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HYDROLOGY SECTION

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT

FOR

SUNDORO SOUTH SUBDIVISION

Prepared for

Westland Development Inc.
401 Coors Blvd. NW
Albuquerque, NM 87110

RECEIVED
SEP 29 2003
HYDROLOGY SECTION

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9-29-03
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September 2003

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WESTLAND SECTOR DEV. PLAN BOUNDARY

SU-2 FOR PDA FOR
RESIDENTIAL RESORT

WESTLAND NORTH

CONSERVATION BOUNDARY

TIERRA PINTADA ST

NORTHWEST MESA ESCARPMENT PLAN IMPACT BOUNDARY

SU-2/R-LT

ARROYO VISTA BLVD

WESTLAND NORTH

Site

WESTLAND NORTH

SU-2/R-2

SU-2 FOR PDA FOR
TOWN CENTER

LADERA DR

SU-2/R-LT

WESTLAND NORTH

TIERRA PINTADA ST

SU-2/O-1

WESTLAND NORTH

NORTHWEST MESA ESCARPMENT PLAN VIEW BOUNDARY

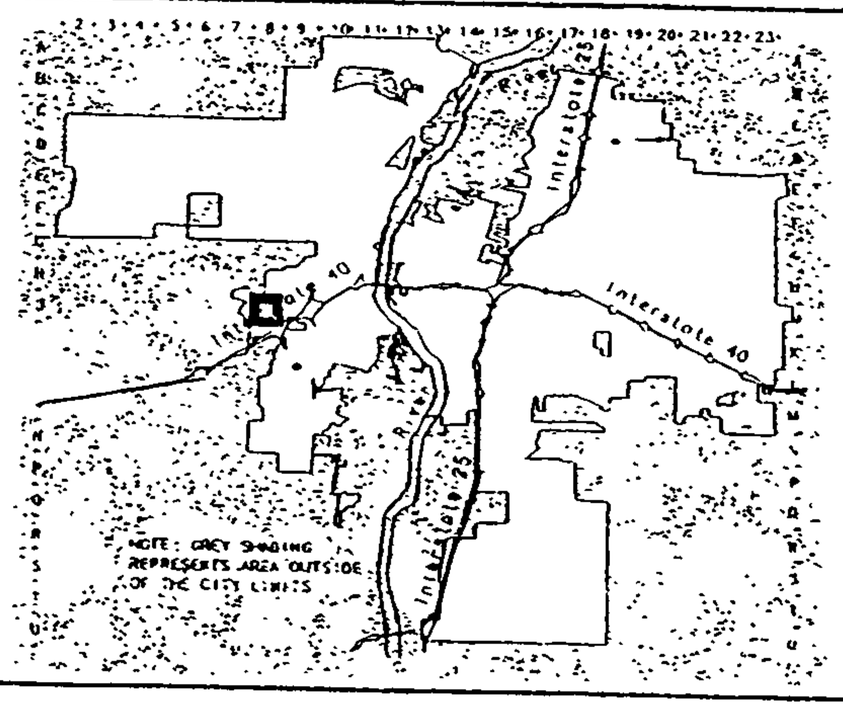
SU-2/O-1

A-1

SU-2/R-2

LADERA DR

SU-2/R-LT



CITY OF
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A Albuquerque G Geographic I Information S System
PLANNING DEPARTMENT

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GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

J-8-Z

Map Amended through January 21, 2003

WESTLAND NORTH

TIERRA OESTE (UNIT 3)

TOWN OF ATRISCO GRANT

TIERRA OESTE

LADERA

PARKLAND VIEW

PARKWAY PARK

PARKWAY

CI PAINTED SKY ELEMENTARY

PAINTED SKY

TOWN OF ATRISCO GRANT

UNSER BLVD DESIGN OVERLAY ZONE

SU-2/R-LT

Site

LADERA DR

CARLE ESTATES

FRWY

WEST SIDE

SU-1 TRANSIT FACILITY AND DAYCARE

TRANSIT FACILITY

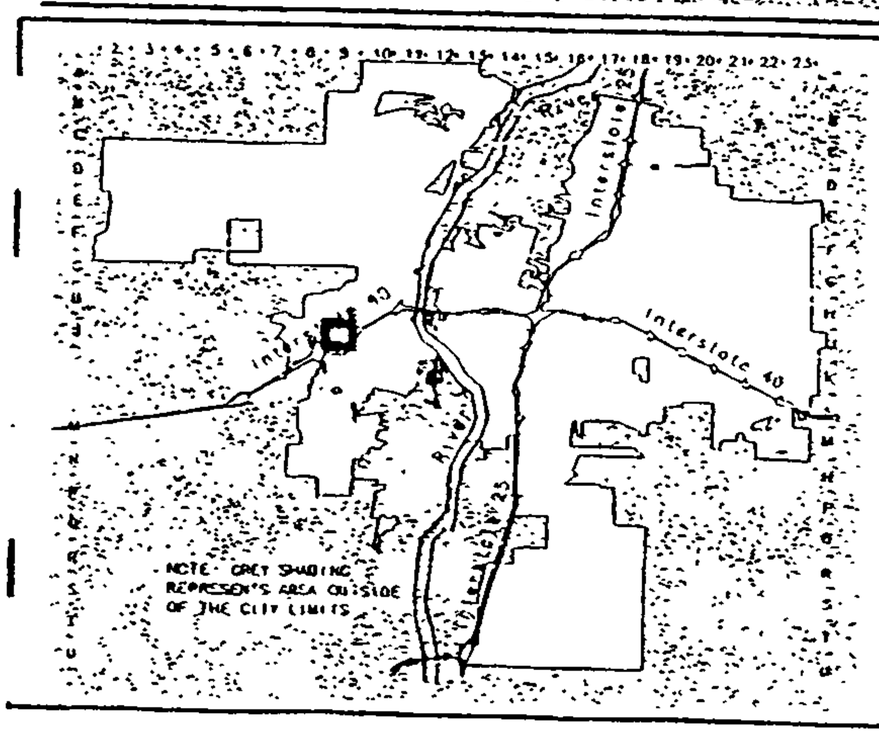
UNSER

DIVERSION

IP

A-1

140



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GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

J-9-Z

Map Amended through January 21, 2003

PURPOSE

The primary purpose of this report is to demonstrate the adequacy of the proposed drainage to allow this 34 acre site to be subdivided into about 180 single-family, detached, residential lots, and so associated public drainage infrastructure can be constructed and turned over to the City of Albuquerque for maintenance.

EXISTING CONDITIONS

This property is bounded on the uphill sides by Ladera Drive on the North and by 98th Street on the west. This property is surrounded on all four sides by undeveloped property, except for the partially improved frontage of 98th Street on the west side. The natural ground slopes from west to east at about 2.7% slope. The remnants of the Mirehaven Arroyo 'C' drain across the North half of this property, but there is no floodplain on this property because the ladera detention basins divert almost all of the upstream watershed to the Ladera Golf Course. This property drains through undeveloped property (some owned by Westland) 1600 feet to a temporary retention pond constructed by westland with the Painted Sky Subdivision to receive runoff from the existing undeveloped condition for the 100-YR, 10-Day storm.

REFERENCES

1. *"CLOMR", and "LOMR" requests for Painted Sky Subdivision by MARK GOODWIN & ASSOCIATES PA, June 21, 2001 AND November 7, 2002.*

2. *Sundoro North Subdivision Drainage Report by Bohanan Houston Inc. August 29, 2003.*

PROPOSED MANAGEMENT PLAN

This 34 acre residential development will have free discharge to storm sewer in 94th Street. That storm sewer will be constructed in the future by a separate project currently being planed by Westland Development Inc. between Painted Sky Subdivision and 94th Street. The storm sewer will outfall to the planned future West I-40 Diversion Channel. Upstream offsite drainage will be diverted by 98th Street and Ladera Drive.

In the interim this development will drain into a temporary retention pond located in a Public Drainage Easement on Westland's property to be privately maintained by Westland.

ANALYSIS PROCEDURES

Onsite drainage is estimated by Ahymo for the entire site, then flows for sub-basins are determined by proration. Street flow depths are estimated using Plates 22.3, D-1 and D-2. Storm sewer is designed to prevent excessive surface drainage depths.
The downstream offsite retention pond is designed for the 100-YR, 10 day storm. Volume calculations are accomplished using the conic method.
Upstream offsite flows to 98th Street are esitmated for existing undeveloped conditions using AHYMO, and a temporary diversion ditch is designed in the right of way for the offsite flows. The 10-YR spread of water is checked for both the west and the east half of 98th Street.
Upstream offsite drainage in Ladera Drive is addressed in a separate report by BHI for the Sundoro North Subdivision. A small portion of the developed drainage from Ladera is allowed to flow into this development at the main entrance.

TABLE 1 - SUMMARY OF HYDROLOGY

Description	Basin ID	Area Acres	Area Sq. Mi.	Land Treatment				Tp (hr	100-YR Peak Flow		10-YR Peak Flow		100-YR Volume	
				A	B	C	D		Inc. (cfs)	Cumm (cfs)	Inc. (cfs)	Cumm (cfs)	V_{100} 6-Hr (Ac-ft)	V_{100} 10-day (Ac-ft)
Onsite @ 5.3 du/ac	A1	34.1	0.0533	0	16	32	52	0.17	105.98		62.63		4.110	6.770
Undeveloped	A2	35.7	0.0558	100	0	0	0	0.20	32.81		6.02		1.326	1.326
Undeveloped	A3	14.9	0.0233	100	0	0	0	0.13	20.02		3.86		0.554	0.554
Undeveloped	A4	21.2	0.0331	100	0	0	0	0.15	25.21		4.72		0.787	0.787
Ladera Drive	A5	1.2	0.0019	0	14	28	58	0.13	4.46		2.69		0.153	0.257
Interstate Right of Way	A6	4.6	0.0072	50	25	0	25	0.13	10.33		4.66		0.337	0.510
Undeveloped	B1	14.3	0.0223	100	0	0	0	0.17	15.23		2.83		0.53	0.530
Undeveloped	B2	27.5	0.0430	100	0	0	0	0.13	36.27	51.10	6.95	9.65	1.022	1.022
Undeveloped	B3	10.2	0.0159	100	0	0	0	0.18	10.31	60.96	1 89	11.42	0.378	0.378
Undeveloped	B4	56.3	0.0880	95	0	0	5	0.18	65 70	125.24	17.05	28.44	2.449	2.871
98th St.(west half)	B5	3.0	0.0047	0	0	0	100	0.22	10.48	135.55	6.88	35.19	0.493	0.943
98th St.(east half)	B6	4.5	0.0070	0	15	30	55	0.22	12.28	147.53	7.31	42.29	0.552	0.923
Interstate Right of Way	B7	35.6	0.0556	70	10	10	10	0.23	42.74	188.18	15.23	56.80	1.957	2.491

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

P_{60} = 1.90", P_{360} = 2.20", P_{1440} = 2.67", P_{10} days = 10.0-[24.9/(2.67")$^{1.4}$] = 3.70"

TABLE 2 - TIME OF CONCENTRATION COMPUTATIONS

Basin ID	Length (ft)	Slope %	K	V (fps)	Tc (min)	Tp (hr)
A1	100	0.5	0.7	0.50	3.4	
	300	2.0	1.0	1.41	3.5	
	300	0.5	2.0	1.41	3.5	
	450	1.2	2.0	2.19	3.4	
	450	0.9	5.0	4.74	1.6	
					15.4	0.17
A2	400	2.8	0.7	1.17	5.7	
	900	2.9	2.0	3.41	4.4	
	700	1.0	2.0	2.00	5.8	
	300	1.0	3.0	3.00	1.7	
					17.6	0.20
A3	400	2.8	0.7	1.17	5.7	
	700	2.9	2.0	3.41	3.4	
					9.1	0.13
A4	400	3.0	0.7	1.21	5.5	
	1000	2.9	2.0	3.41	4.9	
	500	1.4	2.0	2.37	3.5	
					13.9	0.15
A5	100	1.0	0.7	0.70	2.4	
	300	2.7	1.0	1.64	3.0	
	400	3.2	2.0	3.58	1.9	
					7.3	0.13
A6	100	2.0	0.7	0.99	1.7	
	900	1.6	2.0	2.53	5.9	
					7.6	0.13
B1	400	3.5	0.7	1.31	5.1	
	1600	2.8	2.0	3.35	8.0	
					13.1	0.15

Basin ID	Length (ft)	Slope %	K	V (fps)	Tc (min)	Tp (hr)
B2	400	3.3	0.7	1.27	5.2	
	900	4.0	2.0	4.00	3.8	
	700	2.5	2.0	3.16	3.7	
	800	2.5	3.0	4.74	2.8	
					15.5	0.17
B3	400	4.0	0.7	1.40	4.8	
	400	4.0	2.0	4.00	1.7	
					6.4	0.13
B4	400	2.5	0.7	1.11	6.0	
	1600	3.6	2.0	3.79	7.0	
	1200	3.6	3.0	5.69	3.5	
					16.6	0.18
B5	400	0.7	2.0	1.67	4.0	
	1600	0.7	2.0	1.67	15.9	
					19.9	0.22
B6	400	0.7	2.0	1.67	4.0	
	1600	0.7	2.0	1.67	15.9	
					19.9	0.22
B7	400	1.2	1.0	1.10	6.1	
	1600	1.2	2.0	2.19	12.2	
	400	1.2	3.0	3.29	2.0	
					20.3	0.23

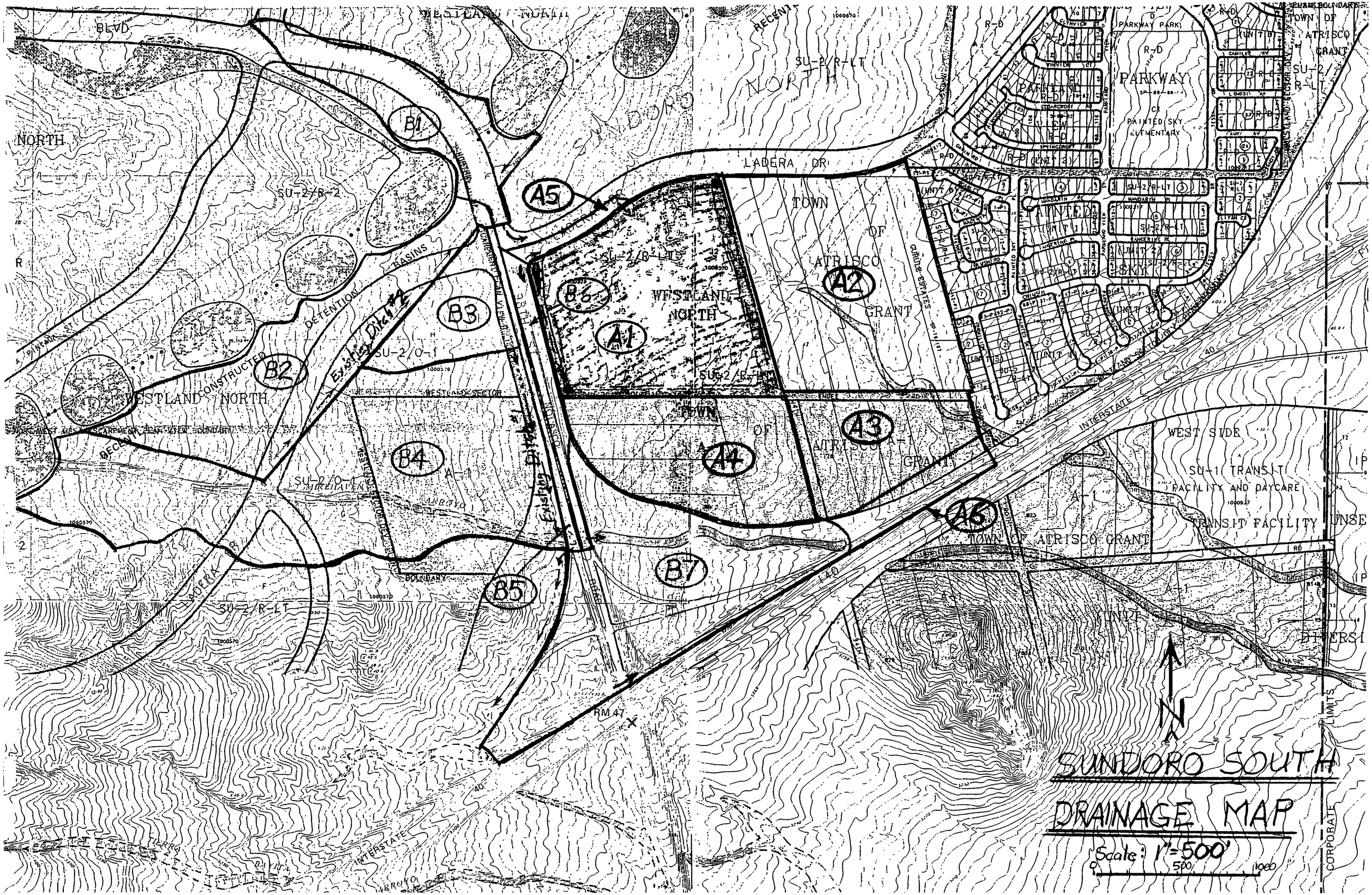
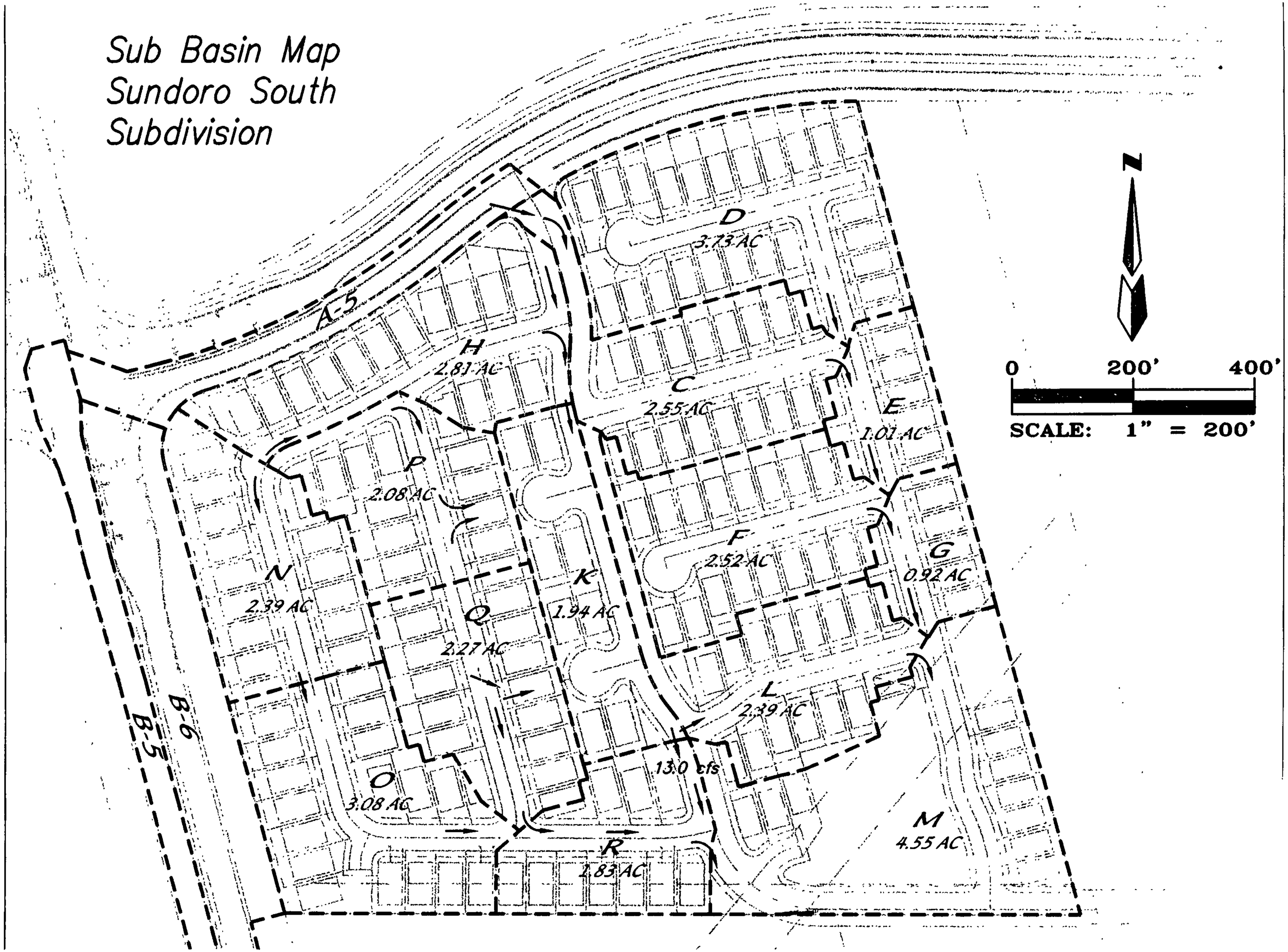

SUNDORO SOUTH
DRAINAGE MAP
Scale: 1"=500'
0
500
1000
N
B1
B2
B3
B4
B5
B6
B7
A1
A2
A3
A4
A5
A6
LADERA DR
WESTLAND NORTH
TOWN OF ATRISCO GRANT
PARKWAY
PAINTED SKY ELEMENTARY
WEST SIDE
SU-1 TRANSIT FACILITY AND DAYCARE
TRANSIT FACILITY
INTERSTATE
DETENTION BASINS
CONSTRUCTED
Existing Drainage
SU-2/R-LT
SU-2/R-2
SU-2/O-1
SU-2/B-LT
SU-2/R-1
A-1
R-D
RM 47
CORPORATE LIMITS

TABLE 3 — STREET DRAINAGE CAPACITIES

Basin No.	Area Ac.	% of Total	Flow (cfs)		Contributing Basins	Curb Type/Slope	Flow Depth ft(1)	Velocity fps	Energy Depth ft(2)	Location
			Increment	Cumm.						
10YR CAPACITY IN ARTERIAL STREETS										
A5	1.20	100.00	2.69			std 1.89% (5)	0.28'	2.7	0.39	Ladera Drive
B5	3.00	100.00	6.88			std 0.70% (5)	0.43'	2.2	0.51	98TH Street
B6	4.50	100.00	7.31			std 0.70% (5)	0.44'	2.3	0.52	98TH Street
100YR CAPACITY IN LOCAL STREETS										
A-5	1.20	100.00	4.46	**4.46**		std 1.89%	0.32	2.9	0.45	Ladera Drive
C	2.55	7.48	7.93	**12.39**	A-5, & C	roll 28' 2.98%	0.30	3.8	0.52	Valletta Ave.
D	3.73	10.95	**11.60**	23.99	A-5, C, & D	roll 28' 2.00%	0.28	3.2	0.44	Cantariello Ct.
E	1.01	2.96	3.14	**27.14**	A-5, & C-E	std 28' 1.20%	0.46	3.4	0.64	Villarrica St.
F	2.52	7.40	**7.84**	34.98	A-5, & C - F	roll 28' 2.92%	0.22	3.1	0.37	Akutan Ct.
G	0.92	2.70	2.86	**37.84**	A-5, & C - G	std 28' 1.20%	0.51	3.9	0.75	Villarrica St.
H	2.81	8.25	**8.74**	8.74	H	roll 28' 3.00%	0.24	3.5	0.43	Karthala Ave.
K	1.94	5.69	6.03	**14.77**	H-K	std 36' 0.5%	0.44 (3)	3.2	0.60	Vesuvuis St.
L	2.39	7.02	7.43	**9.21**	H-L (3) MINUS 13CFS	roll 28' 2.85%	0.24	3.5	0.43	Colima Ave.
L				**47.05**	A-5,& C-L (3) MINUS 13CFS	std 28' 1.2%	0.57	4.4	0.87	Villarica St.
M	4.55	13.35	14.15	**61.20**	A-5,& C-M (3) MINUS 13CFS	std 28' 0.5%	INLET REQUIRED			Villarica St.

Sub Basin Map
Sundoro South
Subdivision



Basin No.	Area Ac.	% of Total	Flow (cfs)		Contributing Basins	Curb Type/Slope	Flow Depth ft(1)	Velocity fps	Energy Depth ft(2)	Location
			Increment	Cumm.						
N	2.39	7.02	**7.43**	7.43	N	roll 26' 0.5%	0.31	1.8	0.36	Tambora St.
O	3.08	9.04	9.58	**17.02**	N &O	std 26' 3.33%	0.37	4.3	0.66	Kilauea Ave.
P	2.08	6.11	**6.47**	6.47	P	roll 26' 0.5%	0.30	1.7	0.34	Tambora St.
Q	2.27	6.66	7.06	**13.53**	P & Q	std 26' 0.5%	0.45	2.0	0.51	Tambora St.
R	1.83	5.37	5.69	**36.24**	N - R	std 26' 3.33%	0.44	5.3	0.88	Kilauea Ave.
				49.24	N - R PLUS 13.0 (3)	std 36' 1.3%	0.58	4.3	0.87	Vesuvuis St.
TOTAL A-1	34.07	100.00	105.98							

(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 differences 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) The west half of Vesuvius St. will spill over the crown when the flow depth exceeds 0.44 feet and the flow on the west half exceeds about 13.0 cfs. The rest of the flow drains east in Castellaro Ave.

(5) 98th Street has 36' f-f pavement each way with a 24' allowable 10-YR spread of water and an allowable flow depth of 0.56'.

INLETS ON GRADE

Inlets on Villarica Street, South of Castellaro Ave.
Inlets 1, 2, 3 & 4

Inlets #1 and #2 are single grates on a 1.2% grade flowing at a depth of 0.57'. Each inlet intercepts 7.8 cfs where the approaching flow is 47.05 cfs, leaving 31.45 cfs bypass flow at a depth of 0.50'. The next pair of single grate (inlets #4 & #5) will intercept 6.2 cfs each leaving 19.05 cfs bypass, which is joined by 14.15 cfs from sub-basin 'M' or a total of 33.20 cfs approaching Endee Rd.

Inlets on Endee Road, West of Villarica Street
Inlets 5, 6, 7, & 8

Inlets #5 & #6 are single grates on a 0.5% grade flowing at a depth of 0.58'. Each inlet intercepts 6.2 cfs where the approaching flow is 49.24 cfs, leaving 36.84 cfs bypass flow which is joined by 33.20 cfs from Villarrica Street for a total of 70.04 cfs which flows at a depth of 0.56'. The next pair of single grate inlets #7 & #8 each intercept 10.2cfs leaving 49.64 cfs flowing east out of this site at 0.50' depth. The third pair of double grate inlets # 9 & 10 will intercept 8.8 cfs each, leaving 32.04cfs

POND-2 Version: 4.01
S/N: 88020607

Sundoro South off-site Retention Pond

CALCULATED 09-10-2003 18:11:56
DISK FILE : G:J2A .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	* Volume (acre-ft)	Volume Sum (acre-ft)
54.00	34,125.00	0.78	0.00	0.00	0.00
61.02	*I*	1.24	3.00	7.03	7.03
62.00	*I*	1.31	3.10	8.27	8.27
64.00	63,525.00	1.46	3.31	11.04	11.04

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

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

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.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*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

AHYMO 100-YR SUMMARY

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COMMAND	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	NOTATION
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START										RAIN6= 2.200
RAINFALL TYPE= 1										
COMPUTE NM HYD	A1	-	1	.05330	105.99	4.110	1.44586	1.532	3.107	PER IMP= 52.00
COMPUTE NM HYD	A2	-	1	.05580	32.81	1.326	.44572	1.598	.919	PER IMP= .00
COMPUTE NM HYD	A3	-	1	.02330	20.02	.554	.44572	1.532	1.343	PER IMP= .00
COMPUTE NM HYD	A4	-	1	.03310	25.21	.787	.44572	1.532	1.190	PER IMP= .00
COMPUTE NM HYD	A5	-	1	.00190	4.46	.153	1.51090	1.499	3.664	PER IMP= 58.00
COMPUTE NM HYD	A6	-	1	.00720	10.33	.337	.87774	1.499	2.242	PER IMP= 25.00
COMPUTE NM HYD	B1	-	1	.02230	15.23	.530	.44572	1.565	1.067	PER IMP= .00
COMPUTE NM HYD	B2	-	2	.04300	36.27	1.022	.44572	1.532	1.318	PER IMP= .00
ADD HYD	B2.1	1& 2	3	.06530	51.10	1.552	.44572	1.532	1.223	
COMPUTE NM HYD	B3	-	1	.01590	10.31	.378	.44572	1.565	1.013	PER IMP= .00
ADD HYD	B3.1	1& 3	2	.08120	60.96	1.930	.44572	1.532	1.173	
COMPUTE NM HYD	B4	-	1	.08800	65.70	2.449	.52174	1.565	1.167	PER IMP= 5.00
ADD HYD	B4.1	1& 2	3	.16920	125.24	4.379	.48525	1.565	1.157	
COMPUTE NM HYD	B5	-	1	.00470	10.48	.493	1.96614	1.598	3.483	PER IMP= 100.00
ADD HYD	B5.1	1& 3	2	.17390	135.55	4.872	.52527	1.565	1.218	
COMPUTE NM HYD	B6	-	1	.00700	12.28	.552	1.47838	1.598	2.741	PER IMP= 55.00
ADD HYD	B6.1	1& 2	3	.18090	147.53	5.424	.56215	1.565	1.274	
COMPUTE NM HYD	B7	-	1	.05560	42.74	1.957	.66006	1.598	1.201	PER IMP= 10.00
ADD HYD	B7.1	1& 3	2	.23650	188.18	7.381	.58517	1.565	1.243	
FINISH										

AHYMO 10-YR SUMMARY

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =09/03/2003
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PAGE = 1

COMMAND	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	NOTATION
										TIME= .00
START										RAIN6= 1.470
RAINFALL TYPE= 1										
COMPUTE NM HYD	A1	-	1	.05330	62.63	2.319	.81585	1.532	1.836	PER IMP= 52.00
COMPUTE NM HYD	A2	-	1	.05580	6.02	.252	.08473	1.598	.168	PER IMP= .00
COMPUTE NM HYD	A3	-	1	.02330	3.86	.105	.08473	1.532	.259	PER IMP= .00
COMPUTE NM HYD	A4	-	1	.03310	4.72	.150	.08473	1.565	.223	PER IMP= .00
COMPUTE NM HYD	A5	-	1	.00190	2.69	.088	.86863	1.499	2.210	PER IMP= 58.00
COMPUTE NM HYD	A6	-	1	.00720	4.66	.155	.40437	1.499	1.011	PER IMP= 25.00
COMPUTE NM HYD	B1	-	1	.02230	2.83	.101	.08473	1.565	.198	PER IMP= .00
COMPUTE NM HYD	B2	-	2	.04300	6.95	.194	.08473	1.532	.253	PER IMP= .00
ADD HYD	B2.1	1& 2	3	.06530	9.65	.295	.08473	1.532	.231	
COMPUTE NM HYD	B3	-	1	.01590	1.89	.072	.08473	1.565	.186	PER IMP= .00
ADD HYD	B3.1	1& 3	2	.08120	11.42	.367	.08472	1.532	.220	
COMPUTE NM HYD	B4	-	1	.08800	17.05	.668	.14240	1.565	.303	PER IMP= 5.00
ADD HYD	B4.1	1& 2	3	.16920	28.44	1.035	.11472	1.565	.263	
COMPUTE NM HYD	B5	-	1	.00470	6.88	.310	1.23810	1.598	2.287	PER IMP= 100.00
ADD HYD	B5.1	1& 3	2	.17390	35.19	1.346	.14508	1.565	.316	
COMPUTE NM HYD	B6	-	1	.00700	7.31	.314	.84224	1.598	1.631	PER IMP= 55.00
ADD HYD	B6.1	1& 2	3	.18090	42.29	1.660	.17205	1.565	.365	
COMPUTE NM HYD	B7	-	1	.05560	15.23	.705	.23762	1.598	.428	PER IMP= 10.00
ADD HYD	B7.1	1& 3	2	.23650	56.80	2.365	.18747	1.565	.375	
FINISH										

AHYMO PROGRAM (AHYMO_97) - - Version: 1997.02d
RUN DATE (MON/DAY/YR) = 09/03/2003
START TIME (HR:MIN:SEC) = 16:53:22 USER NO.= AHYMO-I-9702dGoodwinM-AH
INPUT FILE = C:\DOCUME~1\DOUG~1.GOO\Desktop\sundoro.dat

```
START                TIME=0.0
***** SUNDORO SOUTH SUBDIVISION (with temporary undeveloped offsit basins)
***** 100-YEAR 6-HOUR STORM EVENT
***** SEPT 3, 2003
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.89 IN RAIN SIX=2.2 IN
                     RAIN DAY=2.66 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   .0014   .0029   .0044   .0059   .0074   .0090
                   .0106   .0123   .0140   .0158   .0176   .0194   .0213
                   .0233   .0253   .0273   .0295   .0317   .0340   .0363
                   .0388   .0414   .0440   .0468   .0497   .0527   .0559
                   .0592   .0627   .0665   .0716   .0772   .0832   .0955
                   .1237   .1673   .2299   .3155   .4281   .5718   .7508
                   .9694  1.1793  1.2654  1.3378  1.4022  1.4607  1.5145
                  1.5645  1.6112  1.6550  1.6962  1.7350  1.7717  1.8065
                  1.8394  1.8706  1.9002  1.9283  1.9550  1.9622  1.9678
                  1.9732  1.9783  1.9831  1.9878  1.9922  1.9965  2.0006
                  2.0046  2.0085  2.0122  2.0158  2.0193  2.0227  2.0260
                  2.0292  2.0324  2.0354  2.0384  2.0414  2.0442  2.0470
                  2.0498  2.0524  2.0551  2.0576  2.0602  2.0626  2.0651
                  2.0675  2.0698  2.0721  2.0744  2.0766  2.0789  2.0810
                  2.0832  2.0853  2.0873  2.0894  2.0914  2.0934  2.0953
                  2.0973  2.0992  2.1011  2.1029  2.1048  2.1066  2.1084
                  2.1102  2.1119  2.1136  2.1154  2.1170  2.1187  2.1204
                  2.1220  2.1236  2.1252  2.1268  2.1284  2.1300  2.1315
                  2.1330  2.1346  2.1361  2.1375  2.1390  2.1405  2.1419
                  2.1434  2.1448  2.1462  2.1476  2.1490  2.1503  2.1517
                  2.1530  2.1544  2.1557  2.1570  2.1583  2.1596  2.1609
                  2.1622  2.1635  2.1647  2.1660  2.1672  2.1684  2.1697
                  2.1709  2.1721  2.1733  2.1745  2.1757  2.1768  2.1780
                  2.1792  2.1803  2.1814  2.1826  2.1837  2.1848  2.1859
                  2.1870  2.1881  2.1892  2.1903  2.1914  2.1925  2.1935
                  2.1946  2.1957  2.1967  2.1977  2.1988  2.1998

COMPUTE NM HYD       ID=1 HYD NO=A1 AREA=0.0533 SQ MI
```

AHYMO 100-YR

Output

```
                    PER A, B, C, & D 0 16 32 52
                    TP=0.17 HR MASS RAINFALL=-1

     K =    .092650HR    TP =    .170000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    85.801    CFS   UNIT VOLUME =    1.000       B =   526.28      P60 = 1.8900
     AREA =       .027716 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =    .145737HR    TP =    .170000HR    K/TP RATIO =    .857276     SHAPE CONSTANT, N =  4.149140
     UNIT PEAK =    54.929    CFS   UNIT VOLUME =    .9999       B =   364.99      P60 = 1.8900
     AREA =       .025584 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                   HYDROGRAPH FROM AREA A1


    RUNOFF VOLUME =      1.44586 INCHES      =       4.1101 ACRE-FEET
    PEAK DISCHARGE RATE =      105.98 CFS  AT   1.532 HOURS   BASIN AREA =    .0533 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A2 AREA=0.0558 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.20 HR MASS RAINFALL=-1

     K =    .244831HR    TP =    .200000HR    K/TP RATIO =  1.224153     SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =    76.508    CFS   UNIT VOLUME =    .9997       B =   274.22      P60 = 1.8900
     AREA =       .055800 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                   HYDROGRAPH FROM AREA A2


    RUNOFF VOLUME =       .44572 INCHES      =       1.3264 ACRE-FEET
    PEAK DISCHARGE RATE =      32.81 CFS  AT   1.598 HOURS   BASIN AREA =    .0558 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A3 AREA=0.0233 SQ MI
```

```
                    PER A, B, C, & D 100 0 0 0
                    TP=0.13 HR MASS RAINFALL=-1

     K =    .159140HR     TP =    .130000HR     K/TP RATIO =  1.224153      SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =    49.149     CFS    UNIT VOLUME =     .9993        B =    274.22       P60 = 1.8900
     AREA =       .023300 SQ MI     IA =     .65000 INCHES     INF =    1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                   HYDROGRAPH FROM AREA A3


    RUNOFF VOLUME =       .44572 INCHES      =         .5539 ACRE-FEET
    PEAK DISCHARGE RATE =       20.02 CFS  AT   1.532 HOURS   BASIN AREA =    .0233 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A4 AREA=0.0331 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.15 HR MASS RAINFALL=-1

     K =    .183623HR     TP =    .150000HR     K/TP RATIO =  1.224153      SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =    60.512     CFS    UNIT VOLUME =     .9995        B =    274.22       P60 = 1.8900
     AREA =       .033100 SQ MI     IA =     .65000 INCHES     INF =    1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                   HYDROGRAPH FROM AREA A4


    RUNOFF VOLUME =       .44572 INCHES      =         .7868 ACRE-FEET
    PEAK DISCHARGE RATE =       25.21 CFS  AT   1.532 HOURS   BASIN AREA =    .0331 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A5 AREA=0.0019 SQ MI
                    PER A, B, C, & D 0 14 28 58
                    TP=0.1333 HR MASS RAINFALL=-1

     K =    .072649HR     TP =    .133300HR     K/TP RATIO =   .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =     4.3508     CFS    UNIT VOLUME =     .9969        B =    526.28       P60 = 1.8900
     AREA =       .001102 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
```

```
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

K =   .114275HR    TP =   .133300HR    K/TP RATIO =   .857276     SHAPE CONSTANT, N =  4.149134
UNIT PEAK =   2.1850    CFS   UNIT VOLUME =    .9944       B =   364.99      P60 = 1.8900
AREA =      .000798 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD          ID=1 CODE=1

                                HYDROGRAPH FROM AREA A5

RUNOFF VOLUME =     1.51090 INCHES     =        .1531 ACRE-FEET
PEAK DISCHARGE RATE =       4.46 CFS  AT   1.499 HOURS   BASIN AREA =   .0019 SQ. MI.

COMPUTE NM HYD     ID=1 HYD NO=A6 AREA=0.0072 SQ MI
                   PER A, B, C, & D 50 25 0 25
                   TP=0.1333 HR MASS RAINFALL=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   7.1065    CFS   UNIT VOLUME =    .9973       B =   526.28      P60 = 1.8900
AREA =      .001800 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

K =   .152333HR    TP =   .133300HR    K/TP RATIO =  1.142784     SHAPE CONSTANT, N =  3.098824
UNIT PEAK =   11.739    CFS   UNIT VOLUME =    .9986       B =   289.78      P60 = 1.8900
AREA =      .005400 SQ MI    IA =    .60000 INCHES    INF =   1.53000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD          ID=1 CODE=1

                                HYDROGRAPH FROM AREA A6

RUNOFF VOLUME =      .87774 INCHES     =        .3370 ACRE-FEET
PEAK DISCHARGE RATE =      10.33 CFS  AT   1.499 HOURS   BASIN AREA =   .0072 SQ. MI.

COMPUTE NM HYD     ID=1 HYD NO=B1 AREA=0.0223 SQ MI
```

```
                    PER A, B, C, & D 100 0 0 0
                    TP=0.17 HR MASS RAINFALL=-1

     K =    .208106HR    TP =    .170000HR    K/TP RATIO =  1.224153     SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =    35.972    CFS   UNIT VOLUME =     .9994        B =   274.22       P60 = 1.8900
     AREA =       .022300 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B1


    RUNOFF VOLUME =       .44572 INCHES      =         .5301 ACRE-FEET
    PEAK DISCHARGE RATE =       15.23 CFS  AT   1.565 HOURS   BASIN AREA =    .0223 SQ. MI.


COMPUTE NM HYD      ID=2 HYD NO=B2 AREA=0.0430 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.1333 HR MASS RAINFALL=-1

     K =    .163180HR    TP =    .133300HR    K/TP RATIO =  1.224153     SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =    88.459    CFS   UNIT VOLUME =     .9995        B =   274.22       P60 = 1.8900
     AREA =       .043000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=2 CODE=1

                                   HYDROGRAPH FROM AREA B2


    RUNOFF VOLUME =       .44572 INCHES      =        1.0222 ACRE-FEET
    PEAK DISCHARGE RATE =       36.27 CFS  AT   1.532 HOURS   BASIN AREA =    .0430 SQ. MI.


ADD HYD             ID=3 HYD NO=B2.1 ID=1 & 2
PRINT HYD           ID=3 CODE=1

                                   HYDROGRAPH FROM AREA B2.1


    RUNOFF VOLUME =       .44572 INCHES      =        1.5523 ACRE-FEET
```

```
    PEAK DISCHARGE RATE =      51.10 CFS  AT   1.532 HOURS   BASIN AREA =   .0653 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B3 AREA=0.0159 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.18 HR MASS RAINFALL=-1

     K =   .220348HR    TP =   .180000HR    K/TP RATIO =  1.224153     SHAPE CONSTANT, N =  2.907881
     UNIT PEAK =   24.223    CFS   UNIT VOLUME =    .9993       B =   274.22      P60 = 1.8900
     AREA =      .015900 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                    HYDROGRAPH FROM AREA B3


    RUNOFF VOLUME =      .44572 INCHES     =        .3780 ACRE-FEET
    PEAK DISCHARGE RATE =      10.31 CFS  AT   1.565 HOURS   BASIN AREA =   .0159 SQ. MI.


ADD HYD              ID=2 HYD NO=B3.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                    HYDROGRAPH FROM AREA B3.1


    RUNOFF VOLUME =      .44572 INCHES     =       1.9302 ACRE-FEET
    PEAK DISCHARGE RATE =      60.96 CFS  AT   1.532 HOURS   BASIN AREA =   .0812 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B4 AREA=0.0880 SQ MI
                     PER A, B, C, & D 95 0 0 5
                     TP=0.18 HR MASS RAINFALL=-1

     K =   .098657HR    TP =   .180000HR    K/TP RATIO =   .548092     SHAPE CONSTANT, N =  7.055134
     UNIT PEAK =   12.805    CFS   UNIT VOLUME =    .9991       B =   523.86      P60 = 1.8900
     AREA =      .004400 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
K =    .216213HR    TP =    .180000HR    K/TP RATIO =  1.201182     SHAPE CONSTANT, N =  2.958537
UNIT PEAK =    129.31    CFS   UNIT VOLUME =    .9998       B =   278.42      P60 = 1.8900
AREA =       .083600 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD            ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B4

RUNOFF VOLUME =       .52174 INCHES      =        2.4487 ACRE-FEET
PEAK DISCHARGE RATE =       65.70 CFS  AT   1.565 HOURS   BASIN AREA =    .0880 SQ. MI.


ADD HYD              ID=3 HYD NO=B4.1 ID=1 & 2
PRINT HYD            ID=3 CODE=1

                                   HYDROGRAPH FROM AREA B4.1

RUNOFF VOLUME =       .48525 INCHES      =        4.3789 ACRE-FEET
PEAK DISCHARGE RATE =      125.24 CFS  AT   1.565 HOURS   BASIN AREA =    .1692 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B5 AREA=0.0047 SQ MI
                     PER A, B, C, & D 0 0 0 100
                     TP=0.22 HR MASS RAINFALL=-1

K =    .119900HR    TP =    .220000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =    11.243    CFS   UNIT VOLUME =    .9991       B =   526.28      P60 = 1.8900
AREA =       .004700 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD            ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B5

RUNOFF VOLUME =      1.96614 INCHES      =         .4928 ACRE-FEET
PEAK DISCHARGE RATE =       10.48 CFS  AT   1.598 HOURS   BASIN AREA =    .0047 SQ. MI.
```

```
ADD HYD              ID=2 HYD NO=B5.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                HYDROGRAPH FROM AREA B5.1

    RUNOFF VOLUME =       .52527 INCHES     =       4.8717 ACRE-FEET
    PEAK DISCHARGE RATE =     135.55 CFS  AT   1.565 HOURS   BASIN AREA =   .1739 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B6 AREA=0.0070 SQ MI
                     PER A, B, C, & D 0 15 30 55
                     TP=0.22 HR MASS RAINFALL=-1

     K =   .119900HR    TP =   .220000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.2098    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.8900
     AREA =      .003850 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

     K =   .188601HR    TP =   .220000HR    K/TP RATIO =   .857276     SHAPE CONSTANT, N =  4.149134
     UNIT PEAK =   5.2260    CFS   UNIT VOLUME =    .9974       B =   364.99      P60 = 1.8900
     AREA =      .003150 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                HYDROGRAPH FROM AREA B6

    RUNOFF VOLUME =     1.47838 INCHES     =        .5519 ACRE-FEET
    PEAK DISCHARGE RATE =      12.28 CFS  AT   1.598 HOURS   BASIN AREA =   .0070 SQ. MI.


ADD HYD              ID=3 HYD NO=B6.1 ID=1 & 2
PRINT HYD            ID=3 CODE=1

                                HYDROGRAPH FROM AREA B6.1

    RUNOFF VOLUME =       .56215 INCHES     =       5.4236 ACRE-FEET
    PEAK DISCHARGE RATE =     147.53 CFS  AT   1.565 HOURS   BASIN AREA =   .1809 SQ. MI.
```

```
COMPUTE NM HYD       ID=1 HYD NO=B7 AREA=0.0556 SQ MI
                     PER A, B, C, & D 70 10 10 10
                     TP=0.23 HR MASS RAINFALL=-1

     K =    .125350HR    TP =    .230000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106437
     UNIT PEAK =   12.722    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.8900
     AREA =       .005560 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =    .264372HR    TP =    .230000HR    K/TP RATIO =  1.149445     SHAPE CONSTANT, N =  3.081918
     UNIT PEAK =   62.753    CFS   UNIT VOLUME =    .9998       B =   288.43      P60 = 1.8900
     AREA =       .050040 SQ MI    IA =    .60000 INCHES    INF =   1.53000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD            ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B7

    RUNOFF VOLUME =       .66006 INCHES     =       1.9573 ACRE-FEET
    PEAK DISCHARGE RATE =      42.74 CFS  AT   1.598 HOURS   BASIN AREA =    .0556 SQ. MI.


ADD HYD              ID=2 HYD NO=B7.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                   HYDROGRAPH FROM AREA B7.1

    RUNOFF VOLUME =       .58517 INCHES     =       7.3809 ACRE-FEET
    PEAK DISCHARGE RATE =     188.18 CFS  AT   1.565 HOURS   BASIN AREA =    .2365 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 16:53:22
```

AHYMO 10-YR Output

```
AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
     RUN DATE (MON/DAY/YR) = 09/03/2003
     START TIME (HR:MIN:SEC) = 17:26:57     USER NO.= AHYMO-I-9702dGoodwinM-AH
     INPUT FILE = C:\DOCUME~1\DOUG~1.GOO\Desktop\SUNDOR~1.DAT

START                TIME=0.0
***** SUNDORO SOUTH SUBDIVISION (with temporary undeveloped offsite basins)
***** 10-YEAR 6-HOUR STORM EVENT
***** SEPT 3, 2003
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.26 IN RAIN SIX=1.47IN
                     RAIN DAY=1.77 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   .0085   .0096   .0108   .0121   .0133   .0147
             .0160   .0174   .0188   .0203   .0218   .0234   .0250
             .0267   .0284   .0303   .0322   .0342   .0362   .0384
             .0407   .0431   .0457   .0491   .0529   .0568   .0650
             .0839   .1129   .1546   .2117   .2868   .3826   .5019
             .6476   .7875   .8450   .8933   .9362   .9752  1.0111
            1.0444  1.0755  1.1047  1.1322  1.1581  1.1825  1.2057
            1.2276  1.2485  1.2682  1.2869  1.3047  1.3095  1.3133
            1.3169  1.3203  1.3236  1.3267  1.3297  1.3326  1.3354
            1.3380  1.3406  1.3431  1.3456  1.3479  1.3502  1.3525
            1.3546  1.3567  1.3588  1.3608  1.3628  1.3647  1.3666
            1.3685  1.3703  1.3720  1.3738  1.3755  1.3771  1.3788
            1.3804  1.3820  1.3835  1.3851  1.3866  1.3881  1.3895
            1.3910  1.3924  1.3938  1.3952  1.3965  1.3979  1.3992
            1.4005  1.4018  1.4031  1.4043  1.4056  1.4068  1.4080
            1.4092  1.4104  1.4116  1.4127  1.4139  1.4150  1.4161
            1.4172  1.4183  1.4194  1.4205  1.4216  1.4226  1.4237
            1.4247  1.4257  1.4267  1.4277  1.4287  1.4297  1.4307
            1.4317  1.4326  1.4336  1.4345  1.4354  1.4364  1.4373
            1.4382  1.4391  1.4400  1.4409  1.4418  1.4427  1.4435
            1.4444  1.4453  1.4461  1.4470  1.4478  1.4486  1.4495
            1.4503  1.4511  1.4519  1.4527  1.4535  1.4543  1.4551
            1.4559  1.4567  1.4574  1.4582  1.4590  1.4597  1.4605
            1.4612  1.4620  1.4627  1.4634  1.4642  1.4649  1.4656
            1.4663  1.4671  1.4678  1.4685  1.4692  1.4699

COMPUTE NM HYD       ID=1 HYD NO=A1 AREA=0.0533 SQ MI
```

```
                PER A, B, C, & D 0 16 32 52
                TP=0.17 HR MASS RAINFALL=-1

     K =   .092650HR    TP =   .170000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   85.801    CFS   UNIT VOLUME =    1.000       B =   526.28      P60 = 1.2600
     AREA =      .027716 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .152000HR    TP =   .170000HR    K/TP RATIO =   .894116     SHAPE CONSTANT, N =  3.965432
     UNIT PEAK =   53.103    CFS   UNIT VOLUME =    .9999       B =   352.86      P60 = 1.2600
     AREA =      .025584 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=1 CODE=1

                                HYDROGRAPH FROM AREA A1


    RUNOFF VOLUME =      .81585 INCHES     =       2.3192 ACRE-FEET
    PEAK DISCHARGE RATE =      62.63 CFS  AT   1.532 HOURS   BASIN AREA =   .0533 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A2 AREA=0.0558 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.20 HR MASS RAINFALL=-1

     K =   .268660HR    TP =   .200000HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =   71.011    CFS   UNIT VOLUME =    .9995       B =   254.52      P60 = 1.2600
     AREA =      .055800 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=1 CODE=1

                                HYDROGRAPH FROM AREA A2


    RUNOFF VOLUME =      .08473 INCHES     =        .2522 ACRE-FEET
    PEAK DISCHARGE RATE =       6.02 CFS  AT   1.598 HOURS   BASIN AREA =   .0558 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A3 AREA=0.0233 SQ MI
```

```
                    PER A, B, C, & D 100 0 0 0
                    TP=0.13 HR MASS RAINFALL=-1

     K =    .174629HR    TP =    .130000HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =    45.618    CFS   UNIT VOLUME =    .9988       B =   254.52      P60 = 1.2600
     AREA =       .023300 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                    HYDROGRAPH FROM AREA A3


    RUNOFF VOLUME =       .08473 INCHES     =        .1053 ACRE-FEET
    PEAK DISCHARGE RATE =       3.86 CFS  AT   1.532 HOURS   BASIN AREA =   .0233 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A4 AREA=0.0331 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.15 HR MASS RAINFALL=-1

     K =    .201495HR    TP =    .150000HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =    56.164    CFS   UNIT VOLUME =    .9991       B =   254.52      P60 = 1.2600
     AREA =       .033100 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                    HYDROGRAPH FROM AREA A4


    RUNOFF VOLUME =       .08473 INCHES     =        .1496 ACRE-FEET
    PEAK DISCHARGE RATE =       4.72 CFS  AT   1.565 HOURS   BASIN AREA =   .0331 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=A5 AREA=0.0019 SQ MI
                    PER A, B, C, & D 0 14 28 58
                    TP=0.1333 HR MASS RAINFALL=-1

     K =    .072649HR    TP =    .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    4.3508    CFS   UNIT VOLUME =    .9969       B =   526.28      P60 = 1.2600
     AREA =       .001102 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
```

```
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

K =    .119186HR    TP =    .133300HR    K/TP RATIO =    .894116     SHAPE CONSTANT, N =  3.965432
UNIT PEAK =    2.1124    CFS   UNIT VOLUME =    .9941       B =    352.86      P60 = 1.2600
AREA =       .000798 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                HYDROGRAPH FROM AREA A5

RUNOFF VOLUME =       .86863 INCHES     =        .0880 ACRE-FEET
PEAK DISCHARGE RATE =       2.69 CFS  AT   1.499 HOURS   BASIN AREA =    .0019 SQ. MI.

COMPUTE NM HYD      ID=1 HYD NO=A6 AREA=0.0072 SQ MI
                    PER A, B, C, & D 50 25 0 25
                    TP=0.1333 HR MASS RAINFALL=-1

K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =    7.1065    CFS   UNIT VOLUME =    .9978       B =    526.28      P60 = 1.2600
AREA =       .001800 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

K =    .166616HR    TP =    .133300HR    K/TP RATIO =  1.249934     SHAPE CONSTANT, N =  2.853771
UNIT PEAK =    10.925    CFS   UNIT VOLUME =    .9981       B =    269.67      P60 = 1.2600
AREA =       .005400 SQ MI    IA =    .60000 INCHES    INF =   1.53000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                HYDROGRAPH FROM AREA A6

RUNOFF VOLUME =       .40437 INCHES     =        .1553 ACRE-FEET
PEAK DISCHARGE RATE =       4.66 CFS  AT   1.499 HOURS   BASIN AREA =    .0072 SQ. MI.

COMPUTE NM HYD      ID=1 HYD NO=B1 AREA=0.0223 SQ MI
```

```
                    PER A, B, C, & D 100 0 0 0
                    TP=0.17 HR MASS RAINFALL=-1

     K =   .228361HR    TP =   .170000HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =   33.387    CFS   UNIT VOLUME =    .9991       B =   254.52      P60 = 1.2600
     AREA =      .022300 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=1 CODE=1

                                    HYDROGRAPH FROM AREA B1


    RUNOFF VOLUME =       .08473 INCHES     =        .1008 ACRE-FEET
    PEAK DISCHARGE RATE =       2.83 CFS  AT   1.565 HOURS   BASIN AREA =   .0223 SQ. MI.


COMPUTE NM HYD      ID=2 HYD NO=B2 AREA=0.0430 SQ MI
                    PER A, B, C, & D 100 0 0 0
                    TP=0.1333 HR MASS RAINFALL=-1

     K =   .179062HR    TP =   .133300HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =   82.103    CFS   UNIT VOLUME =    .9989       B =   254.52      P60 = 1.2600
     AREA =      .043000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=2 CODE=1

                                    HYDROGRAPH FROM AREA B2


    RUNOFF VOLUME =       .08473 INCHES     =        .1943 ACRE-FEET
    PEAK DISCHARGE RATE =       6.95 CFS  AT   1.532 HOURS   BASIN AREA =   .0430 SQ. MI.


ADD HYD             ID=3 HYD NO=B2.1 ID=1 & 2
PRINT HYD           ID=3 CODE=1

                                    HYDROGRAPH FROM AREA B2.1


    RUNOFF VOLUME =       .08473 INCHES     =        .2951 ACRE-FEET
```

```
PEAK DISCHARGE RATE =        9.65 CFS  AT   1.532 HOURS   BASIN AREA =   .0653 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B3 AREA=0.0159 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.18 HR MASS RAINFALL=-1

     K =   .241794HR    TP =   .180000HR    K/TP RATIO =  1.343299     SHAPE CONSTANT, N =  2.679055
     UNIT PEAK =   22.482    CFS   UNIT VOLUME =    .9989       B =   254.52      P60 = 1.2600
     AREA =       .015900 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B3


RUNOFF VOLUME =       .08473 INCHES     =        .0719 ACRE-FEET
PEAK DISCHARGE RATE =        1.89 CFS  AT   1.565 HOURS   BASIN AREA =   .0159 SQ. MI.


ADD HYD              ID=2 HYD NO=B3.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                   HYDROGRAPH FROM AREA B3.1


RUNOFF VOLUME =       .08472 INCHES     =        .3669 ACRE-FEET
PEAK DISCHARGE RATE =       11.42 CFS  AT   1.532 HOURS   BASIN AREA =   .0812 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B4 AREA=0.0880 SQ MI
                     PER A, B, C, & D 95 0 0 5
                     TP=0.18 HR MASS RAINFALL=-1

     K =   .100109HR    TP =   .180000HR    K/TP RATIO =   .556158     SHAPE CONSTANT, N =  6.924774
     UNIT PEAK =   12.654    CFS   UNIT VOLUME =    .9991       B =   517.68      P60 = 1.2600
     AREA =       .004400 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
K =   .239919HR    TP =   .180000HR    K/TP RATIO =  1.332884     SHAPE CONSTANT, N =  2.697053
UNIT PEAK =   118.95    CFS   UNIT VOLUME =    .9995       B =   256.12      P60 = 1.2600
AREA =       .083600 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=1 CODE=1

                                    HYDROGRAPH FROM AREA B4

   RUNOFF VOLUME =      .14240 INCHES     =        .6683 ACRE-FEET
   PEAK DISCHARGE RATE =      17.05 CFS  AT   1.565 HOURS   BASIN AREA =   .0880 SQ. MI.


ADD HYD             ID=3 HYD NO=B4.1 ID=1 & 2
PRINT HYD           ID=3 CODE=1

                                    HYDROGRAPH FROM AREA B4.1

   RUNOFF VOLUME =      .11472 INCHES     =       1.0352 ACRE-FEET
   PEAK DISCHARGE RATE =      28.44 CFS  AT   1.565 HOURS   BASIN AREA =   .1692 SQ. MI.


COMPUTE NM HYD      ID=1 HYD NO=B5 AREA=0.0047 SQ MI
                    PER A, B, C, & D 0 0 0 100
                    TP=0.22 HR MASS RAINFALL=-1

K =   .119900HR    TP =   .220000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   11.243    CFS   UNIT VOLUME =    .9991       B =   526.28      P60 = 1.2600
AREA =       .004700 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=1 CODE=1

                                    HYDROGRAPH FROM AREA B5

   RUNOFF VOLUME =     1.23810 INCHES     =        .3103 ACRE-FEET
   PEAK DISCHARGE RATE =       6.88 CFS  AT   1.598 HOURS   BASIN AREA =   .0047 SQ. MI.
```

```
ADD HYD              ID=2 HYD NO=B5.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                HYDROGRAPH FROM AREA B5.1

    RUNOFF VOLUME =       .14508 INCHES     =        1.3456 ACRE-FEET
    PEAK DISCHARGE RATE =      35.19 CFS  AT   1.565 HOURS   BASIN AREA =   .1739 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=B6 AREA=0.0070 SQ MI
                     PER A, B, C, & D 0 15 30 55
                     TP=0.22 HR MASS RAINFALL=-1

     K =   .119900HR    TP =   .220000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.2098    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.2600
     AREA =       .003850 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

     K =   .196706HR    TP =   .220000HR    K/TP RATIO =   .894116     SHAPE CONSTANT, N =  3.965432
     UNIT PEAK =   5.0523    CFS   UNIT VOLUME =    .9973       B =   352.86      P60 = 1.2600
     AREA =       .003150 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                HYDROGRAPH FROM AREA B6

    RUNOFF VOLUME =       .84224 INCHES     =         .3144 ACRE-FEET
    PEAK DISCHARGE RATE =       7.31 CFS  AT   1.598 HOURS   BASIN AREA =   .0070 SQ. MI.


ADD HYD              ID=3 HYD NO=B6.1 ID=1 & 2
PRINT HYD            ID=3 CODE=1

                                HYDROGRAPH FROM AREA B6.1

    RUNOFF VOLUME =       .17205 INCHES     =        1.6600 ACRE-FEET
    PEAK DISCHARGE RATE =      42.29 CFS  AT   1.565 HOURS   BASIN AREA =   .1809 SQ. MI.
```

```
COMPUTE NM HYD       ID=1 HYD NO=B7 AREA=0.0556 SQ MI
                     PER A, B, C, & D 70 10 10 10
                     TP=0.23 HR MASS RAINFALL=-1

     K =   .125350HR    TP =   .230000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106437
     UNIT PEAK =   12.722    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.2600
     AREA =      .005560 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .288161HR    TP =   .230000HR    K/TP RATIO =  1.252874     SHAPE CONSTANT, N =  2.847772
     UNIT PEAK =   58.561    CFS   UNIT VOLUME =    .9997       B =   269.17      P60 = 1.2600
     AREA =      .050040 SQ MI    IA =    .60000 INCHES    INF =   1.53000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                   HYDROGRAPH FROM AREA B7

     RUNOFF VOLUME =      .23762 INCHES     =        .7046 ACRE-FEET
     PEAK DISCHARGE RATE =      15.23 CFS  AT   1.598 HOURS   BASIN AREA =   .0556 SQ. MI.


ADD HYD              ID=2 HYD NO=B7.1 ID=1 & 3
PRINT HYD            ID=2 CODE=1

                                   HYDROGRAPH FROM AREA B7.1

     RUNOFF VOLUME =      .18747 INCHES     =       2.3646 ACRE-FEET
     PEAK DISCHARGE RATE =      56.80 CFS  AT   1.565 HOURS   BASIN AREA =   .2365 SQ. MI.


FINISH

     NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 17:26:57
```

STREET CAPACITY

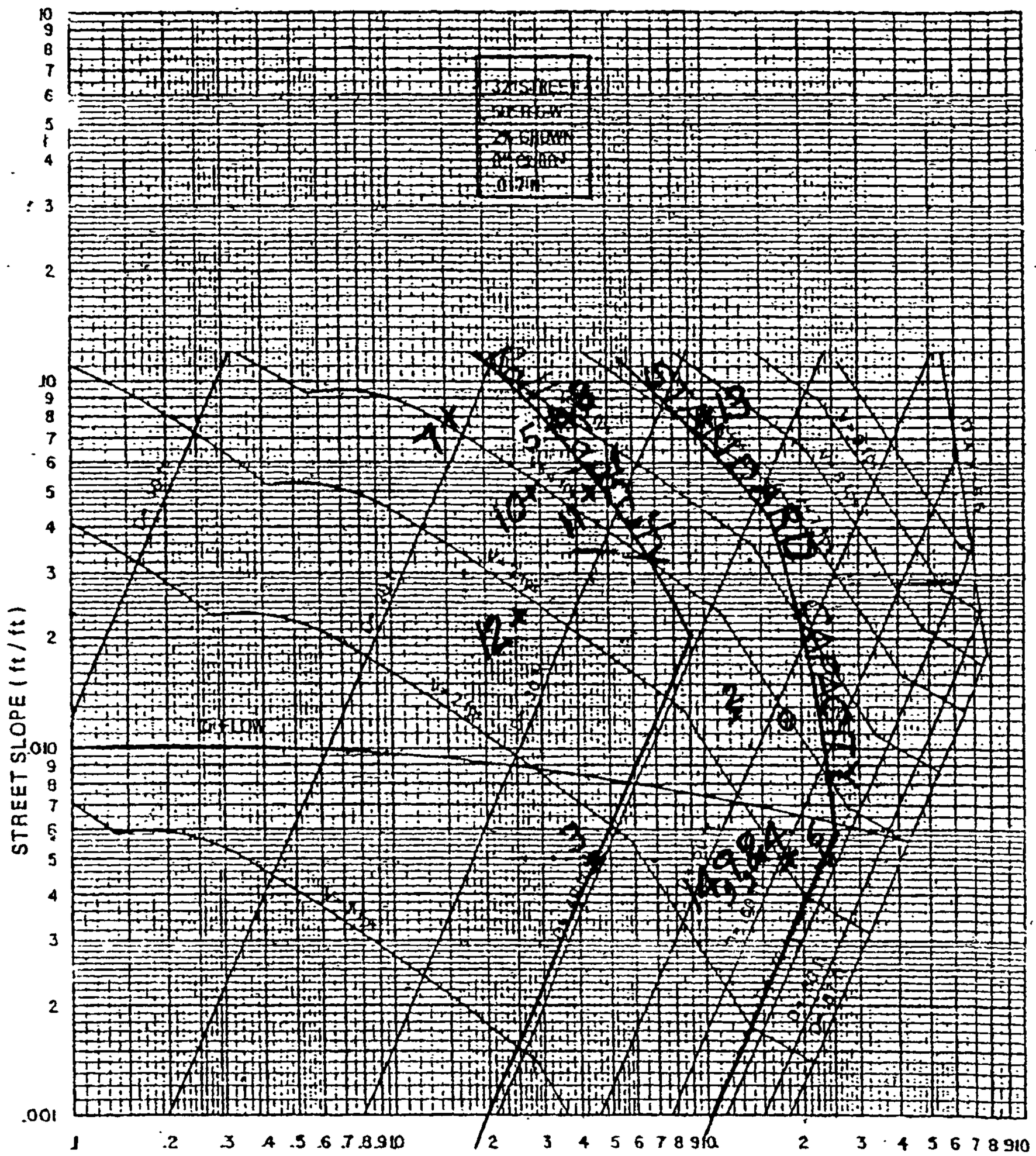
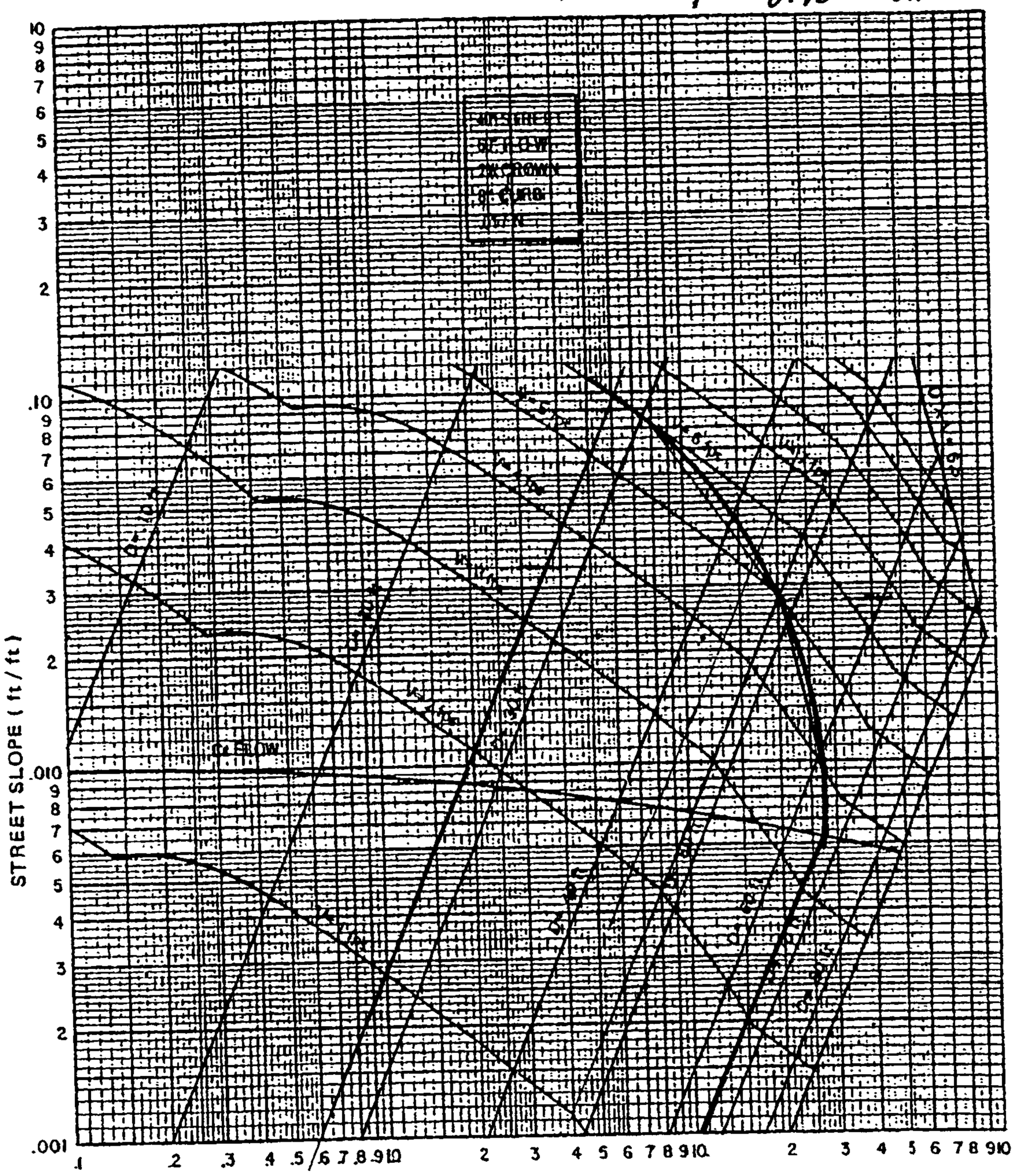


PLATE 22.3 D-1

Depths shown here are reduced by 3/4" for Roll Curb to account for different gutter Depression.

V	$\frac{V^2}{29}$	Std D	Roll D
4	0.25	0.62	0.396
5	0.39	0.48	0.20
6	0.56	0.31	
7	0.76	0.11	

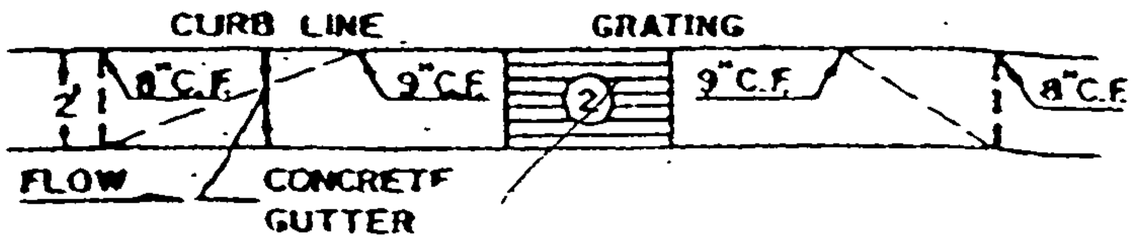
STREET CAPACITY



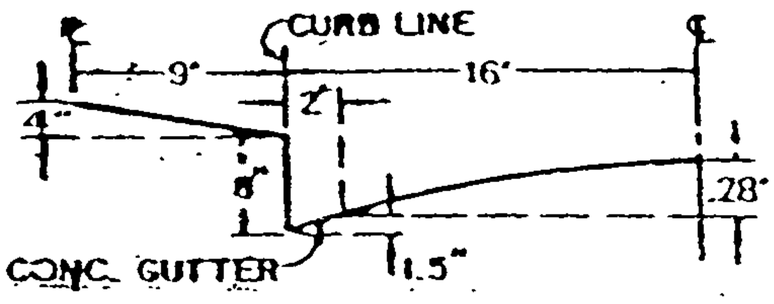
Note: Roll C&G depths are 0.06' less than shown in Table due to different gutter cross slope.

PLATE 22.3 D-2

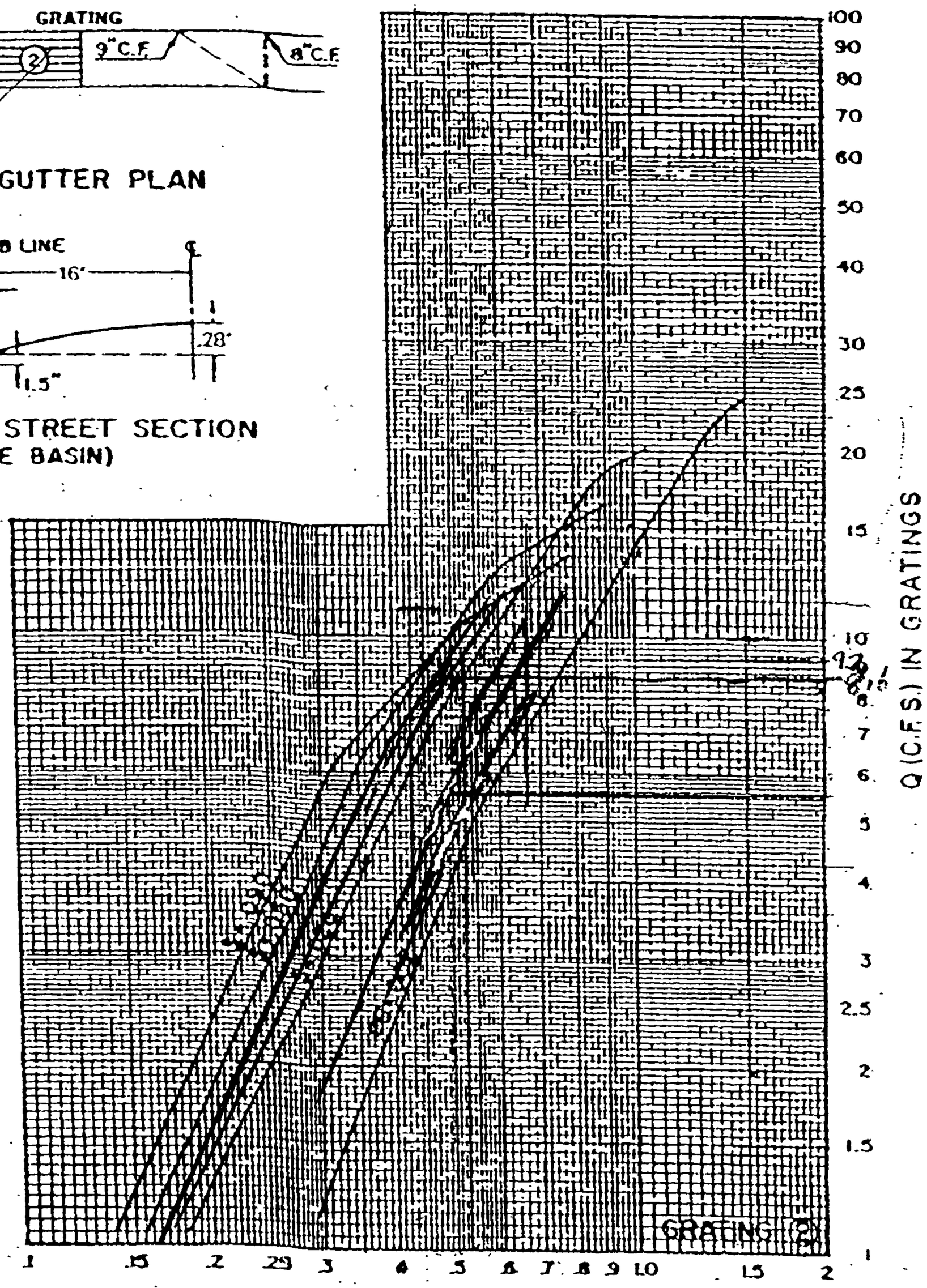
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



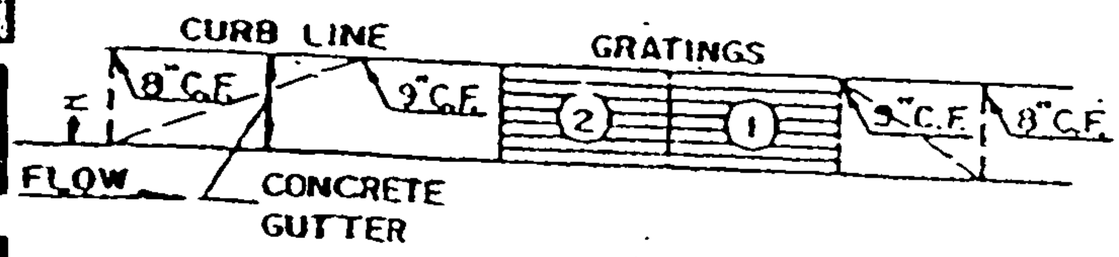
GRATING & GUTTER PLAN



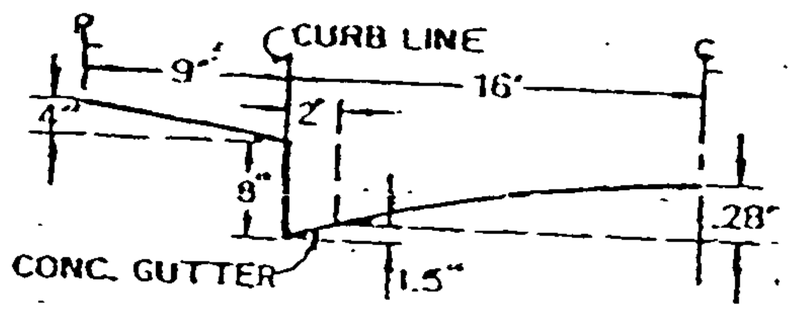
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



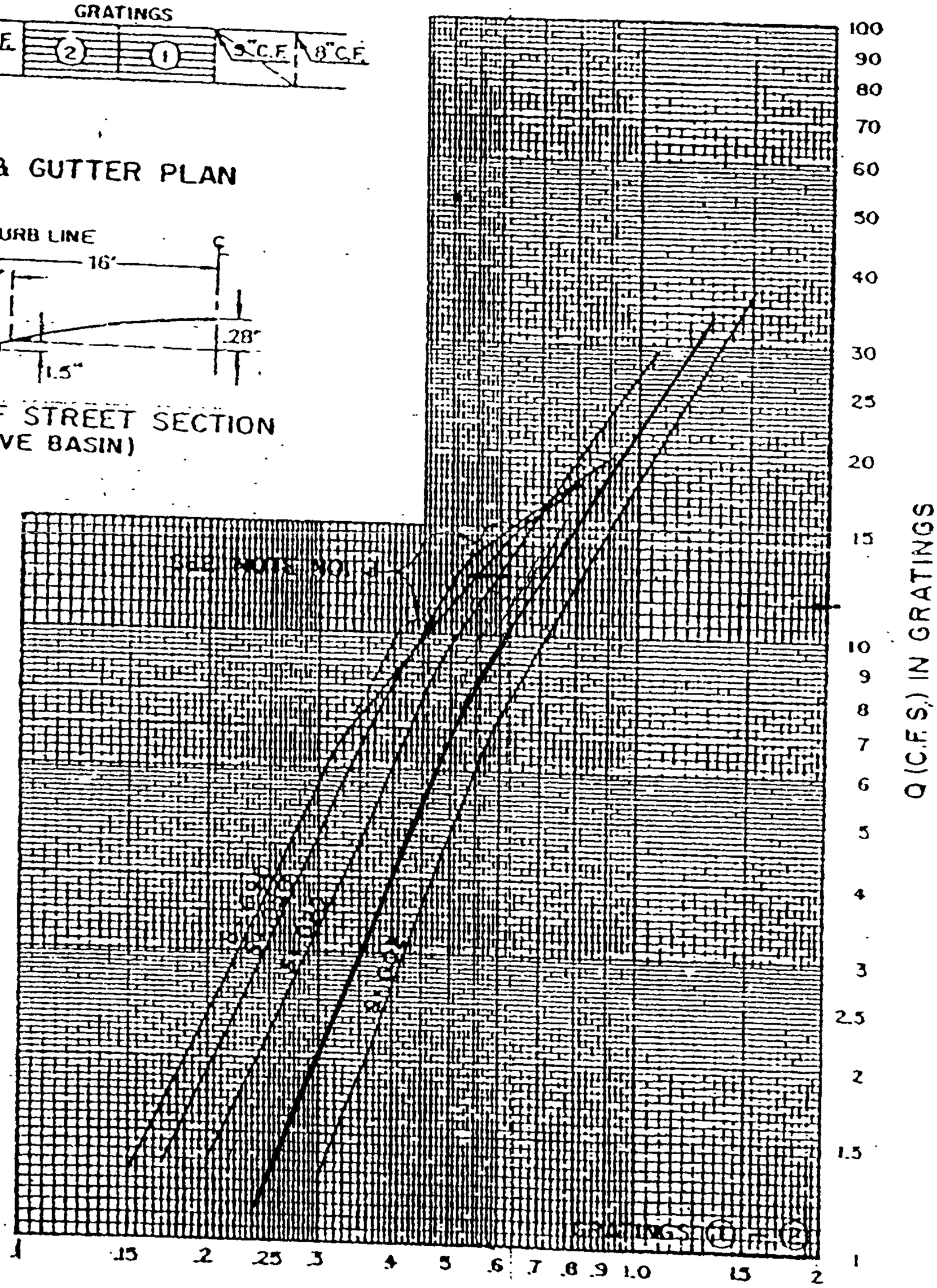
GRATING CAPACITIES FOR TYPE DOUBLE "C." AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



D=DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

722081

(14)

TEMPORARY PUBLIC DRAINAGE EASEMENT

2/18/04

THIS GRANT OF TEMPORARY EASEMENT, by and between Westland Development Co. Inc.("Grantor"), whose address is 401 Coors Blvd. NW Albuquerque, NM 87121 , and the City of Albuquerque, a New Mexico Municipal Corporation ("City"), whose address is P.O. Box 1293, Albuquerque New Mexico 87103.

1. **Grant of Temporary Public Drainage Easement.** The grantor grants to the City an exclusive, temporary public drainage easement ("Easement'), for a temporary retention pond ("Public Improvement"), on, over, across, and through the property described below ("Property"), together the right of the City to operate, maintain, repair, replace and construct the Public Improvement and the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if the City determines they interfere with the appropriate use of the Easement. The property is described as follows:

   A 2.5052 Acre portion of Tract B 28, TOWN OF ATRISCO GRANT, UNITE 5 filed in the office of the County Clerk of Bernalillo County, New Mexico on 12/05/1944 in Volume D, Folio 117 as shown on exhibit "A" attached hereto.

   See Exhibit "A", made part of this Agreement

2. **Warranties.** Grantor covenants and warrants that it is the owner is fee simple of the Property and that is has a good lawful right to convey the Property of any part thereof and the Grantor will forever warrant and defend the title to the Property against all claims from all persons or entities.

3. **Binding on Grantor's Property.** The grant and other provisions of this Easement constitute covenants running with title to the Property for the benefit of the City and its successors and assigns until terminated.

4. **Temporary.** This Easement will be released by the City when the city Engineers determines that the Easement is no longer required.

Witness My Hand and Seal this 23rd day of January, 2004.

Westland Dev Co Inc

APPROVED:

City Engineer

2-18-04

Dated

Grantor: Barbara Page

By: Pres CEO

Its:

KK 2/13/04

GRANTOR'S ACKNOWLEDGMENT

State of New Mexico)
) ss
County of Bernalillo)

This instrument was acknowledge before me this 23 day of JANUARY, 2004, by BARBARA PAGE, its PRESIDENT & CEO, on behalf of _____.

Linda J Blair
Notary Public

My Commission Expires:

Notary Public
My Commission Expires 7/5/05

1003606

f:\\03070\temp public drain.wpd

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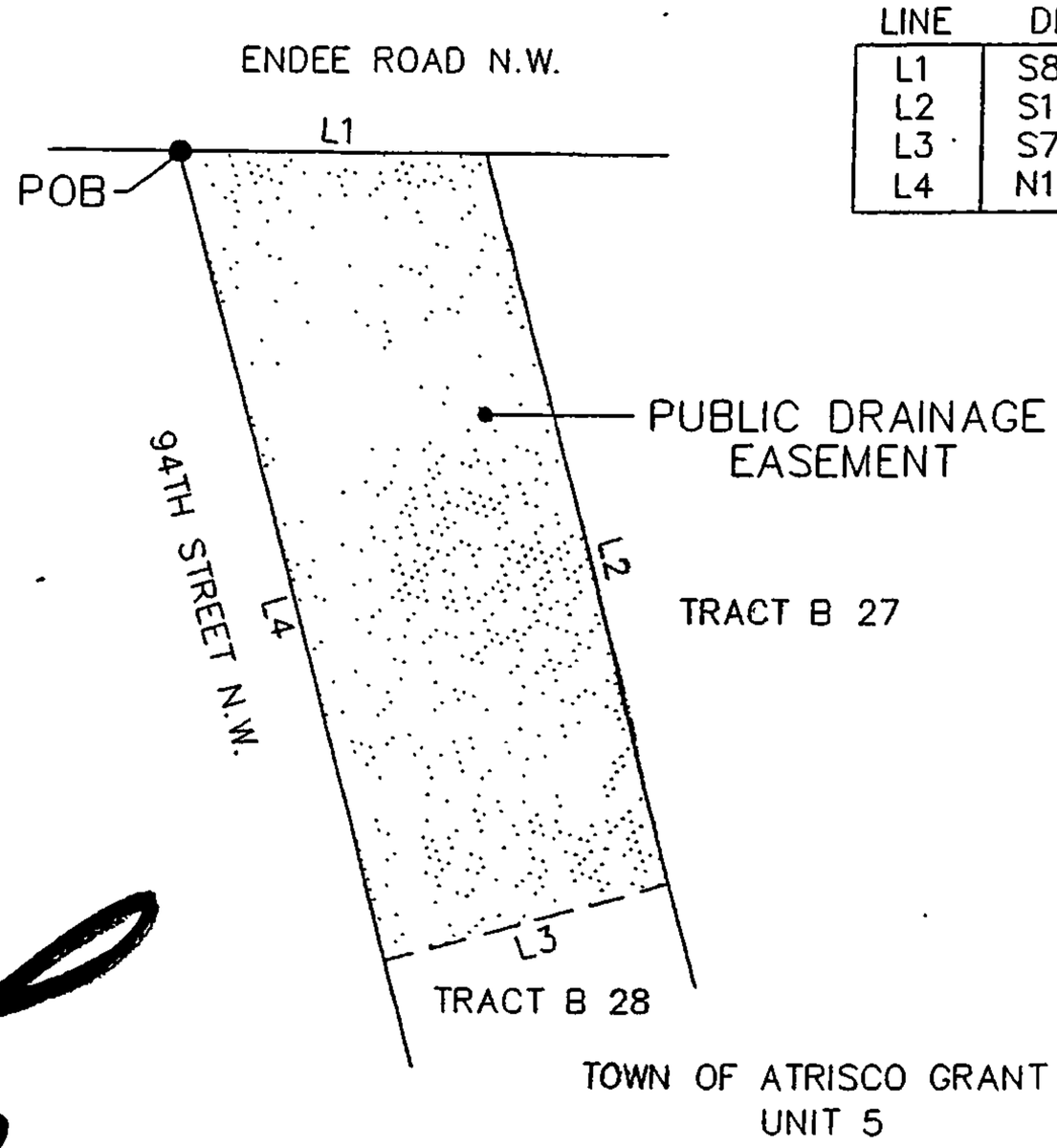
Page: 1 of 2
02/23/2004 03:26P
Bk-A73 Pg-2901
Maru Herrera Bern. Co. EASE R 11.00

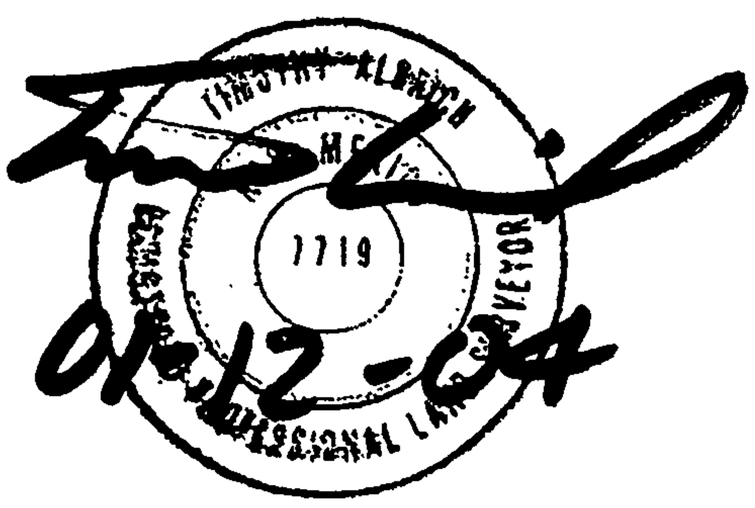
PUBLIC DRAINAGE EASEMENT

"EXHIBIT A"

NOT TO SCALE



LINE	DIRECTION	DISTANCE
L1	S89°48'05"E	210.24'
L2	S15°20'06"E	510.60'
L3	S74°39'54"W	202.56'
L4	N15°20'06"W	566.90'



DESCRIPTION

A Public Drainage Easement within the Town of Atrisco Grant, projected Section 16, Township 10 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being within TRACT B 28, TOWN OF ATRISCO GRANT, UNIT 5 as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico December 5, 1944 in Volume D, Folio 117 and being more particularly described as follows:

BEGINNING at the northwest corner of the herein described Easement, said point being on the south right-of-way line of Endee Road N.W. from whence the Albuquerque Control Survey Monument "BH-40" bears N 02°13'56" E, 3740.73 feet;

THENCE along said south right-of-way line S 89°48'05" E, 210.24 feet to the northeast corner;

THENCE leaving said south right-of-way line S 15°20'06" E, 510.60 feet to the southeast corner;

THENCE S 74°39'54" W, 202.56 feet to the southwest corner;

THENCE N 15°20'06" W, 566.90 feet to the point of beginning and containing 2.5052 acres more or less.

Mary Herrera Bern. Co. EASE R 11.00
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727081

AGREEMENT AND COVENANT

2\18\04

This Agreement and Covenant, between the City of Albuquerque, New Mexico ("City") and Westland Development Co. Inc., ("User") is made in Albuquerque, New Mexico and is entered into as of the date of recording this Agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of certain real property ("User's Property") located at Southeast corner of Endee Rd. And 94th St. NW, in Albuquerque, New Mexico, and more particularly described as: (give legal description and filing information)

Tract B 28, TOWN OF ATRISCO GRANT, UNITE 5 filed in the office of the County Clerk of Bernalillo County, New Mexico on 12/05/1944 in Volume D, Folio 117

The City is the owner of certain real property, easement or public right-of-way ("City's Property") in the vicinity of, contiguous to, abutting or within User's Property, and more particularly described as:

Temporary Public Drainage Easement on A 2.5052 Acre portion of Tract B 28, TOWN OF ATRISCO GRANT, UNIT 5 as filed in Bernalillo County clerk's office on February 23, 2004. in Book A73, Page 2901 Doc # 2004022966

The User wishes to construct upon, improve or repair and to maintain the following "Improvement" on the City's Property (or already has done so):

Temporary Retention Pond

A sketch of the proposed or existing Improvement is attached as Exhibit A and made a part of this Agreement.

The City agrees to permit the Improvement to exist on the City's Property provided the User complies with the terms of this Agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The User promptly will repair the Improvement to the City's satisfaction. The cost of repairing the Improvement will be paid by User.

3. User's Responsibility for Improvement. The User will be solely responsible for constructing, maintaining, repairing and, if required, removing the Improvement, all in accordance with standards required by the City as per the approved Grading and Drainage Plan J9/D19 on file at the City Engineer's office. The User will be solely responsible for paying all related costs. The User will not permit the Improvement to constitute a hazard to the health or safety of the general

Mary Herrera Bern. Co. AGRE R 19.00
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public or to interfere with the City's use of the City's Property. The User will conform with all applicable laws, ordinances and regulations.

4. Use of the Improvement. If the City's Property is a public right-of-way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 30 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the city within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This Agreement may be canceled, and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this Agreement shall be construed to relieve the User, his heirs, assigns and successors from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

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Bern. Co. AGRE R 19.00
Mary Herrera

10. Notice. For purposes of giving formal written notice to the User, User's address is:

Westland Development Co. Inc.
401Coors Blvd NW
Albuquerque, NM 87121
(505) 831-9600

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within 3 days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties as a result of user's use of the City's Property. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expense, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or failure to give directions or instructions by the indemnitee where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

12. Term. This Agreement shall continue until revoked by the City pursuant to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs, assigns and successors and on User's Property and constitute covenants running with User's Property until release by the City.

14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning or construction of any of its provisions.

Mary Herrera Bern. Co. AGRE R 19.00
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CITY OF ALBUQUERQUE:

By: _____
for Chief Administrative Officer
Dated: 2-18-04

USER: Westland Development Co. Inc.

Westland Development Co. Inc.
By: Barbara Page
Title: PRES & CEO
Dated: 1-23-04

APPROVED:

2-18-04
Director, Public Works Dept.

Reviewed by:

2-18-04
City Engineer

KJL 2/13/04

2/11/04

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on February 18, 2004, by Richard Dourte for Chief Administrative Officer for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the corporation.

Gloria D. Saavedra
Notary Public

My Commission Expires:
11-25-2007

USER'S ACKNOWLEDGMENT

STATE OF New Mexico)
) SS
COUNTY OF Bernalillo)

This instrument was acknowledged before me on January 23, 2004, by Barbara Page, Pres. & CEO, on behalf of Westland Development Co. Inc.

Linda J. Blair
Notary Public

My Commission Expires:

My Commission Expires 8/5/05

rpd4/agmcov3.agm (Revised by Legal 8/97)
f:\\03070\agreemnt & covenant.wpd

Mary Herrera Bern. Co. AGRE R 19.00
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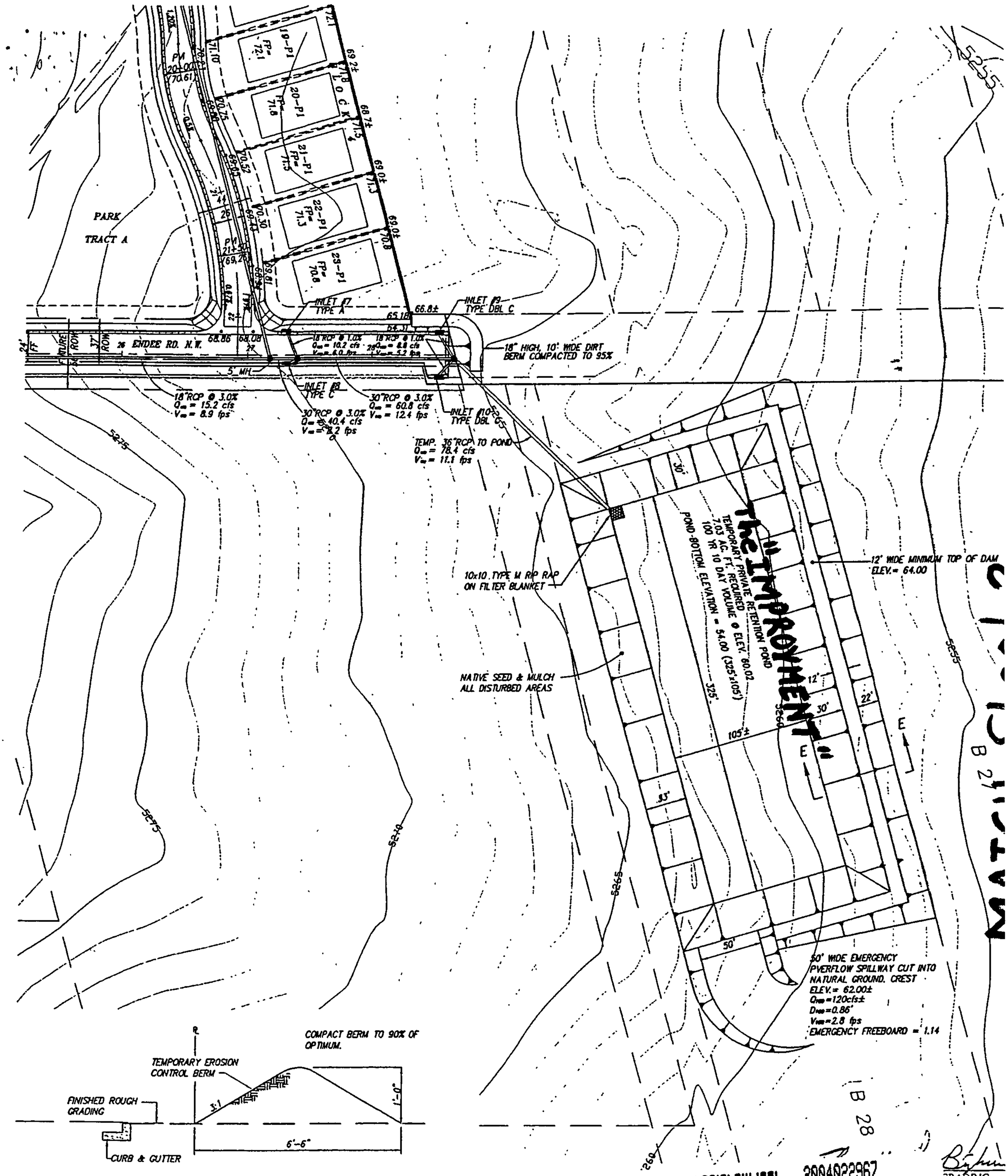

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. EROSION CONTROL BERMS ARE REQUIRED AROUND THE ENTIRE SITE.
5. ALL EROSION CONTROL BERMS MUST BE IN PLACE AND ENGINEER CERTIFIED PRIOR TO BUILDING PERMIT RELEASE.

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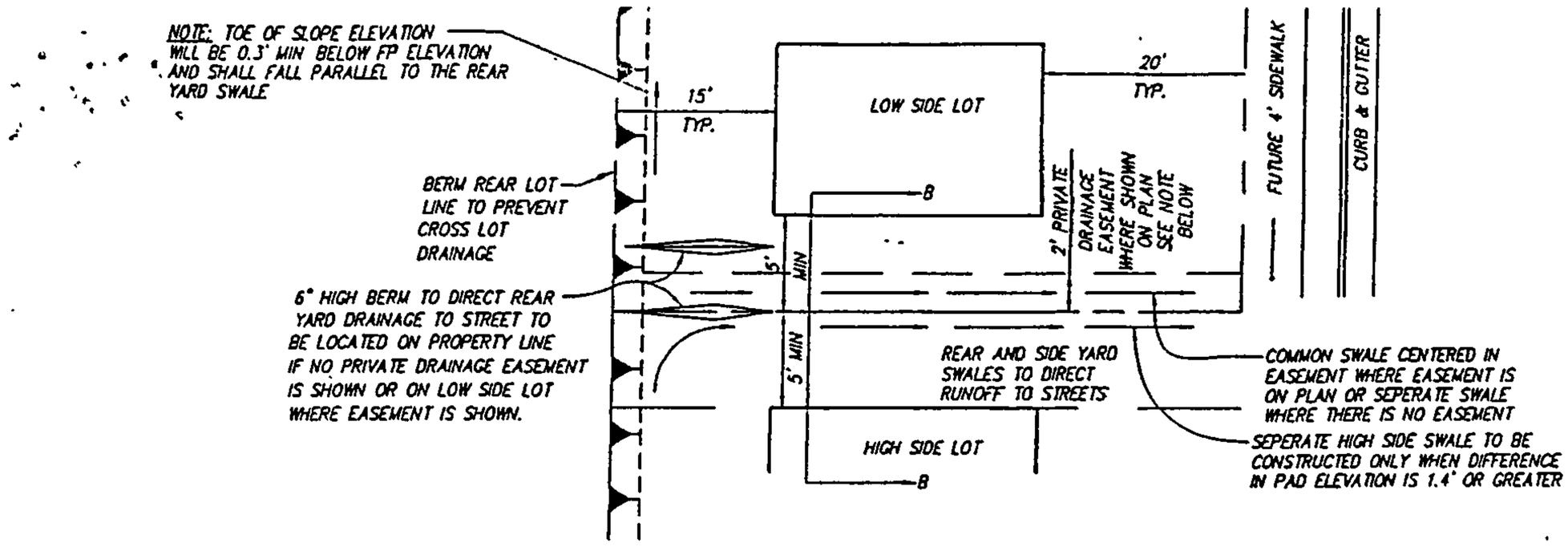
Mary Herrera Bern. Co. AGRE R 19.00



TYPICAL LOT GRADING DETAILS

NTS

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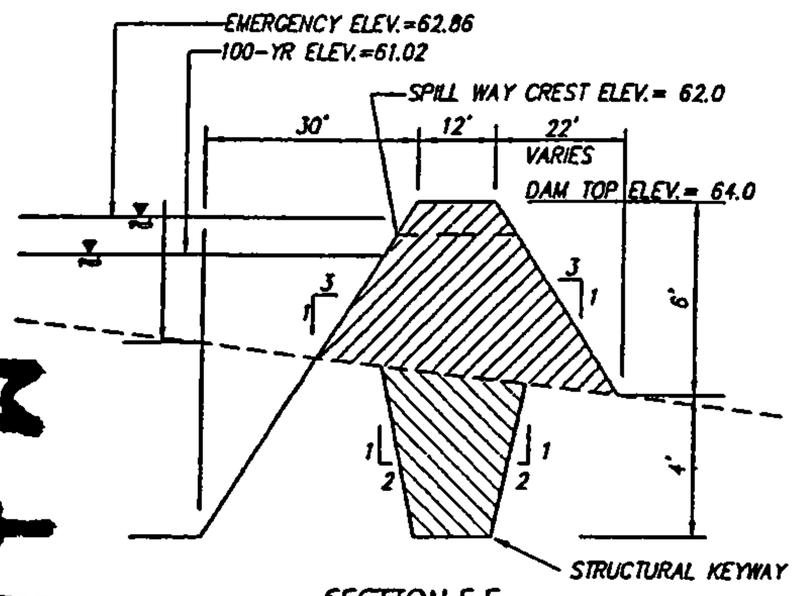
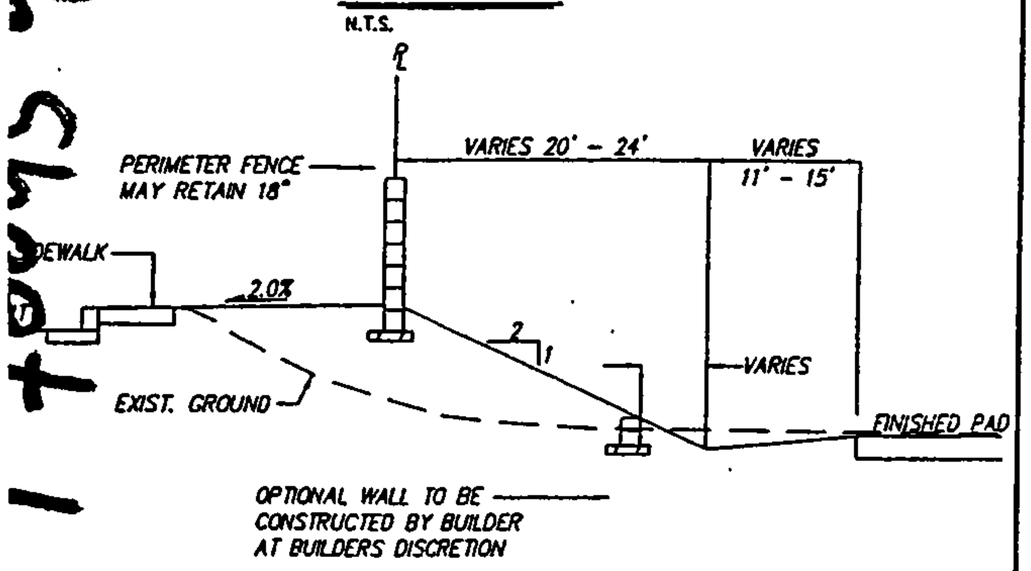
Mary Herrera Bern. Co. AGRE R 19.00 Bk-A73 Pg-2902



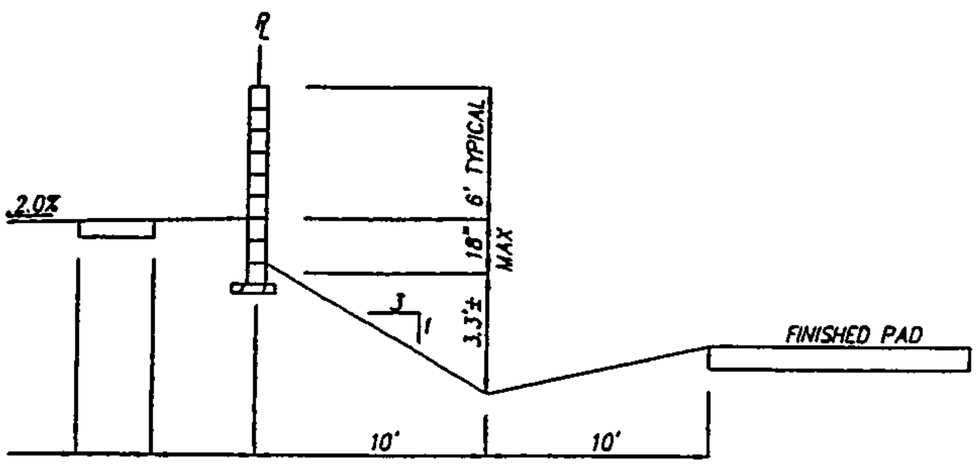
SECTION E-E

N.T.S.



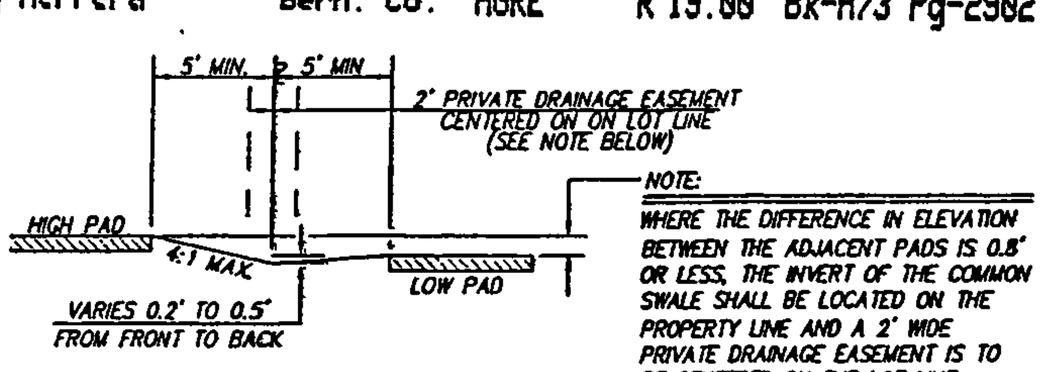
SECTION J-J

N.T.S.



SECTION K-K

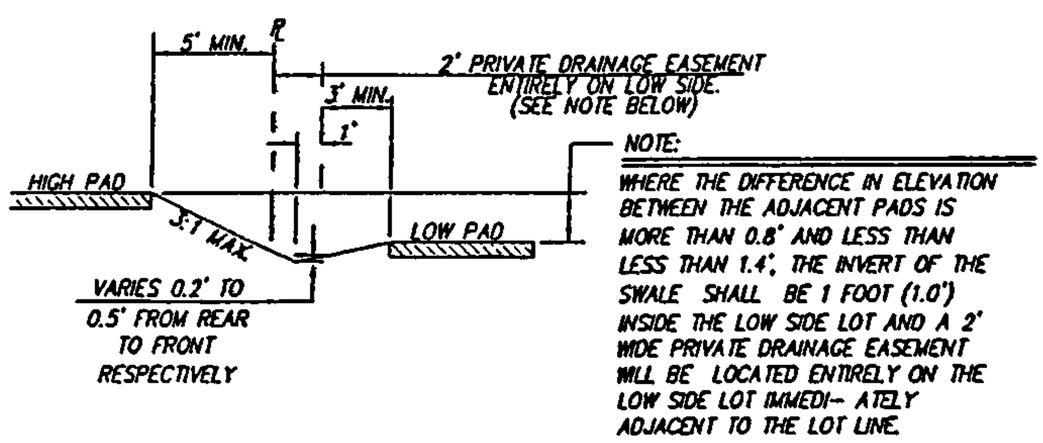
N.T.S.



NOTE:
WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE ADJACENT PADS IS 0.8' OR LESS, THE INVERT OF THE COMMON SWALE SHALL BE LOCATED ON THE PROPERTY LINE AND A 2' WIDE PRIVATE DRAINAGE EASEMENT IS TO BE CENTERED ON THE LOT LINE.

PAD TO PAD ≤ 0.8', SECTION B-B

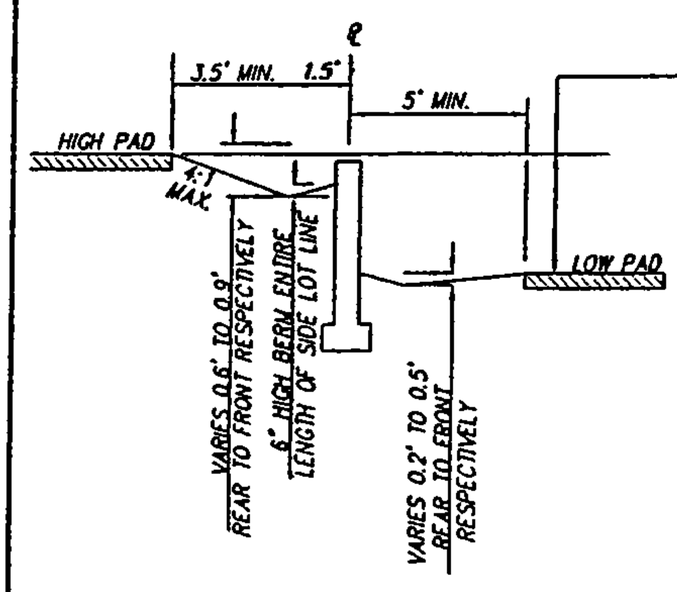
NTS



NOTE:
WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE ADJACENT PADS IS MORE THAN 0.8' AND LESS THAN LESS THAN 1.4', THE INVERT OF THE SWALE SHALL BE 1 FOOT (1.0') INSIDE THE LOW SIDE LOT AND A 2' WIDE PRIVATE DRAINAGE EASEMENT WILL BE LOCATED ENTIRELY ON THE LOW SIDE LOT IMMEDI-- ATELY ADJACENT TO THE LOT LINE.

0.8' < PAD TO PAD < 1.4', SECTION B-B

NTS



NOTE:
WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE ADJACENT PADS IS 1.4' OR MORE A RETAINING WALL MUST BE CONSTRUCTED BETWEEN THE LOTS AS SHOWN ON THE PLAN AND THERE WILL BE NO PRIVATE DRAINAGE EASEMENT. EACH LOT OWNER MUST CONSTRUCT, OPERATE, AND MAINTAIN HIS OWN SEPARATE DRAINAGE SWALE ALL THE WAY TO THE STREET AND CROSS LOT DRAINAGE WILL BE PREVENTED BY SOME COMBINATION OF WALLS AND BERMS ON THE COMMON LOT LINE TO BE JOINTLY MAINTAINED BY BOTH LOT OWNERS.

PAD TO PAD ≥ 1.4', SECTION B-B

NTS

EXHIBIT "A" Sheet 2 of 2

Math Check 1

PRIVATE DRAINAGE EASEMENTS:

2' wide private drainage easements are located in some side yards as shown hereon. Where the difference in elevation between the two adjacent pads is 0.8' or less the easement is centered on the lot line. Where the difference is more than 0.8' but less than 1.4' the easement is entirely on the low side of the lot line and immediately adjacent to that lot line. Where the easement is centered on the lot line it is for the mutual benefit of both lot owners and is to be jointly maintained. Where the easement is entirely on the low side of the lot line the easement is for the benefit of the adjacent "high side" lot owner and shall be maintained by the underlying "low side" lot owner. Neither lot owner is allowed to change the planned grade within the 2' wide private drainage easement, nor shall either lot owner place any loose material adjacent to the easement that has the potential to be moved into the drainage easement or in any other way block drainage in any portion of the easement, except that a fence or block wall may be centered on the lot line. Under no circumstances shall the grade adjacent to the easement on either side of the easement be changed except by a structurally sound retaining wall, as designed by a registered professional engineer or architect. Where no easement is shown on the plat each lot owner must construct, operate and maintain his own separate swale all the

1/9/03
DATE

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE: SUNDORO SOUTH SUBDIVISION GRADING AND DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	SI DESIGN UPDATE	MO/DAY/YR	MO/DAY/YR
DRB Approved	11/26/03			
For Information Only				

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN

		DATE
DESIGNED BY	JCH	09/03
DRAWN BY	RDQ	09/03
CHECKED BY	DMG	09/03

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE
RECORDED BY	DATE
NO.	

MICRO-FILM INFORMATION

REMARKS

STATION "REWARD IS LOCATED ABOUT 5 MILES WEST OF DOWNTOWN ALBUQUERQUE. TO REACH THE STATION FROM INTERSECTION OF CENTRAL AVE. AND STATE RD. 448 GO WEST ON CENTRAL 1.8 MI. TO NOLASCO RD. ON RT. (98TH ST. ON L.T.), THEN NORTH ALONG NOLASCO RD. CROSSING OVER US I-40, 1.0 MI. TO TRACK RD. LEFT (SW), THEN TAKE TRACK ROAD 0.1 MI. TO PYLON #PM 68 AND STATION TO LEFT. STATION IS STANDARD USC&GS BRASS TABLET STAMPED "REWARD 1969", SET IN TOP OF A CONCRETE POST PROJECTING 0.3 FT. ABOVE GROUND X = 350,944.85 Y = 1,487,301.42 (NAD1927) ELEV.=5316.951 (NGVD)

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

Jeffrey D. Dwyer
6-27-03
Rev 10-16-03

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 3, 2003

James D Hughes, PE
Mark Goodwin & Associates
P.O. 90606
Albuquerque, NM 87199

Re: Sundoro South Subdivision Drainage Report
Engineer's Stamp dated 10-16-03 (J9/D19)

Dear Mr. Hughes,

Based upon the information provided in your submittal dated 10-22-03, the above referenced report is approved for Preliminary Plat action by the DRB. All previous submittals are voided. Once the board approves the grading plan, please submit a mylar copy in order to obtain a Grading Permit.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Public Works Hydrology section at 768-3654 (Charles Caruso) or 768-3645 (Brian Wolfe).

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

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: file
Chuck Caruso, CoA

CITY OF ALBUQUERQUE

THREE HUNDRED YEARS 1706 • 2006
ALBUQUERQUE
Making History

April 25, 2005

Mr. Doug Hughes, PE
MARK GOODWIN & ASSOCIATES
P.O. Box 90606
Albuquerque, NM 87119

RE: SUNDORO SOUTH SUBDIVISION, UNITS 1 & 3 (J-9/D19)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 10/16/2003
Engineers Certification dated 04/19/2005

Dear Doug:

Based upon the information provided in your Engineer's Certification Submittal dated 04/19/2005, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

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

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services
BB

C: Marilyn Maldonado, COA# 727081
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

J-9/D19

DRAINAGE INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE	Sundoro South Units 1 & 3 , Engineer's Cert.	ZONE MAP/DRG #:	J8 & J9
DRB#: 1002935	EPC #	W.O #:	727081
LEGAL DESCRIPTION	Tract J-2-A , Westland North Subdivision		
CITY ADDRESS:	Ladera Drive @ 98th Street		
ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT	James D. Hughes, PE
ADDRESS	PO Box 90606	PHONE	828-2200
CITY, STATE:	Albuquerque, NM	ZIP CODE	87199
OWNER	Westland Development Co., Inc	CONTACT	Leroy Chavez
ADDRESS:	401 Coors NE	PHONE:	831-9600
CITY, STATE	Albuquerque, NM	ZIP CODE:	87121
ARCHITECT:		CONTACT:	
ADDRESS.		PHONE:	
CITY, STATE.		ZIP CODE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldirch
ADDRESS	P.O Box 30701	PHONE:	884-1990
CITY, STATE	Albuquerque, NM	ZIP CODE:	87190-0701
CONTRACTOR:		CONTACT:	
ADDRESS		PHONE.	
CITY, STATE:		ZIP CODE.	

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1ST SUBMITTAL, req. TCL or equal
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ✔ ENGINEER'S CERTIFICATION (TCL)
- ____ ENGINEER'S 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

Recd. 4/19/05

DATE SUBMITTED: _____ BY: _____

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 (5) acres and Sector Plans
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Brad Bingham
Transportation
City of Albuquerque

DATE: April 19, 2005

RE: Sundoro South, Units 1 & 3

ITEMS BEING TRANSMITTED

1	Engineer's Certification
1	Drainage Information Sheet

- ☐ FOR YOUR USE
- ☐ AS YOU REQUESTED
- ☐ FOR YOUR RECORDS
- ☐ FOR YOUR COMMENTS

RECEIVED
APR 19 2005
HYDROLOGY SECTION

Notes:

xc: Leroy Chavez – Westland Development w/ enclosures

PROJECT ENGINEER: Doug Hughes, PE

Susan Rasinski

P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax

J-9 / D19

DRAINAGE INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: Sundoro South
ZONE MAP/DRG #: J8 & J9
DRB#: 1002960
EPC #:
W.O.#:
LEGAL DESCRIPTION: Tract J-2-A , Westland North Subdivision
CITY ADDRESS: Ladera Drive @ 98th Street

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM
CONTACT: James D. Hughes, PE
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Westland Development Co., Inc
ADDRESS: 401 Coors NE
CITY, STATE: Albuquerque, NM
CONTACT: Leroy Chavez
PHONE: 831-9600
ZIP CODE: 87121

ARCHITECT:
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

SURVEYOR: Aldrich Land Surveying
ADDRESS: P.O. Box 30701
CITY, STATE: Albuquerque, NM
CONTACT: Tim Aldirch
PHONE: 884-1990
ZIP CODE: 87190-0701

CONTRACTOR:
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

CHECK TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN 1ST SUBMITTAL, req. TCL or equal
- ___ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ✔ GRADING PLAN
- ✔ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERTIFICATION (TCL)
- ___ ENGINEER'S 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)

RECEIVED
OCT 2 3 REC'D
DEVELOPMENT & BUILDING SERVICES

WAS A PRE-DESIGN CONFERENCE ATTENDED?

- ___ YES
- ✔ NO
- ___ COPY PROVIDED

DATE SUBMITTED: 10-22-03 BY: 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 (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Kristal Metro
COA / Project Review
ONE STOP

DATE: June 2, 2006

RE: **Sundoro South, Unit 2**

ITEMS BEING TRANSMITTED

1	Copy of Engineer's Certification Vicinity Map

☐ FOR YOUR USE ☐ FOR YOUR RECORDS

☐ AS YOU REQUESTED ☐ FOR YOUR COMMENTS

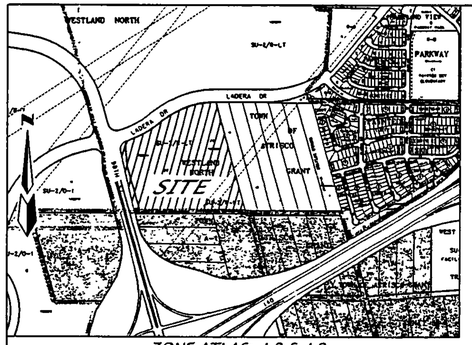
Notes:

RECEIVED
JUN 05 2006
HYDROLOGY SECTION

PROJECT ENGINEER:
Doug Hughes, PE

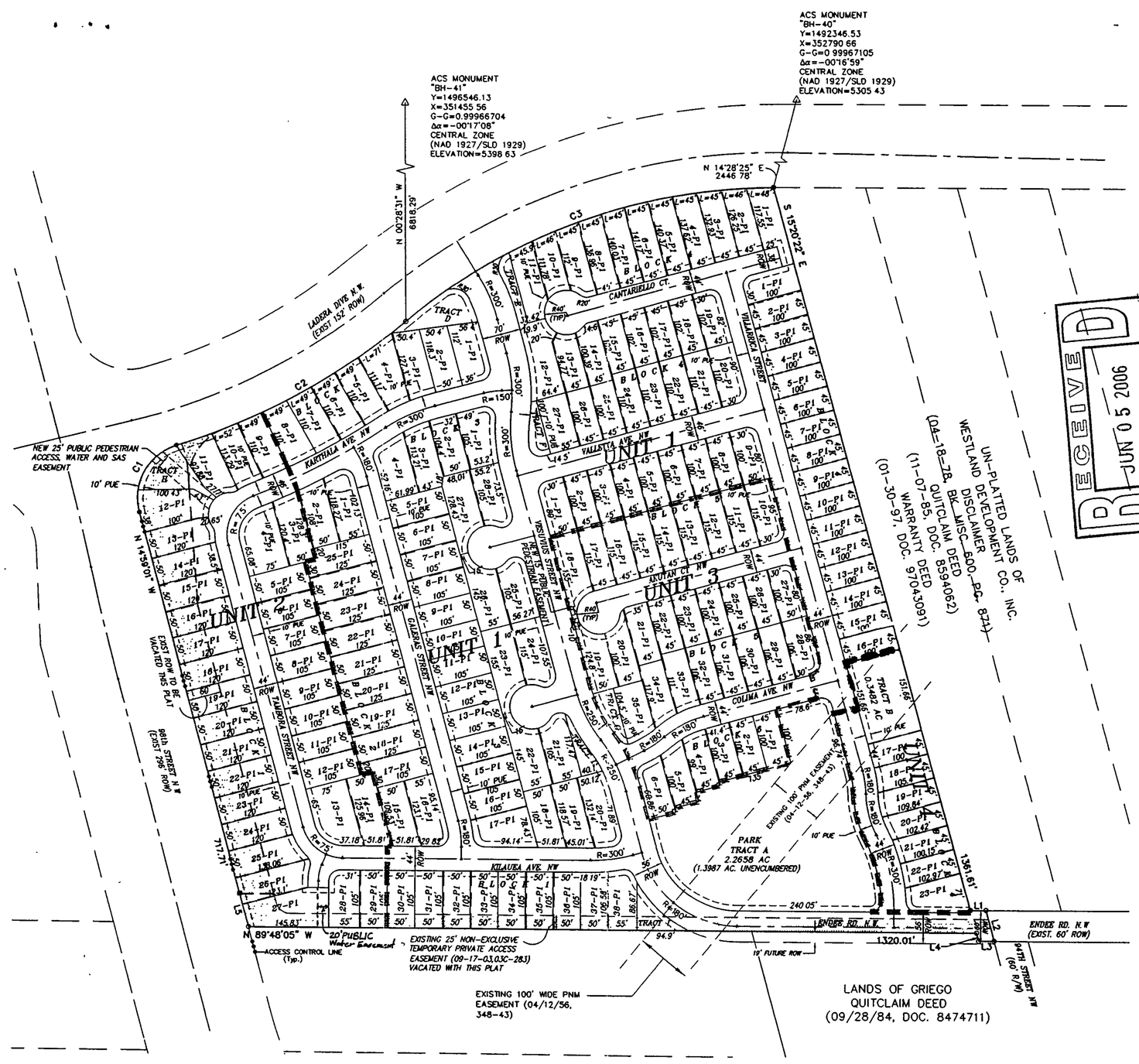
Lisa Anglada

P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax
www.goodwinengineers.com



ZONE ATLAS: J-8 & J-9

PRELIMINARY PLAT FOR
Sundoro South Subdivision
Units 1, 2, 3 & 4
TOWN OF ATRISCO GRANT
PROJECTED SECTION 16 AND 17
TOWNSHIP 10 NORTH, RANGE 2 EAST NMPM
CITY OF ALBUQUERQUE,
BERNALILLO COUNTY, NEW MEXICO
OCTOBER, 22nd 2003



RECEIVED
JUN 05 2006
HYDROLOGY SECTION

PROPERTY CORNERS

- ● SET 5/8" REBAR WITH CAP "ALS LS 7719" (TYP.)
- ○ FOUND 5/8" REBAR WITH CAP "LS 11993" (TYP.)
- ■ FOUND N.M.S.H.C. BRASS CAP

LINE TABLE

NUMBER	DISTANCE	DIRECTION	
L1	N 89°57'54" E		28.64'
L2	S 14°58'20" E		57.41'
L3	N 89°48'05" W		28.29'
L4	N 15°20'22" W		14.79'
L5	N 14°58'56" W		62.08'

CURVE TABLE

NUMBER	R = '	L = '	D =	T = '	CH BEARIN=	CHORD LE='
C1	100.00	153.49'	87°56'43"	96.48	N 28°59'20" E	138.86
C2	1176.00	476.58	23°13'09"	241.60	N 61°21'07" E	473.32
C3	1047.00'	726.52	39°45'28"	378.57	N 69°37'16" E	712 03

LEGEND

- 1-P1 — LOT NUMBER
- BLOCK 2 — BLOCK NUMBER
- ▲ — CENTER LINE MONUMENT
- ROW — RIGHT-OF-WAY
- VACATION
- 2' PRIVATE DRAINAGE EASEMENTS' CENTER ON LOT LINES (TYP)
- 2' PRIVATE DRAINAGE EASEMENTS' ON LOW SIDE OF LOT LINES (TYP)
- NEW UNIT LINES

N

100' 50' 0 100' 200'
SCALE: 1" = 100'

PURPOSE OF PLAT

1. SUBDIVIDE 1 PARCEL INTO 186 LOTS AND 9 TRACT AND 1 PARK
2. DEDICATE RIGHT-OF-WAY AS SHOWN.
3. GRANT NEW EASEMENTS AS SHOWN.
4. VACATE RIGHT-OF-WAY AS SHOWN.
5. ALL RETURNS ARE 20 FOOT RADIUS UNLESS OTHERWISE SHOWN.

LEGAL DESCRIPTION

A tract of land situate within the Town of Atrisco Grant, projected Sections 16 and 17, Township 10 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of PARCEL J-2-A, WESTLAND NORTH, as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico September 17, 2003, in Book 2003C, Page 283, together with a portion of VACATED I-040 right-of-way being a portion of Parcel 8-7-15A as shown on NEW MEXICO STATE HIGHWAY COMMISSION RIGHT-OF-WAY MAP I-040-3(28)148 (Sheet 7A) and a portion of VACATED LADERA DRIVE N.W. and containing 34.1294 acres more or less.

SUBDIVISION DATA

GROSS ACREAGE	34.1294 AC
ZONE ATLAS NO	J-8-Z AND J-9-Z
NO. OF LOTS CREATED	182 LOTS
NO. OF TRACTS CREATED	9 TRACT
AREA DEDICATED TO CITY	8.5150 AC
ZONING	SU-2/R-LT
DATE OF SURVEY	JUNE 2003

NOTES

1. UNLESS OTHERWISE NOTED, ALL BOUNDARY CORNERS SHOWN THUS ○ SHALL BE MARKED BY A #5 REBAR W/CAP STAMPED PS#11993

2 ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PT'S, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS ▲, WILL BE MARKED BY A FOUR INCH (4") ALUMINUM CAP STAMPED·
"CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION"
"DO NOT DISTURB"
PS#7719"

3 BOUNDARY SHALL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.

4 BASIS OF BEARING SHALL BE NEW MEXICO STATE PLANE GRID BEARINGS.

5. ALL DISTANCES SHALL BE GROUND DISTANCES.

6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY, STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.

7. TRACT A IS FOR CITY OWNED PUBLIC PARK.

8 TRACTS B through H ARE TO BE HOA OWNED AND MAINTAINED FOR LANDSCAPING.

9. TRACT I IS FOR POSSIBLE FUTURE RIGHT-OF-WAY DEDICATION AND IS TO BE OWNED BY DEVELOPER AND IS TO BE TEMPORARILY MAINTAINED BY HOA.

APPROVED FOR MONUMENTATION AND STREET NAMES

City Surveyor, City of Albuquerque, N.M. — Date 10-15-03

Owner: Westland Development

Leroy J Chavez — DATE 10/15/03
V.P. of Development, Westland Development Co., Inc.

BENCHMARK

TBM
SURV-TEK CP 105
EL=5330.80
X = 351245 94
Y = 1490505.91

OWNERS

WESTLAND DEVELOPMENT
401 COORS NW
ALBUQUERQUE, N.M 87121
(505) 831-9600

ENGINEERS

D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

SURVEYOR

ALDRICH LAND SURVEY
P.O. BOX 30701
ALBUQUERQUE, N.M. 87190-0701
(505) 884-1990

FOR INFORMATION ONLY

dmg
MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

Designed: JDH	Drawn: SPS, ACH	Checked: DMG	Sheet 2 of 8
Scale. 1" = 100'	Date 09-30-03	Job. A03070	

City Project # 727083 Map J-8

CITY OF ALBUQUERQUE

June 5, 2006

Mr. James D. Hughes, PE
MARK GOODWIN & ASSOCIATES
P.O. Box 90606
Albuquerque, NM 87199

RE: SUNDORO SOUTH SUBDIVISION, UNIT 2 (J-9/D19)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 10/16/2003
Engineers Certification dated 05/25/2006

Dear Doug:

Based upon the information provided in your Engineer's Certification Submittal dated 06/01/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

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

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: Marilyn Maldonado, COA# 727082
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

J-9 | D19

PROJECT TITLE: Sundoro South Unit 2
DRB #: 1002960 EPC#:_____

ZONE MAP/DRG. FILE #: J-B/9
WORK ORDER#: 727082.

LEGAL DESCRIPTION: Parcel J-2-B Westland North & Lot 43-P1, Blk 4, Tr L Sundoro S. Subd.Unit 1
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: James D. Hughes
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Westland Development Co., Inc.
ADDRESS: 401 Coors Blvd NW
CITY, STATE: Albuquerque, NM

CONTACT: Leroy Chavez
PHONE: 831-9600
ZIP CODE: 87121

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE:

SURVEYOR: Aldrich Land Surveying
ADDRESS: PO Box 30701
CITY, STATE: Albuquerque, NM

CONTACT: Tim Aldrich
PHONE: 884-1990
ZIP CODE: 87190-0701

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ 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:

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- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
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- ☐ FINAL PLAT APPROVAL
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- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☒ CERTIFICATE OF OCCUPANCY (TEMP.)
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- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JUN 01 2006
HYDROLOGY SECTION

DATE SUBMITTED: 6/01/2006 BY: James D. Hughes

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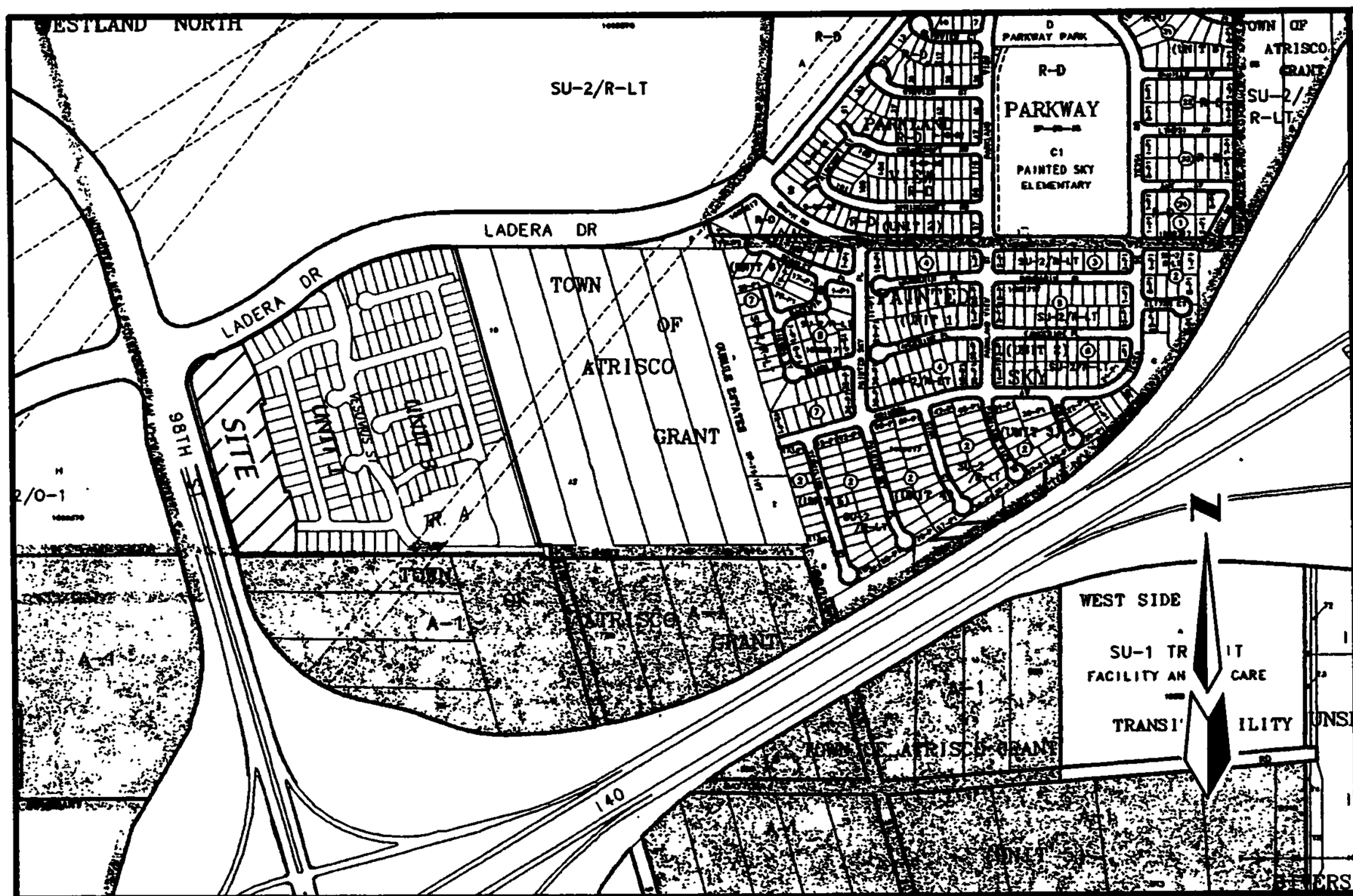
DRB 1002960 SUNDORO SOUTH SUBD UNIT 2



LOCATION MAP

ZONE ATLAS J-8-Z & J-9-Z

SCALE: NONE

RECEIVED
JUN - 1 2006
HYDROLOGY SECTION

SUBDIVISION DATA

Gross acreage	5.7624 AC
Zone Atlas No.	J-8-Z & J-9-Z
No. of existing Tracts	1 Tract
No. of Lots/Tracts created	33 Lots/ 1 Tract
No. of Tracts eliminated	1 Tract
Miles of full width streets created	0.18
Right-of-way area vacated	1.2689 AC

LEGAL DESCR

NOTES

1. Bearings are
2. Distances ar
3. Bearings anc
4. Basis of bou
   SUNDORO S
   WESTLAND
   WESTLAND
5. Tract H is to

PURPOSE OF

1. Subdivide Tract
   Right-of-way int
2. Dedicate new R
3. Grant easemen
4. Vacate Public F

PUBLIC UTIL

Arlene V. Portillo/PWD/CABQ
11/08/2006 01:29 PM

To Brad L. Bingham/PWD/CABQ@COA
cc
bcc Arlene V. Portillo/PWD/CABQ
Subject Fw: Drainage from 9543 Akutan Ct. NW

Here's the latest email from Teresa Caccamise. She left a voice mail message again on my phone yesterday, (Tuesday, 11/7/06).

Arlene V. Portillo, Plan Checker
Planning Department, Hydrology Section
e-mail - aportillo@cabq.gov
Office Phone 505-924-3982; Fax 505-924-3864
---- Forwarded by Arlene V. Portillo/PWD/CABQ on 11/08/2006 01:26 PM ----

"T CACCAMISE"
<t_caccamise@msn.com
>
10/09/2006 05:13 PM

To <aportillo@cabq.gov>
cc <bbingham@cabq.gov>
Subject Re: Drainage from 9543 Akutan Ct. NW

I haven't heard anything. Has this been done yet?

Thank you.
----- Original Message -----
From: aportillo@cabq.gov
To: BBingham@cabq.gov
Cc: t_caccamise@msn.com
Sent: Wednesday, October 04, 2006 11:11 AM
Subject: Drainage from 9543 Akutan Ct. NW

Brad: I received a phone call from Theresa Caccamise, 9539 Akutan Ct. NW, 332-8880 regarding a drainage problem from the lot at 9543 Akutan Ct. NW. I have left the file (Sundoro South Subdivision, Unit 3, J-9/D19) in your office for your review.

Arlene V. Portillo, Plan Checker
Planning Department, Hydrology Section
e-mail - aportillo@cabq.gov
Office Phone 505-924-3982; Fax 505-924-3864

Arlene V. Portillo/PWD/CABQ
10/04/2006 11:11 AM

To Brad L. Bingham/PWD/CABQ@COA
cc t_caccamise@msn.com
bcc Arlene V. Portillo/PWD/CABQ
Subject Drainage from 9543 Akutan Ct. NW

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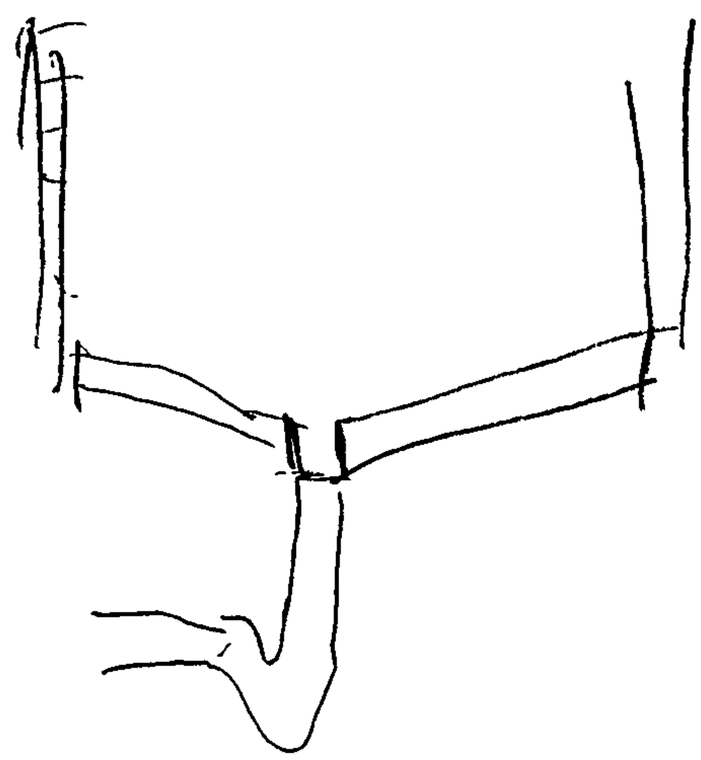
Arlene V. Portillo, Plan Checker
Planning Department, Hydrology Section
e-mail - aportillo@cabq.gov
Office Phone 505-924-3982; Fax 505-924-3864