.00
OHYDRAULIC JUMP															.00	
0	463.80	94.68	1.96	96.64	89.6	13.43	2.80	99.45	.00	2.78		4.50	.00	.00	0	.00
0	4.20	.01940					.01316	.06			1.77			.00		
0	468.00	94.76	1.98	96.74	89.6	13.31	2.75	99.49	.00	2.78		4.50	.00	.00	0	.00
OJUNCT STR															.00	
0	470.00	94.78	1.64	96.42	80.6	15.33	3.65	100.07	.00	2.63		4.50	.00	.00	0	.00
OTRANS STR															.00	
0	472.00	94.80	1.93	96.73	80.6	14.82	3.41	100.14	.00	2.80		3.50	.00	.00	0	.00
OTRANS STR															.00	
0	472.00	94.80	1.93	96.73	80.6	14.82	3.41	100.14	.00	2.80		3.50	.00	.00	0	.00
0	95.17	.01853					.01855	1.77			1.93			.00		

0	567.17	96.56	1.93	98.49	80.6	14.82	3.41	101.91	.00	2.80		3.50	.00	.00	0	.00
0	221.15	.01853					.01753	3.88			1.93			.00		
1																

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR			

0	788.32	100.66	2.00	102.66	80.6	14.17	3.12	105.78	.00	2.80		3.50	.00	.00	0	.00
0	68.56	.01853					.01556	1.07			1.93		.00			
0	856.88	101.93	2.08	104.01	80.6	13.51	2.84	106.85	.00	2.80		3.50	.00	.00	0	.00
0	36.12	.01853					.01376	.50			1.93		.00			
0	893.00	102.60	2.17	104.77	80.6	12.88	2.58	107.35	.00	2.80		3.50	.00	.00	0	.00
0JUNCT STR	.02500						.01317	.05					.00			
0	897.00	102.70	2.12	104.82	79.6	13.04	2.64	107.46	.00	2.79		3.50	.00	.00	0	.00
0JUNCT STR	.02500						.01341	.00					.00			
0	897.00	102.70	2.12	104.82	79.6	13.04	2.64	107.46	.00	2.79		3.50	.00	.00	0	.00
0	8.59	.01750					.01323	.11			1.95		.00			
0	905.59	102.85	2.14	104.99	79.6	12.90	2.58	107.58	.00	2.79		3.50	.00	.00	0	.00
0	28.14	.01750					.01231	.35			1.95		.00			
0	933.73	103.34	2.23	105.57	79.6	12.30	2.35	107.92	.00	2.79		3.50	.00	.00	0	.00
0	18.19	.01750					.01092	.20			1.95		.00			
0	951.93	103.66	2.33	105.99	79.6	11.72	2.14	108.12	.00	2.79		3.50	.00	.00	0	.00
0	11.84	.01750					.00971	.12			1.95		.00			
0	963.77	103.87	2.43	106.30	79.6	11.18	1.94	108.24	.00	2.79		3.50	.00	.00	0	.00
0	7.64	.01750					.00866	.07			1.95		.00			
0	971.41	104.00	2.54	106.54	79.6	10.66	1.77	108.30	.00	2.79		3.50	.00	.00	0	.00
0	4.26	.01750					.00775	.03			1.95		.00			
0	975.67	104.08	2.66	106.73	79.6	10.16	1.61	108.34	.00	2.79		3.50	.00	.00	0	.00
0	1.33	.01750					.00697	.01			1.95		.00			
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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR			

0	977.00	104.10	2.79	106.89	79.6	9.69	1.46	108.35	.00	2.79		3.50	.00	.00	0	.00
0JUNCT STR	.02500						.00570	.02					.00			
0	981.00	104.20	3.56	107.76	69.6	7.23	.81	108.58	.00	2.62		3.50	.00	.00	0	.00
0	1.04	.01539					.00479	.00			1.87		.00			
0	982.04	104.22	3.55	107.77	69.6	7.23	.81	108.58	.00	2.62		3.50	.00	.00	0	.00
0HYDRAULIC JUMP													.00			
0	982.04	104.22	1.87	106.08	69.6	13.33	2.76	108.85	.00	2.62		3.50	.00	.00	0	.00

0	29.99	.01539					.01542	.46			1.87		.00		
0	1012.03	104.68	1.87	106.54	69.6	13.33	2.76	109.31	.00	2.62		3.50	.00	.00	0 .00
0	193.44	.01539					.01640	3.17			1.87		.00		
0	1205.47	107.65	1.80	109.45	69.6	13.95	3.03	112.48	.00	2.62		3.50	.00	.00	0 .00
0	74.53	.01539					.01856	1.38			1.87		.00		
0	1280.00	108.80	1.73	110.53	69.6	14.64	3.33	113.86	.00	2.62		3.50	.00	.00	0 .00
0	47.34	.02187					.01910	.90			1.68		.00		
0	1327.34	109.84	1.77	111.60	69.6	14.27	3.16	114.77	.00	2.62		3.50	.00	.00	0 .00
0	48.66	.02187					.01736	.84			1.68		.00		
0	1376.00	110.90	1.84	112.74	69.6	13.61	2.88	115.61	.00	2.62		3.50	.00	.00	0 .00
0	JUNCT STR	.03333					.01913	.06					.00		
0	1379.00	111.00	1.61	112.61	64.6	14.95	3.47	116.08	.00	2.52		3.50	.00	.00	0 .00
0	33.64	.02194					.02199	.74			1.61		.00		
0	1412.64	111.74	1.61	113.35	64.6	14.95	3.47	116.82	.00	2.52		3.50	.00	.00	0 .00
0	204.35	.02194					.02113	4.32			1.61		.00		
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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER	
	SO					SF AVE	HF			NORM DEPTH					
0	1616.99	116.22	1.65	117.87	64.6	14.50	3.27	121.14	.00	2.52		3.50	.00	.00	0 .00
0	81.01	.02194					.01905	1.54		1.61			.00		
0	1698.00	118.00	1.71	119.71	64.6	13.83	2.97	122.68	.00	2.52		3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.02128	.09					.00		
0	1702.00	118.10	1.49	119.59	59.6	15.29	3.63	123.22	.00	2.42		3.50	.00	.00	0 .00
0	88.41	.02591					.02366	2.09		1.47			.00		
0	1790.41	120.39	1.53	121.92	59.6	14.78	3.40	125.31	.00	2.42		3.50	.00	.00	0 .00
0	53.70	.02591					.02122	1.14		1.47			.00		
0	1844.11	121.78	1.58	123.36	59.6	14.10	3.09	126.45	.00	2.42		3.50	.00	.00	0 .00
0	30.57	.02591					.01865	.57		1.47			.00		
0	1874.68	122.57	1.64	124.22	59.6	13.44	2.81	127.02	.00	2.42		3.50	.00	.00	0 .00
0	20.32	.02591					.01641	.33		1.47			.00		
0	1895.00	123.10	1.70	124.80	59.6	12.81	2.55	127.36	.00	2.42		3.50	.00	.00	0 .00
0	40.69	.01721					.01484	.60		1.65			.00		
0	1935.69	123.80	1.74	125.54	59.6	12.48	2.42	127.96	.00	2.42		3.50	.00	.00	0 .00
0	40.89	.01721					.01347	.55		1.65			.00		
0	1976.58	124.50	1.81	126.31	59.6	11.90	2.20	128.51	.00	2.42		3.50	.00	.00	0 .00
0	24.36	.01721					.01187	.29		1.65			.00		
0	2000.94	124.92	1.88	126.80	59.6	11.35	2.00	128.80	.00	2.42		3.50	.00	.00	0 .00
0	16.06	.01721					.01047	.17		1.65			.00		
0	2017.00	125.20	1.95	127.15	59.6	10.82	1.82	128.97	.00	2.42		3.50	.00	.00	0 .00
0	JUNCT STR	.10001					.01328	.01					.00		
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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR		

0 2018.00	125.30	1.55	126.85	52.6	12.81	2.55	129.40	.00	2.27		3.50	.00	.00	0	.00
0 29.90	.01672					.01675	.50			1.55			.00		
0 2047.90	125.80	1.55	127.35	52.6	12.81	2.55	129.90	.00	2.27		3.50	.00	.00	0	.00
0 161.33	.01672					.01716	2.77			1.55			.00		
0 2209.23	128.50	1.53	130.02	52.6	13.04	2.64	132.67	.00	2.27		3.50	.00	.00	0	.00
0 101.82	.01672					.01879	1.91			1.55			.00		
0 2311.05	130.20	1.47	131.67	52.6	13.68	2.91	134.58	.00	2.27		3.50	.00	.00	0	.00
0 .00	.01672					.02000	.00			1.55			.00		
0 2311.05	130.20	1.47	131.67	52.6	13.68	2.91	134.58	.00	2.27		3.50	.00	.00	0	.00
0 84.02	.02043					.01959	1.65			1.46			.00		
0 2395.07	131.92	1.49	133.41	52.6	13.47	2.82	136.23	.00	2.27		3.50	.00	.00	0	.00
0 83.12	.02043					.01801	1.50			1.46			.00		
0 2478.20	133.62	1.55	135.16	52.6	12.84	2.56	137.72	.00	2.27		3.50	.00	.00	0	.00
0 38.20	.02043					.01583	.60			1.46			.00		
0 2516.40	134.40	1.60	136.00	52.6	12.24	2.33	138.33	.00	2.27		3.50	.00	.00	0	.00
0 23.29	.02043					.01392	.32			1.46			.00		
0 2539.68	134.87	1.66	136.53	52.6	11.67	2.12	138.65	.00	2.27		3.50	.00	.00	0	.00
0 15.82	.02043					.01224	.19			1.46			.00		
0 2555.50	135.20	1.73	136.92	52.6	11.13	1.93	138.85	.00	2.27		3.50	.00	.00	0	.00
0 11.29	.02043					.01078	.12			1.46			.00		
0 2566.79	135.43	1.79	137.22	52.6	10.61	1.75	138.97	.00	2.27		3.50	.00	.00	0	.00
0 8.24	.02043					.00950	.08			1.46			.00		

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER		
	SO					SF AVE	HF			NORM DEPTH			ZR		

0 2575.04	135.59	1.86	137.45	52.6	10.12	1.59	139.05	.00	2.27		3.50	.00	.00	0	.00
0 5.94	.02043					.00838	.05			1.46			.00		
0 2580.98	135.72	1.93	137.65	52.6	9.65	1.45	139.10	.00	2.27		3.50	.00	.00	0	.00
0 4.18	.02043					.00739	.03			1.46			.00		
0 2585.16	135.80	2.01	137.81	52.6	9.20	1.32	139.13	.00	2.27		3.50	.00	.00	0	.00
0 2.77	.02043					.00654	.02			1.46			.00		
0 2587.93	135.86	2.09	137.95	52.6	8.77	1.20	139.14	.00	2.27		3.50	.00	.00	0	.00
0 1.62	.02043					.00578	.01			1.46			.00		
0 2589.55	135.89	2.18	138.07	52.6	8.36	1.09	139.15	.00	2.27		3.50	.00	.00	0	.00
0 .45	.02043					.00512	.00			1.46			.00		
0 2590.00	135.90	2.27	138.17	52.6	7.97	.99	139.16	.00	2.27		3.50	.00	.00	0	.00
0JUNCT STR	.05000					.00254	.01						.00		

0	2592.00	136.00	3.11	139.11	17.2	1.91	.06	139.16	.00	1.27		3.50	.00	.00	0	.00
OTRANS STR		.70000											.00			
0	2594.00	137.40	1.18	138.58	17.2	8.88	1.22	139.81	.00	1.50		2.00	.00	.00	0	.00
0	7.00	.01429					.01325	.09			1.16		.00			
0	2601.00	137.50	1.19	138.69	17.2	8.83	1.21	139.90	.00	1.50		2.00	.00	.00	0	.00
0	48.40	.01339					.01286	.62			1.18		.00			
0	2649.40	138.15	1.21	139.36	17.2	8.67	1.17	140.52	.00	1.50		2.00	.00	.00	0	.00
0	36.12	.01339					.01184	.43			1.18		.00			
0	2685.52	138.63	1.26	139.89	17.2	8.27	1.06	140.95	.00	1.50		2.00	.00	.00	0	.00
0	15.05	.01339					.01050	.16			1.18		.00			

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						
0	2700.57	138.83	1.31	140.14	17.2	7.88	.97	141.11	.00	1.50	2.00	.00	.00	0	.00	
0	7.58	.01339					.00933	.07		1.18		.00				
0	2708.15	138.94	1.37	140.30	17.2	7.52	.88	141.18	.00	1.50	2.00	.00	.00	0	.00	
0	3.90	.01339					.00831	.03		1.18		.00				
0	2712.05	138.99	1.43	140.41	17.2	7.17	.80	141.21	.00	1.50	2.00	.00	.00	0	.00	
0	.95	.01339					.00742	.01		1.18		.00				
0	2713.00	139.00	1.50	140.49	17.2	6.83	.72	141.22	.00	1.50	2.00	.00	.00	0	.00	
0	1.51	.00254					.00666	.01		2.00		.00				
0	2714.51	139.00	1.57	140.57	17.2	6.51	.66	141.23	.00	1.50	2.00	.00	.00	0	.00	
0	6.08	.00254					.00601	.04		2.00		.00				
0	2720.59	139.02	1.65	140.67	17.2	6.21	.60	141.27	.00	1.50	2.00	.00	.00	0	.00	
0	13.74	.00254					.00549	.08		2.00		.00				
0	2734.33	139.05	1.74	140.80	17.2	5.92	.54	141.34	.00	1.50	2.00	.00	.00	0	.00	
0	26.83	.00254					.00513	.14		2.00		.00				
0	2761.16	139.12	1.86	140.98	17.2	5.64	.49	141.48	.00	1.50	2.00	.00	.00	0	.00	
0	38.90	.00254					.00533	.21		2.00		.00				
0	2800.06	139.22	2.00	141.22	17.2	5.47	.47	141.69	.00	1.50	2.00	.00	.00	0	.00	
0	109.94	.00254					.00573	.63		2.00		.00				
0	2910.00	139.50	2.37	141.87	17.2	5.47	.47	142.34	.00	1.50	2.00	.00	.00	0	.00	
0JUNCT STR		.02500					.00401	.02				.00				
0	2914.00	139.60	2.86	142.46	10.7	3.41	.18	142.64	.00	1.17	2.00	.00	.00	0	.00	
0	112.00	.00179					.00224	.25		2.00		.00				

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WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	ZR	PIER		
	SO					SF AVE	HF			NORM DEPTH						


```

*****
0  3026.00  139.80    2.91   142.71    10.7    3.41    .18   142.89    .00    1.17           2.00    .00    .00    0    .00
0JUNCT STR  .02500
0  3030.00  139.90    3.12   143.02     4.2    1.34    .03   143.05    .00    .72           2.00    .00    .00    0    .00
0   400.00   .00200
0  3430.00  140.70    2.46   143.16     4.2    1.34    .03   143.18    .00    .72    .90    2.00    .00    .00    0    .00
1

```


STORM DRAIN ANALYSIS PLUS

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Version
Serial Number

May 1, 2001 13:34:45

Input file : UNS4A.DAT
Output file: UNS4A.OUT

Unser/Gibson 24" Peak in Pond

INPUT FILE LISTING

T1 POND OUTFALL @ UNSER-GIBSON INTERSECTION

T2

T3 MAIN LINE ANALYSIS

SO	374.70	92.95	1			98.42			
R	468.00	94.76	1		.013				1
JX	470.00	94.78	1	8	.013	9.0	95.17	45.	
TS	472.00	94.80	2		.013				
R	893.00	102.6	2		.013			45.	1
JX	897.00	102.7	2	8	.013	1.0	103.8	90.	
R	977.00	104.1	2		.013				
JX	981.00	104.2	2	8	.013	10.0	104.9	45.	
R	1280.00	108.8	2		.013				1
R	1376.00	110.9	2		.013				
JX	1379.00	111.0	2	8	.013	5.0	111.5	45.	
R	1698.00	118.0	2		.013				1
JX	1702.00	118.1	2	8	.013	5.0	118.6	45.	
R	1895.00	123.1	2		.013				1
R	2017.00	125.2	2		.013				
JX	2018.00	125.3	2	8	.013	7.0	125.9	45.	
R	2311.05	130.2	2		.013				1
R	2590.00	135.9	2		.013				
JX	2592.00	136.0	2	2	.013	121.2	135.9	01.	
TS	2594.00	137.4	8		.013				
R	2601.00	137.5	8		.013			45.	1
R	2713.00	139.0	8		.013			45.	1
R	2910.00	139.5	8		.013			45.	1
JX	2914.00	139.6	8	8	.013	1.0	145.9	45.	
R	3026.00	139.8	8		.013				
JX	3030.00	139.9	8	8	.013	1.0	145.9	45.	
R	3430.00	140.7	8		.013				
SH			8						

SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

CD	1	4			4.50				
CD	2	4			3.50				
CD	3	4			5.50				
CD	4	4			5.00				
CD	5	4			4.00				
CD	6	4			3.00				
CD	7	4			2.50				
CD	8	4			2.00				
CD	9	4			1.50				
CD	10	2	0	.00	50.00	3.50			.00
CD	11	2	0	.00	50.00	22.00			.00
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00

PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

0HEADING LINE NO 1 IS -

0 POND OUTFALL @ UNSER-GIBSON INTERSECTION

0HEADING LINE NO 2 IS -

0

MAIN LINE ANALYSIS

PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

```
0 ELEMENT NO      1 IS A SYSTEM OUTLET          *           *           *
```

U/S DATA	STATION	INVERT	SECT	W S ELEV
	374.70	92.95	1	98.42

```

0 ELEMENT NO      2 IS A REACH          *          *          *

```

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	468.00	94.76	1	.013	.00	.00	.00	1

```
0 ELEMENT NO      3 IS A JUNCTION                *          *          *
```

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	470.00	94.78	1	8	0	.013	9.0	.0	95.17	.00	45.00	.00

0 ELEMENT NO 4 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	472.00	94.80	2	.013

```
0 ELEMENT NO      5 IS A REACH          *           *           *
```

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	893.00	102.60	2	.013	.00	.00	45.00	1

```
0 ELEMENT NO    6 IS A JUNCTION          *           *           *
```

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	897.00	102.70	2	8	0	.013	1.0	.0	103.80	.00	90.00	.00

```
0 ELEMENT NO    7 IS A REACH          *          *          *
```

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	977.00	104.10	2	.013	.00	.00	.00	0

0 ELEMENT NO 8 IS A JUNCTION * * *

															U/S DATA		STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
															981.00	104.20	2	8	0	.013	10.0	.0	104.90	.00	45.00	.00			
0	ELEMENT NO	9	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															1280.00	108.80	2				.013			.00	.00	.00	1		
0	ELEMENT NO	10	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															1376.00	110.90	2				.013			.00	.00	.00	0		
0	ELEMENT NO	11	IS	A	JUNCTION	*	*	*	*																				
															U/S DATA		STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
															1379.00	111.00	2	8	0	.013	5.0	.0	111.50	.00	45.00	.00			
																											PAGE NO	3	
															WATER SURFACE PROFILE - ELEMENT CARD LISTING														
0	ELEMENT NO	12	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															1698.00	118.00	2				.013			.00	.00	.00	1		
0	ELEMENT NO	13	IS	A	JUNCTION	*	*	*	*																				
															U/S DATA		STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
															1702.00	118.10	2	8	0	.013	5.0	.0	118.60	.00	45.00	.00			
0	ELEMENT NO	14	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															1895.00	123.10	2				.013			.00	.00	.00	1		
0	ELEMENT NO	15	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															2017.00	125.20	2				.013			.00	.00	.00	0		
0	ELEMENT NO	16	IS	A	JUNCTION	*	*	*	*																				
															U/S DATA		STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
															2018.00	125.30	2	8	0	.013	7.0	.0	125.90	.00	45.00	.00			
0	ELEMENT NO	17	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															2311.05	130.20	2				.013			.00	.00	.00	1		
0	ELEMENT NO	18	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															2590.00	135.90	2				.013			.00	.00	.00	0		
0	ELEMENT NO	19	IS	A	JUNCTION	*	*	*	*																				
															U/S DATA		STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	
															2592.00	136.00	2	2	0	.013	121.2	.0	135.90	.00	1.00	.00			
0	ELEMENT NO	20	IS	A	TRANSITION	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N						
															2594.00	137.40	8				.013								
0	ELEMENT NO	21	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															2601.00	137.50	8				.013			.00	.00	45.00	1		
																											PAGE NO	4	
															WATER SURFACE PROFILE - ELEMENT CARD LISTING														
0	ELEMENT NO	22	IS	A	REACH	*	*	*																					
															U/S DATA		STATION	INVERT	SECT				N			RADIUS	ANGLE	ANG PT	MAN H
															2713.00	139.00	8				.013			.00	.00	45.00	1		
0	ELEMENT NO	23	IS	A	REACH	*	*	*																					

		U/S DATA	STATION	INVERT	SECT		N				RADIUS	ANGLE	ANG PT	MAN H
			2910.00	139.50	8		.013				.00	.00	45.00	1
0	ELEMENT NO 24	IS A JUNCTION	*	*	*	*	*				*	*	*	
		U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
			2914.00	139.60	8	8	0	.013	1.0	.0	145.90	.00	45.00	.00
0	ELEMENT NO 25	IS A REACH	*	*	*									
		U/S DATA	STATION	INVERT	SECT			N			RADIUS	ANGLE	ANG PT	MAN H
			3026.00	139.80	8			.013			.00	.00	.00	0
0	ELEMENT NO 26	IS A JUNCTION	*	*	*	*	*				*	*	*	
		U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
			3030.00	139.90	8	8	0	.013	1.0	.0	145.90	.00	45.00	.00
0	ELEMENT NO 27	IS A REACH	*	*	*									
		U/S DATA	STATION	INVERT	SECT			N			RADIUS	ANGLE	ANG PT	MAN H
			3430.00	140.70	8			.013			.00	.00	.00	0
0	ELEMENT NO 28	IS A SYSTEM HEADWORKS			*				*					
		U/S DATA	STATION	INVERT	SECT						W S ELEV			
			3430.00	140.70	8						.00			

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS														
0	STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO
		ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH	DIA	ID NO.	PIER	AVBPR
0	L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR	

0	374.70	92.95	5.47	98.42	161.2	10.14	1.60	100.02	.00	3.71	4.50	.00	.00	0 .00
0	39.30	.01940					.00672	.26		2.48			.00	
0	414.00	93.71	5.01	98.72	161.2	10.14	1.60	100.31	.00	3.71	4.50	.00	.00	0 .00
OHYDRAULIC JUMP													.00	
0	414.00	93.71	2.63	96.34	161.2	16.70	4.33	100.68	.00	3.71	4.50	.00	.00	0 .00
0	54.00	.01940					.01554	.84		2.48			.00	
0	468.00	94.76	2.70	97.46	161.2	16.20	4.08	101.54	.00	3.71	4.50	.00	.00	0 .00
0	JUNCT STR	.01000					.01714	.03					.00	
0	470.00	94.78	2.40	97.18	152.2	17.65	4.84	102.02	.00	3.62	4.50	.00	.00	0 .00
0	TRANS STR	.01000					.01973	.04					.00	
0	472.00	94.80	3.39	98.19	152.2	15.96	3.96	102.15	.00	3.39	3.50	.00	.00	0 .00
0	12.82	.01853					.02135	.27		3.50			.00	
0	484.82	95.04	3.50	98.54	152.2	15.82	3.89	102.43	.00	3.39	3.50	.00	.00	0 .00
0	408.18	.01853					.02272	9.27		3.50			.00	
0	893.00	102.60	5.47	108.07	152.2	15.82	3.89	111.96	.00	3.39	3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.02274	.09					.00	
0	897.00	102.70	5.56	108.26	151.2	15.72	3.84	112.10	.00	3.39	3.50	.00	.00	0 .00
0	80.00	.01750					.02259	1.81		3.50			.00	
0	977.00	104.10	5.97	110.07	151.2	15.72	3.84	113.90	.00	3.39	3.50	.00	.00	0 .00
0	JUNCT STR	.02500					.02114	.08					.00	

0	981.00	104.20	6.86	111.06	141.2	14.68	3.35	114.41	.00	3.36		3.50	.00	.00	0	.00
0	299.00	.01539					.01970	5.89				3.50		.00		
1																

PAGE 2

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER			
	SO					SF AVE	HF			NORM DEPTH			ZR			

0	1280.00	108.80	8.32	117.12	141.2	14.68	3.35	120.46	.00	3.36	3.50	.00	.00	0	.00	
0	96.00	.02187					.01970	1.89		2.72			.00			
0	1376.00	110.90	8.11	119.01	141.2	14.68	3.35	122.36	.00	3.36	3.50	.00	.00	0	.00	
0JUNCT STR	.03333						.01901	.06					.00			
0	1379.00	111.00	8.51	119.51	136.2	14.16	3.11	122.63	.00	3.34	3.50	.00	.00	0	.00	
0	319.00	.02194					.01833	5.85		2.63			.00			
0	1698.00	118.00	7.51	125.51	136.2	14.16	3.11	128.63	.00	3.34	3.50	.00	.00	0	.00	
0JUNCT STR	.02500						.01767	.07					.00			
0	1702.00	118.10	7.92	126.02	131.2	13.64	2.89	128.91	.00	3.32	3.50	.00	.00	0	.00	
0	193.00	.02591					.01701	3.28		2.39			.00			
0	1895.00	123.10	6.34	129.44	131.2	13.64	2.89	132.33	.00	3.32	3.50	.00	.00	0	.00	
0	122.00	.01721					.01701	2.07		2.85			.00			
0	2017.00	125.20	6.32	131.52	131.2	13.64	2.89	134.41	.00	3.32	3.50	.00	.00	0	.00	
0JUNCT STR	.10001						.01612	.02					.00			
0	2018.00	125.30	6.80	132.10	124.2	12.91	2.59	134.69	.00	3.28	3.50	.00	.00	0	.00	
0	293.05	.01672					.01524	4.47		2.73			.00			
0	2311.05	130.20	6.49	136.69	124.2	12.91	2.59	139.28	.00	3.28	3.50	.00	.00	0	.00	
0	278.95	.02043					.01524	4.25		2.51			.00			
0	2590.00	135.90	5.04	140.94	124.2	12.91	2.59	143.53	.00	3.28	3.50	.00	.00	0	.00	
0JUNCT STR	.05000						.00762	.02					.00			
0	2592.00	136.00	7.55	143.55	3.0	.31	.00	143.55	.00	.52	3.50	.00	.00	0	.00	
0TRANS STR	.70000						.00009	.00					.00			

PAGE 3

WATER SURFACE PROFILE LISTING
POND OUTFALL @ UNSER-GIBSON INTERSECTION

MAIN LINE ANALYSIS																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
0 L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER			
	SO					SF AVE	HF			NORM DEPTH			ZR			

0	2594.00	137.40	6.14	143.54	3.0	.95	.01	143.55	.00	.60	2.00	.00	.00	0	.00	
0	7.00	.01429					.00018	.00		.45			.00			
0	2601.00	137.50	6.04	143.54	3.0	.95	.01	143.56	.00	.60	2.00	.00	.00	0	.00	
0	112.00	.01339					.00018	.02		.46			.00			
0	2713.00	139.00	4.56	143.56	3.0	.95	.01	143.58	.00	.60	2.00	.00	.00	0	.00	
0	197.00	.00254					.00018	.03		.70			.00			
0	2910.00	139.50	4.10	143.60	3.0	.95	.01	143.62	.00	.60	2.00	.00	.00	0	.00	

0JUNCT STR	.02500						.00013	.00						.00		
0 2914.00	139.60	4.02	143.62	2.0	.64	.01	143.62	.00	.49		2.00	.00	.00	0	.00	
0 112.00	.00179						.00008	.01		.62			.00			
0 3026.00	139.80	3.83	143.63	2.0	.64	.01	143.63	.00	.49		2.00	.00	.00	0	.00	
0JUNCT STR	.02500						.00005	.00					.00			
0 3030.00	139.90	3.74	143.64	1.0	.32	.00	143.64	.00	.34		2.00	.00	.00	0	.00	
0 400.00	.00200						.00002	.01		.42			.00			
0 3430.00	140.70	2.94	143.64	1.0	.32	.00	143.65	.00	.34		2.00	.00	.00	0	.00	

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May 1, 2001 10:55:33

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Input file : FENCEP01.DAT
Output file: FENCEP01.OUT
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Fence Post Rd to Inlet #9

T1 EL RANCHO GRANDE UNITS 4A, & 4B

T3 MAIN LINE ANALYSIS FENCE POST ROAD

[illegible]

SP

PAGE 1

[illegible]

CD	10	2	0	.00	50.00	4.00			.00
CD	11	2	0	.00	50.00	22.00			.00
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00

PAGE NO 1

1
0 WATER SURFACE PROFILE - TITLE CARD LISTING

0 HEADING LINE NO 1 IS -

0 EL RANCHO GRANDE UNITS 4A, & 4B

0 HEADING LINE NO 2 IS -

0 HEADING LINE NO 3 IS -

0 MAIN LINE ANALYSIS FENCE POST ROAD

PAGE NO 2

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA STATION INVERT SECT

989.00 40.00 11

W S ELEV
45.78

0 ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

999.00 40.01 10

N
.013

0 ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1000.00 40.02 1

N
.013

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA STATION INVERT SECT

1137.00 43.11 1

N
.013

RADIUS ANGLE ANG PT MAN H
.00 .00 .00 1

0 ELEMENT NO 5 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1139.00 43.21 1 6 0

N
.013

Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
77.8 .0 44.20 .00 90.00 .00

0 ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1141.00 45.21 8

N
.013

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA STATION INVERT SECT

1185.00 46.87 8

N
.013

RADIUS ANGLE ANG PT MAN H
.00 .00 45.00 1

0 ELEMENT NO 8 IS A REACH * * *

U/S DATA STATION INVERT SECT

1457.00 54.05 8

N
.013

RADIUS ANGLE ANG PT MAN H
.00 .00 20.00 1

0 ELEMENT NO 9 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1461.00 54.15 8 8 9

N
.013

Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
16.5 6.5 54.30 40.80 1.00 45.00

0 ELEMENT NO 10 IS A REACH * * *

U/S DATA STATION INVERT SECT

1515.00 54.41 8

N
.013

RADIUS ANGLE ANG PT MAN H
.00 .00 .00 0

0 ELEMENT NO 11 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1517.00 54.46 8 9 0

N
.013

Q3 Q4 INVERT-3 INVERT-4 PHI 3 PHI 4
6.4 .0 55.00 .00 45.00 .00

PAGE NO 3

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT N
1519.00 54.56 9 .013
0 ELEMENT NO 13 IS A REACH * * *
U/S DATA STATION INVERT SECT N RADIUS ANGLE ANG PT MAN H
1547.00 54.70 9 .013 .00 .00 80.00 0
0 ELEMENT NO 14 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
1547.00 54.70 9 .00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC
1 PAGE 1

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL ZR	NO PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF							
0 989.00	40.00	5.78	45.78	113.7	.89	.01	45.79	.00	.94	50.00	22.00	.00	0	.00
OTRANS STR	.00100					.00063	.01					.00		
0 999.00	40.01	5.45	45.46	113.7	5.22	.42	45.88	.00	2.93	50.00	4.00	.00	0	.00
OTRANS STR	.01000					.00376	.00					.00		
0 1000.00	40.02	4.76	44.78	113.7	9.05	1.27	46.05	.00	3.22	4.00	.00	.00	0	.00
0 23.77	.02255					.00627	.15			2.06		.00		
0 1023.77	40.56	4.38	44.94	113.7	9.05	1.27	46.21	.00	3.22	4.00	.00	.00	0	.00
OHYDRAULIC JUMP												.00		
0 1023.77	40.56	2.26	42.81	113.7	15.56	3.76	46.58	.00	3.22	4.00	.00	.00	0	.00
0 10.25	.02255					.01655	.17			2.06		.00		
0 1034.01	40.79	2.28	43.07	113.7	15.36	3.67	46.73	.00	3.22	4.00	.00	.00	0	.00
0 33.38	.02255					.01533	.51			2.06		.00		
0 1067.40	41.54	2.37	43.91	113.7	14.65	3.33	47.25	.00	3.22	4.00	.00	.00	0	.00
0 22.91	.02255					.01356	.31			2.06		.00		
0 1090.30	42.06	2.47	44.53	113.7	13.96	3.03	47.56	.00	3.22	4.00	.00	.00	0	.00
0 16.36	.02255					.01202	.20			2.06		.00		
0 1106.66	42.43	2.57	45.00	113.7	13.31	2.75	47.75	.00	3.22	4.00	.00	.00	0	.00
0 11.89	.02255					.01066	.13			2.06		.00		
0 1118.56	42.69	2.68	45.38	113.7	12.69	2.50	47.88	.00	3.22	4.00	.00	.00	0	.00
0 8.39	.02255					.00949	.08			2.06		.00		
0 1126.95	42.88	2.80	45.68	113.7	12.10	2.28	47.96	.00	3.22	4.00	.00	.00	0	.00
0 5.68	.02255					.00847	.05			2.06		.00		

1

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR

61
37
96

0	L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	1132.63	43.01	2.93	45.94	113.7	11.54	2.07	48.01	.00	3.22		4.00	.00	.00	0	.00
0	3.28	.02255					.00758	.02			2.06		.00			
0	1135.91	43.09	3.07	46.15	113.7	11.00	1.88	48.03	.00	3.22		4.00	.00	.00	0	.00
0	1.09	.02255					.00683	.01			2.06		.00			
0	1137.00	43.11	3.22	46.33	113.7	10.49	1.71	48.04	.00	3.22		4.00	.00	.00	0	.00
	OJUNCT STR	.05000					.00355	.01					.00			
0	1139.00	43.21	6.02	49.23	35.9	2.86	.13	49.36	.00	1.78		4.00	.00	.00	0	.00
	OTRANS STR	1.00000											.00			
0	1141.00	45.21	1.47	46.68	35.9	14.49	3.26	49.94	.00	1.93		2.00	.00	.00	0	.00
0	23.90	.03773					.03044	.73			1.37		.00			
0	1164.90	46.11	1.52	47.64	35.9	13.97	3.03	50.67	.00	1.93		2.00	.00	.00	0	.00
0	20.10	.03773					.02778	.56			1.37		.00			
0	1185.00	46.87	1.60	48.47	35.9	13.32	2.76	51.23	.00	1.93		2.00	.00	.00	0	.00
0	1185.00	46.87	2.38	49.25	35.9	11.43	2.03	51.28	.00	1.93		2.00	.00	.00	0	.00
0	272.00	.02640					.02518	6.85			1.60		.00			
0	1457.00	54.05	2.28	56.33	35.9	11.43	2.03	58.36	.00	1.93		2.00	.00	.00	0	.00
	OJUNCT STR	.02500					.01422	.06					.00			
0	1461.00	54.15	4.75	58.90	12.9	4.11	.26	59.16	.00	1.29		2.00	.00	.00	0	.00
0	54.00	.00482					.00325	.18			1.38		.00			
0	1515.00	54.41	4.66	59.07	12.9	4.11	.26	59.34	.00	1.29		2.00	.00	.00	0	.00
	OJUNCT STR	.02500					.00204	.00					.00			
0	1517.00	54.46	4.85	59.31	6.5	2.07	.07	59.37	.00	.90		2.00	.00	.00	0	.00
1																

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD																
0	STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
		ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0	L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

	OTRANS STR	.05000					.00233	.00						.00		
0	1519.00	54.56	4.64	59.20	6.5	3.68	.21	59.41	.00	.99		1.50	.00	.00	0	.00
0	28.00	.00500					.00383	.11			1.09		.00			
0	1547.00	54.70	4.66	59.36	6.5	3.68	.21	59.57	.00	.99		1.50	.00	.00	0	.00
1																

#25

#10

#9

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May 1, 2001 10: 1:54

Input file : FENCEPOS.DAT
Output file: FENCEPOS.OUT

Fence Post Rd to Inlet #11

T1 EL RANCHO GRANDE UNITS 4A, & 4B
T2

T3 MAIN LINE ANALYSIS FENCE POST ROAD

[illegible]

1

SP

[illegible]

CD	10	2	0	.00	50.00	4.00			.00
CD	11	2	0	.00	50.00	22.00			.00
CD	12	3	0	.00	7.50	10.00	3.00	3.00	.00

PAGE NO 1

1
0 WATER SURFACE PROFILE - TITLE CARD LISTING

0 HEADING LINE NO 1 IS -

0 EL RANCHO GRANDE UNITS 4A, & 4B

0 HEADING LINE NO 2 IS -

0 HEADING LINE NO 3 IS -

0 MAIN LINE ANALYSIS FENCE POST ROAD

PAGE NO 2

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	989.00	40.00	11	45.78

0 ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	999.00	40.01	10	.013

0 ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1000.00	40.02	1	.013

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N					RADIUS	ANGLE	ANG PT	MAN H
	1137.00	43.11	1	.013					.00	.00	.00	1

0 ELEMENT NO 5 IS A JUNCTION * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1139.00	43.21	1	6	0	.013	77.8	.0	44.20	.00	90.00	.00

0 ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1141.00	45.21	8	.013

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N					RADIUS	ANGLE	ANG PT	MAN H
	1185.00	46.87	8	.013					.00	.00	45.00	1

0 ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N					RADIUS	ANGLE	ANG PT	MAN H
	1457.00	54.05	8	.013					.00	.00	20.00	1

0 ELEMENT NO 9 IS A JUNCTION * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1461.00	54.25	8	8	9	.013	12.8	6.5	40.80	40.80	90.00	90.00

0 ELEMENT NO 10 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N					RADIUS	ANGLE	ANG PT	MAN H
	1512.00	55.50	8	.013					.00	.00	.00	0

0 ELEMENT NO 11 IS A JUNCTION * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1514.00	55.60	8	9	0	.013	10.0	.0	40.90	.00	45.00	.00

PAGE NO 3

1
0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 12 IS A TRANSITION * * *

	U/S DATA	STATION	INVERT	SECT	N									
		1516.00	56.00	9	.013									
0	ELEMENT NO 13 IS A REACH	*	*	*										
	U/S DATA	STATION	INVERT	SECT	N					RADIUS	ANGLE	ANG PT	MAN H	
		1546.00	56.30	9	.013					.00	.00	.00	0	
0	ELEMENT NO 14 IS A SYSTEM HEADWORKS			*										
	U/S DATA	STATION	INVERT	SECT					W S ELEV					
		1546.00	56.30	9					.00					

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1 PAGE 1

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0	989.00	40.00	5.78	45.78	113.6	.89	.01	45.79	.00	.94	50.00	22.00	.00	0 .00
0	TRANS STR	.00100					.00063	.01					.00	
0	999.00	40.01	5.45	45.46	113.6	5.21	.42	45.88	.00	2.93	50.00	4.00	.00	0 .00
0	TRANS STR	.01000					.00375	.00					.00	
0	1000.00	40.02	4.76	44.78	113.6	9.04	1.27	46.05	.00	3.22	4.00	.00	.00	0 .00
0	24.01	.02255					.00625	.15		2.06			.00	
0	1024.01	40.56	4.38	44.94	113.6	9.04	1.27	46.21	.00	3.22	4.00	.00	.00	0 .00
0	HYDRAULIC JUMP												.00	
0	1024.01	40.56	2.26	42.82	113.6	15.56	3.76	46.58	.00	3.22	4.00	.00	.00	0 .00
0	10.06	.02255					.01654	.17		2.06			.00	
0	1034.07	40.79	2.28	43.07	113.6	15.36	3.66	46.73	.00	3.22	4.00	.00	.00	0 .00
0	33.34	.02255					.01532	.51		2.06			.00	
0	1067.41	41.54	2.37	43.91	113.6	14.64	3.33	47.24	.00	3.22	4.00	.00	.00	0 .00
0	22.98	.02255					.01356	.31		2.06			.00	
0	1090.40	42.06	2.47	44.53	113.6	13.96	3.03	47.55	.00	3.22	4.00	.00	.00	0 .00
0	16.34	.02255					.01201	.20		2.06			.00	
0	1106.73	42.43	2.57	45.00	113.6	13.31	2.75	47.75	.00	3.22	4.00	.00	.00	0 .00
0	11.79	.02255					.01066	.13		2.06			.00	
0	1118.53	42.69	2.68	45.37	113.6	12.69	2.50	47.88	.00	3.22	4.00	.00	.00	0 .00
0	8.38	.02255					.00949	.08		2.06			.00	
0	1126.91	42.88	2.80	45.68	113.6	12.10	2.28	47.96	.00	3.22	4.00	.00	.00	0 .00
0	5.67	.02255					.00846	.05		2.06			.00	

1 PAGE 2

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR

0	L/ELEM	SO				SF AVE	HF			NORM DEPTH			ZR		

0	1132.57	43.01	2.93	45.94	113.6	11.54	2.07	48.00	.00	3.22	4.00	.00	.00	0	.00
0	3.34	.02255					.00758	.03		2.06		.00			
0	1135.92	43.09	3.06	46.15	113.6	11.00	1.88	48.03	.00	3.22	4.00	.00	.00	0	.00
0	1.08	.02255					.00682	.01		2.06		.00			
0	1137.00	43.11	3.22	46.33	113.6	10.48	1.71	48.04	.00	3.22	4.00	.00	.00	0	.00
0	JUNCT STR	.05000					.00355	.01				.00			
0	1139.00	43.21	6.02	49.23	35.8	2.85	.13	49.35	.00	1.78	4.00	.00	.00	0	.00
0	TRANS STR	1.00000										.00			
0	1141.00	45.21	1.47	46.68	35.8	14.49	3.26	49.94	.00	1.93	2.00	.00	.00	0	.00
0	23.91	.03773					.03046	.73		1.37		.00			
0	1164.91	46.11	1.52	47.63	35.8	13.98	3.04	50.67	.00	1.93	2.00	.00	.00	0	.00
0	20.09	.03773					.02778	.56		1.37		.00			
0	1185.00	46.87	1.60	48.47	35.8	13.32	2.76	51.22	.00	1.93	2.00	.00	.00	0	.00
0	1185.00	46.87	2.37	49.24	35.8	11.40	2.02	51.26	.00	1.93	2.00	.00	.00	0	.00
0	272.00	.02640					.02504	6.81		1.59		.00			
0	1457.00	54.05	2.24	56.29	35.8	11.40	2.02	58.31	.00	1.93	2.00	.00	.00	0	.00
0	JUNCT STR	.05000					.01518	.06				.00			
0	1461.00	54.25	5.28	59.53	16.5	5.25	.43	59.96	.00	1.46	2.00	.00	.00	0	.00
0	51.00	.02451					.00532	.27		.96		.00			
0	1512.00	55.50	4.30	59.80	16.5	5.25	.43	60.23	.00	1.46	2.00	.00	.00	0	.00
0	JUNCT STR	.05000					.00307	.01				.00			
0	1514.00	55.60	4.57	60.17	6.5	2.07	.07	60.23	.00	.90	2.00	.00	.00	0	.00

PAGE 3

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

0	STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL	HGT/	BASE/	ZL	NO	AVBPR
0	L/ELEM	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH	DIA	ID NO.	PIER		

0	TRANS STR	.20000					.00233	.00					.00		
0	1516.00	56.00	4.06	60.06	6.5	3.68	.21	60.27	.00	.99	1.50	.00	.00	0	.00
0	30.00	.01000					.00383	.11		.85		.00			
0	1546.00	56.30	3.87	60.17	6.5	3.68	.21	60.38	.00	.99	1.50	.00	.00	0	.00

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May 1, 2001 11:13:21

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Input file : FENCEPO2.DAT
Output file: FENCEPO2.OUT
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Forcepost Rd. to Inlet #12

T1 EL RANCHO GRANDE UNITS 4A, & 4B
T2
T3 MAIN LINE ANALYSIS FENCE POST ROAD

[illegible]

SP

PAGE 1

[illegible]

CD 12 3 0 .00 7.50 10.00 3.00 3.00 .00

1

PAGE NO 1

0 WATER SURFACE PROFILE - TITLE CARD LISTING

0 HEADING LINE NO 1 IS -

0 EL RANCHO GRANDE UNITS 4A, & 4B

0 HEADING LINE NO 2 IS -

0

0 HEADING LINE NO 3 IS -

0

MAIN LINE ANALYSIS FENCE POST ROAD

1

PAGE NO 2

0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA STATION INVERT SECT

989.00 40.00 11

W S ELEV

45.78

0 ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

999.00 40.01 10

N

.013

0 ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1000.00 40.02 1

N

.013

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA STATION INVERT SECT

1137.00 43.11 1

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 .00 1

0 ELEMENT NO 5 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1139.00 43.21 1 6 0

N

.013

Q3

Q4

INVERT-3

INVERT-4

PHI 3

PHI 4

.0

44.20

.00

90.00

.00

0 ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1141.00 45.21 8

N

.013

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA STATION INVERT SECT

1185.00 46.87 8

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 45.00 1

0 ELEMENT NO 8 IS A REACH * * *

U/S DATA STATION INVERT SECT

1457.00 54.05 8

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 20.00 1

0 ELEMENT NO 9 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1459.00 54.15 8 8 8

N

.013

Q3

Q4

INVERT-3

INVERT-4

PHI 3

PHI 4

12.8

54.30

54.20

1.00

45.00

0 ELEMENT NO 10 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1461.00 54.55 9

N

.013

0 ELEMENT NO 11 IS A REACH * * *

U/S DATA STATION INVERT SECT

1498.00 54.91 9

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 45.00 0

0 ELEMENT NO 12 IS A SYSTEM HEADWORKS * *

U/S DATA STATION INVERT SECT

1498.00 54.91 9

W S ELEV

.00

1

PAGE NO 3

0

WATER SURFACE PROFILE - ELEMENT CARD LISTING

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0 989.00	40.00	5.78	45.78	113.6	.89	.01	45.79	.00	.94		50.00	22.00	.00	0	.00
OTRANS STR	.00100					.00063	.01						.00		
0 999.00	40.01	5.45	45.46	113.6	5.21	.42	45.88	.00	2.93		50.00	4.00	.00	0	.00
OTRANS STR	.01000					.00375	.00						.00		
0 1000.00	40.02	4.76	44.78	113.6	9.04	1.27	46.05	.00	3.22		4.00	.00	.00	0	.00
0 24.01	.02255					.00625	.15			2.06			.00		
0 1024.01	40.56	4.38	44.94	113.6	9.04	1.27	46.21	.00	3.22		4.00	.00	.00	0	.00
OHYDRAULIC JUMP													.00		
0 1024.01	40.56	2.26	42.82	113.6	15.56	3.76	46.58	.00	3.22		4.00	.00	.00	0	.00
0 10.06	.02255					.01654	.17			2.06			.00		
0 1034.07	40.79	2.28	43.07	113.6	15.36	3.66	46.73	.00	3.22		4.00	.00	.00	0	.00
0 33.34	.02255					.01532	.51			2.06			.00		
0 1067.41	41.54	2.37	43.91	113.6	14.64	3.33	47.24	.00	3.22		4.00	.00	.00	0	.00
0 22.98	.02255					.01356	.31			2.06			.00		
0 1090.40	42.06	2.47	44.53	113.6	13.96	3.03	47.55	.00	3.22		4.00	.00	.00	0	.00
0 16.34	.02255					.01201	.20			2.06			.00		
0 1106.73	42.43	2.57	45.00	113.6	13.31	2.75	47.75	.00	3.22		4.00	.00	.00	0	.00
0 11.79	.02255					.01066	.13			2.06			.00		
0 1118.53	42.69	2.68	45.37	113.6	12.69	2.50	47.88	.00	3.22		4.00	.00	.00	0	.00
0 8.38	.02255					.00949	.08			2.06			.00		
0 1126.91	42.88	2.80	45.68	113.6	12.10	2.28	47.96	.00	3.22		4.00	.00	.00	0	.00
0 5.67	.02255					.00846	.05			2.06			.00		

1

PAGE 2

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0 1132.57	43.01	2.93	45.94	113.6	11.54	2.07	48.00	.00	3.22		4.00	.00	.00	0	.00
0 3.34	.02255					.00758	.03			2.06			.00		
0 1135.92	43.09	3.06	46.15	113.6	11.00	1.88	48.03	.00	3.22		4.00	.00	.00	0	.00
0 1.08	.02255					.00682	.01			2.06			.00		
0 1137.00	43.11	3.22	46.33	113.6	10.48	1.71	48.04	.00	3.22		4.00	.00	.00	0	.00
0JUNCT STR	.05000					.00355	.01						.00		

0	1139.00	43.21	6.02	49.23	35.8	2.85	.13	49.35	.00	1.78		4.00	.00	.00	0	.00
OTRANS STR 1.00000																
0	1141.00	45.21	1.47	46.68	35.8	14.49	3.26	49.94	.00	1.93		2.00	.00	.00	0	.00
0	23.91	.03773					.03046	.73			1.37			.00		
0	1164.91	46.11	1.52	47.63	35.8	13.98	3.04	50.67	.00	1.93		2.00	.00	.00	0	.00
0	20.09	.03773					.02778	.56			1.37			.00		
0	1185.00	46.87	1.60	48.47	35.8	13.32	2.76	51.22	.00	1.93		2.00	.00	.00	0	.00
0	1185.00	46.87	2.37	49.24	35.8	11.40	2.02	51.26	.00	1.93		2.00	.00	.00	0	.00
0	272.00	.02640					.02504	6.81			1.59			.00		
0	1457.00	54.05	2.24	56.29	35.8	11.40	2.02	58.31	.00	1.93		2.00	.00	.00	0	.00
0JUNCT STR .05000																
0	1459.00	54.15	4.85	59.00	6.5	2.07	.07	59.06	.00	.90		2.00	.00	.00	0	.00
OTRANS STR .20000																
0	1461.00	54.55	4.34	58.89	6.5	3.68	.21	59.10	.00	.99		1.50	.00	.00	0	.00
0	37.00	.00973					.00383	.14			.86			.00		
0	1498.00	54.91	4.15	59.06	6.5	3.68	.21	59.27	.00	.99		1.50	.00	.00	0	.00

PAGE 3

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD																
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR	
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER		
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR			

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May 1, 2001 12:24:55

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Input file : FENCEPO3.DAT
Output file: FENCEPO3.OUT
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Fence Post Rd to Inlet #19

T1 EL RANCHO GRANDE UNITS 4A, & 4B

T3 MAIN LINE ANALYSIS FENCE POST ROAD

[illegible]

SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

[illegible]

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PAGE NO 2

PAGE NO 2

PAGE NO 3

PAGE NO 3

1188.00 47.02 8 .013 .00 .00 90.00 0
0 ELEMENT NO 13 IS A SYSTEM HEADWORKS *
U/S DATA STATION INVERT SECT W S ELEV
1188.00 47.02 8 .00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0 989.00	40.00	5.78	45.78	113.8	.89	.01	45.79	.00	.94		50.00	22.00	.00	0	.00
OTRANS STR	.00100					.00063	.01						.00		
0 999.00	40.01	5.45	45.46	113.8	5.22	.42	45.88	.00	2.93		50.00	4.00	.00	0	.00
OTRANS STR	.01000					.00377	.00						.00		
0 1000.00	40.02	4.76	44.78	113.8	9.06	1.27	46.06	.00	3.22		4.00	.00	.00	0	.00
0 22.63	.02255					.00628	.14			2.06			.00		
0 1022.63	40.53	4.39	44.92	113.8	9.06	1.27	46.19	.00	3.22		4.00	.00	.00	0	.00
OHYDRAULIC JUMP													.00		
0 1022.63	40.53	2.26	42.79	113.8	15.57	3.77	46.56	.00	3.22		4.00	.00	.00	0	.00
0 6.58	.02255					.01668	.11			2.06			.00		
0 1029.21	40.68	2.27	42.95	113.8	15.45	3.71	46.66	.00	3.22		4.00	.00	.00	0	.00
0 35.10	.02255					.01554	.55			2.06			.00		
0 1064.31	41.47	2.36	43.83	113.8	14.73	3.37	47.20	.00	3.22		4.00	.00	.00	0	.00
0 23.79	.02255					.01375	.33			2.06			.00		
0 1088.09	42.01	2.46	44.47	113.8	14.04	3.06	47.53	.00	3.22		4.00	.00	.00	0	.00
0 17.03	.02255					.01218	.21			2.06			.00		
0 1105.12	42.39	2.56	44.95	113.8	13.39	2.79	47.74	.00	3.22		4.00	.00	.00	0	.00
0 12.29	.02255					.01081	.13			2.06			.00		
0 1117.40	42.67	2.67	45.34	113.8	12.77	2.53	47.87	.00	3.22		4.00	.00	.00	0	.00
0 8.75	.02255					.00962	.08			2.06			.00		
0 1126.16	42.87	2.79	45.65	113.8	12.17	2.30	47.96	.00	3.22		4.00	.00	.00	0	.00
0 5.96	.02255					.00858	.05			2.06			.00		

1

PAGE 2

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0 1132.12	43.00	2.91	45.91	113.8	11.61	2.09	48.01	.00	3.22		4.00	.00	.00	0	.00
0 3.58	.02255					.00768	.03			2.06			.00		

#16

#18

#17

0	1135.70	43.08	3.05	46.13	113.8	11.07	1.90	48.03	.00	3.22		4.00	.00	.00	0	.00
0	1.30	.02255					.00691	.01			2.06		.00			
0	1137.00	43.11	3.20	46.31	113.8	10.55	1.73	48.04	.00	3.22		4.00	.00	.00	0	.00
0	JUNCT STR	.05000					.01375	.03					.00			
0	1139.00	43.21	1.54	44.75	65.0	14.63	3.32	48.07	.00	2.43		4.00	.00	.00	0	.00
0	TRANS STR	.45000					.01510	.03					.00			
0	1141.00	44.11	2.50	46.61	65.0	10.34	1.66	48.27	.00	2.59		3.00	.00	.00	0	.00
0	8.00	.01000					.00901	.07			2.39		.00			
0	1149.00	44.19	2.59	46.78	65.0	10.03	1.56	48.34	.00	2.59		3.00	.00	.00	0	.00
0	JUNCT STR	.50250					.00595	.02					.00			
0	1153.00	46.20	2.60	48.80	39.0	5.99	.56	49.36	.00	2.03		3.00	.00	.00	0	.00
0	11.69	.01044					.00327	.04			1.63		.00			
0	1164.69	46.32	2.46	48.78	39.0	6.28	.61	49.40	.00	2.03		3.00	.00	.00	0	.00
0	8.71	.01044					.00359	.03			1.63		.00			
0	1173.40	46.41	2.34	48.75	39.0	6.59	.67	49.43	.00	2.03		3.00	.00	.00	0	.00
0	2.60	.01044					.00384	.01			1.63		.00			
0	1176.00	46.44	2.30	48.74	39.0	6.71	.70	49.44	.00	2.03		3.00	.00	.00	0	.00
0	JUNCT STR	.05000					.00215	.00					.00			
0	1178.00	46.54	3.35	49.89	13.0	1.84	.05	49.94	.00	1.15		3.00	.00	.00	0	.00
0	TRANS STR	.20000					.00184	.00					.00			

1

PAGE 3

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD															
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO	AVBPR
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.		PIER	
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

0	1180.00	46.94	2.78	49.72	13.0	4.14	.27	49.99	.00	1.30	2.00	.00	.00	0	.00
0	8.00	.01000					.00330	.03		1.09			.00		
0	1188.00	47.02	2.81	49.83	13.0	4.14	.27	50.10	.00	1.30	2.00	.00	.00	0	.00

#19

1

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May 1, 2001 12:34:12

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Input file : FENCEPO4.DAT
Output file: FENCEPO4.OUT
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Fence Post Rd to Inlet #20

T1 EL RANCHO GRANDE UNITS 4A, & 4B

T3 MAIN LINE ANALYSIS FENCE POST ROAD

SO	989.00	40.00	11						45.78			
TS	999.00	40.01	10			.013						
TS	1000.00	40.02	1			.013						
R	1137.00	43.11	1			.013						
JX	1139.00	43.21	1	8	8	.013	35.9	12.9	45.2	45.2	45.	45.
TS	1141.00	44.11	6			.013						
R	1149.00	44.19	6			.013						90.
JX	1151.00	44.29	6	6	8	.013	39.0	13.0	46.2	46.2	90.	45.
TS	1153.00	46.94	8			.013						
R	1181.00	48.22	8			.013						
SH			8									

SP

PAGE 1

[illegible]

1

PAGE NO 1

0

WATER SURFACE PROFILE - TITLE CARD LISTING

0 HEADING LINE NO 1 IS -

0

EL RANCHO GRANDE UNITS 4A, & 4B

0 HEADING LINE NO 2 IS -

0

0 HEADING LINE NO 3 IS -

0

MAIN LINE ANALYSIS FENCE POST ROAD

1

PAGE NO 2

0

WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA STATION INVERT SECT

989.00 40.00 11

W S ELEV

45.78

0 ELEMENT NO 2 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

999.00 40.01 10

N

.013

0 ELEMENT NO 3 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1000.00 40.02 1

N

.013

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA STATION INVERT SECT

1137.00 43.11 1

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 .00 0

0 ELEMENT NO 5 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1139.00 43.21 1 8 8

N

.013

Q3

Q4

INVERT-3

INVERT-4

PHI 3

PHI 4

35.9

12.9

45.20

45.20

45.00

45.00

0 ELEMENT NO 6 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1141.00 44.11 6

N

.013

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA STATION INVERT SECT

1149.00 44.19 6

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 90.00 0

0 ELEMENT NO 8 IS A JUNCTION * * * *

U/S DATA STATION INVERT SECT LAT-1 LAT-2

1151.00 44.29 6 6 8

N

.013

Q3

Q4

INVERT-3

INVERT-4

PHI 3

PHI 4

39.0

13.0

46.20

46.20

90.00

45.00

0 ELEMENT NO 9 IS A TRANSITION * * *

U/S DATA STATION INVERT SECT

1153.00 46.94 8

N

.013

0 ELEMENT NO 10 IS A REACH * * *

U/S DATA STATION INVERT SECT

1181.00 48.22 8

N

.013

RADIUS ANGLE ANG PT MAN H

.00 .00 .00 0

0 ELEMENT NO 11 IS A SYSTEM HEADWORKS *

U/S DATA STATION INVERT SECT

1181.00 48.22 8

W S ELEV

.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

1

PAGE 1

WATER SURFACE PROFILE LISTING

EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0 989.00	40.00	5.78	45.78	113.8	.89	.01	45.79	.00	.94		50.00	22.00	.00	0 .00
OTRANS STR	.00100					.00063	.01						.00	
0 999.00	40.01	5.45	45.46	113.8	5.22	.42	45.88	.00	2.93		50.00	4.00	.00	0 .00
OTRANS STR	.01000					.00377	.00						.00	
0 1000.00	40.02	4.76	44.78	113.8	9.06	1.27	46.06	.00	3.22		4.00	.00	.00	0 .00
0 22.63	.02255					.00628	.14			2.06			.00	
0 1022.63	40.53	4.39	44.92	113.8	9.06	1.27	46.19	.00	3.22		4.00	.00	.00	0 .00
OHYDRAULIC JUMP													.00	
0 1022.63	40.53	2.26	42.79	113.8	15.57	3.77	46.56	.00	3.22		4.00	.00	.00	0 .00
0 6.58	.02255					.01668	.11			2.06			.00	
0 1029.21	40.68	2.27	42.95	113.8	15.45	3.71	46.66	.00	3.22		4.00	.00	.00	0 .00
0 35.10	.02255					.01554	.55			2.06			.00	
0 1064.31	41.47	2.36	43.83	113.8	14.73	3.37	47.20	.00	3.22		4.00	.00	.00	0 .00
0 23.79	.02255					.01375	.33			2.06			.00	
0 1088.09	42.01	2.46	44.47	113.8	14.04	3.06	47.53	.00	3.22		4.00	.00	.00	0 .00
0 17.03	.02255					.01218	.21			2.06			.00	
0 1105.12	42.39	2.56	44.95	113.8	13.39	2.79	47.74	.00	3.22		4.00	.00	.00	0 .00
0 12.29	.02255					.01081	.13			2.06			.00	
0 1117.40	42.67	2.67	45.34	113.8	12.77	2.53	47.87	.00	3.22		4.00	.00	.00	0 .00
0 8.75	.02255					.00962	.08			2.06			.00	
0 1126.16	42.87	2.79	45.65	113.8	12.17	2.30	47.96	.00	3.22		4.00	.00	.00	0 .00
0 5.96	.02255					.00858	.05			2.06			.00	

1 PAGE 2

WATER SURFACE PROFILE LISTING
EL RANCHO GRANDE UNITS 4A, & 4B

MAIN LINE ANALYSIS FENCE POST ROAD														
0 STATION	INVERT	DEPTH	W.S.	Q	VEL	VEL	ENERGY	SUPER	CRITICAL		HGT/	BASE/	ZL	NO
	ELEV	OF FLOW	ELEV			HEAD	GRD.EL.	ELEV	DEPTH		DIA	ID NO.	PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR	

0 1132.12	43.00	2.91	45.91	113.8	11.61	2.09	48.01	.00	3.22		4.00	.00	.00	0 .00
0 3.58	.02255					.00768	.03			2.06			.00	
0 1135.70	43.08	3.05	46.13	113.8	11.07	1.90	48.03	.00	3.22		4.00	.00	.00	0 .00
0 1.30	.02255					.00691	.01			2.06			.00	
0 1137.00	43.11	3.20	46.31	113.8	10.55	1.73	48.04	.00	3.22		4.00	.00	.00	0 .00
0JUNCT STR	.05000					.01375	.03						.00	
0 1139.00	43.21	1.54	44.75	65.0	14.63	3.32	48.07	.00	2.43		4.00	.00	.00	0 .00
OTRANS STR	.45000					.01510	.03						.00	
0 1141.00	44.11	2.50	46.61	65.0	10.34	1.66	48.27	.00	2.59		3.00	.00	.00	0 .00
0 8.00	.01000					.00901	.07			2.39			.00	
0 1149.00	44.19	2.59	46.78	65.0	10.03	1.56	48.34	.00	2.59		3.00	.00	.00	0 .00
0JUNCT STR	.05000					.00457	.01						.00	

PAGE 3

WATER SURFACE PROFILE LISTING

MAIN LINE ANALYSIS FENCE POST ROAD

PAGE 3

D. Mark Goodwin and Associates, P.A.
Consulting Engineers

P.O. Box 90606 ♦ Albuquerque, NM 87199
(505) 828-2200 ♦ (505) 797-9539 fax
e-mail: dm@swcp.com

LETTER OF TRANSMITTAL

TO: Brad Bingham DATE: April 6, 2001
Hydrology
One Stop RE: El Rancho Grande Units 4A & 4B

We are sending:

Revised Grading Plan
Drainage Information Sheet

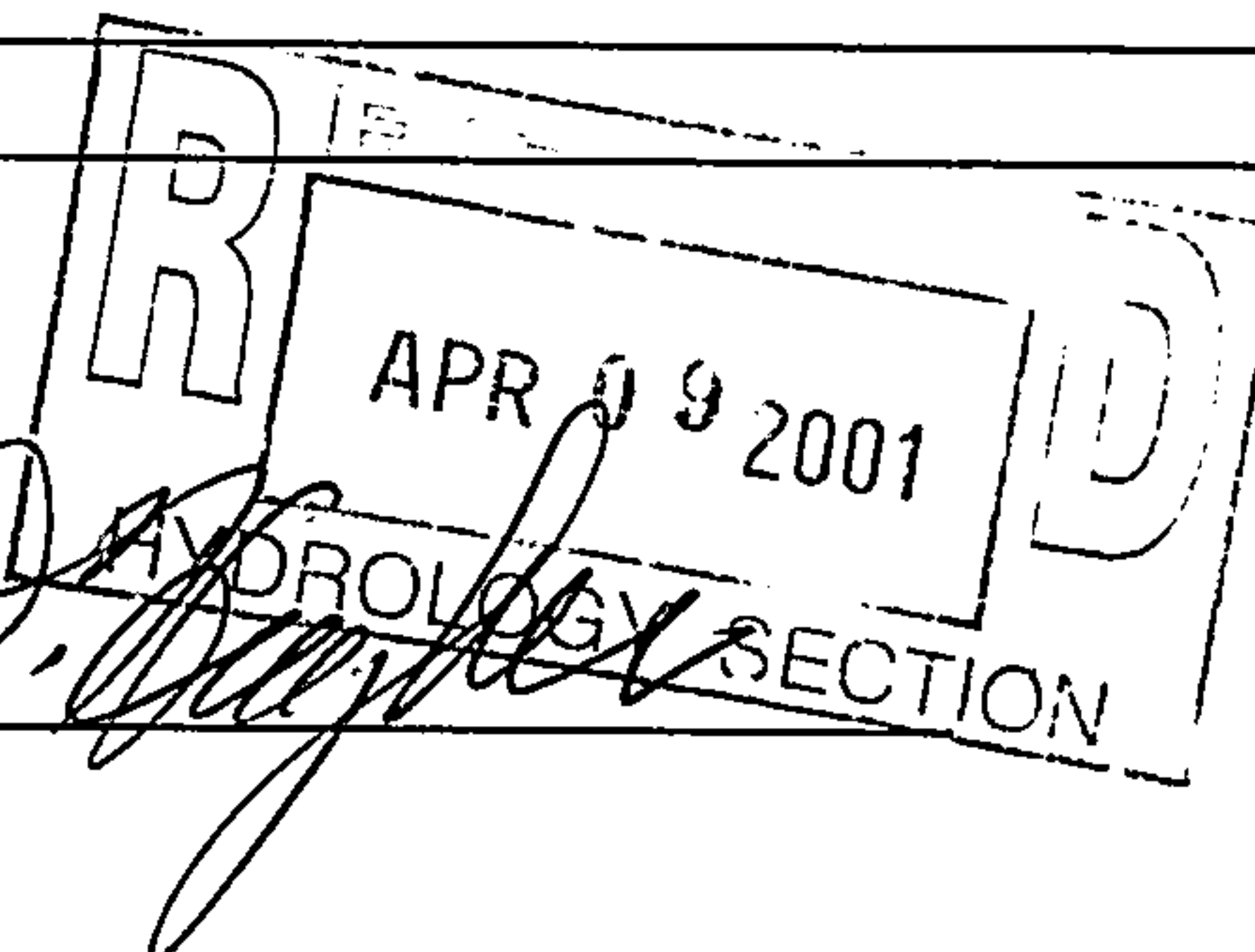
☒ For your approval ☐ For your information
☐ As you requested ☐ For your comments
☐ Pre-Design Meeting

NOTES: Attached please find revisions dated 4-6-01 to the DRB Approved Grading Plan dated 3-2-01. Street grades remain unchanged. Minor revisions were made to lot grades to eliminate some retaining walls and reduce the height of others. A 1.0' error was also corrected on Lots 16 thru 21, Block 13. The changes are summarized on the DRB Approved Plan dated 3-2-01. Please let me know if this needs re-advertised and/or re-approved at the DRB.

xc: Bo Johnson

Project Engineer James D. Hughes, PE

SIGNED: James D. Hughes





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 1, 2001

James D Hughes, PE
Mark Goodwin & Associates
P.O. 90606
Albuquerque, NM 87199

**Re: El Rancho Grande Subdivision Unit 4A & 4B Amended Grading Plan
Engineer's Stamp dated 4-6-01 (M9/D19A)**

Dear Mr. Hughes,

Based upon the information provided in your resubmittal dated 3-9-01, the above referenced amended grading plan is approved for Rough Grading. This will be the plan that must be certified in order to release Financial Guarantees and be in the Work Order documents as well. The plans dated 3-2-01 are now void. No submittal to the DRB will be necessary.

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

Sincerely,

Bradley L. Bingham, PE
Senior Engineer, Hydrology

C: file

ORIGINAL

EXHIBIT A (REVISED 5/10/99)
TO SUBDIVISION IMPROVEMENT AGREEMENT
DEVELOPMENT REVIEW BOARD
REQUIRED INFRASTRUCTURE LIST
(LEGAL DESCRIPTION OF SUBDIVISION)

El Rancho Grande I, Units 4A & 4B
 (NAME and UNIT OF SUBDIVISION)

Project No.: 1000883
 D.R.B. Project No.: _____
 Prelim. Plat Approved: 3/7/01
 Prelim. Plat Expires: 3/7/02
 Site Plan Approved: N/A

Date Submitted: 3/7/2001

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of the project acceptance and close out by the City.

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
UNIT 4A				
<u>PAVING</u>				
24' FE	Major Local Paving Std C & G (E ½ section) 4' Sidewalk (east side only)	Mustang Ridge Dr	Gibson Blvd	S. Boundary of Unit 4A
26' FF	Residential Pvmt Roll Curb 4' Sidewalk (both sides) ⁽²⁾	Bay Mare Ave (Includes 24' F-F Stub Street)	Mustang Ridge Dr	North Wind Dr
26' FF	Residential Pvmt Roll Curb 4' Sidewalk (both sides) ⁽²⁾	Winter Sage Rd	Mustang Ridge Dr	North Wind Dr
26' FF	Residential Pvmt Std C & G 4' Sidewalk (both sides) ⁽²⁾	Fence Post Rd	Mustang Ridge Dr	North Wind Dr
26' FF	Residential Pvmt Roll Curb 4' Sidewalk (both sides) ⁽²⁾	Spotted Pony Ave	Mustang Ridge Dr	North Wind Dr
28' FF	Residential Pvmt Roll Curb 4' Sidewalk (both sides) ⁽²⁾	Black Stallion Rd	Mustang Ridge Dr	North Wind Dr

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Project No.: 1000883

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Prelim. Plat Expires: _____

Site Plan Approved: _____

Date Submitted: 3/7/2001

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
31' FF	Arterial Pvmnt Std C & G (S side) 6' Sidewalk (S Side) Extruded Conc. Curb (median)	Gibson Blvd	Mustang Ridge Dr	Unser Blvd.
31' FF	Arterial Pvmnt Std C & G (W side) 6' Sidewalk (W Side) Extruded Conc. Curb (median) <i>May be Defered to Unit 4B</i>	Unser Blvd ⁽⁴⁾	Gibson Blvd.	S. Boundary of Unit 4A
26' FF	Residential Pvmnt Roll Curb ⁽³⁾ 4' Sidewalk ⁽²⁾ <i>(Both sides)</i>	North Wind Dr <i>*includes 24' F-F Stub Streets</i>	Bay Mare Ave	Black Stallion Rd
4'	Sidewalk ⁽²⁾ <i>(east side)</i>	Lot 9, Block 13	Bay Mare Ave. stub	Gibson Blvd.
4'	Sidewalk ⁽²⁾	Lot 34, Block 13	North Wind Dr. stub	Lot 35, Block 13

* Street lights as per COA DPM.

WATER

8"	Waterline	Bay Mare stub street	North Wind Dr	Exist 16" WL, E. Boundary
6"	Waterline	Mustang Ridge Drive	Bay Mare Ave	S. Boundary, Unit 4A
6"	Waterline	Bay Mare Ave	Mustang Ridge Dr	North Wind Dr
6"	Waterline	Winter Sage Rd	Mustang Ridge Dr	North Wind Dr
6"	Waterline	Fence Post Rd	Mustang Ridge Dr	North Wind Dr
6"	Waterline	Spotted Pony Ave	Mustang Ridge Dr	North Wind Dr
6"	Waterline	Black Stallion Rd	Mustang Ridge Dr	North Wind Dr
6"	Waterline	North Wind Dr	Bay Mare Ave	Black Stallion Rd
12"	Well Line	Remove and Replace in Gibson		

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Project No.: 1000883
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 Site Plan Approved: _____

Date Submitted: 3/7/2001

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
<u>SANITARY SEWER</u>				
8"	Sanitary Sewer	Bay Mare Ave	Mustang Ridge Dr	North Wind Dr
8"	Sanitary Sewer	Winter Sage Rd	Mustang Ridge Dr	North Wind Dr
8"	Sanitary Sewer	Fence Post Rd	Mustang Ridge Dr	North Wind Dr
8"	Sanitary Sewer	Spotted Pony Ave	Mustang Ridge Dr	North Wind Dr
8"	Sanitary Sewer	Black Stallion Rd	Mustang Ridge Dr	North Wind Dr
8"	Sanitary Sewer	North Wind Dr & Summer Sage Dr	Bay Mare Ave	Trotter Rd
8"	Sanitary Sewer	Trotter Rd stub street	Summer Sage Dr	Unser Blvd
8"	Sanitary Sewer	Unser Blvd	Trotter Rd stub street	Blake Rd
8"	Sanitary Sewer	Blake Rd	Unser Blvd	exist manhole
<u>STORM DRAINAGE</u>				
24"	Storm Sewer	Unser Blvd.	Gibson Blvd.	Existing 42" Outlet Pipe From Unser/Gibson Pond
18"-24"	Storm Sewer	Fence Post Rd	Mustang Ridge Dr	North Wind Dr
24"-48"	Storm Sewer w/ conc apron @ outlet	25' Public Drain Esmt	North Wind Dr	public pond Gibson/Unser
12' ac/ft	Public Pond	SW corner of Unser & Gibson		

Engineer's Certification of Private Grading and Drainage. Not to be financially guaranteed.

42" Storm Drain Removal Limits to be determined at DRC.

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Site Plan Approved: _____

Date Submitted: 3/7/2001

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
UNIT 4B				
<u>PAVING</u>				
24' FE ●	Major Local Paving (Std C & G, E ½ Section) 4' Sidewalk (east side only)	Mustang Ridge Dr	N. Boundary, Unit 4B	Blake Rd
28' FF	Residential Pvmt Roll C & G ⁽³⁾ 4' Sidewalk (both sides)	Stony Creek Ave	Mustang Ridge Dr	Summer Sage Dr
28' FF	Residential Pvmt Roll C & G ⁽³⁾ 4' Sidewalk (both sides)	Spring Sage Ave	Mustang Ridge Dr	Summer Sage Dr
28' FF	Residential Pvmt Roll C & G ⁽³⁾ 4' Sidewalk (both sides)	Trotter Rd	Mustang Ridge Dr	Summer Sage Dr
26' FF	Residential Pvmt Roll C & G ⁽³⁾ 4' Sidewalk (both sides)	Summer Sage	Stony Creek Ave *includes 24' F-F Stub Streets	Trotter Rd
24' FE	Collector Pvmt Std C & G (N Side) 4' Sidewalk (N Side)	Blake Rd	Mustang Ridge Dr	Unser Blvd
31' FF	Arterial Pvmt (W side) 6' Sidewalk (W side) Std C & G & Extr Conc Median Curb	Unser Blvd	N Boundary, Unit 4B	Blake Rd
4'	Sidewalk	Pedestrian Esmt Lot 35, Block 13	Summer Sage Dr. Stub	Lot 34, Block 13
4'	Sidewalk	Pedestrian Esmt Lot 48, Block 13	Trotter Rd. stub	Unser Blvd.

* Street lights as per COA DPM.

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Prelim. Plat Expires: _____

Site Plan Approved: _____

Date Submitted: 3/7/2001

<u>SIZE</u>	<u>TYPE IMPROVEMENT</u>	<u>LOCATION</u>	<u>FROM</u>	<u>TO</u>
<u>WATER</u>				
6"	Waterline	Mustang Ridge Dr	N Boundary, Unit 4B	Trotter Rd
8"	Waterline	Mustang Ridge Dr	Trotter Rd	Blake Rd
6"	Waterline	Stony Creek Ave	Mustang Ridge Dr	Summer Sage Dr
6"	Waterline	Spring Sage Ave	Mustang Ridge Dr	Summer Sage Dr
8"	Waterline	Trotter Rd	Mustang Ridge Dr	Summer Sage Dr
12"	Waterline	Barbados/Stampede	Gibson	Bay Mare Easement
6"	Waterline	Bay Mare Easement	Barbados	Mustang Ridge
6"	Waterline	Summer Sage Dr	Black Stallion Rd	Trotter Rd
<u>SANITARY SEWER</u>				
8"	Sanitary Sewer	Stony Creek Ave	Mustang Ridge Dr	Summer Sage Dr
8"	Sanitary Sewer	Spring Sage Ave	Mustang Ridge Dr	Summer Sage Dr
8"	Sanitary Sewer	Trotter Rd	Mustang Ridge Dr	Summer Sage Dr
<u>STORM DRAINAGE</u>				
18"-48"	Storm Sewer	Trotter Rd stub street	Summer Sage Dr	Unser Blvd
18"-48"	Storm Sewer	Unser Blvd	Trotter Rd stub street	Temp. retention pond S of Blake
5 ac/ft	temporary retention pond southwest corner of Unser and Blake with Easement, Agreement and Covenant.			

Engineer's Certification of Private Grading and Drainage. Not to be financially guaranteed.

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Date Submitted: 3/7/2001

~~(1) Mustang Ridge Drive will have 32' FF flaring to 40' FF within 150' of Gibson Blvd and will have a 10' asphalt trail on one side only (west side) and will have "No Parking" signs.~~

(2) Deferred

(3) Standard curb and gutter will be used instead of roll curb and gutter where required for drainage.

(4) Unser construction adjacent to the public pond (ie...about 1000' south of Gibson) is in lieu of consideration for traffic signals at the intersection of Unser/Gibson and Unser/Blake for both this project and for El Rancho Grande Units 1, 2 and 3, DRB #1000181 and in lieu of the \$39,900 paid for the pond at the intersection of Gibson and Unser, ~~to be refunded from the City to the Developer.~~ *financially guaranteed*

to be released. (\$14,900.00)

Stormdrain to include manholes, inlets, riprap and outfall.

Water infrastructure to include valves, fittings, valve boxes and fire hydrants.

Sanitary sewer to include manholes and service connections.

Street lights per DPM.

Signature: _____

Agent/Owner Print Name: James D. Hughes, PEFirm: Mark Goodwin & Associates, PA

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

[Signature] 3-07-01
 Transportation Dev. Date

Roger A. Green 3/7/01
 Utility Dev. Date

Edwienne E. Cardenas 3/7/01
 Parks & Recreation Date

Date

[Signature] 3/7/01
 Engineer/AMAFCA Date

[Signature] 3/7/01
 DRB Chairman Date

DRC REVISIONS

REVISIONS	DATE	DRC CHAIR	USER DEPT	AGENT/OWNER
①				
②				



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 5, 2001

James D Hughes, PE
Mark Goodwin & Associates
P.O. 90606
Albuquerque, NM 87199

**Re: El Rancho Grande Subdivision Unit 4A & 4B Drainage Report
Engineer's Stamp dated 3-2-01 (M9/D19A)**

Dear Mr. Hughes,

Based upon the information provided in your submittal dated 3-2-01, the above referenced site is approved for Preliminary Plat action by the DRB.

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

Sincerely,

Bradley L. Bingham, PE
Senior Engineer, Hydrology

C: file