	ENGINEERS ESTIMATE						
	JANUARY 22, 1997						
BID ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT	AS-BUILT QUANTITY	AS-BUILT AMOUNT
910.24	54 " RCP CLASS IV, LF	222	$90.00	$19,980.00		
910.26	60" RCP CLASS IV, LF	562	$100.00	$56,200.00		
910.09	24" RCP CLASS III, LF	32	$30.00	$960.00		
910.17	36" RCP CLASS III, LF	8	$50.00	$400.00		
701.12	TRCHG, BF & COMP, 18-36", 12-16' D, LF	40	$17.00	$680.00		
801.136	RES PVMT, R & R, W/O M, SY	50	$18.00	$900.00		
***	TRCHG, BF & COMP 54" SD, 12-16' D, LF	122	$43.00	$5,246.00		
***	TRCHG, BF & COMP 54" SD, 16-20' D, LF	100	$57.00	$5,700.00		
***	TRCHG, BF & COMP 60" SD, 20-24' D, LF	562	$68.50	$38,497.00		
***	72 X 60" RCP REDUCER, EA	1	$1,565.00	$1,565.00		
***	6' DIA MH, 16-18' D, EA	2	$3,500.00	$7,000.00		
***	8' DIA MH, 20-24' D, EA	2	$9,260.00	$18,520.00		
***	SUPPORT EXIST P. POLES, EA	7	$500.00	$3,500.00		
***	TRAFFIC CONTROL, LS	1	$3,450.00	$3,450.00		
***	CONNECT 30" STUBOUT TO EXISTING 4' DIA MH, EA	1	$1,500.00	$1,500.00		
***	REMOVE & RELAY EXIST 54" RCP, LF	27	$75.00	$2,025.00		
***	SLOTTED MANHOLE COVER AT MH, EA	1	$500.00	$500.00		
SUBTOTAL ESTIMATED IMPROVEMENTS:				$166,623.00		
NMGRT (5.5625%)				$9,268.40		
TOTAL ESTIMATED IMPROVEMENTS:				$175,891.40		

CITY OF
Albuquerque

January 22, 1997

Martin J. Chávez, Mayor

Dennis A. Lorenz, PE
Brasher & Lorenz, Inc.
2201 San Pedro NE
Building #1 - Suite 210
Albuquerque, NM 87109

RE: MIAMI STORM DRAIN (H11-D57). DRAINAGE REPORT FOR WORK ORDER APPROVAL. ENGINEER'S STAMP DATED JANUARY 22, 1997

Dear Mr. Lorenz:

Based on the information provided on your January 15, 1997 submittal, the above referenced project is approved for Work Order approval.

An Engineer's Certification will be required prior to release of financial guarantees.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Dan Hogan
Fred Aguirre
Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: MIAMI STORM DRAIN ZONE ATLAS/DRNG. FILE #: H-11/D57

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

LEGAL DESCRIPTION: MIAMI ROAD NW

CITY ADDRESS: MIAMI ROAD NW

ENGINEERING FIRM: Brasher & Lorenz, Inc. CONTACT: Dennis A. Lorenz

ADDRESS: 2201 San Pedro NE Bldg.1 Suite 210 Albuquerque, New Mexico 87110 PHONE: 888-6088

OWNER: AMAFCA CONTACT: L. BLAIR

ADDRESS: 2600 PROSPECT NE PHONE: 884-2215

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: ISSACSON - ARFMAN CONTACT: F. ARFMAN

ADDRESS: 128 MONROE NE PHONE: 268-8828

CONTRACTOR: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

___ OTHER _____

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ S. DEV. PLAN FOR SUB'D. APPROVAL

___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

___ SECTOR PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ BUILDING PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ GRADING PERMIT APPROVAL

___ PAVING PERMIT APPROVAL

___ S.A.D. DRAINAGE REPORT

___ DRAINAGE REQUIREMENTS

X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 1-15-97

BY: Dennis A. Lorenz

MIAMI SD

LISA MANWILL

1"=40'

TOMPIR

STA 13+94
6' DIA MH
10' LT.

STA 12+20.19, 7.64' LT
REMOVE & DISPOSE
54" RCP END CAP

WATER BLOCK

ESTANCIA DR NW

340B

TR. 339

FUTURE C & G (TYP)

GATE

FENCE

5099

54"

SAS

18" SAS

8" SAS

CONC. SIDEWALK

RAMP

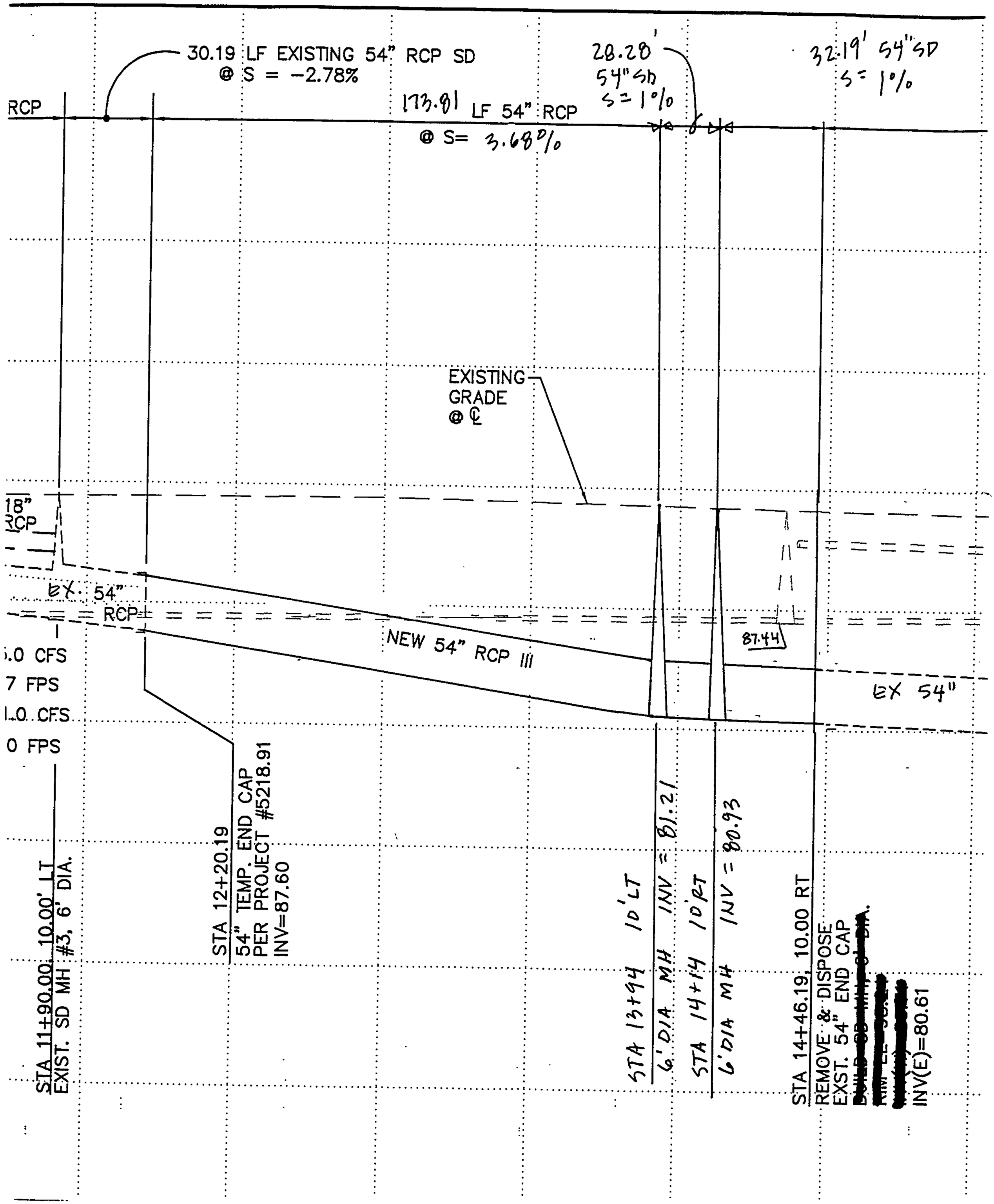
CONC.

TR. 313

STA 14+14
6' DIA MH
10' RT

STA 14+46.19, 10.00' RT
REMOVE & DISPOSE EXST.
54" RCP END CAP
[redacted]

MIAMI ROAD NW



DESIGN REPORT

FOR

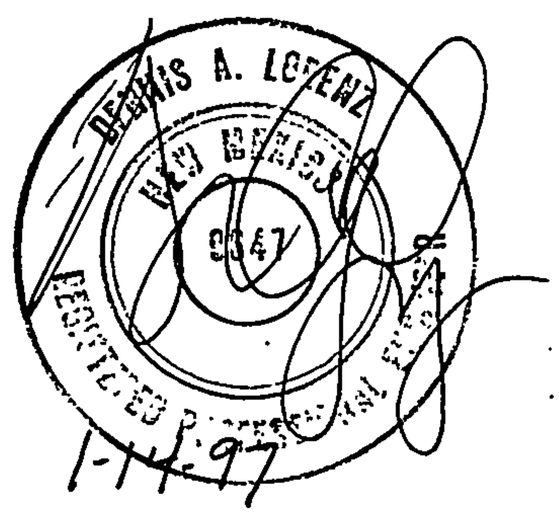
MIAMI STORM DRAIN

WEST BLUFF OUTFALL PHASE IIA

Albuquerque, New Mexico

Prepared By:

BRASHER & LORENZ, INC.
Consulting Engineers
San Pedro NE Building 1, Suite 210
Albuquerque, New Mexico 87110



January 1997

TABLE OF CONTENTS

TITLE	PAGE NO.
PURPOSE AND SCOPE	1
PROJECT DESCRIPTION	1
AUTHORITY	1
DESIGN CRITERIA	1
PROPOSED DESIGN	2

LIST OF FIGURES AND EXHIBITS

TITLE	PAGE NO.
VICINITY MAP - FIGURE 1	APPENDIX
DRAINAGE BASIN MAP - FIGURE 2	APPENDIX
CALCULATIONS	APPENDIX
PLAN AND PROFILE SHEETS	APPENDIX

PURPOSE AND SCOPE

The purpose of this report is to outline the criteria for the design of the **Miami Road Storm Drain Project** from a point approximately 200 feet west of Estancia Drive NW to the West Bluff Outfall concrete box culvert (under construction). The scope is to verify the main line pipe diameters, locate stubouts for future development, and locate drop inlets required to manage existing and developed excess runoff.

DESCRIPTION

The project consists of the construction of 54 inch and 60 inch sections of storm drain from at the terminus of the existing 54 inch storm drain provided by Summer Ray Subdivision. The storm drain begins approximately 200 feet west of Estancia Drive. Another section of 54 inch storm drain was constructed by Tompiro Subdivision from Estancia east approximately 410 feet. The project will connect the gaps left between Summer Ray and Tompiro (224 lf 54 inch) and complete the connection to the West Bluff Outfall (562 lf 60 inch).

AUTHORITY

A meeting was held December 20, 1996 at AMAFCA to discuss the construction of the Miami Storm Drain. Previous verbal agreements between AMAFCA, the City of Albuquerque, local property owners, and land developers established intent by all parties to financially contribute to the construction cost of the project. At the meeting the following points were made:

1. The design of the storm drain would by provided by the private sector at no cost to AMAFCA or the City.

   $60,000 (max)

2. AMAFCA and the City would contribute monies for construction of the ~~mainline~~ Project and stubouts. All drop inlets and connector pipes would by ~~by~~ at private expense.

3. A LOMR would be prepared at no cost to AMAFCA or the City.

4. Brasher & Lorenz, Inc. would coordinate and finish the design drawings prepared by Issacson & Arfman. The scope of work is to verify mainline pipe sizes and locate stubouts and drop inlets along the proposed sections of the storm drain.

Estimate?

DESIGN CRITERIA

Criteria for design of the storm drain has the following sources:

1. **West Bluff Outfall Drainage Management Plan**, Scanlon & Associates,

January 1987.

2. **Drainage Report for Summer Ray Subdivision**, Issacson & Arfman, PA, March 1995.

3. **Drainage Report for Tompiro Subdivision**, D. Mark Goodwin & Associates, Inc, March 1995.

4. **Drainage Report for the Miami Storm Drain**, D. Mark Goodwin & Associates, Inc, February 1995.

5. **Drainage Report for Dos Caminos**, Brasher & Lorenz, Inc, December 1996.

Of the above studies, the Drainage Report for Summer Ray Subdivision provided the most recent analysis of the storm drain. The Report analyzed the storm drain for developed conditions under 2 scenarios: with and without addition of an off-site playa, located east of 72nd Street and south of Ouray Road NW. Development was anticipated based on current zoning. Preliminary plans were prepared based on accepting future developed flows from the playa. Design limits begin near 64th Street and extend east to the West Bluff Outfall. Pertinent sections of the Report are included in the Appendix for review of the mainline pipe sizing.

PROPOSED DESIGN

The mainline pipe sizing of the storm drain was determined by previous studies, namely the Drainage Report for Summer Ray Subdivision. The scope of this analysis is to locate stubouts for future development and position drop inlets to collect excess surface flow. Per the DRSR and the associated construction drawings a water block is to be constructed on Miami Road near the east subdivision boundary of Summer Ray. The purpose of the water block is to collect all surface flows in Miami originating from the west at this location. The result is that no street flows will exist in Miami just west of Estancia Drive. The resulting drainage basins which effect the downstream portions of Miami Road are shown on Figure 2. Based on the resultant drainage basins, stubouts and drop inlets are located as follows:

1. A collection system will be placed at the eastern boundary of Tompiro and Dos Caminos to intercept existing and developed flows at the present terminus of the paved section of Miami Road. Two 24 inch stubouts will be constructed for future connection to the drop inlet system. This position was selected for 2 reasons: 1) The residents on Tracts 310 and 335 are presently experiencing flooding as a result of upstream development. It was felt necessary to provide drop inlet in close proximity to these residences, and 2) although placing inlets at the intersection of Miami and Estancia would seem prudent, the street depths are well below top of curb, which would not warrant inlets. Also,

construction of the inlets and connector pipes at the intersection would be difficult due to utility conflicts and the removal an reconstruction of the newly placed street improvements. Placement of inlets near the existing residences would still be required, in effect providing redundant improvements.

2. A 36 inch stubout will be constructed at Station 23+60.98 for future development of Basin M 5.

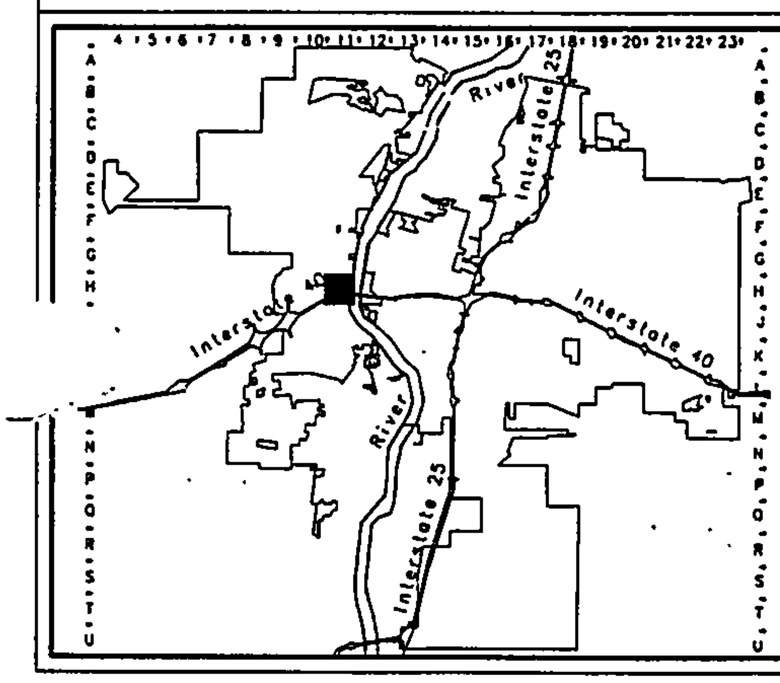
3. A 30 inch stubout will be constructed at the existing manhole at Station 25+17.26 to collect surface runoff from the eastern portion of Miami Road and 57th Street. A slotted cover is recommended at this manhole to provide an outfall for existing flows likely to collect in this area.

The design provides inlets to collect developed flows originating upstream from the existing residences. The stubouts will provide capacity to drain future developed flows. The existing undeveloped flows will continue to drain southeasterly to the existing depression located south of Miami along the box culvert.

APPENDIX

PROJECT

PROJECT LOCATION MAP
FIGURE 1



750 375 0 750

Scale: 1" = 750'

Albuquerque Geographic Information System
City of Albuquerque

© Planning Department July 03, 1993

LEGAL DESCRIPTION

T10N

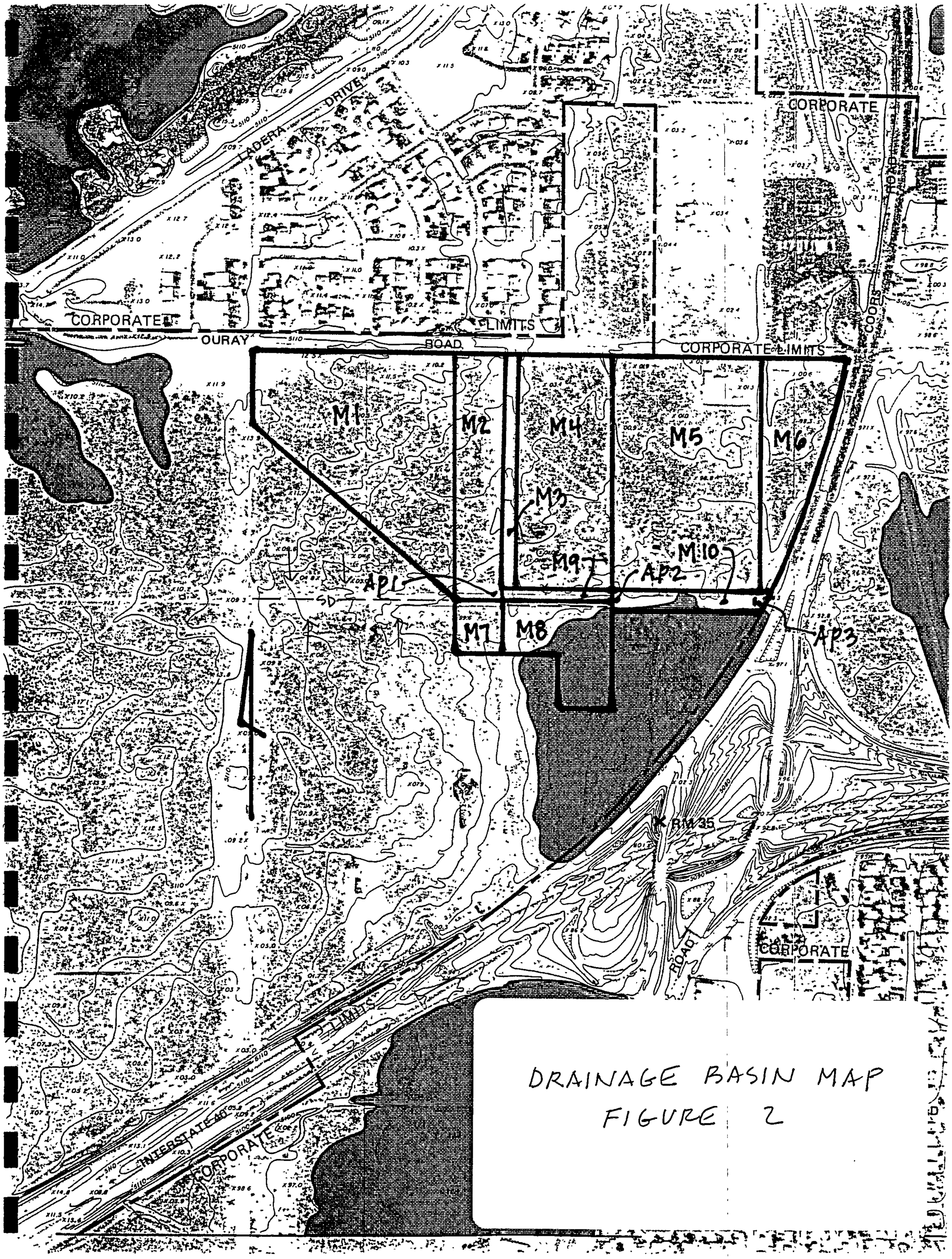
R2E

SEC 11

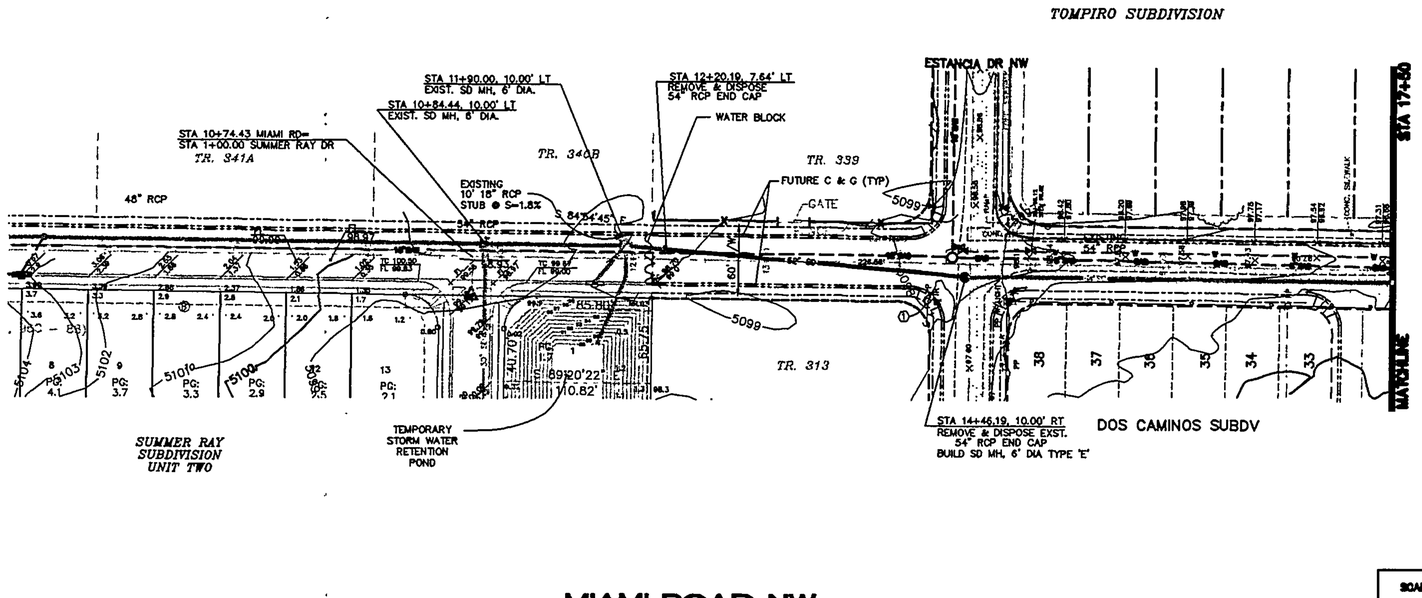
UNIFORM PROPERTY CODE

1-011-059

H-11-Z

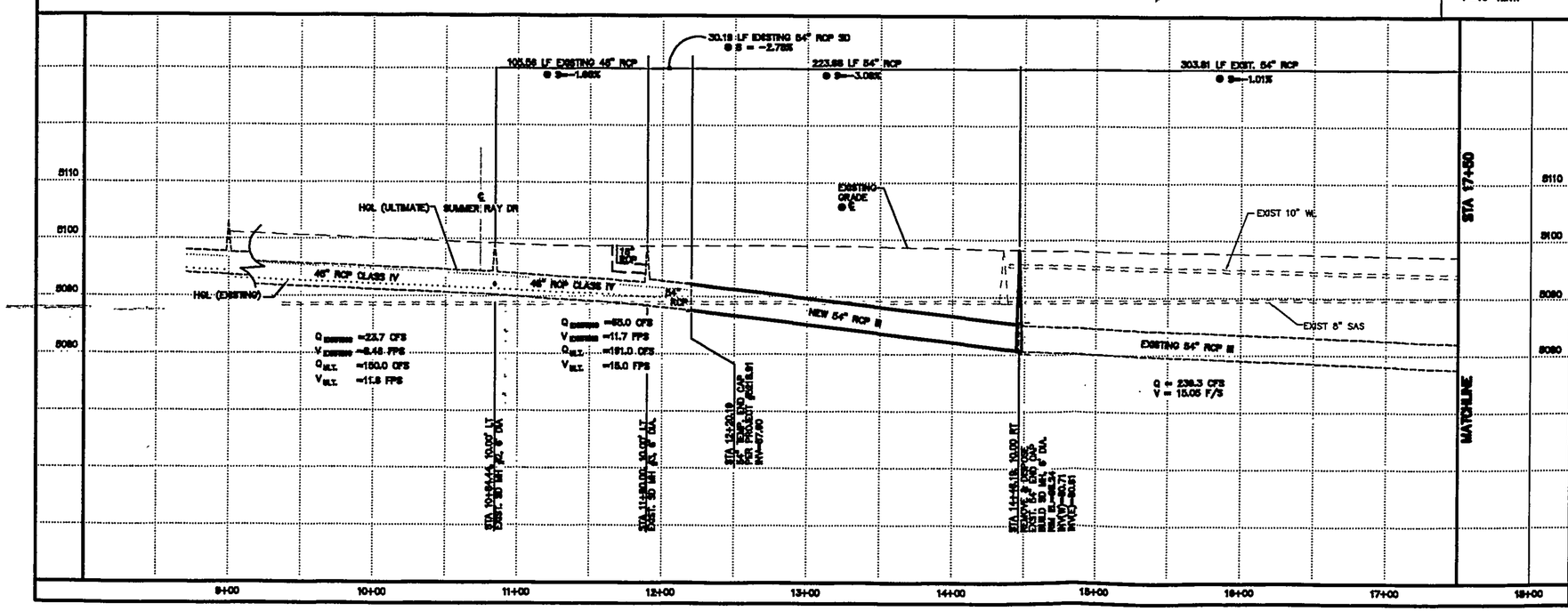


DRAINAGE BASIN MAP
FIGURE 2



MIAMI ROAD NW

SCALES:
1"=40' HOR.
1"=10' VERT.



CONSTRUCTION NOTES (KEYED)

1. POWER POLES MUST BE SUPPORTED WHERE THEY FALL WITHIN THE TRENCH PRIZM. CONTACT PNM AND COORDINATE THROUGH THEIR FIELD SUPPORT DEPARTMENT.
2. PROVIDE FOR FULL TIME ACCESS TO THE RESIDENCE ALONG TRACT 310.
3. REMOVE AND RESTORE EXST. MAIL BOX TO SAME LOCATION AFTER BACKFILL.

GENERAL NOTES

1. ALL STATIONING IS BASED ON CENTERLINE TOF RIGHT-OF-WAY
2. SURVEY AND BASEMAPPING PROVIDED BY ISAACSON & ARFMAN, P.A.

LEGEND

ITEM	EXISTING	PROPOSED
WATERLINE	6" W	6" W
SANITARY SEWER	8" SAS	8" SAS
STORM SEWER	36" SD	60" SD
FIRE HYDRANT		
VALVE		
WATER SERVICE (SINGLE)		
WATER SERVICE (DOUBLE)		
MANHOLE		
CURB		
DROP INLET		
OVERHEAD ELEC	OHE	
UNDERGROUND ELEC, GAS, TEL, TV	UGT	
FLOWLINE ELEV.	FL 0.14	FL 0.14
TOP OF CURB ELEV.	99.3	99.31
SPOT ELEV.	×16.7	◆16.7
SEWER SERVICE		
RIGHT OF WAY		
POWER POLE (GUYED)	PP	
CHAIN LINK FENCE		
CENTERLINE		
RETAINING WALL		
TOP OF ASPHALT ELEV.	TA 16.2	TA 16.2

AS-BUILT INFORMATION
CONTRACTOR
WORK STAKED BY
INSPECTOR'S REVISIONS BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY
BASE

BENCH MARKS
ACS CONTROL STATION "2-H10" LOCATED AT THE NORTHWEST QUADRANT OF 64TH ST. & MIAMI RD. NW.
ELEVATION: 5106.81

SURVEY INFORMATION
FIELD NOTES
1 ALS

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGN
DESIGNED BY FCA DATE 11/98
DRAWN BY * DATE
CHECKED BY DATE

BRASHER & LORENZ, INC.
Consulting Engineers
2201 San Pedro NE Building 1 Suite 210
Albuquerque, New Mexico 87110
Ph: 505-888-8088 Fax: 505-888-8188

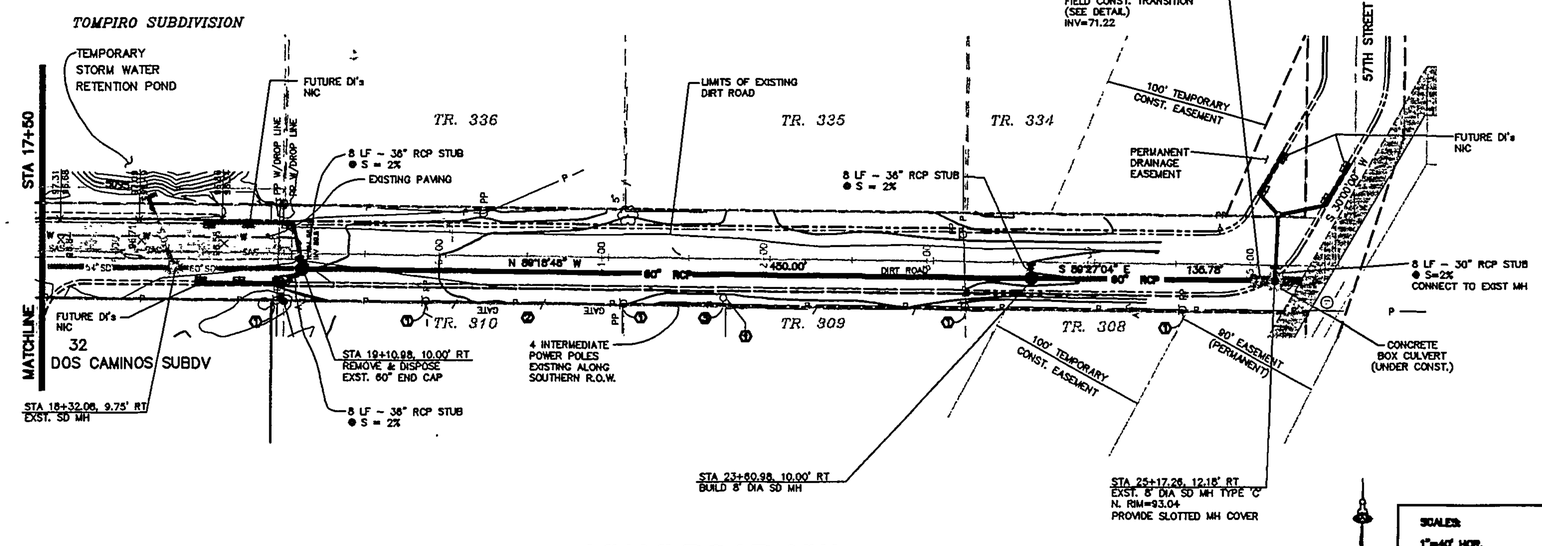
ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: STA 9+00.29 TO STA 14+46.19
MIAMI RD - STORM DRAIN

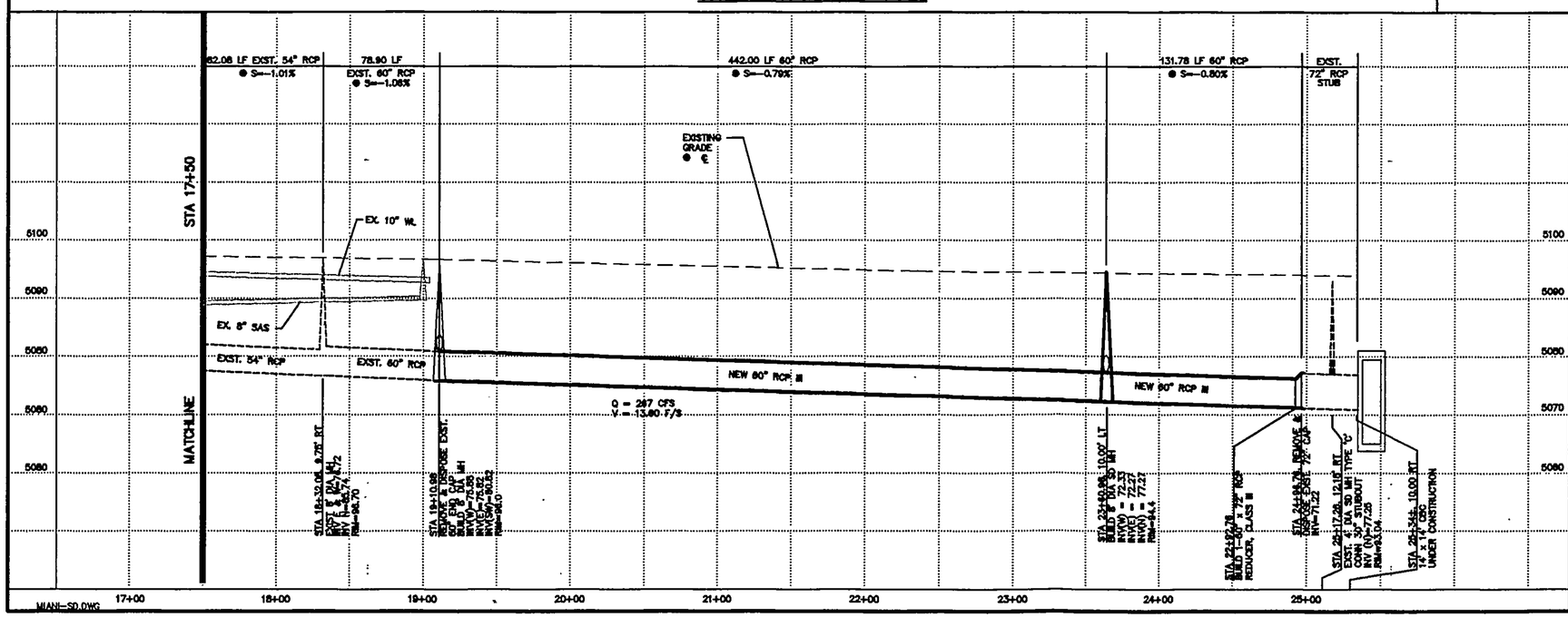
Design Review Committee | City Engineer Approval | Last Design Update

City Project No. 4075.90 | Zone Map No. H-11 | Sheet 2 Of 3



MIAMI ROAD NW

SCALES:
1"=40' HOR.
1"=10' VERT.



CONSTRUCTION NOTES (KEYED)

1. POWER POLES MUST BE SUPPORTED WHERE THEY FALL WITHIN THE TRENCH PRIZM. CONTACT PNM AND COORDINATE THROUGH THEIR FIELD SUPPORT DEPARTMENT.
2. PROVIDE FOR FULL TIME ACCESS TO THE RESIDENCE ALONG TRACT 310.
3. REMOVE AND RESTORE EXST. MAIL BOX TO SAME LOCATION AFTER BACKFILL.

GENERAL NOTES

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LEGEND

ITEM	EXISTING	PROPOSED
WATERLINE	6" W	6" W
SANITARY SEWER	8" SAS	8" SAS
STORM SEWER	36" SD	60"RCP
FIRE HYDRANT		
VALVE		
WATER SERVICE (SINGLE)		
WATER SERVICE (DOUBLE)		
MANHOLE		
CURB		
DROP INLET		
OVERHEAD ELEC	OHE	
UNDERGROUND ELEC, GAS,TEL,TV	UGT	
FLOWLINE ELEV.	FL 0.14	FL 0.14
TOP OF CURB ELEV.	99.3	99.31
SPOT ELEV.	x16.7	16.7
SEWER SERVICE		
RIGHT OF WAY		
POWER POLE (GUYED)	PP	
CHAIN LINK FENCE	x	
CENTERLINE		
RETAINING WALL		
TOP OF ASPHALT ELEV.	TA 15.2	TA 15.2

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ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico

84225D.DWG/mw VER: 2 11/20/96

AS-BUILT INFORMATION
CONTRACTOR
WORK STAKED BY DATE
INSPECTED BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
FILMED

BENCH MARKS
ACS CONTROL STATION "2-H10" LOCATED AT THE NORTHWEST QUADRANT OF 64TH ST. & MIAMI RD. NW.
ELEVATION: 5108.81

SURVEY INFORMATION
FIELD NOTES
1 ALS

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGN
DESIGNED BY FCA DATE 11/96
DRAWN BY ANW DATE 11/96
CHECKED BY FCA DATE 11/96

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: STA 19+00.98 TO STA 24+96.78
MIAMI RD - STORM DRAIN

Design Review Committee | City Engineer Approval | Last Design Update | Revisions

City Project No. 4075.90 | Zone Map No. H-11 | Sheet 3 Of 3

CALCULATIONS

EXISTING SURFACE FLOW

ANALYSIS PT	BASINS	Q_{100}
1	M1, M2, M3, M7	38.70 CFS
2	M1, M2, M3, M7, M8, M9	55.52
3	M1-M3, M5, M7-10	81.56
	M4, M6 PONDED	175.78

DEVELOPED SURFACE FLOW

ANALYSIS PT	BASINS	Q_{100}
1	M2, M3, M7	24.03
2	M2, M3, M7, M8, M9	40.85
3.	M2, M3, M5-M10	119.06
	M1, M4 DIRECT TO SD	183.94

STREET DEPTHS

ALL STREETS 40' @ S = 0.5%

EXISTING:

AP #	Q_{100}	d_{100} *
1	38.70	0.53'
2	55.52	0.61 ⇐ DIS REQD
3	81.56	0.71'

DEVELOPED:

AP #	Q_{100}	d_{100}
1	24.03	0.45'
2	40.85	0.54 ⇐ DIS REQD
3	119.06	0.85

* BY DPM PLATES 22.3 D-5, D-6

STUB + INLET DESIGN

- DESIGN BASED ON DEV FLOWS
- CHECK AGAINST EXIST CONDITIONS
- PER STREET DEPTHS DIS' REQD EAST OF AP2.
- DUE TO UTILITY CONFLICTS + NEWLY CONSTR STREETS, DO NOT PLACE DIS AT MIAMI / ESTANCIA INTERSECTION
- LOCATE BANK OF DIS AT AP2 JUST WEST OF EXIST RESIDENCES ON TRACTS 310 + 335.

AP	Q_{100}	d_{100}	DI TYPE	# DIS'	$Q_{DIS'}$
2	40.85	0.54'	A	2	6 (12)
2	28.85	0.48	CC	2	6 (12)
2	16.85	0.40	CC	2	4.5 (9)
2	7.85	0.30			
	7.85 CFS				33 CFS

TOTAL Q COLLECTED = 33 CFS

EXCESS Q PAST AP 2 = 7.85

PROVIDE STUBOUTS AT AP2 FOR FUTURE DI'S:

Q = 33 CFS LET S = 2%

Q/2 = 16.5 CFS DIA = 19"

OVERSIZE 1/2 DIA ; USE 2-24" STUBS

CHECK AP3

Q_{100} = EXCESS AT AP2 + M5, M6, M10

Q_{100} = 7.85 + 57.39 + 17.22 + 3.60 = 86.06 CFS

AT S = 0.5% STREET d_{100} = 0.73' > TC

PLACE STUB AT MH STA 23+60.98 TO DRAIN BASIN M5

Q = 57.39 LET S = 2%

DIA = 29.9" OVERSIZE 1/2 DIA

USE 36" STUB

REMAINING STREET FLOW AT AP3 THEN BECOMES 7.85 + 17.22 + 3.60 = 28.67 CFS

AT S = 0.5% STREET d_{100} = 0.47' < TC OK

PLACE DIS AT 57TH / MIAMI INTERSECTION
IN SUMP SIZE STUBOUT AT EXIST
MH STA 25+17.26

Q = 28.61 CFS LET S = 2%
DIA = 23.03" OVERSIZE ½ DIA
USE 30" STUB

CHECK IMPACT ON EXISTING CONDITIONS

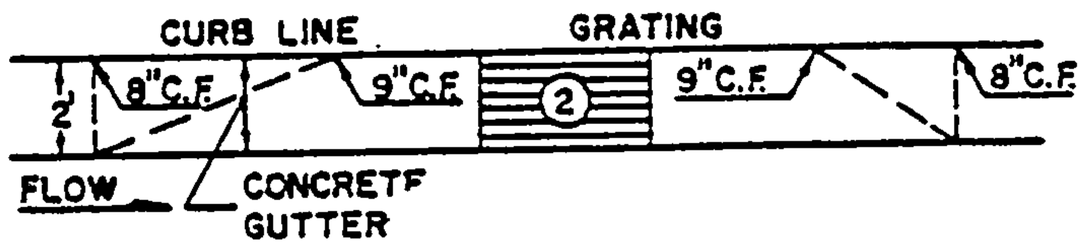
COLLECTION SYSTEM AT AP2 DRAINS
TOTAL OF 33 CFS. Q_{100} (EXIST) AT
AP 2 = 55.5 CFS, EXCESS = 22.5 CFS

TOTAL EXISTING FLOW AT AP3
BECOMES 22.5 + M5 + M10 = 48.6 CFS
(BASIN M6 IS PONDED).

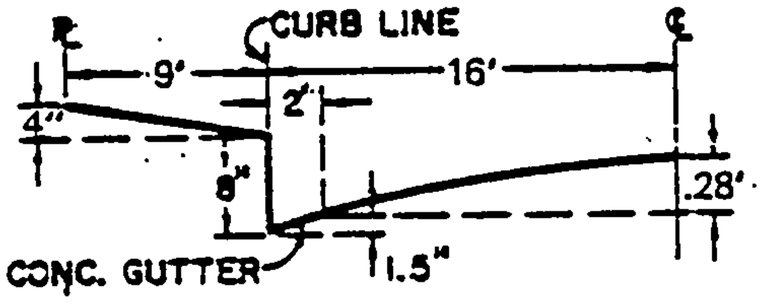
ALL EXISTING FLOW COULD BE DRAINED
AT AP 2 BY PROVIDING ADDITIONAL INLETS,
WHICH WOULD NOT BE REQUIRED IN FUTURE.

PLACING A SLOTTED MH COVER OR
BEEHIVE GRATE AT THE EXIST MH
@ STA 25+17.26 WOULD PROVIDE AN
OUTFALL FOR THESE FLOWS

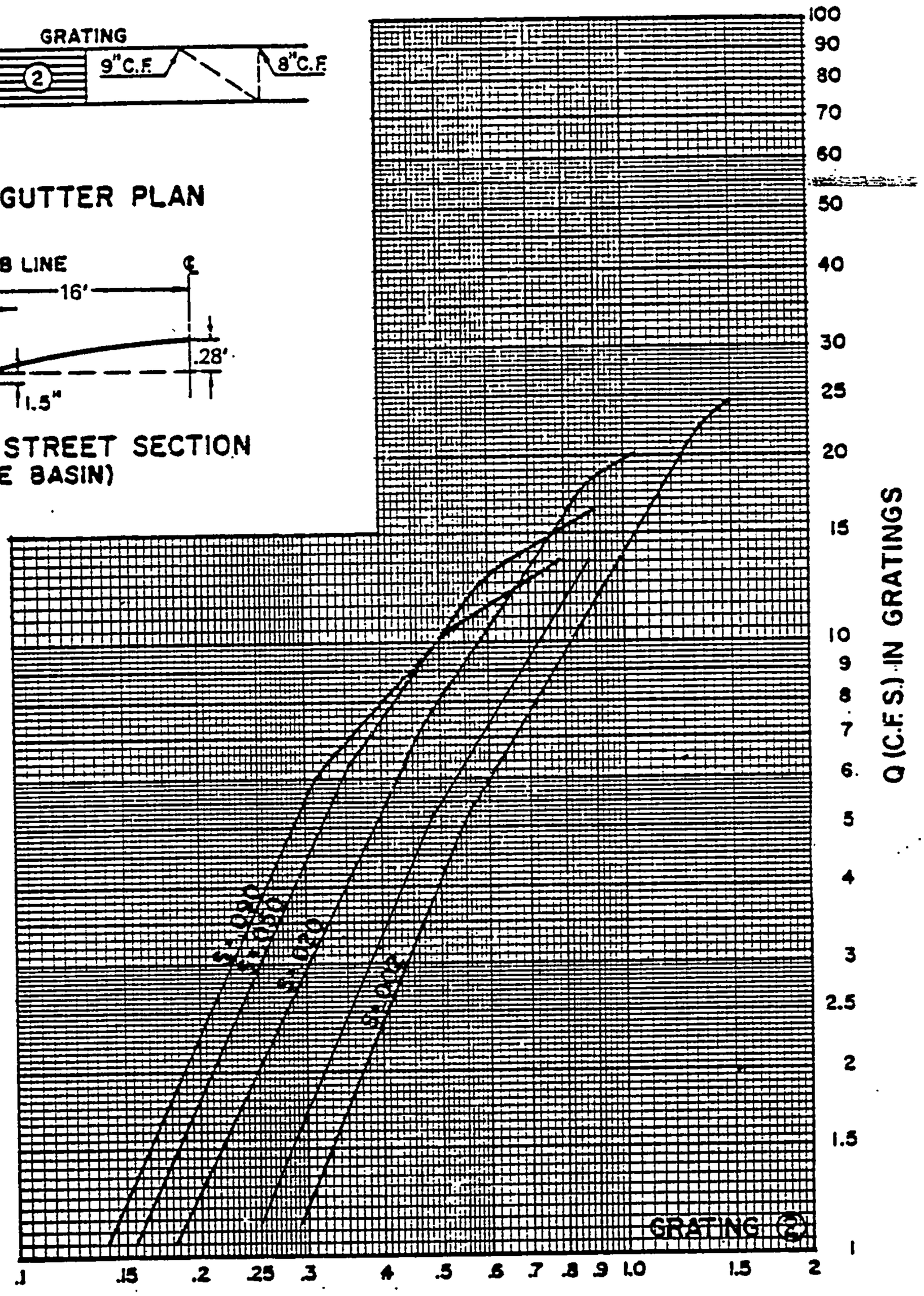
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



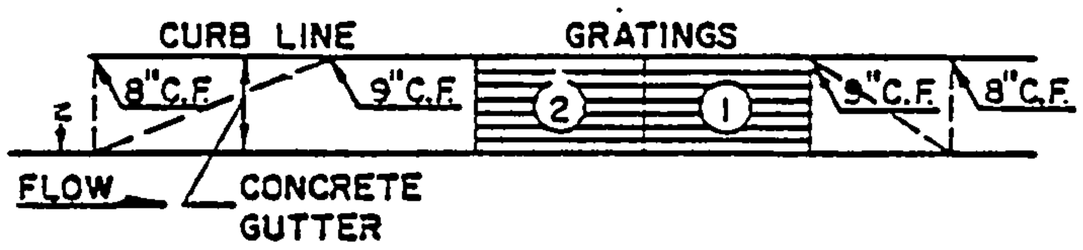
GRATING & GUTTER PLAN



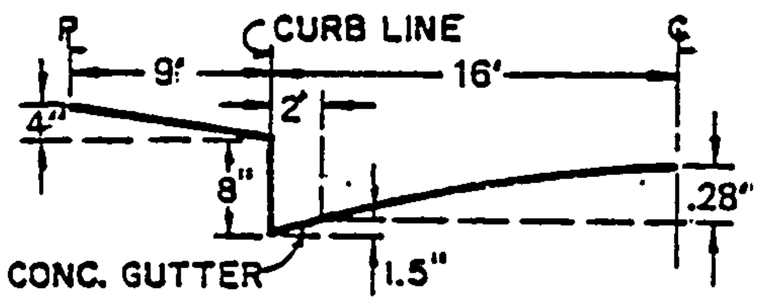
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



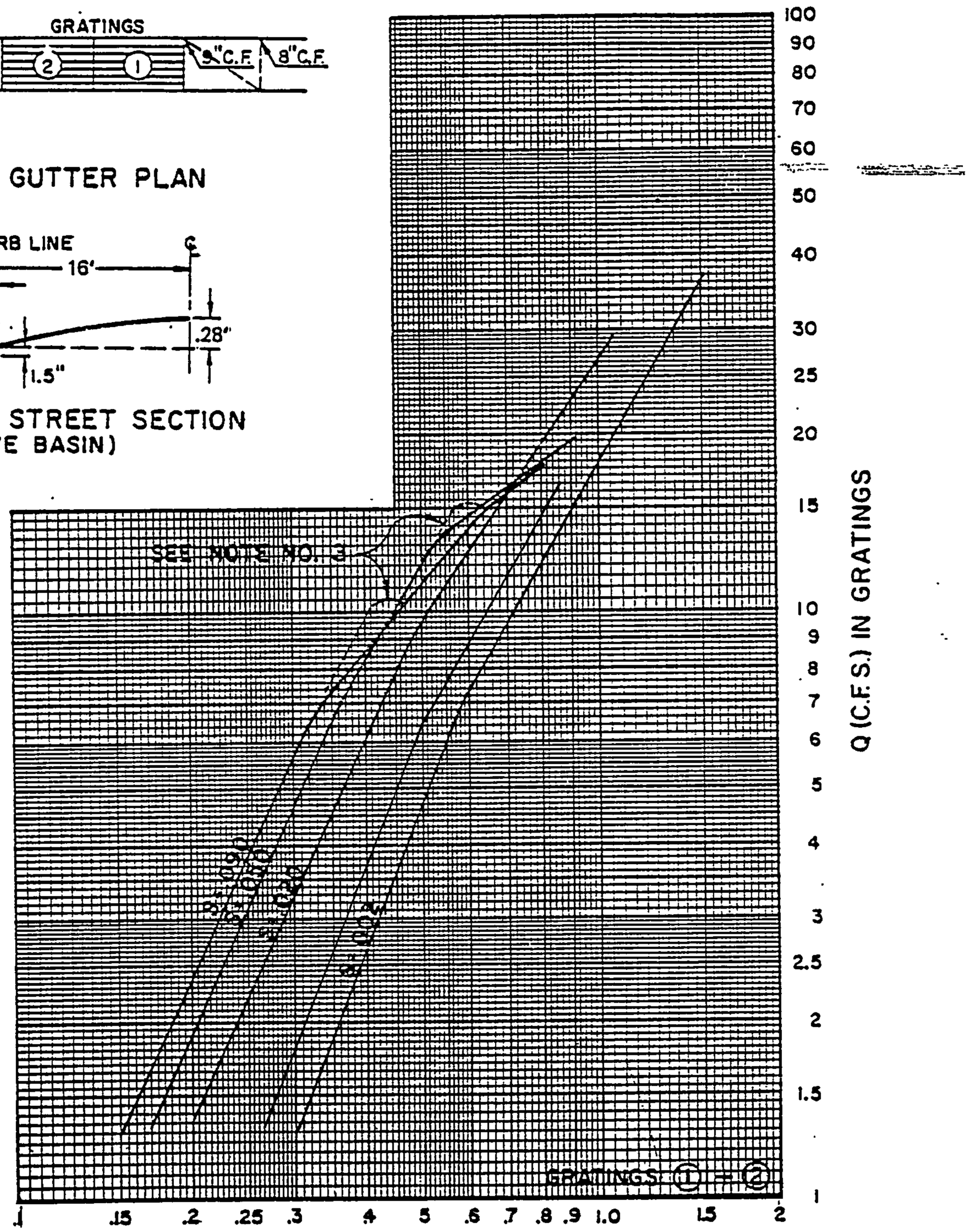
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



AHYMO FILES

EXISTING CONDITIONS

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =01/14/1997
INPUT FILE = A:6079EX.DAT USER NO.= BRASHERE.I01

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	PAGE = 1 NOTATION
*S EXISTING BASINS CONTRIBUTING SURFACE RUNOFF TO THE MIAMI STORM DRAIN										
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
*S BASIN M1 - RD NORTH OF MIAMI & WEST OF ESTANCIA - PRESENTLY DRAINS TO ESTANCI										
COMPUTE NM HYD	M1	-	1	.02057	17.47	.493	.44920	1.533	1.327	PER IMP= .00
*S BASIN M2 - SU-1 CHURCH NORTH OF MIAMI AT ESTANCIA										
COMPUTE NM HYD	M2	-	2	.00757	14.59	.466	1.15607	1.500	3.012	PER IMP= 30.00
*S BASIN M3 - ESTANCIA NORTH OF MIAMI										
COMPUTE NM HYD	M3	-	3	.00223	5.90	.211	1.77563	1.500	4.141	PER IMP= 80.00
*S BASIN M4 - TOMPIRO										
*S TOMPIRO DRAINS DIRECT TO STORM DRAIN BY 30 INCH STORM DRAIN										
COMPUTE NM HYD	M4	-	4	.01328	28.65	.956	1.34986	1.500	3.370	PER IMP= 45.66
*S BASIN M5 - SU-1 NORTH OF MIAMI EAST OF TOMPIRO										
COMPUTE NM HYD	M5	-	5	.02671	23.51	.670	.47027	1.533	1.376	PER IMP= 1.00
*S BASIN M6 - WEST MESA SELF STORAGE - PRESENTLY DRAINS TO TEMP ON-SITE RETENTIO										
COMPUTE NM HYD	M6	-	6	.00650	17.22	.622	1.79459	1.500	4.140	PER IMP= 85.00
*S BASIN M7 - SU-1 CHURCH SOUTH OF MIAMI AT ESTANCIA										
COMPUTE NM HYD	M7	-	7	.00086	.74	.021	.44920	1.533	1.337	PER IMP= .00
*S BASIN M8 - DOS CAMINOS										
*S ASSUMES DOS CAMINOS IS DEVELOPED										
COMPUTE NM HYD	M8	-	8	.00623	15.35	.540	1.62601	1.500	3.850	PER IMP= 70.00
*S BASIN M9 - ONE-HALF MIAMI ALONG TOMPIRO										
COMPUTE NM HYD	M9	-	9	.00055	1.47	.052	1.77563	1.500	4.177	PER IMP= 80.00
*S BASIN M10 - MIAMI FROM TOMPIRO TO BOX										
COMPUTE NM HYD	M10	-	10	.00136	2.53	.073	1.01261	1.500	2.918	PER IMP= .00
FINISH										

```
    AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
         RUN DATE (MON/DAY/YR) = 01/14/1997
         START TIME (HR:MIN:SEC) = 15:54:23     USER NO.= BRASHERE.I01
         INPUT FILE = A:6079EX.DAT

*************************************************************************
*                              MIAMI STORM DRAIN
*                        HYDROLOGY - EXISTING CONDITIONS
*************************************************************************
*S EXISTING BASINS CONTRIBUTING SURFACE RUNOFF TO THE MIAMI STORM DRAIN
START               TIME=0.0  PUNCH CODE=0
RAINFALL            TYPE=1  RAIN QUARTER=0.0  RAIN ONE=1.90
                    RAIN SIX=2.20  RAIN DAY=2.68  DT=0.03333 HRS

          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
          DT =    .033330 HOURS       END TIME =     5.999400 HOURS
             .0000   .0013   .0027   .0041   .0055   .0069   .0084
             .0099   .0115   .0131   .0147   .0164   .0181   .0199
             .0217   .0236   .0256   .0276   .0296   .0318   .0340
             .0363   .0387   .0412   .0438   .0465   .0493   .0523
             .0554   .0587   .0622   .0675   .0731   .0791   .0920
             .1208   .1651   .2289   .3159   .4302   .5759   .7574
             .9790  1.1846  1.2704  1.3429  1.4074  1.4661  1.5201
            1.5702  1.6171  1.6610  1.7023  1.7413  1.7781  1.8130
            1.8460  1.8774  1.9071  1.9353  1.9621  1.9681  1.9736
            1.9789  1.9839  1.9887  1.9932  1.9976  2.0018  2.0059
            2.0098  2.0136  2.0172  2.0208  2.0242  2.0275  2.0308
            2.0339  2.0370  2.0400  2.0430  2.0458  2.0486  2.0514
            2.0540  2.0567  2.0592  2.0617  2.0642  2.0666  2.0690
            2.0714  2.0737  2.0759  2.0781  2.0803  2.0825  2.0846
            2.0867  2.0887  2.0907  2.0927  2.0947  2.0966  2.0985
            2.1004  2.1023  2.1041  2.1059  2.1077  2.1095  2.1112
            2.1130  2.1147  2.1164  2.1180  2.1197  2.1213  2.1229
            2.1245  2.1261  2.1277  2.1292  2.1307  2.1322  2.1337
            2.1352  2.1367  2.1382  2.1396  2.1410  2.1425  2.1439
            2.1452  2.1466  2.1480  2.1494  2.1507  2.1520  2.1533
            2.1547  2.1560  2.1572  2.1585  2.1598  2.1611  2.1623
            2.1635  2.1648  2.1660  2.1672  2.1684  2.1696  2.1708
            2.1720  2.1731  2.1743  2.1754  2.1766  2.1777  2.1789
            2.1800  2.1811  2.1822  2.1833  2.1844  2.1855  2.1866
            2.1876  2.1887  2.1897  2.1908  2.1918  2.1929  2.1939
            2.1949  2.1960  2.1970  2.1980  2.1990  2.2000

*S BASIN M1 - RD NORTH OF MIAMI & WEST OF ESTANCIA - PRESENTLY DRAINS TO ESTANCI
COMPUTE NM HYD      ID=1  HYD NO=M1  DA=0.02057 SQ MI
                    PER A=100  PER B=0  PER C=0  PER D=0
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .162928HR    TP =   .133300HR    K/TP RATIO =  1.222262     SHAPE CONSTANT, N =  2.911962
    UNIT PEAK =   42.369    CFS   UNIT VOLUME =    .9993       B =   274.56      P60 = 1.9000
    AREA =      .020570 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M2 - SU-1 CHURCH NORTH OF MIAMI AT ESTANCIA
COMPUTE NM HYD      ID=2  HYD NO=M2  DA=0.007566 SQ MI
                    PER A=10   PER B=20  PER C=40  PER D=30
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
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```
    UNIT PEAK =   8.9613    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 1.9000
    AREA =      .002270 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .121324HR    TP =   .133300HR    K/TP RATIO =   .910159     SHAPE CONSTANT, N =  3.891264
    UNIT PEAK =   13.821    CFS   UNIT VOLUME =    .9994       B =   347.85      P60 = 1.9000
    AREA =      .005296 SQ MI    IA =    .43571 INCHES    INF =   1.07000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M3 - ESTANCIA NORTH OF MIAMI
COMPUTE NM HYD      ID=3  HYD NO=M3  DA=0.002225 SQ MI
                    PER A=0  PER B=00  PER C=20  PER D=80
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   7.0275    CFS   UNIT VOLUME =    .9978       B =   526.28      P60 = 1.9000
    AREA =      .001780 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .106205HR    TP =   .133300HR    K/TP RATIO =   .796738     SHAPE CONSTANT, N =  4.498737
    UNIT PEAK =   1.2924    CFS   UNIT VOLUME =    .9907       B =   387.15      P60 = 1.9000
    AREA =      .000445 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M4 - TOMPIRO
*S TOMPIRO DRAINS DIRECT TO STORM DRAIN BY 30 INCH STORM DRAIN
COMPUTE NM HYD      ID=4  HYD NO=M4  DA=0.01328 SQ MI
                    PER A=0  PER B=27.17 PER C=27.17  PER D=45.66
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   23.940    CFS   UNIT VOLUME =    .9989       B =   526.28      P60 = 1.9000
    AREA =      .006064 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .118483HR    TP =   .133300HR    K/TP RATIO =   .888844     SHAPE CONSTANT, N =  3.990548
    UNIT PEAK =   19.193    CFS   UNIT VOLUME =    .9997       B =   354.54      P60 = 1.9000
    AREA =      .007216 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M5 - SU-1 NORTH OF MIAMI EAST OF TOMPIRO
COMPUTE NM HYD      ID=5  HYD NO=M5  DA=0.02671 SQ MI
                    PER A=97  PER B=1 PER C=1  PER D=1
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   1.0545    CFS   UNIT VOLUME =    .9881       B =   526.28      P60 = 1.9000
    AREA =      .000267 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .162030HR    TP =   .133300HR    K/TP RATIO =  1.215526     SHAPE CONSTANT, N =  2.926626
    UNIT PEAK =   54.708    CFS   UNIT VOLUME =    .9994       B =   275.78      P60 = 1.9000
    AREA =      .026443 SQ MI    IA =    .64545 INCHES    INF =   1.65727 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M6 - WEST MESA SELF STORAGE - PRESENTLY DRAINS TO TEMP ON-SITE RETENTIO
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COMPUTE NM HYD      ID=6  HYD NO=M6  DA=0.0065 SQ MI
                    PER A=0  PER B=8 PER C=7  PER D=85
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   21.813    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.9000
   AREA =      .005525 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


   K =   .119301HR    TP =   .133300HR    K/TP RATIO =   .894984     SHAPE CONSTANT, N =  3.961334
   UNIT PEAK =   2.5789    CFS   UNIT VOLUME =    .9952       B =   352.58      P60 = 1.9000
   AREA =      .000975 SQ MI    IA =    .43000 INCHES    INF =   1.05400 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M7 - SU-1 CHURCH SOUTH OF MIAMI AT ESTANCIA
COMPUTE NM HYD      ID=7  HYD NO=M7  DA=0.000859 SQ MI
                    PER A=100  PER B=0 PER C=0  PER D=0
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .162928HR    TP =   .133300HR    K/TP RATIO =  1.222262     SHAPE CONSTANT, N =  2.911962
   UNIT PEAK =   1.7693    CFS   UNIT VOLUME =    .9916       B =   274.56      P60 = 1.9000
   AREA =      .000859 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M8 - DOS CAMINOS
*S ASSUMES DOS CAMINOS IS DEVELOPED
COMPUTE NM HYD      ID=8  HYD NO=M8  DA=0.006230 SQ MI
                    PER A=0  PER B=15 PER C=15  PER D=70
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   17.217    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.9000
   AREA =      .004361 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


   K =   .118483HR    TP =   .133300HR    K/TP RATIO =   .888844     SHAPE CONSTANT, N =  3.990548
   UNIT PEAK =   4.9710    CFS   UNIT VOLUME =    .9978       B =   354.54      P60 = 1.9000
   AREA =      .001869 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M9 -  ONE-HALF MIAMI ALONG TOMPIRO
COMPUTE NM HYD      ID=9  HYD NO=M9  DA=0.00055 SQ MI
                    PER A=0  PER B=0  PER C=20  PER D=80
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   1.7371    CFS   UNIT VOLUME =    .9933       B =   526.28      P60 = 1.9000
   AREA =      .000440 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


   K =   .106205HR    TP =   .133300HR    K/TP RATIO =   .796738     SHAPE CONSTANT, N =  4.498737
   UNIT PEAK =   .31948    CFS   UNIT VOLUME =    .9581       B =   387.15      P60 = 1.9000
   AREA =      .000110 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M10 - MIAMI FROM TOMPIRO TO BOX
COMPUTE NM HYD      ID=10  HYD NO=M10  DA=0.001356 SQ MI
```

PER A=0 PER B=0 PER C=100 PER D=0
TP=0.1333 HR MASS RAIN=-1

K = .106205HR TP = .133300HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 3.9383 CFS UNIT VOLUME = .9970 B = 387.15 P60 = 1.9000
AREA = .001356 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=20

HYDROGRAPH FROM AREA M1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.0	2.666	.4	4.000	.0		
.667	.0	2.000	1.6	3.333	.1	4.666	.0		

RUNOFF VOLUME = .44920 INCHES = .4928 ACRE-FEET
PEAK DISCHARGE RATE = 17.47 CFS AT 1.533 HOURS BASIN AREA = .0206 SQ. MI.

PRINT HYD ID=2 CODE=20

HYDROGRAPH FROM AREA M2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	2.2	2.666	.2	4.000	.0	5.333	.0
.667	.0	2.000	2.4	3.333	.1	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.15607 INCHES = .4665 ACRE-FEET
PEAK DISCHARGE RATE = 14.59 CFS AT 1.500 HOURS BASIN AREA = .0076 SQ. MI.

PRINT HYD ID=3 CODE=20

HYDROGRAPH FROM AREA M3

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.6	2.666	.1	4.000	.0	5.333	.0
.667	.0	2.000	1.4	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.77563 INCHES = .2107 ACRE-FEET
PEAK DISCHARGE RATE = 5.90 CFS AT 1.500 HOURS BASIN AREA = .0022 SQ. MI.

PRINT HYD ID=4 CODE=20

HYDROGRAPH FROM AREA M4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	5.4	4.000	.1	5.999	.1		
.667	.0	2.666	.5	4.666	.1	6.666	.0		
1.333	5.5	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.34986 INCHES = .9561 ACRE-FEET
PEAK DISCHARGE RATE = 28.65 CFS AT 1.500 HOURS BASIN AREA = .0133 SQ. MI.

PRINT HYD ID=5 CODE=20

HYDROGRAPH FROM AREA M5

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.2	2.666	.5	4.000	.0	5.333	.0
.667	.0	2.000	2.3	3.333	.1	4.666	.0	5.999	.0

RUNOFF VOLUME = .47027 INCHES = .6699 ACRE-FEET
PEAK DISCHARGE RATE = 23.51 CFS AT 1.533 HOURS BASIN AREA = .0267 SQ. MI.

PRINT HYD ID=6 CODE=20

HYDROGRAPH FROM AREA M6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	4.1	4.000	.1	5.999	.1		
.667	.0	2.666	.3	4.666	.1	6.666	.0		
1.333	4.8	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.79459 INCHES = .6221 ACRE-FEET
PEAK DISCHARGE RATE = 17.22 CFS AT 1.500 HOURS BASIN AREA = .0065 SQ. MI.

PRINT HYD ID=7 CODE=20

HYDROGRAPH FROM AREA M7

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.0	2.666	.0				
.667	.0	2.000	.1	3.333	.0				

RUNOFF VOLUME = .44920 INCHES = .0206 ACRE-FEET
PEAK DISCHARGE RATE = .74 CFS AT 1.533 HOURS BASIN AREA = .0009 SQ. MI.

PRINT HYD ID=8 CODE=20

HYDROGRAPH FROM AREA M8

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	3.4	4.000	.1	5.999	.1		
.667	.0	2.666	.3	4.666	.1	6.666	.0		
1.333	3.8	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.62601 INCHES = .5403 ACRE-FEET
PEAK DISCHARGE RATE = 15.35 CFS AT 1.500 HOURS BASIN AREA = .0062 SQ. MI.

PRINT HYD ID=9 CODE=20

HYDROGRAPH FROM AREA M9

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.4	2.666	.0	4.000	.0	5.333	.0
.667	.0	2.000	.3	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.77563 INCHES = .0521 ACRE-FEET
PEAK DISCHARGE RATE = 1.47 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

PRINT HYD ID=10 CODE=20

HYDROGRAPH FROM AREA M10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	.667	.0	1.333	.2	2.000	.3	2.666	.0

RUNOFF VOLUME = 1.01261 INCHES = .0732 ACRE-FEET
PEAK DISCHARGE RATE = 2.53 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 15:54:26

AHYMO FILES

DEVELOPED CONDITIONS

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =01/14/1997
INPUT FILE = A:6079DEV.DAT USER NO.= BRASHERE.I01

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	PAGE = 1 NOTATION
*S DEVELOPED BASINS CONTRIBUTING SURFACE RUNOFF TO MIAMI STORM DRAIN										
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
*S BASIN M1 - RD NORTH OF MIAMI & WEST OF ESTANCIA										
*S THIS BASIN DRAINS DIRECT TO STORM DRAIN AT SAG LOCATED WEST OF ESTANCIA										
COMPUTE NM HYD	M1	-	1	.02057	44.21	1.499	1.36651	1.500	3.358	PER IMP= 50.60
*S BASIN M2 - SU-1 CHURCH NORTH OF MIAMI AT ESTANCIA										
COMPUTE NM HYD	M2	-	2	.00757	16.27	.551	1.36651	1.500	3.360	PER IMP= 50.60
*S BASIN M3 - ESTANCIA NORTH OF MIAMI										
COMPUTE NM HYD	M3	-	3	.00223	5.90	.211	1.77563	1.500	4.141	PER IMP= 80.00
*S BASIN M4 - TOMPIRO										
*S TOMPIRO DRAINS DIRECT TO STORM DRAIN BY 30 INCH STORM DRAIN										
COMPUTE NM HYD	M4	-	4	.01328	28.65	.956	1.34986	1.500	3.370	PER IMP= 45.66
*S BASIN M5 - SU-1 NORTH OF MIAMI EAST OF TOMPIRO										
COMPUTE NM HYD	M5	-	5	.02671	57.39	1.947	1.36651	1.500	3.358	PER IMP= 50.60
*S BASIN M6 - WEST MESA SELF STORAGE										
COMPUTE NM HYD	M6	-	6	.00650	17.22	.622	1.79459	1.500	4.140	PER IMP= 85.00
*S BASIN M7 - SU-1 CHURCH SOUTH OF MIAMI AT ESTANCIA										
COMPUTE NM HYD	M7	-	7	.00086	1.86	.063	1.36651	1.500	3.387	PER IMP= 50.60
*S BASIN M8 - DOS CAMINOS										
COMPUTE NM HYD	M8	-	8	.00623	15.35	.540	1.62601	1.500	3.850	PER IMP= 70.00
*S BASIN M9 - ONE-HALF MIAMI ALONG TOMPIRO										
COMPUTE NM HYD	M9	-	9	.00055	1.47	.052	1.77563	1.500	4.177	PER IMP= 80.00
*S BASIN M10 - MIAMI FROM TOMPIRO TO BOX										
COMPUTE NM HYD	M10	-	10	.00136	3.60	.128	1.77563	1.500	4.149	PER IMP= 80.00
FINISH										

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    AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
         RUN DATE (MON/DAY/YR) = 01/14/1997
         START TIME (HR:MIN:SEC) = 16:07:42     USER NO.= BRASHERE.I01
         INPUT FILE = A:6079DEV.DAT

*****************************************************************************
*                              MIAMI STORM DRAIN
*                        HYDROLOGY - DEVELOPED CONDITIONS
*****************************************************************************
*S DEVELOPED BASINS CONTRIBUTING SURFACE RUNOFF TO MIAMI STORM DRAIN
START              TIME=0.0  PUNCH CODE=0
RAINFALL           TYPE=1  RAIN QUARTER=0.0  RAIN ONE=1.90
                   RAIN SIX=2.20  RAIN DAY=2.68  DT=0.03333 HRS

                COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                   .0000   .0013   .0027   .0041   .0055   .0069   .0084
                   .0099   .0115   .0131   .0147   .0164   .0181   .0199
                   .0217   .0236   .0256   .0276   .0296   .0318   .0340
                   .0363   .0387   .0412   .0438   .0465   .0493   .0523
                   .0554   .0587   .0622   .0675   .0731   .0791   .0920
                   .1208   .1651   .2289   .3159   .4302   .5759   .7574
                   .9790  1.1846  1.2704  1.3429  1.4074  1.4661  1.5201
                  1.5702  1.6171  1.6610  1.7023  1.7413  1.7781  1.8130
                  1.8460  1.8774  1.9071  1.9353  1.9621  1.9681  1.9736
                  1.9789  1.9839  1.9887  1.9932  1.9976  2.0018  2.0059
                  2.0098  2.0136  2.0172  2.0208  2.0242  2.0275  2.0308
                  2.0339  2.0370  2.0400  2.0430  2.0458  2.0486  2.0514
                  2.0540  2.0567  2.0592  2.0617  2.0642  2.0666  2.0690
                  2.0714  2.0737  2.0759  2.0781  2.0803  2.0825  2.0846
                  2.0867  2.0887  2.0907  2.0927  2.0947  2.0966  2.0985
                  2.1004  2.1023  2.1041  2.1059  2.1077  2.1095  2.1112
                  2.1130  2.1147  2.1164  2.1180  2.1197  2.1213  2.1229
                  2.1245  2.1261  2.1277  2.1292  2.1307  2.1322  2.1337
                  2.1352  2.1367  2.1382  2.1396  2.1410  2.1425  2.1439
                  2.1452  2.1466  2.1480  2.1494  2.1507  2.1520  2.1533
                  2.1547  2.1560  2.1572  2.1585  2.1598  2.1611  2.1623
                  2.1635  2.1648  2.1660  2.1672  2.1684  2.1696  2.1708
                  2.1720  2.1731  2.1743  2.1754  2.1766  2.1777  2.1789
                  2.1800  2.1811  2.1822  2.1833  2.1844  2.1855  2.1866
                  2.1876  2.1887  2.1897  2.1908  2.1918  2.1929  2.1939
                  2.1949  2.1960  2.1970  2.1980  2.1990  2.2000

*S BASIN M1 - RD NORTH OF MIAMI & WEST OF ESTANCIA
*S THIS BASIN DRAINS DIRECT TO STORM DRAIN AT SAG LOCATED WEST OF ESTANCIA
COMPUTE NM HYD     ID=1  HYD NO=M1  DA=0.02057 SQ MI
                   PER A=0  PER B=37.2  PER C=12.2  PER D=50.6
                   TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   41.093    CFS   UNIT VOLUME =    .9991       B =   526.28      P60 = 1.9000
    AREA =      .010408 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
    UNIT PEAK =   25.940    CFS   UNIT VOLUME =    .9997       B =   340.28      P60 = 1.9000
    AREA =      .010162 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
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*S BASIN M2 - SU-1 CHURCH NORTH OF MIAMI AT ESTANCIA
COMPUTE NM HYD      ID=2  HYD NO=M2  DA=0.007566 SQ MI
                    PER A=0   PER B=37.2  PER C=12.2  PER D=50.6
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   15.115    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 1.9000
   AREA =      .003828 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

   K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
   UNIT PEAK =   9.5411    CFS   UNIT VOLUME =    .9989       B =   340.28      P60 = 1.9000
   AREA =      .003738 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M3 - ESTANCIA NORTH OF MIAMI
COMPUTE NM HYD      ID=3  HYD NO=M3  DA=0.002225 SQ MI
                    PER A=0  PER B=00  PER C=20  PER D=80
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   7.0275    CFS   UNIT VOLUME =    .9978       B =   526.28      P60 = 1.9000
   AREA =      .001780 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

   K =   .106205HR    TP =   .133300HR    K/TP RATIO =   .796738     SHAPE CONSTANT, N =  4.498737
   UNIT PEAK =   1.2924    CFS   UNIT VOLUME =    .9907       B =   387.15      P60 = 1.9000
   AREA =      .000445 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M4 - TOMPIRO
*S TOMPIRO DRAINS DIRECT TO STORM DRAIN BY 30 INCH STORM DRAIN
COMPUTE NM HYD      ID=4  HYD NO=M4  DA=0.01328 SQ MI
                    PER A=0  PER B=27.17 PER C=27.17  PER D=45.66
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   23.940    CFS   UNIT VOLUME =    .9989       B =   526.28      P60 = 1.9000
   AREA =      .006064 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

   K =   .118483HR    TP =   .133300HR    K/TP RATIO =   .888844     SHAPE CONSTANT, N =  3.990548
   UNIT PEAK =   19.193    CFS   UNIT VOLUME =    .9997       B =   354.54      P60 = 1.9000
   AREA =      .007216 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M5 - SU-1 NORTH OF MIAMI EAST OF TOMPIRO
COMPUTE NM HYD      ID=5  HYD NO=M5  DA=0.02671 SQ MI
                    PER A=0  PER B=37.2 PER C=12.2  PER D=50.6
                    TP=0.1333 HR  MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   53.359    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 1.9000
   AREA =      .013515 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
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K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
UNIT PEAK =   33.683    CFS   UNIT VOLUME =    .9999       B =   340.28      P60 = 1.9000
AREA =      .013195 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M6 - WEST MESA SELF STORAGE
COMPUTE NM HYD      ID=6  HYD NO=M6  DA=0.0065 SQ MI
                    PER A=0  PER B=8 PER C=7  PER D=85
                    TP=0.1333 HR  MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   21.813    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.9000
AREA =      .005525 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


K =   .119301HR    TP =   .133300HR    K/TP RATIO =   .894984     SHAPE CONSTANT, N =  3.961334
UNIT PEAK =   2.5789    CFS   UNIT VOLUME =    .9952       B =   352.58      P60 = 1.9000
AREA =      .000975 SQ MI    IA =    .43000 INCHES    INF =   1.05400 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M7 - SU-1 CHURCH SOUTH OF MIAMI AT ESTANCIA
COMPUTE NM HYD      ID=7  HYD NO=M7  DA=0.000859 SQ MI
                    PER A=0  PER B=37.2 PER C=12.2  PER D=50.6
                    TP=0.1333 HR  MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   1.7160    CFS   UNIT VOLUME =    .9922       B =   526.28      P60 = 1.9000
AREA =      .000435 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
UNIT PEAK =   1.0832    CFS   UNIT VOLUME =    .9873       B =   340.28      P60 = 1.9000
AREA =      .000424 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M8 - DOS CAMINOS
COMPUTE NM HYD      ID=8  HYD NO=M8  DA=0.006230 SQ MI
                    PER A=0  PER B=15 PER C=15  PER D=70
                    TP=0.1333 HR  MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   17.217    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.9000
AREA =      .004361 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


K =   .118483HR    TP =   .133300HR    K/TP RATIO =   .888844     SHAPE CONSTANT, N =  3.990548
UNIT PEAK =   4.9710    CFS   UNIT VOLUME =    .9978       B =   354.54      P60 = 1.9000
AREA =      .001869 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M9 - ONE-HALF MIAMI ALONG TOMPIRO
COMPUTE NM HYD      ID=9  HYD NO=M9  DA=0.00055 SQ MI
                    PER A=0  PER B=0  PER C=20  PER D=80
                    TP=0.1333 HR  MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
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UNIT PEAK =   1.7371    CFS   UNIT VOLUME =    .9933       B =   526.28      P60 = 1.9000
AREA =      .000440 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


K =   .106205HR    TP =   .133300HR    K/TP RATIO =   .796738     SHAPE CONSTANT, N =  4.498737
UNIT PEAK =   .31948    CFS   UNIT VOLUME =    .9581       B =   387.15      P60 = 1.9000
AREA =      .000110 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*S BASIN M10 - MIAMI FROM TOMPIRO TO BOX
COMPUTE NM HYD      ID=10  HYD NO=M10  DA=0.001356 SQ MI
                    PER A=0  PER B=0  PER C=20  PER D=80
                    TP=0.1333 HR  MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   4.2828    CFS   UNIT VOLUME =    .9965       B =   526.28      P60 = 1.9000
AREA =      .001085 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


K =   .106205HR    TP =   .133300HR    K/TP RATIO =   .796738     SHAPE CONSTANT, N =  4.498737
UNIT PEAK =   .78765    CFS   UNIT VOLUME =    .9839       B =   387.15      P60 = 1.9000
AREA =      .000271 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD           ID=1  CODE=20

                                HYDROGRAPH FROM AREA M1

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
     .000       .0          2.000       8.7          4.000       .1          5.999       .2
     .667       .0          2.666       .8           4.666       .1          6.666       .0
    1.333      9.2          3.333       .2           5.333       .2

RUNOFF VOLUME =     1.36651 INCHES     =       1.4991 ACRE-FEET
PEAK DISCHARGE RATE =      44.21 CFS  AT   1.500 HOURS   BASIN AREA =   .0206 SQ. MI.


PRINT HYD           ID=2  CODE=20

                                HYDROGRAPH FROM AREA M2

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
     .000       .0          2.000       3.2          4.000       .1          5.999       .1
     .667       .0          2.666       .3           4.666       .1          6.666       .0
    1.333      3.4          3.333       .1           5.333       .1

RUNOFF VOLUME =     1.36651 INCHES     =        .5514 ACRE-FEET
PEAK DISCHARGE RATE =      16.27 CFS  AT   1.500 HOURS   BASIN AREA =   .0076 SQ. MI.


PRINT HYD           ID=3  CODE=20

                                HYDROGRAPH FROM AREA M3
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.6	2.666	.1	4.000	.0	5.333	.0
.667	.0	2.000	1.4	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.77563 INCHES = .2107 ACRE-FEET
PEAK DISCHARGE RATE = 5.90 CFS AT 1.500 HOURS BASIN AREA = .0022 SQ. MI.

PRINT HYD ID=4 CODE=20

HYDROGRAPH FROM AREA M4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	5.4	4.000	.1	5.999	.1		
.667	.0	2.666	.5	4.666	.1	6.666	.0		
1.333	5.5	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.34986 INCHES = .9561 ACRE-FEET
PEAK DISCHARGE RATE = 28.65 CFS AT 1.500 HOURS BASIN AREA = .0133 SQ. MI.

PRINT HYD ID=5 CODE=20

HYDROGRAPH FROM AREA M5

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	11.3	4.000	.2	5.999	.3		
.667	.0	2.666	1.1	4.666	.2	6.666	.0		
1.333	12.0	3.333	.3	5.333	.2				

RUNOFF VOLUME = 1.36651 INCHES = 1.9466 ACRE-FEET
PEAK DISCHARGE RATE = 57.39 CFS AT 1.500 HOURS BASIN AREA = .0267 SQ. MI.

PRINT HYD ID=6 CODE=20

HYDROGRAPH FROM AREA M6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	4.1	4.000	.1	5.999	.1		
.667	.0	2.666	.3	4.666	.1	6.666	.0		
1.333	4.8	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.79459 INCHES = .6221 ACRE-FEET
PEAK DISCHARGE RATE = 17.22 CFS AT 1.500 HOURS BASIN AREA = .0065 SQ. MI.

PRINT HYD ID=7 CODE=20

HYDROGRAPH FROM AREA M7

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.333	.4	2.666	.0	4.000	.0	5.333	.0
.667	.0	2.000	.4	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.36651 INCHES = .0626 ACRE-FEET
PEAK DISCHARGE RATE = 1.86 CFS AT 1.500 HOURS BASIN AREA = .0009 SQ. MI.

PRINT HYD ID=8 CODE=20

HYDROGRAPH FROM AREA M8

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	3.4	4.000	.1	5.999	.1		
.667	.0	2.666	.3	4.666	.1	6.666	.0		
1.333	3.8	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.62601 INCHES = .5403 ACRE-FEET
PEAK DISCHARGE RATE = 15.35 CFS AT 1.500 HOURS BASIN AREA = .0062 SQ. MI.

PRINT HYD ID=9 CODE=20

HYDROGRAPH FROM AREA M9

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.4	2.666	.0	4.000	.0	5.333	.0
.667	.0	2.000	.3	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.77563 INCHES = .0521 ACRE-FEET
PEAK DISCHARGE RATE = 1.47 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

PRINT HYD ID=10 CODE=20

HYDROGRAPH FROM AREA M10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.0	2.666	.1	4.000	.0	5.333	.0
.667	.0	2.000	.8	3.333	.0	4.666	.0	5.999	.0

RUNOFF VOLUME = 1.77563 INCHES = .1284 ACRE-FEET
PEAK DISCHARGE RATE = 3.60 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:07:44

APPENDIX

DRAINAGE REPORT

FOR

SUMMER RAY SUBDIVISION
UNITS ONE & TWO

A 156 LOT (TWO PHASE) SINGLE FAMILY RESIDENTIAL SUBDIVISION

ALBUQUERQUE NEW MEXICO
MARCH 1995

Prepared by:

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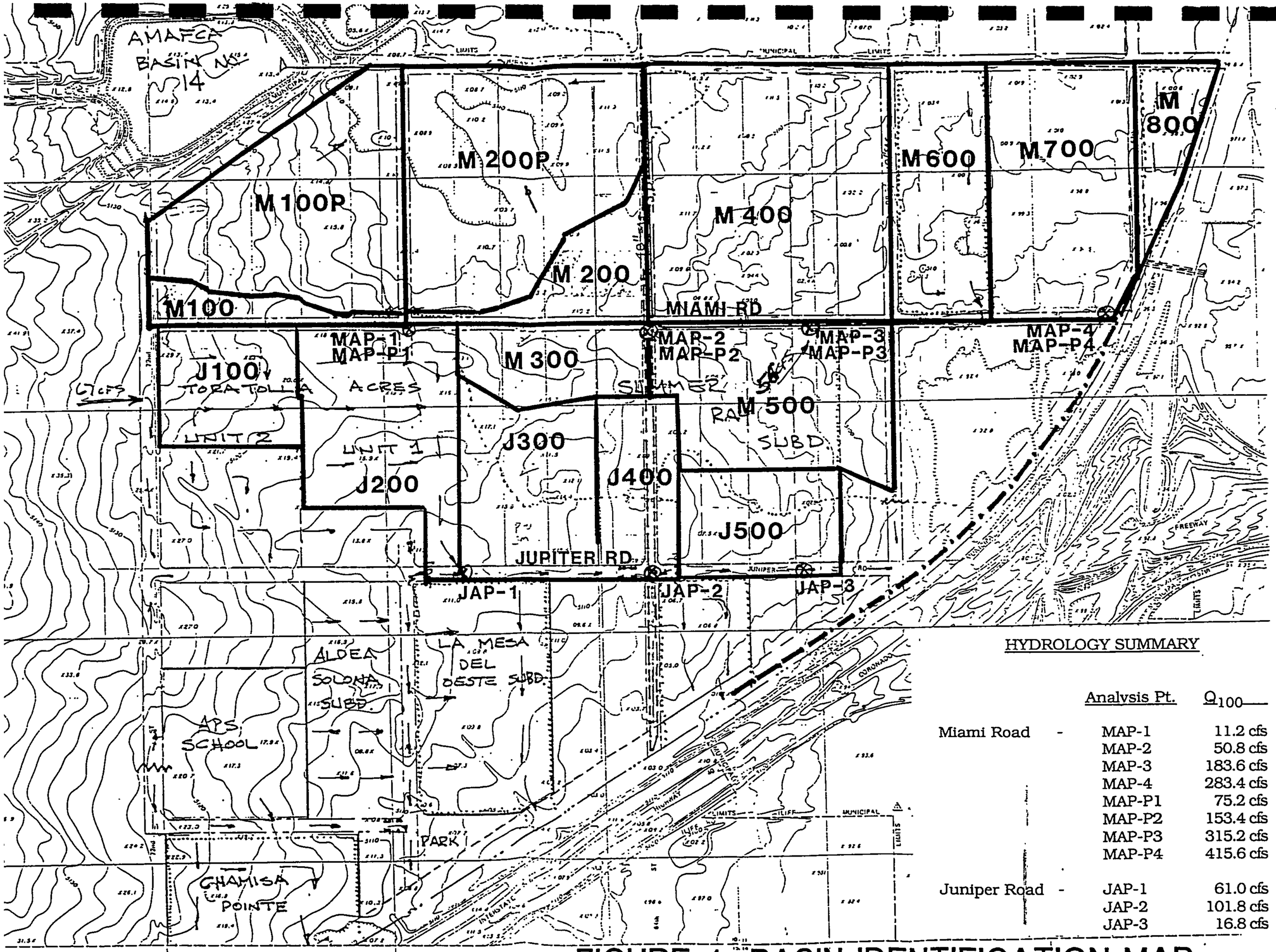
Fred C. Arfman, P.E. Date



HYDROLOGY SUMMARY

	Analysis Pt.	Q_{100}
Miami Road -	MAP-1	11.2 cfs
	MAP-2	50.8 cfs
	MAP-3	183.6 cfs
	MAP-4	283.4 cfs
	MAP-P1	75.2 cfs
	MAP-P2	153.4 cfs
	MAP-P3	315.2 cfs
	MAP-P4	415.6 cfs
Juniper Road -	JAP-1	61.0 cfs
	JAP-2	101.8 cfs
	JAP-3	16.8 cfs

FIGURE 1 BASIN IDENTIFICATION MAP

AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992 RUN DATE (MON/DAY/YR) =03/15/1995
INPUT FILE = MIAMI2.DAT USER NO.= S_MCGEE_.S92

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
START										
*S MIAMI2 MODELS THE COA PROPOSED BASINS ASSUMING DEVELOPED CONDITIONS										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
*S BASIN 100 IS THE AREA NORTH OF MIAMI BETWEEN 72ND ST & 68TH ST										
COMPUTE NM HYD	100.00	-	1	.03500	75.20	2.551	1.36652	1.500	3.357	PER IMP= 50.60
*S ROUTE THE FLOW IN A 40' SECTION OF MIAMI RD, S=1.0%										
ROUTE	100.20	1	2	.03500	68.12	2.551	1.36652	1.533	3.041	
*S BASIN 200 IS THE AREA NORTH OF MIAMI BETWEEN 68TH ST & 64TH ST										
COMPUTE NM HYD	200.00	-	3	.04110	88.31	2.995	1.36652	1.500	3.357	PER IMP= 50.60
*S ADD THE FLOWS										
ADD HYD	200.10	2& 3	4	.07610	153.44	5.546	1.36651	1.533	3.151	
*S BASIN 300 IS THE AREA SOUTH OF MIAMI BETWEEN TORATOLLA 1 AND 64TH ST										
*S (INCLUDING ABOUT 1.38 AC OF SUMMERRAY SD)										
COMPUTE NM HYD	300.00	-	6	.01100	23.65	.802	1.36652	1.500	3.359	PER IMP= 50.60
*S ADD THE FLOW FROM BASIN 300 FOR THE TOTAL FLOW @ MIAMI & 64TH ST										
ADD HYD	300.10	4& 6	7	.08710	176.29	6.348	1.36650	1.533	3.163	
*S DIVIDE 82 CFS OUT FOR STREET FLOW & ROUTE 1000'(82 CFS IS FLOW CAPACITY										
*S OF 40' FF @ S=1% W/ THE EGL @1.0')										
DIVIDE HYD	300.20	7	8	.06854	82.00	4.995	1.36650	1.433	1.869	
	300.30	AND	9	.01856	94.29	1.353	1.36650	1.533	7.937	
*S ROUTE THE 82 CFS IN THE SAME STREET SECTION 1000'										
ROUTE	300.30	8	10	.06854	81.99	4.995	1.36651	1.700	1.869	
*S USE THE REMAINDER OF THE FLOW TO SIZE THE STORM DRAIN										
*S ADD THE FLOWS TOGETHER AGAIN										
ADD HYD	300.40	9&10	11	.08710	175.01	6.348	1.36650	1.533	3.140	
*S BASIN 400 IS THE AREA NORTH OF MIAMI BETWEEN 64TH & MIAMI RD										
COMPUTE NM HYD	400.00	-	12	.04110	88.31	2.995	1.36652	1.500	3.357	PER IMP= 50.60
*S ADD THE FLOW FROM BASIN 400 TO THE EARLIER TOTAL										
ADD HYD	400.10	11&12	13	.12820	260.34	9.343	1.36650	1.533	3.173	
*S BASIN 500 IS THE AREA BETWEEN 64TH ST & ESTANCIA (INCLUDING ABOUT										
*S 10.0 ACRES FROM SUMMERRAY SD) THAT DRAINS TO THE NORTH TO MIAMI RD										
COMPUTE NM HYD	500.00	-	14	.02640	56.73	1.924	1.36652	1.500	3.358	PER IMP= 50.60
*S ADD THE FLOW FROM BASIN 500 (TOTAL FLOW @ ESTANCIA & MIAMI)										
ADD HYD	500.10	13&14	15	.15460	315.16	11.267	1.36651	1.533	3.185	
*S THE AMOUNT ABOVE MUST BE REMOVED @ POINT A-3 (ON EXHIBIT)										
*S BASINS 600 & 700 ARE INCLUDED TOGETHER, THEY DRAIN SOUTH TO MIAMI										
COMPUTE NM HYD	600.00	-	17	.04110	88.31	2.995	1.36652	1.500	3.357	PER IMP= 50.60
*S ADD THE FLOW FROM BASINS 600 & 700 TO THE EARLIER TOTAL										
ADD HYD	600.10	15&17	18	.19570	401.61	14.263	1.36651	1.500	3.207	
*S BASIN 800 IS THE AREA BETWEEN 57TH ST & COORS										
COMPUTE NM HYD	800.00	-	19	.00650	13.98	.474	1.36652	1.500	3.360	PER IMP= 50.60
*S ADD THE FLOW FROM BASIN 800 (TOTAL FLOW @ MIAMI & COORS)										
ADD HYD	800.10	18&19	20	.20220	415.59	14.736	1.36650	1.500	3.211	
FINISH										

```
AHYMO PROGRAM (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992
     RUN DATE (MON/DAY/YR) = 03/15/1995
     START TIME (HR:MIN:SEC) = 10:49:08      USER NO.= S_MCGEE_.S92
     INPUT FILE = MIAMI2.DAT

START                TIME=0.0 PUNCH CODE=0
*
*                    FILE:  MIAMI2.DAT
*S MIAMI2 MODELS THE COA PROPOSED BASINS ASSUMING DEVELOPED CONDITIONS
RAINFALL             TYPE=1     RAIN QUARTER=0.0
                     RAIN ONE=1.90 IN RAIN SIX=2.20 IN
                     RAIN DAY=2.68 IN DT=0.033333 HRS

          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
          DT =     .033333 HOURS        END TIME =     5.999940 HOURS
             .0000   .0013   .0027   .0041   .0055   .0069   .0084
             .0099   .0115   .0131   .0147   .0164   .0181   .0199
             .0217   .0236   .0256   .0276   .0296   .0318   .0340
             .0363   .0387   .0412   .0438   .0465   .0493   .0523
             .0554   .0587   .0622   .0675   .0731   .0791   .0920
             .1209   .1653   .2291   .3162   .4306   .5765   .7582
             .9799  1.1849  1.2707  1.3432  1.4077  1.4663  1.5203
            1.5704  1.6173  1.6612  1.7025  1.7415  1.7783  1.8132
            1.8462  1.8775  1.9072  1.9354  1.9622  1.9681  1.9737
            1.9789  1.9839  1.9887  1.9933  1.9976  2.0019  2.0059
            2.0098  2.0136  2.0172  2.0208  2.0242  2.0276  2.0308
            2.0340  2.0371  2.0401  2.0430  2.0458  2.0486  2.0514
            2.0541  2.0567  2.0592  2.0618  2.0642  2.0667  2.0690
            2.0714  2.0737  2.0759  2.0781  2.0803  2.0825  2.0846
            2.0867  2.0887  2.0908  2.0927  2.0947  2.0966  2.0986
            2.1004  2.1023  2.1041  2.1060  2.1077  2.1095  2.1113
            2.1130  2.1147  2.1164  2.1180  2.1197  2.1213  2.1229
            2.1245  2.1261  2.1277  2.1292  2.1308  2.1323  2.1338
            2.1353  2.1367  2.1382  2.1396  2.1411  2.1425  2.1439
            2.1453  2.1466  2.1480  2.1494  2.1507  2.1520  2.1534
            2.1547  2.1560  2.1573  2.1585  2.1598  2.1611  2.1623
            2.1636  2.1648  2.1660  2.1672  2.1684  2.1696  2.1708
            2.1720  2.1731  2.1743  2.1755  2.1766  2.1777  2.1789
            2.1800  2.1811  2.1822  2.1833  2.1844  2.1855  2.1866
            2.1876  2.1887  2.1898  2.1908  2.1919  2.1929  2.1939
            2.1950  2.1960  2.1970  2.1980  2.1990  2.2000

*S BASIN 100 IS THE AREA NORTH OF MIAMI BETWEEN 72ND ST & 68TH ST
COMPUTE NM HYD       ID=1   HYD NO= 100.0   DA=0.0350 SQ MI
                     PER A=0 PER B=37.2 PER C=12.2 PER D=50.6
                     TP= -0.1333 HR MASS RAIN=-1

   K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =    69.920    CFS   UNIT VOLUME =     .9992        B =   526.28      P60 = 1.9000
   AREA =       .017710 SQ MI    IA =     .10000 INCHES    INF =     .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333
```

```
K =    .124696HR    TP =    .133300HR    K/TP RATIO =    .935456     SHAPE CONSTANT, N =  3.780775
UNIT PEAK =    44.137    CFS   UNIT VOLUME =    1.000        B =   340.28       P60 = 1.9000
AREA =       .017290 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

PRINT HYD            ID=1      CODE=20

                                PARTIAL HYDROGRAPH   100.00

 TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
  HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
  .000      .0           2.000     14.8          4.000      .3           6.000      .3
  .667      .0           2.667      1.4          4.667      .2           6.667      .0
 1.333    15.8           3.333       .4          5.333      .3

RUNOFF VOLUME =      1.36652 INCHES      =       2.5508 ACRE-FEET
PEAK DISCHARGE RATE =      75.20 CFS  AT   1.500 HOURS   BASIN AREA =   .0350 SQ. MI.


*S ROUTE THE FLOW IN A 40' SECTION OF MIAMI RD, S=1.0%
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEG=1 MIN ELEV=100.0 MAX EL=100.67
                     CH SLOPE=0.01 FP SLOPE=0.01 N=0.017 DIST=40.0
                     DIST ELEV   DIST  ELEV   DIST  ELEV   DIST  ELEV
                      0  100.67  0.10 100.00  20.0 100.40  39.9 100.00
                     40  100.67

                                RATING CURVE VALLEY SECTION  1.0
                                   WATER      FLOW       FLOW
                                  SURFACE     AREA       RATE
                                   ELEV       SQ FT      CFS
                                  100.00        .0         .0
                                  100.04        .1         .0
                                  100.07        .2         .2
                                  100.11        .6         .7
                                  100.14       1.0        1.5
                                  100.18       1.6        2.7
                                  100.21       2.2        4.3
                                  100.25       3.0        6.5
                                  100.28       4.0        9.3
                                  100.32       5.0       12.7
                                  100.35       6.2       16.9
                                  100.39       7.5       21.7
                                  100.42       8.9       28.3
                                  100.46      10.3       36.1
                                  100.49      11.7       44.6
                                  100.53      13.1       53.9
                                  100.56      14.5       63.8
                                  100.60      16.0       74.3
                                  100.63      17.4       85.5
                                  100.67      18.8       97.2
COMPUTE TRAVEL TIME  ID=2  REACH NO=1  NO VS=1 L=1000 FT  SLP=0.01
```

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.035	.062	.04	.4746
.071	.248	.23	.2990
.106	.558	.68	.2281
.141	.993	1.46	.1883
.176	1.551	2.65	.1623
.212	2.234	4.32	.1437
.247	3.040	6.51	.1297
.282	3.971	9.30	.1186
.317	5.026	12.73	.1097
.353	6.205	16.86	.1022
.388	7.508	21.74	.0959
.423	8.908	28.30	.0874
.458	10.316	36.10	.0794
.494	11.725	44.63	.0730
.529	13.134	53.86	.0677
.564	14.543	63.75	.0634
.599	15.953	74.29	.0596
.635	17.363	85.46	.0564
.670	18.773	97.23	.0536

```
ROUTE                ID=2  HYD NO=100.2  INFLOW ID=1
PRINT HYD            ID=2 CODE=20
```

PARTIAL HYDROGRAPH 100.20

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	17.7	4.000	.3	6.000	.3	8.000	.0
.667	.0	2.667	2.1	4.667	.2	6.667	.1	8.667	.0
1.333	5.0	3.333	.6	5.333	.3	7.333	.0		

RUNOFF VOLUME = 1.36652 INCHES = 2.5508 ACRE-FEET
PEAK DISCHARGE RATE = 68.12 CFS AT 1.533 HOURS BASIN AREA = .0350 SQ. MI.

```
*S BASIN 200 IS THE AREA NORTH OF MIAMI BETWEEN 68TH ST & 64TH ST
COMPUTE NM HYD        ID=3   HYD NO= 200.0   DA=0.0411 SQ MI
                      PER A=0 PER B=37.2 PER C=12.2 PER D=50.6
                      TP= -0.1333 HR MASS RAIN=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 82.106 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .020797 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

```
K =    .124696HR     TP =    .133300HR     K/TP RATIO =    .935456      SHAPE CONSTANT, N =  3.780775
UNIT PEAK =    51.829     CFS    UNIT VOLUME =     1.000        B =    340.28       P60 = 1.9000
AREA =       .020303 SQ MI     IA =     .46296 INCHES     INF =    1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

PRINT HYD              ID=3       CODE=20

                                PARTIAL HYDROGRAPH    200.00

 TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
  HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
  .000       .0          2.000     17.4          4.000       .3          6.000       .4
  .667       .0          2.667      1.6          4.667       .3          6.667       .0
 1.333     18.5          3.333       .5          5.333       .3

RUNOFF VOLUME =      1.36652 INCHES      =       2.9954 ACRE-FEET
PEAK DISCHARGE RATE =       88.31 CFS   AT    1.500 HOURS    BASIN AREA =    .0411 SQ. MI.


*S ADD THE FLOWS
ADD HYD                ID=4   HYD NO=200.1 ID=2 ID=3
PRINT HYD              ID=4       CODE=20

                                PARTIAL HYDROGRAPH    200.10

 TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
  HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
  .000       .0          2.000     35.1          4.000       .6          6.000       .7          8.000       .0
  .667       .0          2.667      3.7          4.667       .5          6.667       .1          8.667       .0
 1.333     23.5          3.333      1.0          5.333       .6          7.333       .0

RUNOFF VOLUME =      1.36651 INCHES      =       5.5462 ACRE-FEET
PEAK DISCHARGE RATE =      153.44 CFS   AT    1.533 HOURS    BASIN AREA =    .0761 SQ. MI.


*S BASIN 300 IS THE AREA SOUTH OF MIAMI BETWEEN TORATOLLA 1 AND 64TH ST
*S (INCLUDING ABOUT 1.38 AC OF SUMMERRAY SD)
COMPUTE NM HYD         ID=6    HYD NO=300.0   DA=0.0110 SQ MI
                       PER A=0 PER B=37.2 PER C=12.2 PER D=50.6
                       TP= -0.1333 HR MASS RAIN=-1

K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
UNIT PEAK =    21.975     CFS    UNIT VOLUME =     .9989        B =    526.28       P60 = 1.9000
AREA =       .005566 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

K =    .124696HR     TP =    .133300HR     K/TP RATIO =    .935456      SHAPE CONSTANT, N =  3.780775
UNIT PEAK =    13.872     CFS    UNIT VOLUME =     .9993        B =    340.28       P60 = 1.9000
AREA =       .005434 SQ MI     IA =     .46296 INCHES     INF =    1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333
```

```
PRINT HYD                ID=6      CODE=20

                                HYDROGRAPH FROM AREA   300.00

   TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
   .000        .0          2.000      4.7          4.000       .1          6.000       .1
   .667        .0          2.667       .4          4.667       .1          6.667       .0
  1.333       5.0          3.333       .1          5.333       .1

  RUNOFF VOLUME =      1.36652 INCHES      =        .8017 ACRE-FEET
  PEAK DISCHARGE RATE =      23.65 CFS  AT   1.500 HOURS   BASIN AREA =   .0110 SQ. MI.


*S ADD THE FLOW FROM BASIN 300 FOR THE TOTAL FLOW @ MIAMI & 64TH ST
ADD HYD                  ID=7  HYD NO=300.1 ID=4 ID=6
PRINT HYD                ID=7      CODE=20

                                HYDROGRAPH FROM AREA   300.10

   TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
   .000        .0          2.000     39.8          4.000       .7          6.000       .8          8.000       .0
   .667        .0          2.667      4.2          4.667       .6          6.667       .1          8.667       .0
  1.333      28.5          3.333      1.2          5.333       .7          7.333       .0

  RUNOFF VOLUME =      1.36650 INCHES      =       6.3478 ACRE-FEET
  PEAK DISCHARGE RATE =     176.29 CFS  AT   1.533 HOURS   BASIN AREA =   .0871 SQ. MI.


*S DIVIDE 82 CFS OUT FOR STREET FLOW & ROUTE 1000'(82 CFS IS FLOW CAPACITY
*S OF 40' FF @ S=1% W/ THE EGL @1.0')
DIVIDE HYD               ID=7  Q=82  ID I=8 HYD I=300.2
                                     ID II=9 HYD II=300.3
*S ROUTE THE 82 CFS IN THE SAME STREET SECTION 1000'
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEG=1 MIN ELEV=100.0 MAX EL=100.67
                     CH SLOPE=0.01 FP SLOPE=0.01 N=0.017 DIST=40.0
                     DIST ELEV   DIST  ELEV   DIST  ELEV   DIST  ELEV
                      0  100.67  0.10 100.00  20.0 100.40  39.9 100.00
                     40  100.67

                          RATING CURVE VALLEY SECTION  1.0
                              WATER      FLOW      FLOW
                             SURFACE     AREA      RATE
                              ELEV       SQ FT     CFS
                             100.00        .0        .0
                             100.04        .1        .0
                             100.07        .2        .2
                             100.11        .6        .7
                             100.14       1.0       1.5
                             100.18       1.6       2.7
```

100.21	2.2	4.3
100.25	3.0	6.5
100.28	4.0	9.3
100.32	5.0	12.7
100.35	6.2	16.9
100.39	7.5	21.7
100.42	8.9	28.3
100.46	10.3	36.1
100.49	11.7	44.6
100.53	13.1	53.9
100.56	14.5	63.8
100.60	16.0	74.3
100.63	17.4	85.5
100.67	18.8	97.2

COMPUTE TRAVEL TIME ID=10 REACH NO=1 NO VS=1 L=1000 FT SLP=0.01

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.035	.062	.04	.4746
.071	.248	.23	.2990
.106	.558	.68	.2281
.141	.993	1.46	.1883
.176	1.551	2.65	.1623
.212	2.234	4.32	.1437
.247	3.040	6.51	.1297
.282	3.971	9.30	.1186
.317	5.026	12.73	.1097
.353	6.205	16.86	.1022
.388	7.508	21.74	.0959
.423	8.908	28.30	.0874
.458	10.316	36.10	.0794
.494	11.725	44.63	.0730
.529	13.134	53.86	.0677
.564	14.543	63.75	.0634
.599	15.953	74.29	.0596
.635	17.363	85.46	.0564
.670	18.773	97.23	.0536

ROUTE ID=10 HYD NO=300.3 INFLOW ID=8
PRINT HYD ID=10 CODE=20

HYDROGRAPH FROM AREA 300.30

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	43.9	4.000	.8	6.000	.8	8.000	.0
.667	.0	2.667	5.6	4.667	.6	6.667	.2	8.667	.0
1.333	9.7	3.333	1.5	5.333	.7	7.333	.1	9.333	.0

RUNOFF VOLUME = 1.36651 INCHES = 4.9950 ACRE-FEET

```
PEAK DISCHARGE RATE =      81.99 CFS  AT   1.700 HOURS   BASIN AREA =   .0685 SQ. MI.

*S USE THE REMAINDER OF THE FLOW TO SIZE THE STORM DRAIN
PRINT HYD            ID=9 CODE=20

                                HYDROGRAPH FROM AREA   300.30

  TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
  .000       .0            .667       .0           1.333       .0

RUNOFF VOLUME =     1.36650 INCHES     =       1.3528 ACRE-FEET
PEAK DISCHARGE RATE =      94.29 CFS  AT   1.533 HOURS   BASIN AREA =   .0186 SQ. MI.


*S ADD THE FLOWS TOGETHER AGAIN
ADD HYD              ID=11  HYD NO=300.4 ID=9 ID=10
*S BASIN 400 IS THE AREA NORTH OF MIAMI BETWEEN 64TH & MIAMI RD
COMPUTE NM HYD       ID=12  HYD NO=400.0  DA=0.0411 SQ MI
                     PER A=0 PER B=37.2 PER C=12.2.0 PER D=50.6
                     TP=-0.1333 HR MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   82.106    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 1.9000
AREA =      .020797 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
UNIT PEAK =   51.829    CFS   UNIT VOLUME =    1.000       B =   340.28      P60 = 1.9000
AREA =      .020303 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD            ID=12      CODE=20

                                HYDROGRAPH FROM AREA   400.00

  TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
  .000       .0           2.000     17.4           4.000       .3          6.000       .4
  .667       .0           2.667      1.6           4.667       .3          6.667       .0
 1.333      18.5           3.333       .5           5.333       .3

RUNOFF VOLUME =     1.36652 INCHES     =       2.9954 ACRE-FEET
PEAK DISCHARGE RATE =      88.31 CFS  AT   1.500 HOURS   BASIN AREA =   .0411 SQ. MI.


*S ADD THE FLOW FROM BASIN 400 TO THE EARLIER TOTAL
ADD HYD              ID=13  HYD NO=400.1 ID=11 ID=12
```

PRINT HYD ID=13 CODE=20

HYDROGRAPH FROM AREA 400.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	61.3	4.000	1.1	6.000	1.1	8.000	.0
.667	.0	2.667	7.2	4.667	.9	6.667	.2	8.667	.0
1.333	28.3	3.333	2.0	5.333	1.0	7.333	.1	9.333	.0

RUNOFF VOLUME = 1.36650 INCHES = 9.3432 ACRE-FEET
PEAK DISCHARGE RATE = 260.34 CFS AT 1.533 HOURS BASIN AREA = .1282 SQ. MI.

*S BASIN 500 IS THE AREA BETWEEN 64TH ST & ESTANCIA (INCLUDING ABOUT
*S 10.0 ACRES FROM SUMMERRAY SD) THAT DRAINS TO THE NORTH TO MIAMI RD
COMPUTE NM HYD ID=14 HYD NO=500.0 DA=0.0264 SQ MI
PER A=0 PER B=37.2 PER C=12.2.0 PER D=50.6
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 52.740 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.9000
AREA = .013358 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .124696HR TP = .133300HR K/TP RATIO = .935456 SHAPE CONSTANT, N = 3.780775
UNIT PEAK = 33.292 CFS UNIT VOLUME = .9999 B = 340.28 P60 = 1.9000
AREA = .013042 SQ MI IA = .46296 INCHES INF = 1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=14 CODE=20

OUTFLOW HYDROGRAPH RESERVOIR 500.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	11.2	4.000	.2	6.000	.2		
.667	.0	2.667	1.0	4.667	.2	6.667	.0		
1.333	11.9	3.333	.3	5.333	.2				

RUNOFF VOLUME = 1.36652 INCHES = 1.9240 ACRE-FEET
PEAK DISCHARGE RATE = 56.73 CFS AT 1.500 HOURS BASIN AREA = .0264 SQ. MI.

*S ADD THE FLOW FROM BASIN 500 (TOTAL FLOW @ ESTANCIA & MIAMI)
ADD HYD ID=15 HYD NO=500.1 ID=13 ID=14
PRINT HYD ID=15 CODE=20

OUTFLOW HYDROGRAPH RESERVOIR 500.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	72.5	4.000	1.2	6.000	1.4	8.000	.0
.667	.0	2.667	8.3	4.667	1.1	6.667	.2	8.667	.0
1.333	40.1	3.333	2.3	5.333	1.2	7.333	.1	9.333	.0

RUNOFF VOLUME = 1.36651 INCHES = 11.2672 ACRE-FEET
PEAK DISCHARGE RATE = 315.16 CFS AT 1.533 HOURS BASIN AREA = .1546 SQ. MI.

```
*S THE AMOUNT ABOVE MUST BE REMOVED @ POINT A-3 (ON EXHIBIT)
*S BASINS 600 & 700 ARE INCLUDED TOGETHER, THEY DRAIN SOUTH TO MIAMI
COMPUTE NM HYD        ID=17  HYD NO=600.0  DA=0.0411 SQ MI
                      PER A=0 PER B=37.2 PER C=12.2.0 PER D=50.6
                      TP=-0.1333 HR MASS RAIN=-1

   K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =   82.106    CFS   UNIT VOLUME =    .9992        B =   526.28      P60 = 1.9000
   AREA =      .020797 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

   K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
   UNIT PEAK =   51.829    CFS   UNIT VOLUME =    1.000        B =   340.28      P60 = 1.9000
   AREA =      .020303 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333
PRINT HYD             ID=17      CODE=20
```

HYDROGRAPH FROM AREA 600.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	17.4	4.000	.3	6.000	.4		
.667	.0	2.667	1.6	4.667	.3	6.667	.0		
1.333	18.5	3.333	.5	5.333	.3				

RUNOFF VOLUME = 1.36652 INCHES = 2.9954 ACRE-FEET
PEAK DISCHARGE RATE = 88.31 CFS AT 1.500 HOURS BASIN AREA = .0411 SQ. MI.

```
*S ADD THE FLOW FROM BASINS 600 & 700 TO THE EARLIER TOTAL
ADD HYD               ID=18  HYD NO=600.1 ID=15 ID=17
PRINT HYD             ID=18 CODE=20
```

HYDROGRAPH FROM AREA 600.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	89.9	4.000	1.5	6.000	1.8	8.000	.0
.667	.0	2.667	9.9	4.667	1.4	6.667	.2	8.667	.0
1.333	58.6	3.333	2.7	5.333	1.5	7.333	.1	9.333	.0

RUNOFF VOLUME = 1.36651 INCHES = 14.2626 ACRE-FEET
PEAK DISCHARGE RATE = 401.61 CFS AT 1.500 HOURS BASIN AREA = .1957 SQ. MI.

```
*S BASIN 800 IS THE AREA BETWEEN 57TH ST & COORS
COMPUTE NM HYD          ID=19  HYD NO=800.0  DA=0.0065 SQ MI
                        PER A=0 PER B=37.2 PER C=12.2.0 PER D=50.6
                        TP=-0.1333 HR MASS RAIN=-1

K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   12.985    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 1.9000
AREA =       .003289 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

K =   .124696HR    TP =   .133300HR    K/TP RATIO =   .935456     SHAPE CONSTANT, N =  3.780775
UNIT PEAK =   8.1968    CFS   UNIT VOLUME =    .9986       B =   340.28      P60 = 1.9000
AREA =       .003211 SQ MI    IA =    .46296 INCHES    INF =   1.14628 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333
PRINT HYD               ID=19      CODE=20
```

HYDROGRAPH FROM AREA 800.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	2.8	4.000	.0	6.000	.1		
.667	.0	2.667	.3	4.667	.0	6.667	.0		
1.333	2.9	3.333	.1	5.333	.1				

RUNOFF VOLUME = 1.36652 INCHES = .4737 ACRE-FEET
PEAK DISCHARGE RATE = 13.98 CFS AT 1.500 HOURS BASIN AREA = .0065 SQ. MI.

```
*S ADD THE FLOW FROM BASIN 800 (TOTAL FLOW @ MIAMI & COORS)
ADD HYD                 ID=20  HYD NO=800.1 ID=18 ID=19
PRINT HYD               ID=20 CODE=20
```

HYDROGRAPH FROM AREA 800.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	92.6	4.000	1.6	6.000	1.8	8.000	.0
.667	.0	2.667	10.2	4.667	1.4	6.667	.2	8.667	.0
1.333	61.6	3.333	2.8	5.333	1.6	7.333	.1	9.333	.0

RUNOFF VOLUME = 1.36650 INCHES = 14.7363 ACRE-FEET
PEAK DISCHARGE RATE = 415.59 CFS AT 1.500 HOURS BASIN AREA = .2022 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:49:17

CITY OF
Albuquerque

March 19, 1997

Martin J. Chávez, Mayor

Dennis A. Lorenz
Brasher & Lorenz, Inc.
2201 San Pedro NE
Building #1 - Suite 210
Albuquerque, NM 87109

RE: MIAMI STORM DRAIN (H11-D57). CONSTRUCTION DRAWINGS FOR WORK ORDER APPROVAL. ENGINEER'S STAMP DATED JANUARY 22, 1997

Dear Mr. Lorenz:

Based on the information provided on your drawings stamped January 22, 1997, City Hydrology has the following comments:

1. The six (6) drop inlets shown on Miami Road (between stations 18+00 and 19+00) must be included in this project.

2. Please space the inlets a minimum of 25-feet from upstream curb return to downstream curb return.

3. You will need concurrence from the Transportation Division. I assume they will need some ultimate street grades to the end of 57 TH Street.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Dan Hogan
Fred Aguirre
Kevin Broderick
Andrew Garcia
File