CITY OF
Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

November 12, 1996

Martin J. Chávez, Mayor

Kent M. Whitman, PE
Community Science Corp
P.O. Box 1328
Corrales, NM 87048

RE: DRAINAGE REPORT FOR TUSCANY SUBDIVISION, UNIT 3 (A-11/D1)
RECEIVED OCTOBER 31, 1996 FOR FINAL PLAT & WORK ORDER
ENGINEER'S STAMP DATED JULY 16, 1996, REV SEPT 9th /96

Dear Mr. Whitman:

Based on the information included in the submittal referenced above, City Hydrology accepts the drainage report for work order & final plat.

Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before the Financial Guaranty will be released.

It is City Hydrology's understanding that DRB has not approved the Amended Grading Plan, dated 8/6/96. The DRB approved Grading Plan is dated, 4-22-96.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Fred Aguirre, DRB 95-41
Stan Strickman, Curb West Inc, 6301 Indian School NE #680, 87110

CITY OF
Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

August 12, 1996

Martin J. Chávez, Mayor

Bo K. Johnson, PE
Bokay Construction/Management
5905 Azuelo Ct NW
Albuquerque, NM 87120

RE: ENGINEER'S CERTIFICATION FOR TUSCANY SUBD, UNIT 1 (A-11/D1)
RECEIVED AUGUST 9, 1996 FOR FINANCIAL GUARANTY RELEASE
ENGINEER'S STAMP DATED 8/08/96

Dear Mr. Johnson:

Based on the information included in the submittal referenced above, City Hydrology accepts the Engineer's Certification for financial guaranty release.

Contact Terri Martin to obtain the Financial Guaranty Release for City Project Number 5208.91.

Since there are no rear yard ponds indicated on the approved grading & drainage plan, it is City Hydrology's understanding that all lots must drain to the street. Because the Engineer's Certification is the document used to resolve any complaints, it would be helpful to have a sharp, crisp blueprint or black line copy in the file instead of a bleary xerox copy.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Fred Aguirre
Terri Martin, CPN 5208.91
Stan Strickman, Curb West Inc, 6301 Indian School NE #680, 87110

City of Albuquerque

P. O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103
PUBLIC WORKS DEPARTMENT

August 8, 1996

CERTIFICATE OF WORK ORDER COMPLETION

Charles Haegelin
Curb Inc.
6301 Indian School Rd. N.E.
Albuquerque, NM 87110

RE: TUSCANY SUBDIVISION, PROJECT NO. 5208.91 MAP No. A-11/A-12

Dear Sir:

This is to certify that the City of Albuquerque accepts Project No. 5208.91 as being completed according to approved plans and construction specifications. Please be advised this certificate of completion and acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's Office.

The project is described as follows:

- Asphalt paving, curb and gutter, sidewalks and storm drain improvements along Bandalier Drive, Napoli Place, Sicily Road, Milano Street, Palermo Street and Tuscany Court. Also included in this project was some extensive bank stabilization along the north and west bank of the Calabacillas Arroyo directly adjacent to Tuscany Unit One. This included soil cement and rip rap work along this area. Water and sewer improvements were also done in this area at the direction of New Mexico Utilities Inc.

The contractor's correction period began the date of this letter and is effective for a period of one (1) year.

Sincerely,

Russell B. Givler, P.E.
Chief Construction Engineer,
Engineering Group
Public Works Department

CITY OF
Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

June 14, 1996

Martin J. Chávez, Mayor

Thomas J. Bellon
Community Science Corp
P.O. Box 1328
Corrales, NM 87048

RE: AMENDED GRADING PLAN FOR TUSCANY SUBD, UNIT 2 (A-11/D1)
RECEIVED MAY 22, 1996 FOR ROUGH GRADING, W.O. & FINAL PLAT
ENGINEER'S STAMP DATED 5-13-96

Dear Mr. Bellon:

Based on the information included in the submittal referenced above, City Hydrology accepts the amended grading plan for Rough Grading, Work Order & Final Plat.

Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before the Financial Guaranty will be released.

Revise Section A-A to indicate the interim condition that is certified. There are no PDEs indicated on the Plat. Typically in this unit, the downhill setback is 15' instead of 5'. It appears that additional retaining walls or slopes may be required to achieve the proposed grades along the border between Unit 2 & Unit 3.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Fred Aguirre, DRB 95-41
Stan Strickman, Curb West Inc, 6301 Indian School NE #680, 87110

CITY OF
Albuquerque
P.O. Box 1293 Albuquerque, NM 87103

May 10, 1996

Martin J. Chávez, Mayor

Thomas J. Bellon
Community Science Corp
P.O. Box 1328
Corrales, NM 87043

RE: GRADING PLAN FOR TUSCANY SUBDIVISION, UNIT 3 (A-11/D1)
RECEIVED APRIL 24, 1996 FOR R GRADING & FINAL PLAT
ENGINEER'S STAMP DATED 4-22-96

Dear Mr. Bellon:

Based on the information included in the submittal referenced above, City Hydrology accepts the Grading Plan, dated 4-22-96, for Rough Grading. The following comments must be addressed before the Grading Plan will be accepted for Final Plat:

Submit the street hydraulics & final storm drain design. Indicate the interim condition on Section A-A. Typically in this unit, the downhill setback is 15' instead of 5'. The typical garden wall detail must not have turned blocks.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Fred Aguirre, DRB 95-41
Stan Strickman, Curb West Inc, 6301 Indian School NE #680, 87110

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

April 8, 1996

Thomas J. Bellon
Community Science Corp
P.O. Box 1328
Corrales, NM 87048

RE: DRAINAGE REPORT FOR TUSCANY SUBDIVISION, UNIT 2 (A-11/D1)
RECEIVED MARCH 13, 1996 FOR R GRADING & FINAL PLAT
ENGINEER'S STAMP DATED 3-11-96

Dear Mr. Bellon:

Based on the information included in the submittal referenced above, City Hydrology accepts the Drainage Report for Work Order and the Grading Plan, dated 3-8-96, for Rough Grading. The following comments must be addressed before the Grading Plan will be accepted for Final Plat:

Indicate how the back of sidewalk will be raised to .6' above top of curb along Bandelier. C.O.A. Spec Section 1012 requires gravel mulch on slopes steeper than 3h:1v. Modify Section A-A to indicate the situation between Lots 19 & 20, Block 8. Indicate both the final and interim conditions.

Modifying the Master Plan AHYMO run adds a lot of useless bulk to the report. Only 5 input pages out of 16 pertain to this unit. The AHYMO run for this unit should represent the proposed conditions instead of the approximations available at the master plan stage. Avoid excessive routing. Hydrograph 225.20 is routed through the same system twice. Part of the HEC-2 printouts were sheared off eliminating any usefulness.

Section C-C should be designed for about 15 cfs instead of 10.34 cfs (1/2 Basin 225 + 2/3 Basin 210). The token reinforcement shown on Section C-C is inadequate. Use the reinforcement shown in C.O.A. Std Dwg 2260. Expansion joints are allowed only at structures.

CONTINUED ON PAGE 2.

REVISED/AMENDED

DRAINAGE REPORT

FOR

THE TUSCANY SUBDIVISION,
UNITS I, II, & III (MAP # A11 & A12)
(FINAL DRAINAGE REPORT FOR TUSCANY UNIT III)

PREPARED FOR

CURB WEST, INC.
6301 INDIAN SCHOOL NE, # 680
ALBUQUERQUE, NEW MEXICO 87109

PREPARED BY

COMMUNITY SCIENCES CORPORATION
P. O. BOX 1328
CORRALES, NEW MEXICO 87048

THOMAS J. BELLON, JR.
PROJECT MANAGER

JULY 16, 1996
REV SEPT. 9TH 196

Kent M. Whitman , P.E.

TABLE OF CONTENTS

I. PURPOSE AND SCOPE

Curb West, Inc. is currently planning for the development of The Tuscany Subdivision, Unit 3. The proposed development consists of approximately 11.795 acres and is to be subdivided into 46 single family residential lots. 3.9DU/Ac

The original report presented a Preliminary Drainage Management and Conceptual Grading Plan for approval by the City of Albuquerque in order that subsequent subdivision and development may commence.

This Revised Report presents a Drainage Management concept for the final design for drainage purposes for Unit #3 of the Tuscany Subdivision. As a part of this report the Final Grading Plans and Drainage Calculations for Tuscany Unit #3 are supplied.

II. TEMPORARY PONDS

Temporary Ponds were designed using DPM criteria. The Q's used for the sizing of these temporary ponds were for undeveloped conditions, no impervious areas, therefore the capacity is the volume for the 6 hour 100-year storm. (Calculations provided) The following is a summary of the calculated capacities needed:

POND #	Required Volume (cf)(calc)	DESIGN VOL (cf)
4	70,214 CF	103,150 cf *

* At spillover condition

SIZING TEMPORARY POND FOR TUSCAWN UNIT 2

PER UNIT 1 REPORT

$$V_{10\,dy} = V_{360}$$

FROM ANSWS RUN FOR UNIT 1 WE USE HYDROGRAPH AT 175.20 FOR NEW POND

$V_{360} = 1.6119$ ac-ft

$V_{360} = 70,214$ cf (required volume)

POND CAPACITY = 103,150 cf @ SPILLWAY EL = 10.00

∴ POND WILL HOLD THE REQUIRED STORM EVENT

TABLE 1 (Revised)
ULTIMATE DEVELOPED CONDITION
(If all properties, both on-site and off-site, developed) TP=0.1330

					LAND TREATMENT				INCREMENTAL		FUTURE TOTAL	
Basin I.D.	Area (Sq.Mi.)	Contr. Basin	Sum Area (Sq.Mi.)	Tc (Min.)	A	B	C	D	Q_{100} (cfs)	Q_{10} (cfs)	Q_{100} (cfs	Q_{10} (cfs)
Future McMahon Boulevard (Unser to West Mesa Medical)												
100	0.0035	--------	0.0035	12	---	5	5	90	9.52		9.52	
100.1	0.0035	100	0.0070	12	---	5	5	90	9.52		19.05	
185	0.0024	--------	0.0024	12	---	5	5	90	6.53		6.53	
185.1	0.0024	185 & 100.1	0.0118	12	---	5	5	90	6.53		32.12	
105	0.0366	185.1	0.0484	12	---	21	22	57	84.33		116.45	
Off-site Q at McMahon Boulevard (105) Q_{100} = 116.5 cfs (future inlets to be designed for 76.5 cfs) *NOTE #1: 40 cfs to be allowed to bypass future inlets in future McMahon to join flows at Bandelier to east.												
115	0.0146	105	0.063	12	---	21	22	57	33.65		148.32	
110	0.0171	115	0.0801	12	---	21	22	57	39.41		186.38	
Off-site Q to Tuscany Drive (110) Q_{100} = 186.4 cfs (future inlets to be designed for 146.4 cfs)*												
125	0.0090	110	0.0891	12	---	29	29	42	19.03		208.08	
Q in Tuscany Dr at Bandelier Dr (125) Q_{100} = 208.1 cfs (future inlets provided with Unit #3 for 168.1 cfs)*												
155	0.0324	--------	0.0324	12	---	25	25	50	71.72		71.72	
Off-site Basins (future inlets to be designed for 35.9 cfs) (See NOTE #2 below)												
160	0.0012	155	0.0336	12	---	5	5	90	3.28		74.99	
165	0.0086	160	0.0422	12	---	25	25	50	19.05		94.04	
175	0.0085	--------	0.0085	12	---	25	25	50	18.83		18.83	
170	0.0009	175 & 165	0.0516	12	---	5	5	90	2.46		114.38	
NOTE #2: 1/2 of Basin #155 to join with Basin #150. Q in Bandelier is 78.5 cfs												
265	0.0025	170 & 125	0.1432	12	---	29	29	42	5.30		329.21	
180	0.0006	265	0.1438	12	---	5	5	90	1.65		330.79	
260	0.0005	180	0.1443	12	---	5	5	90	1.37		333.47	
255	0.0007	250	0.1550	12	---	29	29	42	1.49		334.93	
252	0.0090	250	0.1538	12	---	29	29	42	19.03		350.90	
250	0.0010	252	0.1543	12	---	5	5	90	2.73		353.96	
Q in Bandelier Drive at Sorrento Drive Q_{100} = 350.94cfs (Per NOTE #2 Q_{100} = 315.0)												
205	0.0006	--------	0.0006	12	---	15	15	70	1.50		1.50	
210	0.0027	205	0.0033	12	---	15	15	70	6.67		8.17	
215	0.0095	210	0.0128	12	---	29	29	42	20.08		27.24	
195	0.0022	215	0.0150	12	---	5	5	90	5.99		33.02	
220	0.0007	195	0.0157	12	---	5	5	90	1.92		35.23	
200	0.0013	--------	--------	--------	---	46	47	7	2.19		37.40	
Park Site - Q100 = 2.2 cfs to inlet in park												
1/2 Basin # 225 joins #230 (partial flow from #225 to Vecchio Drive)												
225	0.0038	--------	0.0038	12	---	5	5	90	10.34		10.34	
230	0.0063	225 & 220	0.0258	12	---	29	29	42	13.32		60.46	
1/2 Basin # 225 joins #240 (partial flow from #355 to Sorrento Drive)												
225	0.0038	--------	0.0038	12	---	5	5	90	10.34		10.34	
240	0.0077	225	0.0115	12	---	29	29	42	16.28		25.94	

Rev. 12-13-95

TABLE 1 (Revised)
ULTIMATE DEVELOPED CONDITION (continued)
(If all properties, both on-site and off-site, developed) TP=0.1330

					LAND TREATMENT				INCREMENTAL		FUTURE TOTAL	
Basin I.D.	Area (Sq.Mi.)	Contr. Basin	Sum Area (Sq.Mi.)	Tc (Min.)	A	B	C	D	Q_{100} (cfs)	Q_{10} (cfs)	Q_{100} (cfs	Q_{10} (cfs)
240T	--------	230	0.1923	12	---	---	---	---	--------		86.95	
235	0.0007	255 & 240T	0.1943	12	---	5	5	90	1.92		435.09	
Total Q in Bandelier Drive (235) SUMP Q_{100} = 435.1 cfs: (359.2 cfs to outfall #1) (Reduction in Q_{100} to outfall #1 is result of Note #1 & Note #2 flow diversions)												
270	0.0096	--------	0.0096	12	---	27	27	46	20.78		20.78	
275	0.0076	270	0.0172	12	---	27	27	46	16.45		34.81	
280	0.0122	275	0.0294	12	---	27	27	46	26.40		57.55	
Total Q at Sump in Sicily Place Q_{100} = 57.6: to outfall # 2												
130	0.0277	--------	0.0277	12	---	25	25	50	61.62		61.62	
135	0.0017	130	0.0294	12	---	5	5	90	4.63		65.95	
140	0.0115	--------	0.0115	12	---	25	25	50	25.47		88.69	
145	0.0018	135 & 140	0.0427	12	---	5	5	90	4.91		93.38	
150	0.0007	145	0.0434	12	---	5	5	90	1.92		95.21	
152	0.0148	150	0.0582	12	---	25	25	50	32.77		116.70	
292	0.027	152	0.0852	12	---	25	25	50	59.77		175.99	
Total Q at temp. Off-site Pond #1 and #2 (292T) Q_{100} = 176.0 cfs (ultimate flows)(211.9 cfs to future outfall) The increase in Q at future outfall is a result of Note #2 diversion.												
305	0.0015	--------	0.0015	12	---	5	5	90	4.09		4.09	
190	0.0014	--------	0.0029	12	---	5	5	90	3.82		3.82	
Q in McMahon Boulevard at Bandelier Drive (N/S=24.1 cfs & S/S=23.8 cfs) *NOTE #1												
300	0.0018	305	0.0018	12	---	5	5	90	4.91		9.00	
310	0.0012	300	0.0030	12	---	5	5	90	3.28		12.27	
315	0.0093	310	0.0123	12	---	25	25	50	20.60		32.87	
Q on Borrow Site - North of McMahon Boulevard (315) Temporary pond #5 Q_{100} = 32.9 cfs (ultimate)												
320	0.0021	315	0.0159	12	---	5	5	90	5.72		32.16	
295	0.0021	190	0.0035	12	---	5	5	90	5.72		7.97	
325	0.0030	320	0.0224	12	---	5	5	90	8.17		39.57	
Total Q at Inlets near Dover Street Q_{100} = 39.6 cfs (ultimate) (N/S Q = 59.6; S/S Q = 28.0 cfs) Due to addition of future 40 cfs (see Note #1), the Q_{100} to inlets west of Dover is 87.6. (13 cfs Bypassed)												
335	0.0259	325	0.0483	12	---	25	25	50	57.33		88.92	
330	0.0012	335	0.0495	12	---	5	5	90	3.28		92.05	
350	0.0012	330 & 295	0.0507	12	---	5	5	90	3.28		102.11	
Total Q to Calabacillas in S.D. - McMahon Boulevard (350) Q_{100} = 102.1 cfs (ultimate) See Note #1 about 40 cfs bypass. (Total future flow to Calabacillas is 142.1 cfs) (3 inlets intercept: N/S west of Dover Q = 59.6 & S/S = 15.0 cfs N/S inlet east of Dover = 13.0 cfs) (3 inlets intercept: N/S inlet of west Redbud = 13.0 cfs; N/S inlet east of Redbud = 25.5 cfs & S/S inlet = 16 cfs)												
340	0.0034	--------	0.0034	12	---	5	5	90	9.25		9.25	
355	0.0033	340	0.0067	12	---	5	5	90	8.98		18.23	
345	0.0032	355	0.0099	12	---	5	5	90	5.68		23.91	
Q from McMahon Boulevard to Golf Course Road (345) Q_{100} = 23.9 cfs (ultimate)												

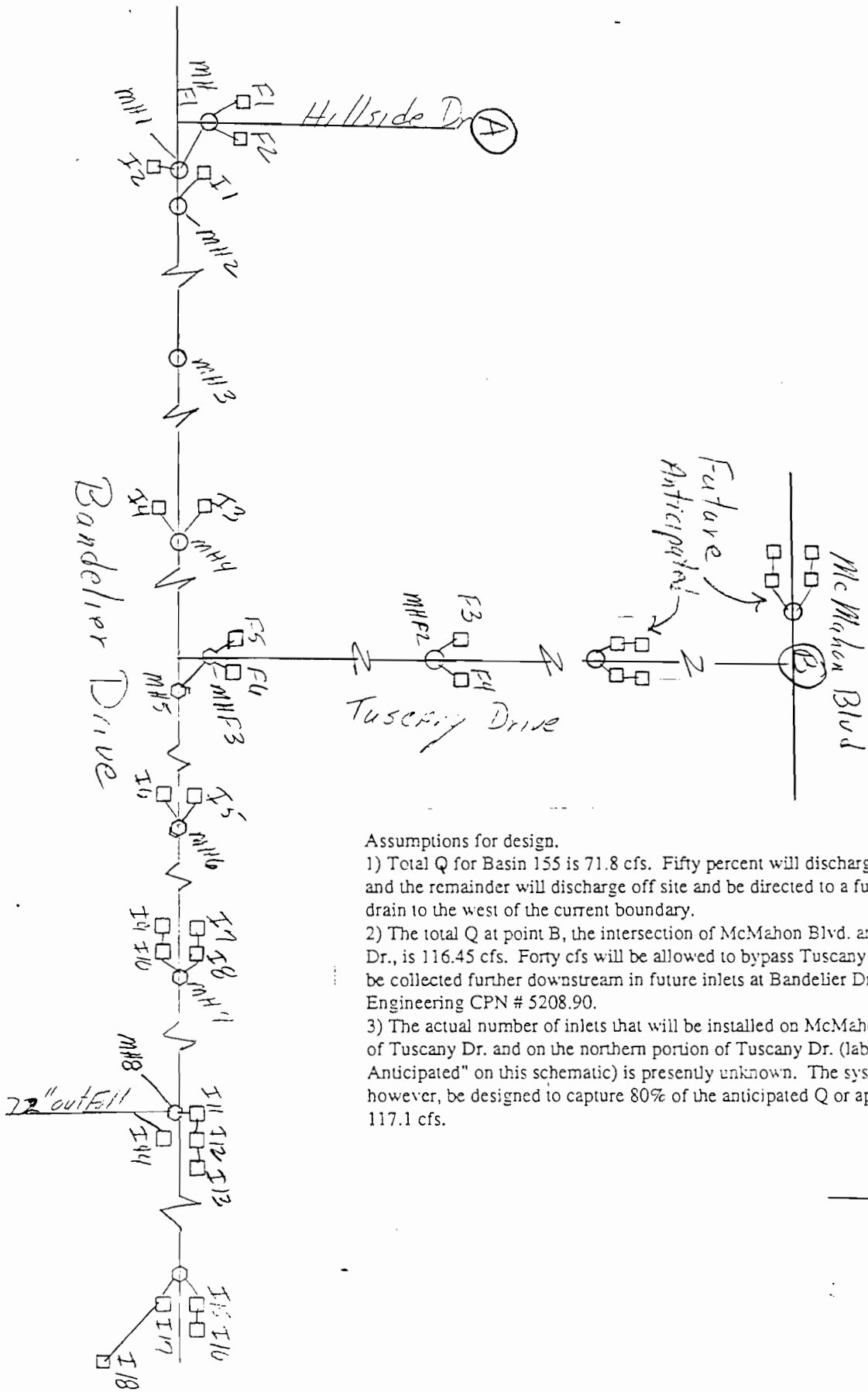
Rev. 12-13-95

TABLE 2

STREET FLOW CHARACTERISTICS

STREET	WIDTH	CURB TYPE	LOCATION	SLOPE %	Q	Dn	Dc	Vn	Vc	EG	F	*POOL DEPTH
Tuscany Dr.	32'	STD	20 + 20	8.0	29.92	0.37	0.54	6.89	6.89	1.11	3.30	1.46
Tuscany Dr.	32'	STD	22 + 00	4.0	29.92	0.41	0.54	5.38	5.38	0.86	2.28	1.10
Tuscany Dr.	32'	STD	24 + 50	6.78	29.92	0.38	0.54	6.47	6.47	1.03	3.01	1.35
Tuscany Dr.	32'	STD	27 + 50	4.0	32.4	0.42	0.55	5.55	5.55	0.90	2.30	1.15
Tuscany Dr.	32'	STD	29 + 80	4.0	32.4	0.42	0.55	5.55	5.55	0.90	2.30	1.15
Palazzo Rd.	27'	MNT	10 + 81	0.01	9.5	0.45	0.31	2.25	1.19	0.47	0.39	0.34
Palazzo Rd.	27'	MNT	11 + 25	2.7	9.5	0.26	0.31	3.37	2.25	0.44	1.86	0.41
Palazzo Rd.	27'	MNT	13 + 03	5.42	9.5	0.23	0.31	4.36	2.25	0.53	2.72	0.41
Portofino Dr.	27'	MNT	16 + 00	3.0	19.02	0.40	0.40	4.35	2.79	0.61	1.95	0.55
Portofino Dr.	27'	MNT	17 + 00	3.0	19.02	0.40	0.40	2.79	2.79	0.53	1.00	0.55
Portofino Dr.	28'	STD	17 + 10	3.0	19.02	0.37	0.46	4.33	2.81	0.67	1.93	0.61
Portofino Dr.	28'	STD	19 + 60	3.0	19.02	0.37	0.46	4.33	2.81	0.67	1.93	0.61

*Pool depth = Dc + 1.25 (Vc^2)/(2g)



Assumptions for design.

1) Total Q for Basin 155 is 71.8 cfs. Fifty percent will discharge at point A and the remainder will discharge off site and be directed to a future storm drain to the west of the current boundary.

2) The total Q at point B, the intersection of McMahon Blvd. and Tuscany Dr., is 116.45 cfs. Forty cfs will be allowed to bypass Tuscany Dr. and will be collected further downstream in future inlets at Bandelier Dr. per Smith Engineering CPN # 5208.90.

3) The actual number of inlets that will be installed on McMahon Blvd. west of Tuscany Dr. and on the northern portion of Tuscany Dr. (labeled as "Future Anticipated" on this schematic) is presently unknown. The system must, however, be designed to capture 80% of the anticipated Q or approximately 117.1 cfs.

N

CATCH BASIN CALCULATION SHEET

Sht.___ of___

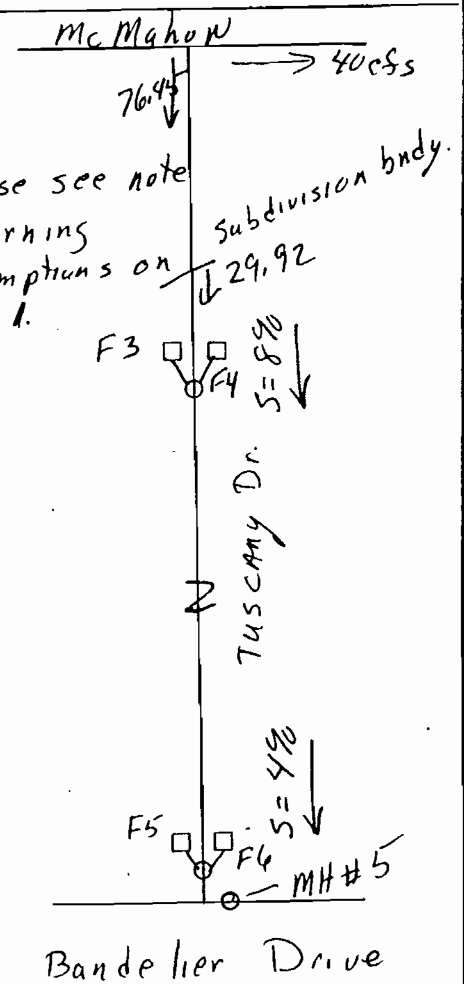
PROJECT ________________

DESIGN FREQUENCY ________________

CALCULATED BY ________________

DATE ________________

FLOW DIAGRAM (Indicate street slopes)



Please see note concerning Assumptions on page 1.

Sym.	Drain. Area	Q Total	Q Inter.	Bypass (~~Cap. of ½ Street~~)	Gutter "d"	C.B. No.	C.B. Size	Connector Pipe Head	Connector Pipe L	Connector Pipe Dia.	V Depth
F3		14.96	8	6.96	.37						
F4		14.96	8	6.96	.37						
							6.96 + 9.5 = 16.46 cfs				
F5	Bypass from F3 +F4 +	16.2	9	7.2	.42						
F6	Basin 125	16.2	9	7.2	.42						
Total bypass from Tuscany Drive onto Bandelier = 14.4 cfs											

Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: tuscany 3 floodwall

Comment: Tuscany 3 Floodwall

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	3.00:1 (H:V)
Right Side Slope.	0.00:1 (H:V)
Manning's n.....	0.025
Channel Slope....	0.0050 ft/ft
Discharge.....	1.50 cfs

Computed Results:

Depth.....	0.75 ft
Velocity.....	1.76 fps
Flow Area.....	0.85 sf
Flow Top Width...	2.26 ft
Wetted Perimeter.	3.14 ft
Critical Depth...	0.57 ft
Critical Slope...	0.0214 ft/ft
Froude Number....	0.51 (flow is Subcritical)