LOMA DEL NORTE

D19-D5

2 PLANS

Eva Hensch

AUG 21 1974

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL HOUSING ADMINISTRATION

August 19, 1974

RECEIVED
AUG 21 1974
MAYOR'S OFFICE

OFFICE OF THE DIRECTOR

(Date)

IN REPLY REFER TO:
Subdivision Appraiser
Phone: 766-3239

MICOBELL
c/o Dale J. [illegible]llamah Land Co.,Inc.
6400 Uptown Blvd. NE
Albuquerque, New Mexico 87110

Re: PRE-CONSTRUCTION ANALYSIS
Subdivision Name: Loma Del Norte Unit 7
Location: Albuquerque, New Mexico

FHA File No.: 273

Dear

FHA analysis has been completed. After we receive your signed concurrence with the contents of this letter, we will accept formal applications for commitments on individual properties. All commitments issued will be subject to compliance with the following checked conditions:

1. XX Construct subdivision improvements in accordance with plans, specifications and other exhibits stamped "FINAL CONSTRUCTION EXHIBIT ACCEPTED BY FHA 8/19/74 (Date), J. W. Barnes, Chief Arch. (Authorized FHA Official)".
   Obtain written approval from FHA for any changes in exhibits prior to proceeding with work. One set is attached for your use at the site.

2. / Furnish one set of Street and Drainage Plans signed by local authority.

3. XXX Comply with FHA Data Sheet 79G (including certifications by the Soils Engineer and the Erosion-Control Specialist)., also, per letter attached

4. XXX On completion of subdivision improvements, furnish your signed certification that all improvements have been constructed per FHA accepted exhibits and all FHA and local standards.

5. XXX Furnish evidence that the streets and drainage, water supply and sanitary sewerage systems have been accepted for continuous maintenance by local authority that has jurisdiction.

6. / Furnish copy of recorded plat and covenants with certifications including signatures of any mortgage or lien holder.

7. / Initial FHA commitments will be limited to ____ until marketability is established.

8. XXXX Additional condition: Installation of screening "wall and/or fences," drainage structures and facilities; also, comply with all conditions on reverse side of this form.

This letter is void if satisfactory compliance is not demonstrated within one year. Please indicate your concurrence by signing and returning the attached copy.

Director

ASP- 9
Attachment

CONCURRENCE: _____ (Sponsor) _____ (Date)

229623-P HUD-Wash., D. C. FHA NO. 2258

Item #1 continued from the obverse:

a. The Soils Report together with the recommendations and designs in addition with the M.P.S. shall be complied with in all instances in the development of this subdivision and the construction of all dwellings.

Item #3 continued from the obverse:

a. A copy of this subdivision report shall be furnished by the sponsor to any and all builders planning to build within this subdivision. Also, the "Area Grading Plan" (Final Construction Exhibit), as accepted by FHA shall be provided to the builders.

b. Any changes or revisions in the "Area Grading Plan" shall be submitted to this office in proper order immediately for review and acceptance in order to avoid any unnecessary delay in our processing of any proposals or which could result in our discontinuing participation in this subdivision.

c. Prior to applying for commitments on individual properties, any builder, other than the sponsor, shall submit a letter to the FHA acknowledging receipt of a copy of this subdivision report and stating that he has studied the report and the "Area Grading Plan" and is in agreement with the conditions and requirements of the report and the plan.

d. Also, submit your signed statement attesting to the permanent maintenance and grading and reshaping of any and all necessary temporary drainage structures and/or facilities as often as needed, in order to provide the protection required for these lots and subdivisions, as applicable.

D 19

CITY OF ALBUQUERQUE, NEW MEXICO
CITY ENGINEER'S OFFICE

MEMORANDUM - May 2, 1977

TO: Mr. V. M. Kimmick, City Engineer
FROM: Bruno Conegliano, Asst. City Engineer-Hydrology
SUBJECT: LOMA DEL NORTE 5

Jim Davis has asked me to review the plat for Loma Del Norte 5 which was submitted for summary approval to the Planning Commission. Apparently the removal of the additional 50 feet of easement indicated on the plat is in keeping with an understanding reached with the engineers and the developers. Since the record indicates a rather low level of reliability in the execution of the promised work in the past, it seems that it would be advantageous to specify in writing the essence of the agreement and forward such statement to the proper parties for their signature before releasing the plat for Loma Del Norte 5.

BC/fs

December 9, 1977

Mr. Bruno Conegliano
Department of Public Works
City Engineers Office
400 Marquette Avenue, N.W.
Albuquerque, New Mexico

Dear Mr. Conegliano:

I spoke with you on the afternoon of December 8, 1977 concerning the fact that I no longer am required to carry flood insurance on my home. This information was given to me by the Valuation Section of the Housing and Urban Development Administration office here in town.

I live on Lot number 29 in Block 8 of Unit No. 1, Dale J. Bellamah's Loma Del Norte. I would appreciate your reconfirming this fact, and notifying me as soon as possible. Thank you.

Sincerely,

E.R. Marcrum

E.R. Marcrum
7801 Derickson, N.E.
Albuquerque, New Mexico 87109

ERM/tcc

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

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

December 9, 1977

E.R. Marcrum
7801 Derickson, NE
Albuquerque, New Mexico 87109

Dear Mr. Marcrum:

Please be advised that your residential on Lot 29, Block 8 , Unit 1 of Loma Del Norte Subdivison is shown outside the 100 yr. flood plain on the revised flood hazard map realized by F.I.A. the 6-14-77.

Very truly yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/gm

INSTRUCTIONS FOR DRAINAGE STUDY REVISIONS

LOMA DEL NORTE

1. Page i, Drainage Study Index: Change title of Exhibit "G" to "STREETS AND MAXIMUM RUNOFFS".

2. Page 5, V. CONCLUSIONS AND RECOMMENDATIONS: Delete recommendation "E" and replace it with revised recommendation "E. Design streets to carry maximum runoffs contained in Exhibit 'G' through use of tables in Exhibit 'E'".

3. Replace pages 41, 42, and 43 with revised pages 41A, 41B, 41C, 41D; 42A, 42B, 42C, 42D; and 43A, 43B, 43C, 43D.

4. Replace pages 46, 47 and 48 with revised pages 46 and 47 entitled STREETS AND MAXIMUM RUNOFFS.

REVISED MAY 1972

50' R.O.W. 32' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	15.3611	51.3731	.0050	.0707	.2990	.4472	2.8545	43.8477
.0165	15.3611	51.3731	.0100	.1000	.2990	.4472	420368	62.0100
.0165	15.3611	51.3731	.0150	.1225	.2990	.4472	4.9441	75.9464
.0165	15.3611	51.3731	.0200	.1414	.2990	.4472	5.7089	87.6954
.0165	15.3611	51.3731	.0250	.1581	.2990	.4472	6.3828	98.0464
.0165	15.3611	51.3731	.0300	.1732	.2990	.4472	6.9920	107.4045
.0165	15.3611	51.3731	.0350	.1871	.2990	.4472	7.5522	116.0101
.0165	15.3611	51.3731	.0400	.2000	.2990	.4472	8.0736	124.0200

50' R.O.W. 32' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	18.9167	51.3569	.0050	.0707	.3683	.5138	3.2801	62.0482
.0165	18.9167	51.3569	.0100	.1000	.3683	.5138	4.6387	87.7494
.0165	18.9167	51.3569	.0150	.1225	.3683	.5138	5.6813	107.4706
.0165	18.9167	51.3569	.0200	.1414	.3683	.5138	6.5602	124.0964
.0165	18.9167	51.3569	.0250	.1581	.3683	.5138	7.3345	138.7439
.0165	18.9167	51.3569	.0300	.1732	.3683	.5138	8.0345	151.9864
.0165	18.9167	51.3569	.0350	.1871	.3683	.5138	8.6783	164.1640
.0165	18.9167	51.3569	.0400	.2000	.3683	.5138	9.2775	175.4988

50' R.O.W. 32' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	22.4722	51.3453	.0050	.0707	.4377	.5765	3.6797	82.6903
.0165	22.4722	51.3453	.0100	.1000	.4377	.5765	5.2038	116.9417
.0165	22.4722	51.3453	.0150	.1225	.4377	.5765	6.3734	143.2238
.0165	22.4722	5123453	.0200	.1414	.4377	.5765	7.3593	165.3806
.0165	22.4722	51.3453	.0250	.1581	.4377	.5765	8.2280	184.9011
.0165	22.4722	51.3453	.0300	.1732	.4377	.5765	9.0133	202.5490
.0165	22.4722	51.3453	.0350	.1871	.4377	.5765	9.7355	218.7780
.0165	22.4722	51.3453	.0400	.2000	.4377	.5765	10.4077	233.8835

50' R.O.W. 32' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	26.0278	51.3384	.0050	.0707	.5070	.6358	4.0585	105.6348
.0165	26.0278	51.3384	.0100	.1000	.5070	.6358	5.7396	149.3901
.0165	26.0278	51.3384	.0150	.1225	.5070	.6358	7.0296	182.9648
.0165	26.0278	51.3384	.0200	.1414	.5070	.6358	8.1171	211.2696
.0165	26.0278	51.3384	.0250	.1581	.5070	.6358	9.0752	236.2066
.0165	26.0278	51.3384	.0300	.1732	.5070	.6358	9.9414	258.7513
.0165	26.0278	51.3384	.0350	.1871	.5070	.6358	10.7379	279.4834
.0165	26.0278	51.3384	.0400	.2000	.5070	.6358	11.4793	298.7803

NUMEX FORMS COMPANY, ALBUQUERQUE, NEW MEXICO 4310

50' R.O.W. 32' FACE-FACE 8" CURB 8" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	24.3611	51.3904	.0050	.0707	.4740	.6080	3.8805	94.5336
.0165	24.3611	51.3904	.0100	.1000	.4740	.6080	5.4879	133.6907
.0165	24.3611	51.3904	.0150	.1225	.4740	.6080	6.7212	163.7370
.0165	24.3611	51.3904	.0200	.1414	.4740	.6080	7.7610	189.0672
.0165	24.3611	51.3904	.0250	.1581	.4740	.6080	8.6771	211.3836
.0165	24.3611	51.3904	.0300	.1732	.4740	.6080	9.5053	231.5591
.0165	24.3611	51.3904	.0350	.1871	.4740	.6080	10.2669	250.1124
.0165	24.3611	51.3904	.0400	.2000	.4740	.6080	10.9757	267.3814

50' R.O.W. 32' FACE-FACE 8" CURB 6" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	27.9167	51.3742	.0050	.0707	.5434	.6659	4.2502	118.6523
.0165	27.9167	51.3742	.0100	.1000	.5434	.6659	6.0107	167.7996
.0165	27.9167	51.3742	.0150	.1225	.5434	.6659	7.3616	205.5117
.0165	27.9167	51.3742	.0200	.1414	.5434	.6659	8.5005	237.3045
.0165	27.9167	51.3742	.0250	.1581	.5434	.6659	9.5038	265.3145
.0165	27.9167	51.3742	.0300	.1732	.5434	.6659	10.4109	290.6375
.0165	27.9167	51.3742	.0350	.1871	.5434	.6659	11.2451	313.9244
.0165	27.9167	51.3742	.0400	.2000	.5434	.6659	12.0215	335.5993

50' R.O.W. 32' FACE-FACE 8" CURB 4" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	31.4722	51.3626	.0050	.0707	.6127	.7214	4.6045	144.9124
.0165	31.4722	51.3626	.0100	.1000	.6127	.7214	6.5117	204.9371
.0165	31.4722	51.3626	.0150	.1225	.6127	.7214	7.9751	250.9957
.0165	31.4722	51.3626	.0200	.1414	.6127	.7214	9.2089	289.8248
.0165	31.4722	51.3626	.0250	.1581	.6127	.7214	10.2959	324.0340
.0165	31.4722	51.3626	.0300	.1732	.6127	.7214	11.2786	354.9615
.0165	31.4722	51.3626	.0350	.1871	.6127	.7214	12.1822	383.4022
.0165	31.4722	51.3626	.0400	.2000	.6127	.7214	13.0234	409.8742

50' R.O.W. 32' FACE-FACE 8" CURB 2" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	35.0278	51.3557	.0050	.0707	.6821	.7748	4.9454	173.2267
.0165	35.0278	51.3557	.0100	.1000	.6821	.7748	6.9939	244.9795
.0165	35.0278	51.3557	.0150	.1225	.6821	.7748	8.5657	300.0374
.0165	35.0278	51.3557	.0200	.1414	.6821	.7748	9.8908	346.4534
.0165	35.0278	51.3557	.0250	.1581	.6821	.7748	11.0583	387.3466
.0165	35.0278	51.3557	.0300	.1732	.6821	.7748	12.1137	424.3170
.0165	35.0278	51.3557	.0350	.1871	.6821	.7748	13.0843	458.3147
.0165	35.0278	51.3557	.0400	.2000	.6821	.7748	13.9877	489.9590

RAD ROAD

RAD ROAD

RAD ROAD

NUMEX FORMS COMPANY, ALBUQUERQUE, NEW MEXICO 1310

50' R.O.W. 32' FACE-FACE 8" CURB 8" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	33.3611	51.4236	.0050	.0707	.6488	.7494	4.7822	159.5397
.0165	33.3611	51.4236	.0100	.1000	.6488	.7494	6.7631	225.6231
.0165	33.3611	51.4236	.0150	.1225	.6488	.7494	8.2830	276.3308
.0165	33.3611	51.4236	.0200	.1414	.6488	.7494	9.5644	319.0793
.0165	33.3611	51.4236	.0250	.1581	.6488	.7494	10.6933	356.7415
.0165	33.3611	51.4236	.0300	.1732	.6488	.7494	11.7140	390.7908
.0165	33.3611	51.4236	.0350	.1871	.6488	.7494	12.6525	422.1023
.0165	33.3611	51.4236	.0400	.2000	.6488	.7494	13.5261	451.2463

50' R.O.W. 32' FACE-FACE 8" CURB 6" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	36.9167	51.4074	.0050	.0707	.7181	.8019	5.1172	188.9082
.0165	36.9167	51.4074	.0100	.1000	.7181	.8019	7.2367	267.1566
.0165	36.9167	51.4074	.0150	.1225	.7181	.8019	8.8632	327.1987
.0165	36.9167	51.4074	.0200	.1414	.7181	.8019	10.2343	377.8165
.0165	36.9167	51.4074	.0250	.1581	.7181	.8019	11.4423	422.4116
.0165	36.9167	51.4074	.0300	.1732	.7181	.8019	12.5344	462.7288
.0165	36.9167	51.4074	.0350	.1871	.7181	.8019	13.5387	499.8042
.0165	36.9167	51.4074	.0400	.2000	.7181	.8019	14.4735	534.3132

50' R.O.W. 32' FACE-FACE 8" CURB 4" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	40.4722	51.3958	.0050	.0707	.7875	.8527	5.4414	220.2241
.0165	40.4722	51.3958	.0100	.1000	.7875	.8527	7.6953	311.4440
.0165	40.4722	51.3958	.0150	.1225	.7875	.8527	9.4247	381.4394
.0165	40.4722	51.3958	.0200	.1414	.7875	.8527	10.8827	440.4483
.0165	40.4722	51.3958	.0250	.1581	.7875	.8527	12.1673	492.4362
.0165	40.4722	51.3958	.0300	.1732	.7875	.8527	13.3286	539.4368
.0165	40.4722	51.3958	.0350	.1871	.7875	.8527	14.3965	582.6583
.0165	40.4722	51.3958	.0400	.2000	.7875	.8527	15.3905	622.8879

50' R.O.W. 32' FACE-FACE 8" CURB 2" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	44.0278	51.3889	.0050	.0707	.8568	.9021	5.7560	253.4243
.0165	44.0278	51.3889	.0100	.1000	.8568	.9021	8.1402	358.3961
.0165	44.0278	51.3889	.0150	.1225	.8568	.9021	9.9697	438.9438
.0165	44.0278	51.3889	.0200	.1414	.8568	.9021	11.5120	506.8487
.0165	44.0278	51.3889	.0250	.1581	.8568	.9021	12.8708	566.6741
.0165	44.0278	51.3889	.0300	.1732	.8568	.9021	14.0993	620.7603
.0165	44.0278	51.3889	.0350	.1871	.8568	.9021	15.2290	670.4978
.0165	44.0278	51.3889	.0400	.2000	.8568	.9021	16.2805	716.7923

50' R.O.W. 32' FACE-FACE 8" CURB 8" CROWN .7' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	37.8611	51.4461	.0050	.0707	.7359	.8151	5.2008	196.9066
.0165	37.8611	51.4461	.0100	.1000	.7359	.8151	7.3550	278.4680
.0165	37.8611	51.4461	.0150	.1225	.7359	.8151	9.0080	341.0523
.0165	37.8611	51.4461	.0200	.1414	.7359	.8151	10.4015	393.8132
.0165	37.8611	51.4461	.0250	.1581	.7359	.8151	11.6293	440.2966
.0165	37.8611	51.4461	.0300	.1732	.7359	.8151	12.7392	482.3207
.0165	37.8611	51.4461	.0350	.1871	.7359	.8151	13.7599	520.9659
.0165	37.8611	51.4461	.0400	.2000	.7359	.8151	14.7100	556.9360

50' R.O.W. 32' FACE-FACE 8" CURB 6" CROWN .7' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	41.4167	51.4299	.0050	.0707	.8053	.8656	5.5225	228.7225
.0165	41.4167	51.4299	.0100	.1000	.8053	.8656	7.8100	323.4624
.0165	41.4167	51.4299	.0150	.1225	.8053	.8656	9.5652	396.1589
.0165	41.4167	51.4299	.0200	.1414	.8053	.8656	11.0449	457.4449
.0165	41.4167	51.4299	.0250	.1581	.8053	.8656	12.3486	511.4390
.0165	41.4167	51.4299	.0300	.1732	.8053	.8656	13.5272	560.2533
.0165	41.4167	51.4299	.0350	.1871	.8053	.8656	14.6111	605.1428
.0165	41.4167	51.4299	.0400	.2000	.8053	.8656	15.6199	646.9248

50' R.O.W. 32' FACE-FACE 8" CURB 4" CROWN .7' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	44.9722	51.4184	.0050	.0707	.8746	.9146	5.8349	262.4101
.0165	44.9722	51.4184	.0100	.1000	.8746	.9146	8.2518	371.1039
.0165	44.9722	51.4184	.0150	.1225	.8746	.9146	10.1064	454.5076
.0165	44.9722	51.4184	.0200	.1414	.8746	.9146	11.6699	524.8202
.0165	44.9722	51.4184	.0250	.1581	.8746	.9146	13.0473	586.7668
.0165	44.9722	51.4184	.0300	.1732	.8746	.9146	14.2926	642.7709
.0165	44.9722	51.4184	.0350	.1871	.8746	.9146	15.4378	694.2719
.0165	44.9722	51.4184	.0400	.2000	.8746	.9146	16.5037	742.2079

50' R.O.W. 32' FACE-FACE 8" CURB 2" CROWN .7' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	48.5278	51.4114	.0050	.0707	.9439	.9622	6.1390	297.9142
.0165	48.5278	51.4114	.0100	.1000	.9439	.9622	8.6819	421.3143
.0165	48.5278	51.4114	.0150	.1225	.9439	.9622	10.6331	516.0025
.0165	48.5278	51.4114	.0200	.1414	.9439	.9622	12.2781	595.8284
.0165	48.5278	51.4114	.0250	.1581	.9439	.9622	13.7273	666.1564
.0165	48.5278	51.4114	.0300	.1732	.9439	.9622	15.0375	729.7377
.0165	48.5278	51.4114	.0350	.1871	.9439	.9622	16.2424	788.2068
.0165	48.5278	51.4114	.0400	.2000	.9439	.9622	17.3638	842.6286

60' R.O.W. 40' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	18.8556	61.3652	.0050	.0707	.3073	.4553	2.9056	54.7868
.0165	18.8556	61.3652	.0100	.1000	.3073	.4553	4.1091	77.4802
.0165	18.8556	61.3652	.0150	.1225	.3073	.4553	5.0327	94.8935
.0165	18.8556	61.3652	.0200	.1414	.3073	.4553	5.8112	109.5736
.0165	18.8556	61.3652	.0250	.1581	.3073	.4553	6.4971	122.5070
.0165	18.8556	61.3652	.0300	.1732	.3073	.4553	7.1172	134.1997
.0165	18.8556	61.3652	.0350	.1871	.3073	.4553	7.6875	144.9522
.0165	18.8556	61.3652	.0400	.2000	.3073	.4553	8.2183	154.9604

60' R.O.W. 40' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	23.3000	61.3523	.0050	.0707	.3798	.5244	3.3463	77.9692
.0165	23.3000	61.3523	.0100	.1000	.3798	.5244	4.7324	110.2651
.0165	23.3000	61.3523	.0150	.1225	.3798	.5244	5.7960	135.0466
.0165	23.3000	61.3523	.0200	.1414	.3798	.5244	6.6926	155.9384
.0165	23.3000	61.3523	.0250	.1581	.3798	.5244	7.4826	174.3444
.0165	23.3000	61.3523	.0300	.1732	.3798	.5244	8.1968	190.9848
.0165	23.3000	61.3523	.0350	.1871	.3798	.5244	8.8535	206.2871
.0165	23.3000	61.3523	.0400	.2000	.3798	.5244	9.4648	220.5302

60' R.O.W. 40' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	27.7444	61.3430	.0050	.0707	.4523	.5892	3.7597	104.3104
.0165	27.7444	61.3430	.0100	.1000	.4523	.5892	5.3170	147.5172
.0165	27.7444	61.3430	.0150	.1225	.4523	.5892	6.5120	180.6710
.0165	27.7444	61.3430	.0200	.1414	.4523	.5892	7.5194	208.6209
.0165	27.7444	61.3430	.0250	.1581	.4523	.5892	8.4069	233.2452
.0165	27.7444	61.3430	.0300	.1732	.4523	.5892	9.2093	255.5074
.0165	27.7444	61.3430	.0350	.1871	.4523	.5892	9.9472	275.9795
.0165	27.7444	61.3430	.0400	.2000	.4523	.5892	10.6340	295.0345

60' R.O.W. 40' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	32.1889	61.3375	.0050	.0707	.5248	.6506	4.1514	133.6289
.0165	32.1889	61.3375	.0100	.1000	.5248	.6506	5.8710	188.9798
.0165	32.1889	61.3375	.0150	.1225	.5248	.6506	7.1904	231.4521
.0165	32.1889	61.3375	.0200	.1414	.5248	.6506	8.3028	267.2578
.0165	32.1889	61.3375	.0250	.1581	.5248	.6506	9.2828	298.8033
.0165	32.1889	61.3375	.0300	.1732	.5248	.6506	10.1688	327.3227
.0165	32.1889	61.3375	.0350	.1871	.5248	.6506	10.9836	353.5489
.0165	32.1889	61.3375	.0400	.2000	.5248	.6506	11.7419	377.9596

60' R.O.W. 40' FACE-FACE 8" CURB 8" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	29.6556	61.3796	.0050	.0707	.4831	.6157	3.9286	116.5060
.0165	29.6556	61.3796	.0100	.1000	.4831	.6157	5.5559	164.7643
.0165	29.6556	61.3796	.0150	.1225	.4831	.6157	6.8046	201.7943
.0165	29.6556	61.3796	.0200	.1414	.4831	.6157	7.8573	233.0120
.0165	29.6556	61.3796	.0250	.1581	.4831	.6157	8.7847	260.5153
.0165	29.6556	61.3796	.0300	.1732	.4831	.6157	9.6232	285.3802
.0165	29.6556	61.3796	.0350	.1871	.4831	.6157	10.3942	308.2459
.0165	29.6556	61.3796	.0400	.2000	.4831	.6157	11.1119	329.5287

60' R.O.W. 40' FACE-FACE 8" CURB 6" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	34.1000	61.3667	.0050	.0707	.5557	.6759	4.3125	147.0556
.0165	34.1000	61.3667	.0100	.1000	.5557	.6759	6.0988	207.9681
.0165	34.1000	61.3667	.0150	.1225	.5557	.6759	7.4694	254.7078
.0165	34.1000	61.3667	.0200	.1414	.5557	.6759	8.6250	294.1113
.0165	34.1000	61.3667	.0250	.1581	.5557	.6759	9.6430	328.8264
.0165	34.1000	61.3667	.0300	.1732	.5557	.6759	10.5634	360.2113
.0165	34.1000	61.3667	.0350	.1871	.5557	.6759	11.4098	389.0727
.0165	34.1000	61.3667	.0400	.2000	.5557	.6759	12.1975	415.9362

60' R.O.W. 40' FACE-FACE 8" CURB 4" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	38.5444	61.3574	.0050	.0707	.6282	.7335	4.6799	180.3842
.0165	38.5444	61.3574	.0100	.1000	.6282	.7335	6.6184	255.1018
.0165	38.5444	61.3574	.0150	.1225	.6282	.7335	8.1058	312.4346
.0165	38.5444	61.3574	.0200	.1414	.6282	.7335	9.3598	360.7684
.0165	38.5444	61.3574	.0250	.1581	.6282	.7335	10.4646	403.3514
.0165	38.5444	61.3574	.0300	.1732	.6282	.7335	11.4634	441.8493
.0165	38.5444	61.3574	.0350	.1871	.6282	.7335	12.3819	477.2518
.0165	38.5444	61.3574	.0400	.2000	.6282	.7335	13.2368	510.2036

60' R.O.W. 40' FACE-FACE 8" CURB 2" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	42.9889	61.3519	.0050	.0707	.7007	.7889	5.0333	216.3774
.0165	42.9889	61.3519	.0100	.1000	.7007	.7889	7.1182	306.0039
.0165	42.9889	61.3519	.0150	.1225	.7007	.7889	8.7180	374.7767
.0165	42.9889	61.3519	.0200	.1414	.7007	.7889	10.0667	432.7549
.0165	42.9889	61.3519	.0250	.1581	.7007	.7889	11.2549	483.8346
.0165	42.9889	61.3519	.0300	.1732	.7007	.7889	12.3291	530.0143
.0165	42.9889	61.3519	.0350	.1871	.7007	.7889	13.3169	572.4809
.0165	42.9889	61.3519	.0400	.2000	.7007	.7889	14.2364	612.0078

60' R.O.W. 40' FACE-FACE 8" CURB 8" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	40.4556	61.4074	.0050	.0707	.6588	.7571	4.8301	195.4035
.0165	40.4556	61.4074	.0100	.1000	.6588	.7571	6.8308	276.3425
.0165	40.4556	61.4074	.0150	.1225	.6588	.7571	8.3659	338.4490
.0165	40.4556	61.4074	.0200	.1414	.6588	.7571	9.6602	390.8073
.0165	40.4556	61.4074	.0250	.1581	.6588	.7571	10.8004	436.9358
.0165	40.4556	61.4074	.0300	.1732	.6588	.7571	11.8312	478.6392
.0165	40.4556	61.4074	.0350	.1871	.6588	.7571	12.7792	516.9894
.0165	40.4556	61.4074	.0400	.2000	.6588	.7571	13.6615	552.6850

60' R.O.W. 40' FACE-FACE 8" CURB 6" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	44.9000	61.3944	.0050	.0707	.7313	.8117	5.1783	232.5051
.0165	44.9000	61.3944	.0100	.1000	.7313	.8117	7.3232	328.8119
.0165	44.9000	61.3944	.0150	.1225	.7313	.8117	8.9691	402.7107
.0165	44.9000	61.3944	.0200	.1414	.7313	.8117	10.3566	465.0102
.0165	44.9000	61.3944	.0250	.1581	.7313	.8117	11.5790	519.8972
.0165	44.9000	61.3944	.0300	.1732	.7313	.8117	12.6842	569.5189
.0165	44.9000	61.3944	.0350	.1871	.7313	.8117	13.7005	615.1507
.0165	44.9000	61.3944	.0400	.2000	.7313	.8117	14.6464	657.6237

60' R.O.W. 40' FACE-FACE 8" CURB 4" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	49.3444	61.3851	.0050	.0707	.8038	.8645	5.5151	272.1386
.0165	49.3444	61.3851	.0100	.1000	.8038	.8645	7.7995	384.8621
.0165	49.3444	61.3851	.0150	.1225	.8038	.8645	9.5524	471.3579
.0165	49.3444	61.3851	.0200	.1414	.8038	.8645	11.0302	544.2772
.0165	49.3444	61.3851	.0250	.1581	.8038	.8645	12.3321	608.5204
.0165	49.3444	61.3851	.0300	.1732	.8038	.8645	13.5091	666.6007
.0165	49.3444	61.3851	.0350	.1871	.8038	.8645	14.5915	720.0111
.0165	49.3444	61.3851	.0400	.2000	.8038	.8645	15.5990	769.7242

60' R.O.W. 40' FACE-FACE 8" CURB 2" CROWN .6' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	53.7889	61.3796	.0050	.0707	.8763	.9158	5.8418	314.2221
.0165	53.7889	61.3796	.0100	.1000	.8763	.9158	8.2615	444.3771
.0165	53.7889	61.3796	.0150	.1225	.8763	.9158	10.1182	544.2486
.0165	53.7889	61.3796	.0200	.1414	.8763	.9158	11.6835	628.4442
.0165	53.7889	61.3796	.0250	.1581	.8763	.9158	13.0626	702.6219
.0165	53.7889	61.3796	.0300	.1732	.8763	.9158	14.3093	769.6838
.0165	53.7889	61.3796	.0350	.1871	.8763	.9158	15.4559	831.3535
.0165	53.7889	61.3796	.0400	.2000	.8763	.9158	16.5230	888.7542

60' R.O.W. 40' FACE-FACE 8" CURB 8" CROWN .8' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	51.2556	61.4482	.0050	.0707	.8341	.8861	5.6515	289.6713
.0165	51.2556	61.4482	.0100	.1000	.8341	.8861	7.9924	409.6571
.0165	51.2556	61.4482	.0150	.1225	.8341	.8861	9.7887	501.7254
.0165	51.2556	61.4482	.0200	.1414	.8341	.8861	11.3030	579.3426
.0165	51.2556	61.4482	.0250	.1581	.8341	.8861	12.6372	647.7247
.0165	51.2556	61.4482	.0300	.1732	.8341	.8861	13.8433	709.5469
.0165	51.2556	61.4482	.0350	.1871	.8341	.8861	14.9525	766.3982
.0165	51.2556	61.4482	.0400	.2000	.8341	.8861	15.9849	819.3141

60' R.O.W. 40' FACE-FACE 8" CURB 6" CROWN .8' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	55.7000	61.4353	.0050	.0707	.9066	.9368	5.9744	332.7735
.0165	55.7000	61.4353	.0100	.1000	.9066	.9368	8.4491	470.6128
.0165	55.7000	61.4353	.0150	.1225	.9066	.9368	10.3479	576.3806
.0165	55.7000	61.4353	.0200	.1414	.9066	.9368	11.9488	665.5469
.0165	55.7000	61.4353	.0250	.1581	.9066	.9368	13.3591	744.1041
.0165	55.7000	61.4353	.0300	.1732	.9066	.9368	14.6342	815.1252
.0165	55.7000	61.4353	.0350	.1871	.9066	.9368	15.8067	880.4358
.0165	55.7000	61.4353	.0400	.2000	.9066	.9368	16.8981	941.2255

60' R.O.W. 40' FACE-FACE 8" CURB 4" CROWN .8' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	60.1444	61.4260	.0050	.0707	.9791	.9860	6.2887	378.2280
.0165	60.1444	61.4260	.0100	.1000	.9791	.9860	8.8935	534.8951
.0165	60.1444	61.4260	.0150	.1225	.9791	.9860	10.8923	655.1101
.0165	60.1444	61.4260	.0200	.1414	.9791	.9860	12.5773	756.4560
.0165	60.1444	61.4260	.0250	.1581	.9791	.9860	14.0619	845.7435
.0165	60.1444	61.4260	.0300	.1732	.9791	.9860	15.4040	926.4656
.0165	60.1444	61.4260	.0350	.1871	.9791	.9860	16.6382	1000.6972
.0165	60.1444	61.4260	.0400	.2000	.9791	.9860	17.7870	1069.7903

60' R.O.W. 40' FACE-FACE 8" CURB 2" CROWN .8' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	64.5889	61.4205	.0050	.0707	1.0516	1.0341	6.5951	425.9711
.0165	64.5889	61.4205	.0100	.1000	1.0516	1.0341	9.3269	602.4141
.0165	64.5889	61.4205	.0150	.1225	1.0516	1.0341	11.4231	737.8036
.0165	64.5889	61.4205	.0200	.1414	1.0516	1.0341	13.1902	851.9422
.0165	64.5889	61.4205	.0250	.1581	1.0516	1.0341	14.7471	952.5004
.0165	64.5889	61.4205	.0300	.1732	1.0516	1.0341	16.1547	1043.4119
.0165	64.5889	61.4205	.0350	.1871	1.0516	1.0341	17.4490	1127.0136
.0165	64.5889	61.4205	.0400	.2000	120516	1.0341	18.6538	1204.8282

64' R.O.W. 48' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	22.0000	65.3614	.0050	.0707	.3366	.4839	3.1940	70.2688
.0159	22.0000	65.3614	.0100	.1000	.3366	.4839	4.5170	99.3750
.0159	22.0000	65.3614	.0150	.1225	.3366	.4839	5.5322	121.7090
.0159	22.0000	65.3614	.0200	.1414	.3366	.4839	6.3881	140.5375
.0159	22.0000	65.3614	.0250	.1581	.3366	.4839	7.1421	157.1257
.0159	22.0000	65.3614	.0300	.1732	.3366	.4839	7.8238	172.1226
.0159	22.0000	65.3614	.0350	.1871	.3366	.4839	8.4506	185.9136
.0159	22.0000	65.3614	.0400	.2000	.3366	.4839	9.0341	198.7500

64' R.O.W. 48' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	27.3333	65.3506	.0050	.0707	.4183	.5593	3.6917	100.9073
.0159	27.3333	65.3506	.0100	.1000	.4183	.5593	5.2209	142.7044
.0159	27.3333	65.3506	.0150	.1225	.4183	.5593	6.3943	174.7765
.0159	27.3333	65.3506	.0200	.1414	.4183	.5593	7.3835	201.8145
.0159	27.3333	65.3506	.0250	.1581	.4183	.5593	8.2550	225.6355
.0159	27.3333	65.3506	.0300	.1732	.4183	.5593	9.0429	247.1713
.0159	27.3333	65.3506	.0350	.1871	.4183	.5593	9.7674	266.9755
.0159	27.3333	65.3506	.0400	.2000	.4183	.5593	10.4418	285.4089

64' R.O.W. 48' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	32.6667	65.3429	.0050	.0707	.4999	.6299	4.1579	135.8232
.0159	32.6667	65.3429	.0100	.1000	.4999	.6299	5.8801	192.0830
.0159	32.6667	65.3429	.0150	.1225	.4999	.6299	7.2016	235.2527
.0159	32.6667	65.3429	.0200	.1414	.4999	.6299	8.3157	271.6465
.0159	32.6667	65.3429	.0250	.1581	.4999	.6299	9.2972	303.7100
.0159	32.6667	65.3429	.0300	.1732	.4999	.6299	10.1846	332.6976
.0159	32.6667	65.3429	.0350	.1871	.4999	.6299	11.0006	359.3545
.0159	32.6667	65.3429	.0400	.2000	.4999	.6299	11.7602	384.1661

64' R.O.W. 48' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	38.0000	65.3383	.0050	.0707	.5816	.6968	4.5991	174.7662
.0159	38.0000	65.3383	.0100	.1000	.5816	.6968	6.5041	247.1567
.0159	38.0000	65.3383	.0150	.1225	.5816	.6968	7.9659	302.7039
.0159	38.0000	65.3383	.0200	.1414	.5816	.6968	9.1982	349.5324
.0159	38.0000	65.3383	.0250	.1581	.5816	.6968	10.2839	390.7891
.0159	38.0000	65.3383	.0300	.1732	.5816	.6968	11.2655	428.0880
.0159	38.0000	65.3383	.0350	.1871	.5816	.6968	12.1681	462.3879
.0159	38.0000	65.3383	.0400	.2000	.5816	.6968	13.0082	494.3134

64' R.O.W. 48' FACE-FACE 8" CURB 8" CROWN .3' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	28.0000	65.3697	.0050	.0707	.4283	.5682	3.7506	105.0174
.0159	28.0000	65.3697	.0100	.1000	.4283	.5682	5.3042	148.5171
.0159	28.0000	65.3697	.0150	.1225	.4283	.5682	6.4963	181.8955
.0159	28.0000	65.3697	.0200	.1414	.4283	.5682	7.5012	210.0349
.0159	28.0000	65.3697	.0250	.1581	.4283	.5682	8.3866	234.8261
.0159	28.0000	65.3697	.0300	.1732	.4283	.5682	9.1871	257.2391
.0159	28.0000	65.3697	.0350	.1871	.4283	.5682	9.9232	277.8500
.0159	28.0000	65.3697	.0400	.2000	.4283	.5682	10.6084	297.0342

64' R.O.W. 48' FACE-FACE 8" CURB 6" CROWN .3' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	33.3333	65.3589	.0050	.0707	.5100	.6383	4.2133	140.4450
.0159	33.3333	65.3589	.0100	.1000	.5100	.6383	5.9586	198.6192
.0159	33.3333	65.3589	.0150	.1225	.5100	.6383	7.2977	243.2579
.0159	33.3333	65.3589	.0200	.1414	.5100	.6383	8.4267	280.8900
.0159	33.3333	65.3589	.0250	.1581	.5100	.6383	9.4213	314.0446
.0159	33.3333	65.3589	.0300	.1732	.5100	.6383	10.3206	344.0186
.0159	33.3333	65.3589	.0350	.1871	.5100	.6383	11.1475	371.5825
.0159	33.3333	65.3589	.0400	.2000	.5100	.6383	11.9172	397.2384

64' R.O.W. 48' FACE-FACE 8" CURB 4" CROWN .3' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	38.6667	65.3512	.0050	.0707	.5917	.7048	4.6519	179.8736
.0159	38.6667	65.3512	.0100	.1000	.5917	.7048	6.5788	254.3797
.0159	38.6667	65.3512	.0150	.1225	.5917	.7048	8.0573	311.5502
.0159	38.6667	65.3512	.0200	.1414	.5917	.7048	9.3038	359.7472
.0159	38.6667	65.3512	.0250	.1581	.5917	.7048	10.4020	402.2096
.0159	38.6667	65.3512	.0300	.1732	.5917	.7048	11.3948	440.5986
.0159	38.6667	65.3512	.0350	.1871	.5917	.7048	12.3078	475.9009
.0159	38.6667	65.3512	.0400	.2000	.5917	.7048	13.1576	508.7594

64' R.O.W. 48' FACE-FACE 8" CURB 2" CROWN .3' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	44.0000	65.3466	.0050	.0707	.6733	.7682	5.0706	223.1068
.0159	44.0000	65.3466	.0100	.1000	.6733	.7682	7.1709	315.5206
.0159	44.0000	65.3466	.0150	.1225	.6733	.7682	8.7826	386.4323
.0159	44.0000	65.3466	.0200	.1414	.6733	.7682	10.1412	446.2136
.0159	44.0000	65.3466	.0250	.1581	.6733	.7682	11.3382	498.8819
.0159	44.0000	65.3466	.0300	.1732	.6733	.7682	12.4204	546.4978
.0159	44.0000	65.3466	.0350	.1871	.6733	.7682	13.4156	590.2851
.0159	44.0000	65.3466	.0400	.2000	.6733	.7682	14.3418	631.0413

64' R.O.W. 48' FACE-FACE 8" CURB 8" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	34.0000	65.3830	.0050	.0707	.5200	.6467	4.2680	145.1111
.0159	34.0000	65.3830	.0100	.1000	.5200	.6467	6.0358	205.2182
.0159	34.0000	65.3830	.0150	.1225	.5200	.6467	7.3923	251.3399
.0159	34.0000	65.3830	.0200	.1414	.5200	.6467	8.5359	290.2223
.0159	34.0000	65.3830	.0250	.1581	.5200	.6467	9.5435	324.4784
.0159	34.0000	65.3830	.0300	.1732	.5200	.6467	10.4544	355.4483
.0159	34.0000	65.3830	.0350	.1871	.5200	.6467	11.2920	383.9280
.0159	34.0000	65.3830	.0400	.2000	.5200	.6467	12.0717	410.4363

64' R.O.W. 48' FACE-FACE 8" CURB 6" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	39.3333	65.3722	.0050	.0707	.6017	.7127	4.7038	185.0181
.0159	39.3333	65.3722	.0100	.1000	.6017	.7127	6.6522	261.6551
.0159	39.3333	65.3722	.0150	.1225	.6017	.7127	8.1473	320.4607
.0159	39.3333	65.3722	.0200	.1414	.6017	.7127	9.4077	370.0362
.0159	39.3333	65.3722	.0250	.1581	.6017	.7127	10.5181	413.7130
.0159	39.3333	65.3722	.0300	.1732	.6017	.7127	11.5220	453.1999
.0159	39.3333	65.3722	.0350	.1871	.6017	.7127	12.4452	489.5118
.0159	39.3333	65.3722	.0400	.2000	.6017	.7127	13.3045	523.3102

64' R.O.W. 48' FACE-FACE 8" CURB 4" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	44.6667	65.3645	.0050	.0707	.6833	.7758	5.1204	228.7091
.0159	44.6667	65.3645	.0100	.1000	.6833	.7758	7.2413	323.4434
.0159	44.6667	65.3645	.0150	.1225	.6833	.7758	8.8687	396.1357
.0159	44.6667	65.3645	.0200	.1414	.6833	.7758	10.2407	457.4181
.0159	44.6667	65.3645	.0250	.1581	.6833	.7758	11.4495	511.4090
.0159	44.6667	65.3645	.0300	.1732	.6833	.7758	12.5422	560.2205
.0159	44.6667	65.3645	.0350	.1871	.6833	.7758	13.5472	605.1073
.0159	44.6667	65.3645	.0400	.2000	.6833	.7758	14.4825	646.8869

64' R.O.W. 48' FACE-FACE 8" CURB 2" CROWN .4' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	50.0000	65.3599	.0050	.0707	.7650	.8364	5.5205	276.0236
.0159	50.0000	65.3599	.0100	.1000	.7650	.8364	7.8071	390.3563
.0159	50.0000	65.3599	.0150	.1225	.7650	.8364	9.5617	478.0869
.0159	50.0000	65.3599	.0200	.1414	.7650	.8364	11.0409	552.0472
.0159	50.0000	65.3599	.0250	.1581	.7650	.8364	12.3441	617.2075
.0159	50.0000	65.3599	.0300	.1732	.7650	.8364	13.5223	676.1169
.0159	50.0000	65.3599	.0350	.1871	.7650	.8364	14.6058	730.2897
.0159	50.0000	65.3599	.0400	.2000	.7650	.8364	15.6143	780.7126

64' R.O.W. 48' FACE-FACE 8" CURB 8" CROWN .5' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	40.0000	65.4013	.0050	.0707	.6116	.7205	4.7549	190.1976
.0159	40.0000	65.4013	.0100	.1000	.6116	.7205	6.7245	268.9800
.0159	40.0000	65.4013	.0150	.1225	.6116	.7205	8.2358	329.4319
.0159	40.0000	65.4013	.0200	.1414	.6116	.7205	9.5099	380.3952
.0159	40.0000	65.4013	.0250	.1581	.6116	.7205	10.6324	425.2947
.0159	40.0000	65.4013	.0300	.1732	.6116	.7205	11.6472	465.8870
.0159	40.0000	65.4013	.0350	.1871	.6116	.7205	12.5804	503.2155
.0159	40.0000	65.4013	.0400	.2000	.6116	.7205	13.4490	537.9600

64' R.O.W. 48' FACE-FACE 8" CURB 6" CROWN .5' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	45.3333	65.3905	.0050	.0707	.6933	.7833	5.1692	234.3391
.0159	45.3333	65.3905	.0100	.1000	.6933	.7833	7.3104	331.4055
.0159	45.3333	65.3905	.0150	.1225	.6933	.7833	8.9534	405.8872
.0159	45.3333	65.3905	.0200	.1414	.6933	.7833	10.3385	468.6782
.0159	45.3333	65.3905	.0250	.1581	.6933	.7833	11.5588	523.9981
.0159	45.3333	65.3905	.0300	.1732	.6933	.7833	12.6620	574.0112
.0159	45.3333	65.3905	.0350	.1871	.6933	.7833	13.6765	620.0029
.0159	45.3333	65.3905	.0400	.2000	.6933	.7833	14.6208	662.8110

64' R.O.W. 48' FACE-FACE 8" CURB 4" CROWN .5' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	50.6667	65.3828	.0050	.0707	.7749	.8437	5.5675	282.0874
.0159	50.6667	65.3828	.0100	.1000	.7749	.8437	7.8737	398.9318
.0159	50.6667	65.3828	.0150	.1225	.7749	.8437	9.6432	488.5897
.0159	50.6667	65.3828	.0200	.1414	.7749	.8437	11.1350	564.1748
.0159	50.6667	65.3828	.0250	.1581	.7749	.8437	12.4493	630.7666
.0159	50.6667	65.3828	.0300	.1732	.7749	.8437	13.6376	690.9702
.0159	50.6667	65.3828	.0350	.1871	.7749	.8437	14.7303	746.3331
.0159	50.6667	65.3828	.0400	.2000	.7749	.8437	15.7473	797.8637

64' R.O.W. 48' FACE-FACE 8" CURB 2" CROWN .5' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	56.0000	65.3782	.0050	.0707	.8566	.9019	5.9519	333.3076
.0159	56.0000	65.3782	.0100	.1000	.8566	.9019	8.4173	471.3682
.0159	56.0000	65.3782	.0150	.1225	.8566	.9019	10.3090	577.3057
.0159	56.0000	65.3782	.0200	.1414	.8566	.9019	11.9038	666.6153
.0159	56.0000	65.3782	.0250	.1581	.8566	.9019	13.3089	745.2985
.0159	56.0000	65.3782	.0300	.1732	.8566	.9019	14.5792	816.4336
.0159	56.0000	65.3782	.0350	.1871	.8566	.9019	15.7473	881.8491
.0159	56.0000	65.3782	.0400	.2000	.8566	.9019	16.8346	942.7363

EXHIBIT G

STREETS AND MAXIMUM RUNOFFS

STREET DESCRIPTION & LOCATION	MAXIMUM RUNOFFS (in c.f.s.)
Unit 1	
A. San Antonio Drive, N.E. - 48' f. to f.	77
B. Louisiana Blvd., N.E. - 48' f. to f.	185
C. A street 600' west of San Antonio & Wyoming (formerly Barstow) proceeding north, northwesterly, and westerly to a point 1620' north of Louisiana and San Antonio - 48' f. to f.	50
D. A street 1195' east of Louisiana & 178' north of San Antonio proceeding west, north, and northwest to a point 1068' north of San Antonio & 169' east of Louisiana - 32' f. to f.	37
Unit 2	
A. Wyoming Blvd., N.E. - 48' f. to f.	76
B. Street at easterly edge - 48' f. to f.	56
C. Street extending east-westerly about 2080' north of San Antonio at east edge to 1900' north of San Antonio on Wyoming (formerly Barstow) -32' f. to f.	76
D. Street running about 180' north of of North Arroyo Del Pino in an east-westerly direction from about 1950' east of Wyoming (formerly Barstow) and about 450' north of San Antonio - 32' f. to f.	89
Unit 3	
A. Street extending in an east-west direction from about 2450' north of San Antonio off Wyoming (formerly Barstow) to a connection with San Francisco - 40' f. to f.	591
B. Street leading from a point about 1890' north of San Antonio along Wyoming (formerly Barstow) to the	

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STREET DESCRIPTION & LOCATION	MAXIMUM RUNOFF (in c.f.s.)
B. cont.	
50' North Arroyo Del Pino easement about 180' east of Louisiana - 32' f. to f.	127
C. A street extending east from Pino Street at Louisiana to the arroyo at the west edge of the cemetery property - 32' face to face	586
Unit 4	
A. A street extending westerly from a 40' drainage easement about 1880' south of Los Angeles at the easterly boundary to a point on Wyoming (formerly Barstow) about 1900' south of Los Angeles - 32' f. to f.	60
B. A street extending from a point about 2600' north of San Antonio at the easterly boundary westerly to an unplatted tract about 1000' west of the east boundary and about 2650' north of San Antonio - 32' f. to f.	312

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CAMPBELL-HICKS and ASSOCIATES, Inc.
Soils Testing Laboratory
CONSULTING CIVIL ENGINEERS
232 Muriel Street, N.E. • Phone (505) 296-7139 • Albuquerque, New Mexico 87123

STORM DRAINAGE STUDY RELATIVE TO THE DEVELOPMENT OF LOMA DEL NORTE ALBUQUERQUE, NEW MEXICO

September 1971

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STORM DRAINAGE STUDY RELATIVE TO THE DEVELOPMENT OF LOMA DEL NORTE

I. GENERAL

This report has been prepared to present findings of a study of storm drainage conditions in an area proposed for development as Loma Del Norte (North Albuquerque Acres Subdivision) and to describe proposed methods for providing adequate storm drainage in the area.

II. LOCATION

The area proposed for development is located in Section 19, Township 11 North, Range 4 East, N.M.P.M. The area includes all of the section except a parcel owned by the Federal Aviation Administration and a cemetery owned by the Roman Catholic Church in its Northwest quarter. It is bounded on the East by an unnamed street (formerly Wyoming Blvd., N.E.), the South by San Antonio Drive, the West by Louisiana Blvd., and the North by Los Angeles Drive as indicated on the attached map labeled Exhibit "A".

III. EXISTING DRAINAGE CONDITIONS

A. General

The area proposed for development lies almost entirely within the watersheds of the Arroyo Domingo de Baca and North Arroyo del Pino. However, two other watersheds form well defined channels within the subdivision. Although these other channels are well defined in some areas, there are other locations where they are not so well defined and some channelization is required to provide for them.

This area is presently undeveloped except for Los Angeles which is paved as far as Wyoming Blvd., N.E. (formerly Barstow St.) where the Roman Catholic cemetery and the Federal Aviation Agency properties are developed.

The existing runoff conditions of the Arroyo Domingo de Baca and North Arroyo del Pino have been determined at the Eastern limits of the property by the Corp of Engineers. The values of 4130 c.f.s. for the Arroyo Domingo de Baca and 1170 c.f.s. for the North Arroyo del Pino were furnished by the Corp of Engineers on July 9, 1971.

B. Topography

The area of the proposed development, a nine to ten mile wide clinoplain known as the Sandia Mesa, slopes gradually upward toward the Sandia Mountains at a nearly uniform rate of about 100 feet per mile. This mesa was built by deposits of gravels and clays from the Rio Grande, intermixed with sands and gravels carried from the mountains by smaller streams. The mesa is crossed by sandy arroyos or usually dry stream channels which carry large volumes of water run-off for a few hours once or twice each summer.

Arroyo cutting is a problem in the area and is most acute during the rainy season. Peculiarities of drainage, differences in erodability of the soils, or variation in the density of protective vegetation allows the feeders of one arroyo to cut into and capture the headwaters of adjacent arroyos, leading to the concentration of runoff in the second arroyo. Concomintantly, the amount of flow in the first arroyo, the headwaters of which were "pirated"* away, is diminished.

The above seems to warrant lining of channels, but due to its excessive cost ($8.00/sy in 1971) it appears economically advisable only to channelize the major arroyos.

C. Drainage Areas and Channels

At the present time the area is drained by two major arroyos, which have been discussed in Section III. A. of this report. Both of these arroyos drain through existing structures under Interstate 25 to the West. The limits of these two areas as proposed in a report prepared by the Corp of Engineers for the Albuquerque Metropolitan Arroyo Flood Control Authority is shown in Reference 2, plates E, F, and G. As shown in Plate 2, the entire area is in an area subject to flooding by the Standard Project Flood.

Two other minor arroyos with greater than 100 acres may be seen in Exhibit "B". However, the runoff from these can be carried by aligning master planned streets in such a manner (set property lines high enough) as to either carry water to a proposed channel or across the development re depositing it in its original channel.

IV. PROPOSED DRAINAGE PLANS

A. General

In order to provide an adequate system of storm drain-

* See Reference No. 1, this report

age for the proposed development it was necessary to:

(1) Determine the drainage areas which can contribute storm runoff affecting the development.

(2) Determine the amounts of runoff which could be expected from each area.

(3) Determine the points at which the various runoffs would converge and then the runoff quantities to be expected at each of these points.

(4) Determine the ability of each of the proposed channels or structures to handle the quantities.

(5) Determine and recommend the means by which the expected runoff can be safely carried across the subdivision in the same proportion as it now exists.

(6) Design additional channels and structures adequate to handle the runoff in the area to be developed.

(7) Determine the current cost of all Capital Improvements and recommend a suitable sequence of development for both the Developer and the City of Albuquerque.

B. Drainage Areas

A study was made by this firm to ascertain that no conflicting drainage studies had been made. After this, a study of the best available contour maps was made to determine which drainage areas could conceivably contribute storm runoff which might affect the development. Photographs used to prepare the contour maps which were prepared by Koogle and Pouls Engineering, Inc. have also been used.

From this study it was determined that in addition to the Arroyo Domingo de Baca and the North Arroyo del Pino there are seven contributing areas East of the subdivision as shown in Exhibit "B". These areas are labeled A-1, B-1, C-1, D-1, E-1, F-1, and G-1. The internal areas are shown on Exhibit "C" along with expected runoff quantities and water blocks indicated.

C. Runoff Quantities

The quantity of runoff to be expected from each drainage area was determined using the Rational Formula, $Q = CIA$, where: Q equals quantity of runoff in cubic feet per second; C equals coefficient of runoff dependent upon the type of surface drained; I equals intensity

of rainfall in inches per hour for a duration equal to the time of accumulation in minutes; A equals area of contributing watershed in acres.

The area (A) of each separate area was determined by outlining the watersheds on either a scaled photograph or a contour map and measuring the areas by planimeter.

The intensity of rainfall (I) was determined by assuming a 100 year frequency rainfall then utilizing Intensity Duration Frequency Curves from Reference 3 together with the expected times of accumulation of runoff from each of the areas. The times of accumulation were determined using probable future streets and drainage channel alignments and grades, as shown, assuming the overland flows to be across either poor grass, asphalt pavement, or bare soil surfaces, depending upon the probable type of development in each area and estimating the probable type of grading to be done in each area; assuming future streets to be asphalt paved with concrete curbs and either 8", 6", 4" or 2" crowned sections; and determining the times of flow by utilizing the tables on pages 5.00, 5.04, and 5.05 of Reference 4.

The coefficient of runoff (C) was determined by assuming the maximum possible development in the areas in consideration. A coefficient of 0.65 was used where dense residential development was most probable. A coefficient of 0.70 was used in probable commercial developments or areas that will likely have considerable of the surfaces paved by either roofs or parking areas.

The quantities of runoff expected from each area, and the points of concentration with the runoff quantities at each of these points are indicated in Exhibit "C" and tabulated in Exhibit "D" along with the RUNOFF COMPUTATION SHEETS.

D. Drainage Channels and Facilities

All existing structure capacities, as well as any proposed structures, were verified from computer output sheets (see Exhibit "E" for a summary of street carrying capacities) which utilizes Manning's Equation $Q=AV$ where $V = \frac{1.486}{n} R^{2/3} S^{1/2}$ when A= cross-sectional area of channel or pipe in square feet; R= hydraulic radius or area divided by wetted perimeter; S= slope of channel of facility in feet per foot; and "n" values of 0.015 for concrete and asphalt, .013 for concrete pipes, .0225 for earth lined channels, and a composite "n"

value base on proportionate wetted surfaces for overflow sections.

V. CONCLUSIONS AND RECOMMENDATIONS

On the basis of this study and its calculations it is concluded that the development of this area can be accomplished satisfactorily provided adequate storm drainage and the following recommendations are followed:

A. Construct the channels as indicated on Exhibit "C" prior to or at least concurrently with construction of the adjacent lots.

B. A 50' drainage easement be provided for the North Arroyo Del Pino with a typical section as shown on Exhibit "C" with a minimum slope of about 2.86%.

C. An existing 70' drainage easement for the Arroyo Domingo de Baca from Louisiana to Wyoming (formerly Barstow) as shown on Exhibit "C" with a minimum slope of about 2.80%. The same section as is presently existing is satisfactory to handle the runoff after the area is fully developed.

D. From Wyoming (formerly Barstow) Blvd. N.E. to the Eastern limits of the property the same section will be satisfactory in the interest of continuity with a grade of about 2.95% and a 70' drainage easement.

E. ~~Recommended street grades are contained in Exhibit "G" of this report.~~ Design streets to carry maximum runoffs contained in Exhibit "G" thru use of tables in Exhibit "E".

F. The following structures are recommended to properly drain the area:

(1) On a street along the East edge of the property (Wyoming Blvd. N.E. on Exhibit "A") over the North Arroyo Del Pino a standard 4 - 4X8 CBC's Design 1, Normal, with four wingwalls and rip-rap.*

(2) On this same street (Wyoming Blvd. N.E. on Exhibit "A") over the Arroyo Domingo de Baca a standard 6-4X8 CBC Design 1, Normal, with four wingwalls and rip-rap.*

(3) On Wyoming Blvd. N.E. (Barstow on Exhibit "A") over the North Arroyo Del Pino a standard 4-4X6 CBC Design 1, Normal, with four wingwalls and rip-rap.*

(4) On Wyoming Blvd., N.E. (Barstow on Exhibit "A") over the Arroyo Domingo de Baca a standard 5-5X8

CBC Design 1, Normal, with four wingwalls and rip-rap.*

(5) On Louisiana at the North Arroyo Del Pino crossing a standard 3-6X6 CBC Design 1, Normal, with four wingwalls and rip-rap.*

(6) On Louisiana at the Arroyo Domingo de Baca crossing a standard 7-5X6 CBC Design 1, Normal, with four wingwalls and rip-rap.*

(7) In lieu of any of these six structures an open dip section with 4% grades on either side of the channel with cutoff walls to protect the pavement may be used with at least 20' of wire enclosed rip-rap at the downstream end used to reduce the C.I.P. costs. The above six structures would have a cost of about $198,000 based on estimated concrete, steel, and wire enclosed rip-rap quantities and using the 1970 New Mexico State Highway Department average unit bid prices.

If all the above recommendations are followed this Master Plan of Drainage should provide the necessary requirements to make this a very satisfactory development.

Respectfully submitted,

Donald L. Campbell

Donald L. Campbell
P. E. & L.S. No. 3633

*NOTE: See New Mexico State Highway Department Standards CB-34, WCB-0 and EC-61 for typical design and quantities.

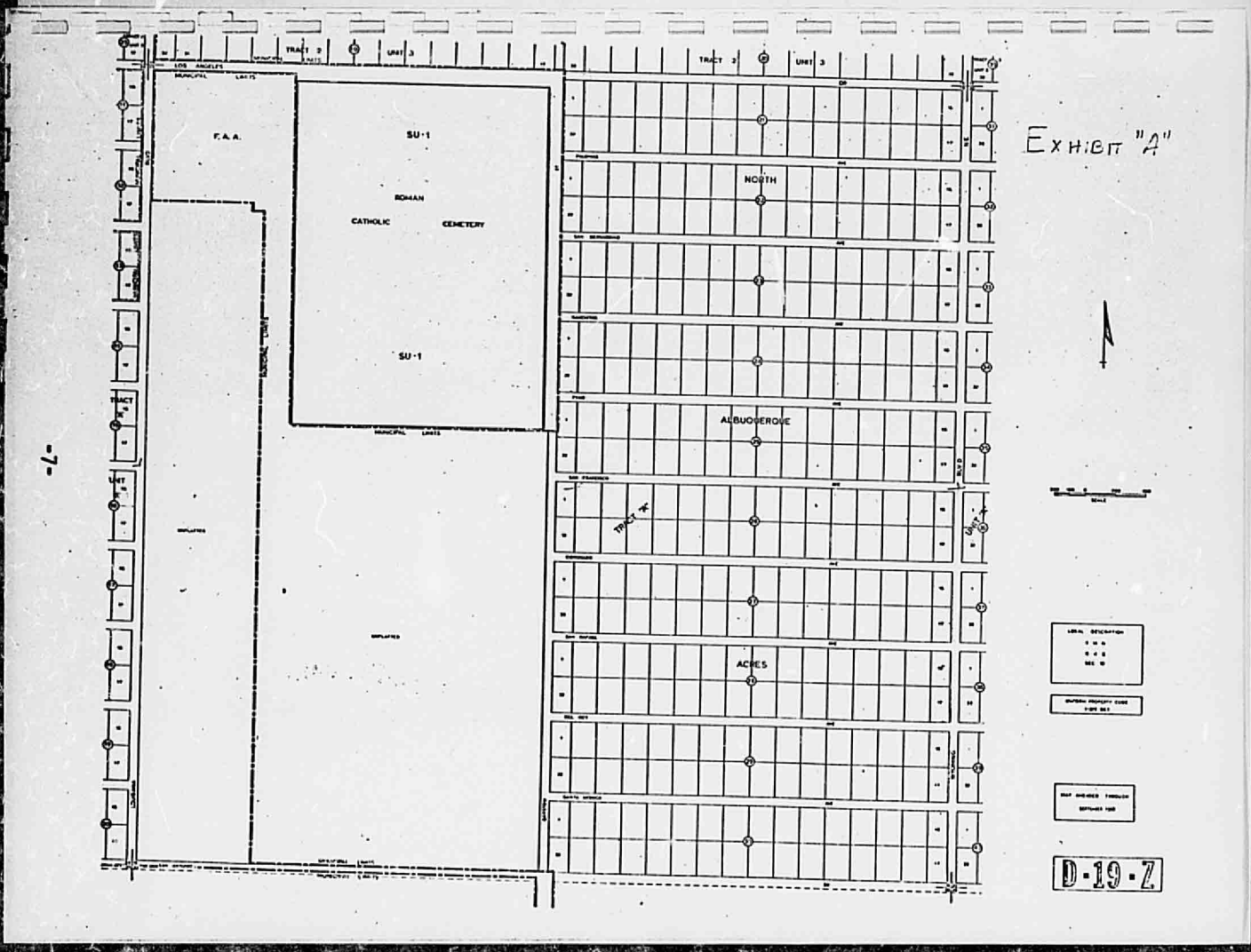


EXHIBIT "A"

D-19-Z

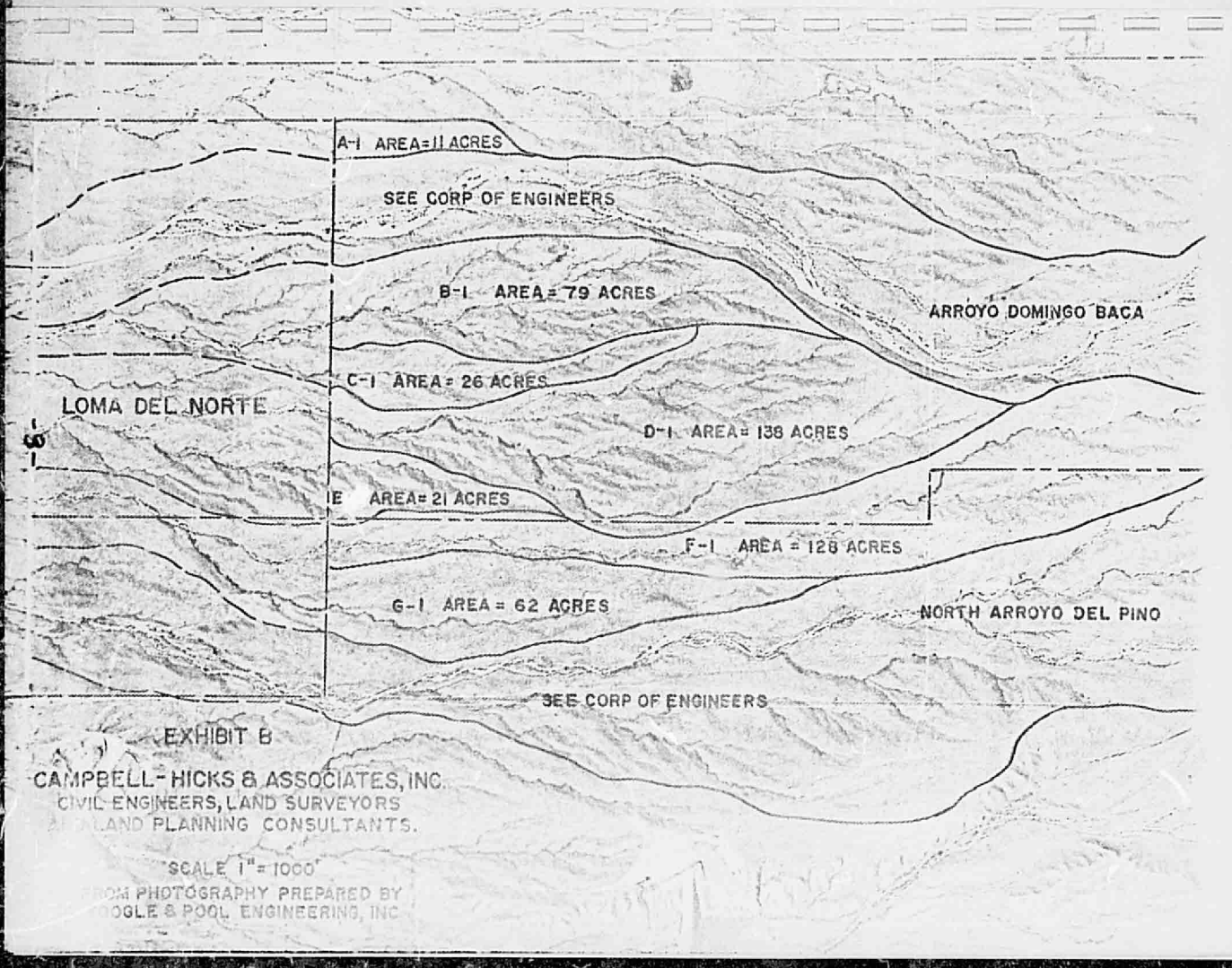


EXHIBIT B

CAMPBELL-HICKS & ASSOCIATES, INC.
CIVIL ENGINEERS, LAND SURVEYORS
AND LAND PLANNING CONSULTANTS.

SCALE 1"= 1000'

FROM PHOTOGRAPHY PREPARED BY
OGLE & POOL ENGINEERING, INC

THIS MICROIMAGE IS THE BEST POSSIBLE
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OF THE ORIGINAL DOCUMENT

EXHIBIT D

SUMMARY OF RUNOFF COMPUTATIONS

Sheet No.	Area Number	Area (In acres)	Expected Runoff (In c.f.s.) Individual	Total
1	A-1	11	31	
2	B-1	79	175	
3	C-1	26	64	
4	D-1	138	262	
5	E-1	21	56	
6	F-1	128	205	
7	G-1	62	126	
8	B-2	63	170	409
9	D-2	50	146	408
10	K-1	30	76	
11	J-1	38	89	
12	H-1	12	33	
13	ADP-1	40	99	1656
14	ADB-1	38	89	4219
15	ADB-2	19	52	4327
16	M-1	22	56	
17	B-3	47	92	501
18	B-4	35	85	586
19	L-1	16	56	
20	D-3	18	51	591
21	N-1	47	127	
22	ADP-2	58	145	2017
23	P-1	12	37	
24	O-1	16	44	77
25	Q-1	11	48	
26	R-1	13	35	

RUNOFF COMPUTATIONS

Sheet No. 1

Job No. 4.D.N.

Drainage Area No. A-1

Area = 11 acres

Maximum Overland Flow: L = 800' S = 1.5%

Maximum Channel Flow:

Channel No. 1 L = 1300' S = 3.5%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 13.6 min.

Channel No. 1 Flow:

Velocity = 4.0 ft/sec; Time = $\frac{1300}{4.0 \times 60}$ = 5.4 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 19.0 min.

$I = \frac{189}{T+25} = \frac{189}{44} = 4.30$ in/hr.

$Q = CIA = (.65)(4.30)(11) = 31$ c.f.s.

Date: 5-26-71

Comp. by: DAR

Checked by: WKT

RUNOFF COMPUTATIONS

Sheet No. 2

Job No. L.D.N.

Drainage Area No. B-1

Area = 79 acres

Maximum Overland Flow: L = 100' S = 3.0%

Maximum Channel Flow:

Channel No. 1 L = 4900' S = 3.2%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 9.0 min.

Channel No. 1 Flow:

Velocity = 3.8 ft/sec; Time = $\frac{4900'}{3.8 \times 60}$ = 21.5 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 30.5 min.

$I = \frac{189}{T+25} = \frac{189}{55.5} = 3.41$ IN/hr.

Q = CIA = (.65)(3.41)(79) = 175 c.f.s.

Date: 5-26-71

Comp. by: DDC

Checked by: JBF

RUNOFF COMPUTATIONS

Sheet No. 3

Job No. L.D.N.

Drainage Area No. C-1

Area = 26 acres

Maximum Overland Flow: L = 150' S = 2.7%

Maximum Channel Flow:

Channel No. 1 L = 3500' S = 3.1%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 10.7 min.

Channel No. 1 Flow:

Velocity = 4.0 ft/sec; Time = $\frac{3500}{4.0 \times 60}$ = 14.6 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 25.3 m.

$I = \frac{189}{T+25} = \frac{189}{50.3} = 3.76$ in/hr

Q = CIA = (.65)(3.76)(26) = .64 c.f.s.

Date: 5-26-71

Comp. by: DSL

Checked by: [illegible]

RUNOFF COMPUTATIONS

Sheet No. 4

Job No. L.D.N.

Drainage Area No. D-1

Area = 138 acres

Maximum Overland Flow: L = 100' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 6900' S = 3.0%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 9.3 min.

Channel No. 1 Flow:

Velocity = 3.8 ft/sec; Time = $\frac{6900}{3.8 \times 60}$ = 30.3 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 39.6 min.

$I = \frac{189}{T+25} = \frac{189}{61.6} = 2.93$ in./hr.

Q = CIA = (.65)(2.93)(138) = 262 c.f.s.

Date: 5-26-71

Comp. by: DJC

Checked by: JKP

RUNOFF COMPUTATIONS

Sheet No. 5

Job No. L.D.N.

Drainage Area No. E-1

Area = 21 acres

Maximum Overland Flow: L = 200' S = 3.5%

Maximum Channel Flow:

Channel No. 1 L = 2240 S = 3.3%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 11.4 min.

Channel No. 1 Flow:

Velocity = 3.9 ft/sec; Time = $\frac{2240}{3.9 \times 60}$ = 9.6 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 21.0 min.

$I = \frac{189}{T+25} = \frac{189}{46.0} = 4.11$ in/hr.

Q = CIA = (.65)(4.11)(21) = 56 c.f.s.

Date: 5-26-71

Comp. by: DPC

Checked by: [illegible]

RUNOFF COMPUTATIONS

Sheet No. 6

Job No. L.D.N.

Drainage Area No. F-1

Area = 128 acres

Maximum Overland Flow: L = 200' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 9000' S = 3.2%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.3 min.

Channel No. 1 Flow:

Velocity= 3.8 ft/sec; Time = $\frac{9000}{3.8 \times 60}$ = 39.5 min.

Channel No. 2 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{\times 60}$ = _____min.

Channel No. 3 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{\times 60}$ = _____min.

Total Accumulation Time: T = 51.8 min.

$I = \frac{189}{T+25} = \frac{189}{76.8} = 2.46$ in/hr.

Q = CIA = (.65)(2.46)(128) = 205 c.f.s.

Date: 5-26-71

Comp. by: DSR

Checked by: ZKP

RUNOFF COMPUTATIONS

Sheet No. 7

Job No. L.D.N.

Drainage Area No. G-1

Area = 62 acres

Maximum Overland Flow: L = 300' S = 2.3%

Maximum Channel Flow:

Channel No. 1 L = 4550 S = 2.8%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 14.8 min.

Channel No. 1 Flow:

Velocity = 3.7 ft/sec; Time = $\frac{4550}{3.7 \times 60}$ = 20.5 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 35.3 min.

$I = \frac{189}{T+25} = \frac{189}{60.3} = 3.13$ in./hr.

$Q = CIA = (.65)(3.13)(62) = .126$ c.f.s.

Date: 5-26-71

Comp. by: DPC

Checked by: JHT

RUNOFF COMPUTATIONS

Sheet No. 8

Job No. L.D.N.

Drainage Area No. B-2

Area = 63 acres

Maximum Overland Flow: L = 200' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 2890 S = 8.9%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.6 min.

Channel No. 1 Flow:

Velocity = 6.1 ft/sec; Time = $\frac{2890}{6.1 \times 60}$ = 7.9 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 20.5 min.

$I = \frac{189}{T+25} = \frac{189}{45.5} = 4.15$ In/Ac.

$Q = CIA = (.65)(4.15)(63) = 170$ c.f.s.

Total Q = 175 + 64 + 170 = 409 c.f.s.

Date: 7-14-71

Comp. by: DPC

Checked by: JKP

RUNOFF COMPUTATIONS

Sheet No. 9

Job No. L.D.H.

Drainage Area No. D-2

Area = 50 acres

Maximum Overland Flow: L = 200' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 1700' S = 2.9%

Channel No. 2 L = 1000' S = 2.9%

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.6 min.

Channel No. 1 Flow:

Velocity = 17.6 ft/sec; Time = $\frac{1700}{17.6 \times 60}$ = 1.6 min.

Channel No. 2 Flow:

Velocity = 6.1 ft/sec; Time = $\frac{1000}{6.1 \times 60}$ = 2.7 min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 16.9 min.

$I = \frac{189}{T+25} = \frac{189}{41.9} = 4.51$ IN/HR.

Q = CIA = (.65)(4.51)(50) = 146 c.f.s.

Total Q = 262 + 146 = 408
Use 44'-6" w/0.4 Above Hi-Curb
Q CAP. = 548

Date: 7-14-71

Comp. by: DPC

Checked by: JHG

RUNOFF COMPUTATIONS

Sheet No. 10

Job No. L.D.N.

Drainage Area No. K-1

Area = 30 acres

Maximum Overland Flow: L = 200' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 2400 S = 2.7%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.6 min.

Channel No. 1 Flow:

Velocity= 3.6 ft/sec; Time = $\frac{2400}{3.6 \times 60}$ = 11.1 min.

Channel No. 2 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{X60}$ = _____min.

Channel No. 3 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{X60}$ = _____min.

Total Accumulation Time: T = 23.7 min.

$I = \frac{189}{T+25} = \frac{189}{48.7} = 3.88$ IN/hr.

Q = CIA = (.05)(3.88)(30) = .76 c.f.s.

Assume 32' Shaped w/6" Crown
Plus 0.1' Above Hi-Curb

Date: 7-14-71

Comp. by: [signature]

Checked by: [signature]

RUNOFF COMPUTATIONS

Sheet No. 11

Job No. L.D.H.

Drainage Area No. J-1

Area = 38 acres

Maximum Overland Flow: L = 200' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 3100' S = 2.6%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.6 min.

Channel No. 1 Flow:

Velocity = 3.5 ft/sec; Time = $\frac{3100}{3.5 \times 60}$ = 14.8 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 27.4 min.

$I = \frac{189}{T+25} = \frac{18.9}{52.4} = 3.61$ in./hr.

Q = CIA = (.65)(3.61)(38) = 89 c.f.s.

Assume 32' street w/6" crown
Plus 0.1' above Hi curb

Date: 7-14-71

Comp. by: DLC

Checked by: JKP

RUNOFF COMPUTATIONS

Sheet No. 12

Job No. L.D.N.

Drainage Area No. H-1

Area = 12 acres

Maximum Overland Flow: L = 150' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 2100' S = 3.0%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 11.0 min.

Channel No. 1 Flow:

Velocity= 3.8 ft/sec; Time = $\frac{2100}{3.8 \times 60}$ = 9.2 min.

Channel No. 2 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{X60}$ = _____min.

Channel No. 3 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{X60}$ = _____min.

Total Accumulation Time: T = 20.2 min.

$I = \frac{189}{T+25} = \frac{189}{45.2} = 4.18$ in/hr.

Q = CIA = (.65)(4.18)(12) = 33 c.f.s.

Assume 48' street w/8" crown

Date: 7-14-71

Comp. by: DRC

Checked by: AEP

RUNOFF COMPUTATIONS

Sheet No. 13

Job No. L.D.N.

Drainage Area No. ADP-L

Area = 40 acres

Maximum Overland Flow: L = 200' S = 1.0%

Maximum Channel Flow:

Channel No. 1 L = 2800' S = 2.86%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 14.9 min.

Channel No. 1 Flow:

Velocity= 3.7 ft/sec; Time = $\frac{2200}{3.7 \times 60}$ = 9.9 min.

Channel No. 2 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{\times 60}$ = _____min.

Channel No. 3 Flow:

Velocity=_____ft/sec; Time = $\frac{\quad}{\times 60}$ = _____min.

Total Accumulation Time: T = 24.8 min.

$I = \frac{189}{T+25} = \frac{189}{49.8} = 3.80$ in/hr.

Q = CIA = (.65)(3.80)(40) = 99 c.f.s.

Assume 30' Bottom By 2.7' DEEP & 5.0' High.

Date: 7-14-71

Comp. by: DNC

Total Q = 126 + 205 + 56 + 1170 + 99 = 1656 c.f.s. Checked by: [illegible]

RUNOFF COMPUTATIONS

Sheet No. 14

Job No. L.D.N.

Drainage Area No. ADB-1

Area = 38 acres

Maximum Overland Flow: L = 900' S = 1.5%

Maximum Channel Flow:

Channel No. 1 L = 2770' S = 3.28%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 16.0 min.

Channel No. 1 Flow:

Velocity = 3.9 ft/sec; Time = $\frac{2770}{3.9 \times 60}$ = 11.5 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 27.5 min.

$I = \frac{189}{T+25} = \frac{189}{52.5} = 3.60$ in/hr

Q = CIA = (.65)(3.60)(38) = 89 c.f.s.

Total Q = 4130 + 89 = 4219 c.f.s.

Date: 7-14-71

Comp. by: [signature]

Checked by: [signature]

RUNOFF COMPUTATIONS

Sheet No. 15

Job No. 4D.N.

Drainage Area No. A.D. B-2

Area = 19 acres

Maximum Overland Flow: L = 600' S = 2.83

Maximum Channel Flow:

Channel No. 1 L = 2770' S = 2.8

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 18.6 min.

Channel No. 1 Flow:

Velocity = 27.5 ft/sec; Time = $\frac{2770}{27.5 \times 60}$ = 1.7 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 20.3 min.

$I = \frac{189}{T+25} = \frac{189}{45.3} = 4.18$ in/hr.

Q = CIA = (.65)(4.18)(19) = .52 c.f.s.

Total Q = 4219 + 52 + 52 = 4327

Date: 9-13-71

Comp. by: DPC

Checked by: HEP

RUNOFF COMPUTATIONS

Sheet No. 16

Job No. L.D.H.

Drainage Area No. M-1

Area = 22 acres

Maximum Overland Flow: L = 970' S = 3.5%

Maximum Channel Flow:

Channel No. 1 L = 1060' S = 2.83%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 22.0 min.

Channel No. 1 Flow:

Velocity = 11.1 ft/sec; Time = $\frac{1060}{11.1 \times 60}$ = 1.6 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 23.6 min.

$I = \frac{189}{T+25} = \frac{189}{48.6} = 3.88$ in/hr.

Q = CIA = (.65)(3.88)(22) = 56 c.f.s.

Date: 9-14-71

Comp. by: DJL

Checked by: JHH

RUNOFF COMPUTATIONS

Sheet No. 17

Job No. L.D.N.

Drainage Area No. B-3

Area = 47 acres

Maximum Overland Flow: L = 700' S = 3.14%

Maximum Channel Flow:

Channel No. 1 L = 1730' S = 2.71%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 20.0 min.

Channel No. 1 Flow:

Velocity = 16 ft/sec; Time = $\frac{1730}{16 \times 60}$ = 18.0 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 38.0 min.

$I = \frac{189}{T+25} = \frac{189}{63.0} = 3.00$ in/hr.

Q = CIA = (.65)(3.00)(47) = 92 c.f.s.

Total Q = 409 + 92 = 501 c.f.s.

Date: 9-13-71

Comp. by: DRL

Checked by: JHP

RUNOFF COMPUTATIONS

Sheet No. 18

Job No. L.D.N.

Drainage Area No. B-4

Area = 35 acres

Maximum Overland Flow: L = 100' S = 2.0

Maximum Channel Flow:

Channel No. 1 L = 1790' S = 1.0 %

Channel No. 2 L = 1150' S = 0.4 %

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 9.6 min.

Channel No. 1 Flow:

Velocity = 3.5 ft/sec; Time = $\frac{1790}{3.5 \times 60}$ = 8.5 min.

Channel No. 2 Flow:

Velocity = 2.5 ft/sec; Time = $\frac{1150}{2.5 \times 60}$ = 7.7 min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 25.8 min.

$I = \frac{189}{T+25} = \frac{189}{50.8} = 3.72$ in/hr.

Q = CIA = (.65)(3.72)(35) = 85 c.f.s.

Total Q = 501 + 85 = 586 c.f.s.

Date: 9-14-71

Comp. by: WRP

Checked by: JHR

RUNOFF COMPUTATIONS

Sheet No. 19

Job No. L.D.H.

Drainage Area No. L-1

Area = 16 acres

Maximum Overland Flow: L = 850' S = 2.9%

Maximum Channel Flow:

Channel No. 1 L = 1740' S = 2.6%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 8.4 min.

Channel No. 1 Flow:

Velocity = 15.7 ft/sec; Time = $\frac{1740}{15.7 \times 60}$ = 1.9 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 10.3 min.

$I = \frac{189}{T+25} = \frac{189}{35.3} = 5.35$ in/hr.

$Q = CIA = (.65)(5.35)(16) = .56$ c.f.s.

Date: 9-14-71

Comp. by: DRC

Checked by: HKP

RUNOFF COMPUTATIONS

Sheet No. 20

Job No. C.O.M.

Drainage Area No. D-3

Area = 18 acres

Maximum Overland Flow: L = 150' S = 3.0%

Maximum Channel Flow:

Channel No. 1 L = 2700' S = 2.7%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 10.6 min.

Channel No. 1 Flow:

Velocity = 6 ft/sec; Time = $\frac{2700}{6 \times 60}$ = 7.5 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 18.1 min.

$I = \frac{189}{T+25} = \frac{189}{43.1} = 4.39$ in/hr.

Q = CIA = (.65)(4.39)(18) = 51 c.f.s.

Total Q = 408 + 56 + 51 + 76 = 591 cfs. Date: 9-14-71

Comp. by: DPC

Checked by: RKP

RUNOFF COMPUTATIONS

Sheet No. 21

Job No. L.D.N.

Drainage Area No. N.1

Area = 47 acres

Maximum Overland Flow: L = 250' S = 3.3%

Maximum Channel Flow:

Channel No. 1 L = 2650' S = 2.5%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 12.7 min.

Channel No. 1 Flow:

Velocity = 5.6 ft/sec; Time = $\frac{2650}{5.6 \times 60}$ = 7.9 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 20.6 min.

$I = \frac{189}{T+25} = \frac{189}{45.6} = 4.15$ in/hr.

Q = CIA = (.65)(4.15)(47) = 127 c.f.s.

Date: 9-14-71

Comp. by: DPC

Checked by: JHS

RUNOFF COMPUTATIONS

Sheet No. 22

Job No. L.D.N.

Drainage Area No. ADP-2

Area = 58 acres

Maximum Overland Flow: L = 700' S = 2.0%

Maximum Channel Flow:

Channel No. 1 L = 2800' S = 2.86%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 21.8 min.

Channel No. 1 Flow:

Velocity = 21.2 ft/sec; Time = $\frac{2800}{21.2 \times 60}$ = 2.2 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 24.0 min.

$I = \frac{189}{T+25} = \frac{189}{49.0} = 3.86$ in/hr.

Q = CIA = (.65)(3.86)(58) = 145 c.f.s.

Total Q = 127 + 165 + 89 + 145 = 2017 c.f.s.

Date: 9-14-71

Comp. by: DRS

Checked by: HGP

RUNOFF COMPUTATIONS

Sheet No. 23

Job No. L.D.N.

Drainage Area No. P.L

Area = 12 acres

Maximum Overland Flow: L = 100' S = 2.5%

Maximum Channel Flow:

Channel No. 1 L = 1750' S = 2.3%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 9.2 min.

Channel No. 1 Flow:

Velocity = 5.3 ft/sec; Time = $\frac{1750}{5.3 \times 60}$ = 5.5 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 14.7 min.

$I = \frac{189}{T+25} = \frac{189}{39.7} = 4.77$ in/hr.

$Q = CIA = (.65)(4.77)(12) = .37$ c.f.s.

Date: 9-14-71

Comp. by: DAP

Checked by: MET

RUNOFF COMPUTATIONS

Sheet No. 24

Job No. L.D.N.

Drainage Area No. O-1

Area = 16 acres

Maximum Overland Flow: L = 180' S = 3.0%

Maximum Channel Flow:

Channel No. 1 L = 2640' S = 2.8%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 11.2 min.

Channel No. 1 Flow:

Velocity = 5.3 ft/sec; Time = $\frac{2640}{5.3 \times 60}$ = 8.3 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 19.5 min.

$I = \frac{189}{T+25} = \frac{189}{44.5} = 4.25$ in/hr

Q = CIA = (.65)(4.25)(16) = 44 c.f.s.

Total Q = 33+44 = 77 c.f.s.

Date: 9-14-71

Comp. by: JPC

Checked by: JHA

RUNOFF COMPUTATIONS

Sheet No. 25

Job No. L.D.N.

Drainage Area No. Q-1

Area = 11 acres

Maximum Overland Flow: L = — S = —

Maximum Channel Flow:

Channel No. 1 L = 1000 S = 2.2%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: _____ min.

Channel No. 1 Flow:

Velocity = 3.1 ft/sec; Time = $\frac{1000}{3.1 \times 60}$ = 5.4 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{X60}$ = _____ min.

Total Accumulation Time: T = 5.4 min.

$I = \frac{189}{T+25} = \frac{189}{30.4} = 6.22$ in/hr.

Q = CIA = (.70)(6.22)(11) = .48 c.f.s.

Date: 9-14-71

Comp. by: DPC

Checked by: [illegible]

RUNOFF COMPUTATIONS

Sheet No. 26
Job No. C.D.N.

Drainage Area No. R-1

Area = 13 acres

Maximum Overland Flow: L = 600' S = 4.0%

Maximum Channel Flow:

Channel No. 1 L = 430' S = 1.0%

Channel No. 2 L = _____ S = _____

Channel No. 3 L = _____ S = _____

Accumulation Time:

Overland Flow: 17.7 min.

Channel No. 1 Flow:

Velocity = 4.1 ft/sec; Time = $\frac{600}{4.1 \times 60}$ = 2.4 min.

Channel No. 2 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Channel No. 3 Flow:

Velocity = _____ ft/sec; Time = $\frac{\quad}{\times 60}$ = _____ min.

Total Accumulation Time: T = 20.1 min.

$I = \frac{189}{T+25} = \frac{189}{45.1} = 4.19$ in/hr.

$Q = CIA = (.65)(4.19)(13) = .85$ c.f.s.

Date: 9-14-71
Comp. by: [signature]
Checked by: [signature]

```
FACE TO FACE = ? 32
CURB = ? 8
CROWN =  ? 8
   N        A         P         S       S1/2     R       R2/3     V         Q
.0150    7.1111   33.3703   .0050   .0707   .2131   .3568   2.4992   17.7719
.0150    7.1111   33.3703   .0100   .1000   .2131   .3568   3.5344   25.1333
.0150    7.1111   33.3703   .0150   .1225   .2131   .3568   4.3287   30.7819
.0150    7.1111   33.3703   .0200   .1414   .2131   .3568   4.9984   35.5439
.0150    7.1111   33.3703   .0250   .1581   .2131   .3568   5.5883   39.7392
.0150    7.1111   33.3703   .0300   .1732   .2131   .3568   6.1217   43.5322
.0150    7.1111   33.3703   .0350   .1871   .2131   .3568   6.6122   47.0201
.0150    7.1111   33.3703   .0400   .2000   .2131   .3568   7.0687   50.2666

FACE TO FACE = ? 32
CURB = ? 8
CROWN =  ? 6
   N        A         P         S       S1/2     R       R2/3     V         Q
.0150   10.6667   33.3542   .0050   .0707   .3198   .4676   3.2759   34.9430
.0150   10.6667   33.3542   .0100   .1000   .3198   .4676   4.6328   49.4169
.0150   10.6667   33.3542   .0150   .1225   .3198   .4676   5.6740   60.5231
.0150   10.6667   33.3542   .0200   .1414   .3198   .4676   6.5518   69.8860
.0150   10.6667   33.3542   .0250   .1581   .3198   .4676   7.3252   78.1350
.0150   10.6667   33.3542   .0300   .1732   .3198   .4676   8.0243   85.5926
.0150   10.6667   33.3542   .0350   .1871   .3198   .4676   8.6672   92.4505
.0150   10.6667   33.3542   .0400   .2000   .3198   .4676   9.2657   98.8338

FACE TO FACE = ? 32
CURB = ? 8
CROWN =  ? 4
   N        A         P         S       S1/2     R       R2/3     V         Q
.0150   14.2222   33.3426   .0050   .0707   .4265   .5666   3.9694   56.4537
.0150   14.2222   33.3426   .0100   .1000   .4265   .5666   5.6136   79.8375
.0150   14.2222   33.3426   .0150   .1225   .4265   .5666   6.8752   97.7806
.0150   14.2222   33.3426   .0200   .1414   .4265   .5666   7.9388  112.9073
.0150   14.2222   33.3426   .0250   .1581   .4265   .5666   8.8758  126.2342
.0150   14.2222   33.3426   .0300   .1732   .4265   .5666   9.7230  138.2827
.0150   14.2222   33.3426   .0350   .1871   .4265   .5666  10.5020  149.3623
.0150   14.2222   33.3426   .0400   .2000   .4265   .5666  11.2272  159.6751

FACE TO FACE = ? 32
CURB = ? 8
CROWN =  ? 2
   N        A         P         S       S1/2     R       R2/3     V         Q
.0150   17.7778   33.3356   .0050   .0707   .5333   .6576   4.6067   81.8972
.0150   17.7778   33.3356   .0100   .1000   .5333   .6576   6.5149  115.8201
.0150   17.7778   33.3356   .0150   .1225   .5333   .6576   7.9791  141.8501
.0150   17.7778   33.3356   .0200   .1414   .5333   .6576   9.2134  163.7944
.0150   17.7778   33.3356   .0250   .1581   .5333   .6576  10.3009  183.1277
.0150   17.7778   33.3356   .0300   .1732   .5333   .6576  11.2841  200.6064
.0150   17.7778   33.3356   .0350   .1871   .5333   .6576  12.1882  216.6796
.0150   17.7778   33.3356   .0400   .2000   .5333   .6576  13.0298  231.6403

FACE
```

FACE TO FACE = ? 40
CURB = ? 8
CROWN = ? 8

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	8.8889	41.3629	.0050	.0707	.2149	.3588	2.5133	22.3400
.0150	8.8889	41.3629	.0100	.1000	.2149	.3588	3.5543	31.5936
.0150	8.8889	41.3629	.0150	.1225	.2149	.3588	4.3531	38.6941
.0150	8.8889	41.3629	.0200	.1414	.2149	.3588	5.0265	44.6801
.0150	8.8889	41.3629	.0250	.1581	.2149	.3588	5.6198	49.9539
.0150	8.8889	41.3629	.0300	.1732	.2149	.3588	6.1562	54.7217
.0150	8.8889	41.3629	.0350	.1871	.2149	.3588	6.6494	59.1062
.0150	8.8889	41.3629	.0400	.2000	.2149	.3588	7.1086	63.1878

FACE TO FACE = ? 40
CURB = ? 8
CROWN = ? 6

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	13.3333	41.3500	.0050	.0707	.3225	.4702	3.2940	43.9198
.0150	13.3333	41.3500	.0100	.1000	.3225	.4702	4.6584	62.1119
.0150	13.3333	41.3500	.0150	.1225	.3225	.4702	5.7053	76.0713
.0150	13.3333	41.3500	.0200	.1414	.3225	.4702	6.5880	87.8396
.0150	13.3333	41.3500	.0250	.1581	.3225	.4702	7.3656	98.2076
.0150	13.3333	41.3500	.0300	.1732	.3225	.4702	8.0686	107.5810
.0150	13.3333	41.3500	.0350	.1871	.3225	.4702	8.7151	116.2008
.0150	13.3333	41.3500	.0400	.2000	.3225	.4702	9.3168	124.2239

FACE TO FACE = ? 40
CURB = ? 8
CROWN = ? 4

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	17.7778	41.3407	.0050	.0707	.4300	.5697	3.9910	70.9506
.0150	17.7778	41.340	.0100	.1000	.4300	.5697	5.6441	100.3393
.0150	17.7778	41.3407	.0150	.1225	.4300	.5697	6.9126	122.8901
.0150	17.7778	41.3407	.0200	.1414	.4300	.5697	7.9819	141.9012
.0150	17.7778	41.3407	.0250	.1581	.4300	.5697	8.9241	158.6504
.0150	17.7778	41.3407	.0300	.1732	.4300	.5697	9.7758	173.7928
.0150	17.7778	41.3407	.0350	.1871	.4300	.5697	10.5591	187.7177
.0150	17.7778	41.3407	.0400	.2000	.4300	.5697	11.2882	200.6787

FACE TO FACE = ? 40
CURB = ? 8
CROWN = ? 2

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	22.2222	41.3352	.0050	.0707	.5376	.6612	4.6315	102.9228
.0150	22.2222	41.3352	.0100	.1000	.5376	.6612	6.5500	145.5549
.0150	22.2222	41.3352	.0150	.1225	.5376	.6612	8.0220	178.2676
.0150	22.2222	41.3352	.0200	.1414	.5376	.6612	9.2631	205.8457
.0150	22.2222	41.3352	.0250	.1581	.5376	.6612	10.3564	230.1485
.0150	22.2222	41.3352	.0300	.1732	.5376	.6612	11.3449	252.1084
.0150	22.2222	41.3352	.0350	.1871	.5376	.6612	12.2539	272.3088
.0150	22.2222	41.3352	.0400	.2000	.5376	.6612	13.0999	291.1098

0.655 / 1.215 / 3

```
FACE TO FACE = ? 44
CURB = ? 8
CROWN =  ? 8
   N        A         P         S       S1/2     R       R2/3     V          Q
 .0150    9.7778   45.3603   .0050    .0707   .2156   .3595   2.5184    24.6242
 .0150    9.7778   45.3603   .0100    .1000   .2156   .3595   3.5615    34.8239
 .0150    9.7778   45.3603   .0150    .1225   .2156   .3595   4.3620    42.6504
 .0150    9.7778   45.3603   .0200    .1414   .2156   .3595   5.0368    49.2484
 .0150    9.7778   45.3603   .0250    .1581   .2156   .3595   5.6313    55.0614
 .0150    9.7778   45.3603   .0300    .1732   .2156   .3595   6.1688    60.3168
 .0150    9.7778   45.3603   .0350    .1871   .2156   .3595   6.6630    65.1496
 .0150    9.7778   45.3603   .0400    .2000   .2156   .3595   7.1231    69.6478

FACE TO FACE = ? 44
CURB = ? 8
CROWN =  ? 6
   N        A         P         S       S1/2     R       R2/3     V          Q
 .0150   14.6667   45.3485   .0050    .0707   .3234   .4712   3.3006    48.4087
 .0150   14.6667   45.3485   .0100    .1000   .3234   .4712   4.6677    68.4602
 .0150   14.6667   45.3485   .0150    .1225   .3234   .4712   5.7168    83.8463
 .0150   14.6667   45.3485   .0200    .1414   .3234   .4712   6.6012    96.8173
 .0150   14.6667   45.3485   .0250    .1581   .3234   .4712   7.3803   108.2451
 .0150   14.6667   45.3485   .0300    .1732   .3234   .4712   8.0848   118.5765
 .0150   14.6667   45.3485   .0350    .1871   .3234   .4712   8.7325   128.0773
 .0150   14.6667   45.3485   .0400    .2000   .3234   .4712   9.3355   136.9204

FACE TO FACE = ? 44
CURB = ? 8
CROWN =  ? 4
   N        A         P         S       S1/2     R       R2/3     V          Q
 .0150   19.5556   45.3401   .0050    .0707   .4313   .5709   3.9989    78.2002
 .0150   19.5556   45.3401   .0100    .1000   .4313   .5709   5.6553   110.5918
 .0150   19.5556   45.3401   .0150    .1225   .4313   .5709   6.9263   135.4468
 .0150   19.5556   45.3401   .0200    .1414   .4313   .5709   7.9978   156.4005
 .0150   19.5556   45.3401   .0250    .1581   .4313   .5709   8.9418   174.8610
 .0150   19.5556   45.3401   .0300    .1732   .4313   .5709   9.7952   191.5507
 .0150   19.5556   45.3401   .0350    .1871   .4313   .5709  10.5800   206.8984
 .0150   19.5556   45.3401   .0400    .2000   .4313   .5709  11.3105   221.1837

FACE TO FACE = ? 44
CURB = ? 8
CROWN =  ? 2
   N        A         P         S       S1/2     R       R2/3     V          Q
 .0150   24.4444   45.3350   .0050    .0707   .5392   .6625   4.6406   113.4376
 .0150   24.4444   45.3350   .0100    .1000   .5392   .6625   6.5628   160.4250
 .0150   24.4444   45.3350   .0150    .1225   .5392   .6625   8.0378   196.4797
 .0150   24.4444   45.3350   .0200    .1414   .5392   .6625   9.2813   226.8752
 .0150   24.4444   45.3350   .0250    .1581   .5392   .6625  10.3768   253.6542
 .0150   24.4444   45.3350   .0300    .1732   .5392   .6625  11.3672   277.8642
 .0150   24.4444   45.3350   .0350    .1871   .5392   .6625  12.2779   300.1276
 .0150   24.4444   45.3350   .0400    .2000   .5392   .6625  13.1257   320.8500
```

FACE TO FACE = ? 48
CURB = ? 8
CROWN = ? 8

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	10.6667	49.3580	.0050	.0707	.2161	.3601	2.5227	26.9084
.0150	10.6667	49.3580	.0100	.1000	.2161	.3601	3.5676	38.0543
.0150	10.6667	49.3580	.0150	.1225	.2161	.3601	4.3694	46.6068
.0150	10.6667	49.3580	.0200	.1414	.2161	.3601	5.0453	53.8169
.0150	10.6667	49.3580	.0250	.1581	.2161	.3601	5.6409	60.1691
.0150	10.6667	49.3580	.0300	.1732	.2161	.3601	6.1792	65.9120
.0150	10.6667	49.3580	.0350	.1871	.2161	.3601	6.6743	71.1931
.0150	10.6667	49.3580	.0400	.2000	.2161	.3601	7.1352	76.1086

FACE TO FACE = ? 48
CURB = ? 8
CROWN = ? 6

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	16.0000	49.3472	.0050	.0707	.3242	.4720	3.3061	52.8978
.0150	16.0000	49.3472	.0100	.1000	.3242	.4720	4.6755	74.8088
.0150	16.0000	49.3472	.0150	.1225	.3242	.4720	5.7264	91.6216
.0150	16.0000	49.3472	.0200	.1414	.3242	.4720	6.6122	105.7955
.0150	16.0000	49.3472	.0250	.1581	.3242	.4720	7.3927	118.2830
.0150	16.0000	49.3472	.0300	.1732	.3242	.4720	8.0983	129.5726
.0150	16.0000	49.3472	.0350	.1871	.3242	.4720	8.7471	139.9544
.0150	16.0000	49.3472	.0400	.2000	.3242	.4720	9.3511	149.6175

FACE TO FACE = ? 48
CURB = ? 8
CROWN = ? 4

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	21.3333	49.3395	.0050	.0707	.4324	.5718	4.0055	85.4504
.0150	21.3333	49.3395	.0100	.1000	.4324	.5718	5.6646	120.8451
.0150	21.3333	49.3395	.0150	.1225	.4324	.5718	6.9377	148.0044
.0150	21.3333	49.3395	.0200	.1414	.4324	.5718	8.0110	170.9007
.0150	21.3333	49.3395	.0250	.1581	.4324	.5718	8.9565	191.0728
.0150	21.3333	49.3395	.0300	.1732	.4324	.5718	9.8114	209.3098
.0150	21.3333	49.3395	.0350	.1871	.4324	.5718	10.5975	226.0804
.0150	21.3333	49.3395	.0400	.2000	.4324	.5718	11.3292	241.6901

FACE TO FACE = ? 48
CURB = ? 8
CROWN = ? 2

N	A	P	S	S1/2	R	R2/3	V	Q
.0150	26.6667	49.3349	.0050	.0707	.5405	.6636	4.6482	123.9532
.0150	26.6667	49.3349	.0100	.1000	.5405	.6636	6.5736	175.2963
.0150	26.6667	49.3349	.0150	.1225	.5405	.6636	8.0510	214.6932
.0150	26.6667	49.3349	.0200	.1414	.5405	.6636	9.2965	247.9064
.0150	26.6667	49.3349	.0250	.1581	.5405	.6636	10.3938	277.1678
.0150	26.6667	49.3349	.0300	.1732	.5405	.6636	11.3858	303.6221
.0150	26.6667	49.3349	.0350	.1871	.5405	.6636	12.2981	327.9493
.0150	26.6667	49.3349	.0400	.2000	.5405	.6636	13.1472	350.5926

0.663 / 1.229 / -40-

KAP ROUND

50' R.O.W. 32' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	15.3611	51.3731	.0050	.0707	.2990	.4472	2.8545	43.8477
.0165	15.3611	51.3731	.0100	.1000	.2990	.4472	420368	62.0100
.0165	15.3611	51.3731	.0150	.1225	.2990	.4472	4.9441	75.9464
.0165	15.3611	51.3731	.0200	.1414	.2990	.4472	5.7089	87.6954
.0165	15.3611	51.3731	.0250	.1581	.2990	.4472	6.3828	98.0464
.0165	15.3611	51.3731	.0300	.1732	.2990	.4472	6.9920	107.4045
.0165	15.3611	51.3731	.0350	.1871	.2990	.4472	7.5522	116.0101
.0165	15.3611	51.3731	.0400	.2000	.2990	.4472	8.0736	124.0200

KAP ROUND

50' R.O.W. 32' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	18.9167	51.3569	.0050	.0707	.3683	.5138	3.2801	62.0482
.0165	18.9167	51.3569	.0100	.1000	.3683	.5138	4.6387	87.7494
.0165	18.9167	51.3569	.0150	.1225	.3683	.5138	5.6813	107.4706
.0165	18.9167	51.3569	.0200	.1414	.3683	.5138	6.5602	124.0964
.0165	18.9167	51.3569	.0250	.1581	.3683	.5138	7.3345	138.7439
.0165	18.9167	51.3569	.0300	.1732	.3683	.5138	8.0345	151.9864
.0165	18.9167	51.3569	.0350	.1871	.3683	.5138	8.6783	164.1640
.0165	18.9167	51.3569	.0400	.2000	.3683	.5138	9.2775	175.4988

KAP ROUND

50' R.O.W. 32' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	22.4722	51.3453	.0050	.0707	.4377	.5765	3.6797	82.6903
.0165	22.4722	51.3453	.0100	.1000	.4377	.5765	5.2038	116.9417
.0165	22.4722	51.3453	.0150	.1225	.4377	.5765	6.3734	143.2238
.0165	22.4722	5123453	.0200	.1414	.4377	.5765	7.3593	165.3806
.0165	22.4722	51.3453	.0250	.1581	.4377	.5765	8.2280	184.9011
.0165	22.4722	51.3453	.0300	.1732	.4377	.5765	9.0133	202.5490
.0165	22.4722	51.3453	.0350	.1871	.4377	.5765	9.7355	218.7780
.0165	22.4722	51.3453	.0400	.2000	.4377	.5765	10.4077	233.8835

KAP ROUND

50' R.O.W. 32' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	26.0278	51.3384	.0050	.0707	.5070	.6358	4.0585	105.6348
.0165	26.0278	51.3384	.0100	.1000	.5070	.6358	5.7396	149.3901
.0165	26.0278	51.3384	.0150	.1225	.5070	.6358	7.0296	182.9648
.0165	26.0278	51.3384	.0200	.1414	.5070	.6358	8.1171	211.2696
.0165	26.0278	51.3384	.0250	.1581	.5070	.6358	9.0752	236.2066
.0165	26.0278	51.3384	.0300	.1732	.5070	.6358	9.9414	258.7513
.0165	26.0278	51.3384	.0350	.1871	.5070	.6358	10.7379	279.4834
.0165	26.0278	51.3384	.0400	.2000	.5070	.6358	11.4793	298.7803

R42 ROUND

64' R.O.W. 48' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	22.0000	65.3614	.0050	.0707	.3366	.4839	3.1940	70.2688
.0159	22.0000	65.3614	.0100	.1000	.3366	.4839	4.5170	99.3750
.0159	22.0000	65.3614	.0150	.1225	.3366	.4839	5.5322	121.7090
.0159	22.0000	65.3614	.0200	.1414	.3366	.4839	6.3881	140.5375
.0159	22.0000	65.3614	.0250	.1581	.3366	.4839	7.1421	157.1257
.0159	22.0000	65.3614	.0300	.1732	.3366	.4839	7.8238	172.1226
.0159	22.0000	65.3614	.0350	.1871	.3366	.4839	8.4506	185.9136
.0159	22.0000	65.3614	.0400	.2000	.3366	.4839	9.0341	198.7500

R42 ROUND

64' R.O.W. 48' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	27.3333	65.3506	.0050	.0707	.4183	.5593	3.6917	100.9073
.0159	27.3333	65.3506	.0100	.1000	.4183	.5593	5.2209	142.7044
.0159	27.3333	65.3506	.0150	.1225	.4183	.5593	6.3943	174.7765
.0159	27.3333	65.3506	.0200	.1414	.4183	.5593	7.3835	201.8145
.0159	27.3333	65.3506	.0250	.1581	.4183	.5593	8.2550	225.6355
.0159	27.3333	65.3506	.0300	.1732	.4183	.5593	9.0429	247.1713
.0159	27.3333	65.3506	.0350	.1871	.4183	.5593	9.7674	266.9755
.0159	27.3333	65.3506	.0400	.2000	.4183	.5593	10.4418	285.4089

R42 ROUND

64' R.O.W. 48' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	32.6667	65.3429	.0050	.0707	.4999	.6299	4.1579	135.8232
.0159	32.6667	65.3429	.0100	.1000	.4999	.6299	5.8801	192.0830
.0159	32.6667	65.3429	.0150	.1225	.4999	.6299	7.2016	235.2527
.0159	32.6667	65.3429	.0200	.1414	.4999	.6299	8.3157	271.6465
.0159	32.6667	65.3429	.0250	.1581	.4999	.6299	9.2972	303.7100
.0159	32.6667	65.3429	.0300	.1732	.4999	.6299	10.1846	332.6976
.0159	32.6667	65.3429	.0350	.1871	.4999	.6299	11.0006	359.3545
.0159	32.6667	65.3429	.0400	.2000	.4999	.6299	11.7602	384.1661

R42 ROUND

64' R.O.W. 48' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0159	38.0000	65.3383	.0050	.0707	.5816	.6968	4.5991	174.7662
.0159	38.0000	65.3383	.0100	.1000	.5816	.6968	6.5041	247.1567
.0159	38.0000	65.3383	.0150	.1225	.5816	.6968	7.9659	302.7039
.0159	38.0000	65.3383	.0200	.1414	.5816	.6968	9.1982	349.5324
.0159	38.0000	65.3383	.0250	.1581	.5816	.6968	10.2839	390.7891
.0159	38.0000	65.3383	.0300	.1732	.5816	.6968	11.2655	428.0880
.0159	38.0000	65.3383	.0350	.1871	.5816	.6968	12.1681	462.3879
.0159	38.0000	65.3383	.0400	.2000	.5816	.6968	13.0082	494.3134

R-40 ROAD

60' R.O.W. 40' FACE-FACE 8" CURB 8" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	18.8556	61.3652	.0050	.0707	.3073	.4553	2.9056	54.7868
.0165	18.8556	61.3652	.0100	.1000	.3073	.4553	4.1091	77.4802
.0165	18.8556	61.3652	.0150	.1225	.3073	.4553	5.0327	94.8935
.0165	18.8556	61.3652	.0200	.1414	.3073	.4553	5.8112	109.5736
.0165	18.8556	61.3652	.0250	.1581	.3073	.4553	6.4971	122.5070
.0165	18.8556	61.3652	.0300	.1732	.3073	.4553	7.1172	134.1997
.0165	18.8556	61.3652	.0350	.1871	.3073	.4553	7.6875	144.9522
.0165	18.8556	61.3652	.0400	.2000	.3073	.4553	8.2183	154.9604

R-40 ROAD

60' R.O.W. 40' FACE-FACE 8" CURB 6" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	23.3000	61.3523	.0050	.0707	.3798	.5244	3.3463	77.9692
.0165	23.3000	61.3523	.0100	.1000	.3798	.5244	4.7324	110.2651
.0165	23.3000	61.3523	.0150	.1225	.3798	.5244	5.7960	135.0466
.0165	23.3000	61.3523	.0200	.1414	.3798	.5244	6.6926	155.9384
.0165	23.3000	61.3523	.0250	.1581	.3798	.5244	7.4826	174.3444
.0165	23.3000	61.3523	.0300	.1732	.3798	.5244	8.1968	190.9848
.0165	23.3000	61.3523	.0350	.1871	.3798	.5244	8.8535	206.2871
.0165	23.3000	61.3523	.0400	.2000	.3798	.5244	9.4648	220.5302

R-40 ROAD

60' R.O.W. 40' FACE-FACE 8" CURB 4" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	27.7444	61.3430	.0050	.0707	.4523	.5892	3.7597	104.3104
.0165	27.7444	61.3430	.0100	.1000	.4523	.5892	5.3170	147.5172
.0165	27.7444	61.3430	.0150	.1225	.4523	.5892	6.5120	180.6710
.0165	27.7444	61.3430	.0200	.1414	.4523	.5892	7.5194	208.6209
.0165	27.7444	61.3430	.0250	.1581	.4523	.5892	8.4069	233.2452
.0165	27.7444	61.3430	.0300	.1732	.4523	.5892	9.2093	255.5074
.0165	27.7444	61.3430	.0350	.1871	.4523	.5892	9.9472	275.9795
.0165	27.7444	61.3430	.0400	.2000	.4523	.5892	10.6340	295.0345

R-40 ROAD

60' R.O.W. 40' FACE-FACE 8" CURB 2" CROWN .2' OVERFLOW

N	A	P	S	S1/2	R	R2/3	V	Q
.0165	32.1889	61.3375	.0050	.0707	.5248	.6506	4.1514	133.6289
.0165	32.1889	61.3375	.0100	.1000	.5248	.6506	5.8710	188.9798
.0165	32.1889	61.3375	.0150	.1225	.5248	.6506	7.1904	231.4521
.0165	32.1889	61.3375	.0200	.1414	.5248	.6506	8.3028	267.2578
.0165	32.1889	61.3375	.0250	.1581	.5248	.6506	9.2828	298.8033
.0165	32.1889	61.3375	.0300	.1732	.5248	.6506	10.1688	327.3227
.0165	32.1889	61.3375	.0350	.1871	.5248	.6506	10.9836	353.5489
.0165	32.1889	61.3375	.0400	.2000	.5248	.6506	11.7419	377.9596

EXHIBIT G

STREETS AND MAXIMUM RUNOFFS

STREET DESCRIPTION & LOCATION	MAXIMUM RUNOFFS (in c.f.s.)
Unit 1	
A. San Antonio Drive, N.E. - 48' f. to f.	77
B. Louisiana Blvd., N.E. - 48' f. to f.	185
C. A street 600' west of San Antonio & Wyoming (formerly Barstow) proceeding north, northwesterly, and westerly to a point 1620' north of Louisiana and San Antonio - 48' f. to f.	50
D. A street 1195' east of Louisiana & 178' north of San Antonio proceeding west, north, and northwest to a point 1068' north of San Antonio & 169' east of Louisiana - 32' f. to f.	37
Unit 2	
A. Wyoming Blvd., N.E. - 48' f. to f.	76
B. Street at easterly edge - 48' f. to f.	56
C. Street extending east-westerly about 2080' north of San Antonio at east edge to 1900' north of San Antonio on Wyoming (formerly Barstow) -32' f. to f.	76
D. Street running about 180' north of of North Arroyo Del Pino in an east-westerly direction from about 1950' east of Wyoming (formerly Barstow) and about 450' north of San Antonio - 32' f. to f.	89
Unit 3	
A. Street extending in an east-west direction from about 2450' north of San Antonio off Wyoming (formerly Barstow) to a connection with San Francisco - 40' f. to f.	591
B. Street leading from a point about 1890' north of San Antonio along Wyoming (formerly Barstow) to the	

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STREET DESCRIPTION & LOCATION	MAXIMUM RUNOFF (in c.f.s.)
B. cont.	
50' North Arroyo Del Pino easement about 180' east of Louisiana - 32' f. to f.	127
C. A street extending east from Pino Street at Louisiana to the arroyo at the west edge of the cemetery property - 32' face to face	586
Unit 4	
A. A street extending westerly from a 40' drainage easement about 1880' south of Los Angeles at the easterly boundary to a point on Wyoming (formerly Barstow) about 1900' south of Los Angeles - 32' f. to f.	60
B. A street extending from a point about 2600' north of San Antonio at the easterly boundary westerly to an unplatted tract about 1000' west of the east boundary and about 2650' north of San Antonio - 32' f. to f.	312

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REFERENCES

1. Quality in Environment by David A. Crane and Associates, February 1970.

2. Albuquerque Arroyos - Part I by Corp of Engineers, June 1970 and supplement.

3. Master Plan of Drainage-City of Albuquerque, N.M. and Environs by Gordon Herkenhoff and Associates, Consulting Engineers, 1963.

4. Design by Elwyn E. Seelye, Volume I, 2nd Edition, 1945.

