

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

March 24, 2017

Ron Hensley, P.E.
GND Engineering
11032 Dreamy Way Dr. NW
Albuquerque, NM, 87114

**RE: Coors Pavilion Subdivision
9154 Coors Blvd
Grading Plan
Engineer's Stamp Date: 2/22/2017
Hydrology File: G11D069**

Dear Mr. Hensley:

Based upon the information provided in your submittal received 2/27/17, the Grading Plan is approved for Grading Permit.

It is Hydrology's understanding that this Grading Plan is for grading of only the private access and pond improvements. No lots will be graded under this permit; individual lots will be required to submit grading and drainage plans separately.

If you have any questions, contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: _____ Building Permit #: _____ City Drainage #: _____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: _____

City Address: _____

Engineering Firm: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Owner: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: _____ By: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre that are part of a larger common plan of development



CONSULTING ENGINEERS

10224 Green River Place NW Albuquerque, New Mexico 87114
Phone: 505-264-0472
Email: segreer@swcp.com

February 23, 2017

Dana Peterson P.E.
Hydrology Development
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: G11D069 Coors Pavilion Subdivision – Master Grading and Drainage Plan

Mr. Peterson,

We have addressed your comments for the Coors Pavilion Subdivision. The revised Grading Plan is attached, and the drainage calculations are listed on the following pages.

Please contact me at 410-1622 or via email if you have any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Ron E. Hensley". The signature is written in a cursive, flowing style.

Ron E. Hensley P.E.
ron@thegroup.cc

AHYMO INPUT

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*
TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL TYPE=2 RAIN QUARTER=0.0
RAIN ONE=1.84 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.05 HRS
*****
*** Sub-BASIN D1 ****
COMPUTE NM HYD ID=1 HYD NO=LOTS89 DA=0.0222234 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=1 CODE=1
*** Sub-BASIN D2 ****
COMPUTE NM HYD ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=2 CODE=1
*** Sub-BASIN D3 ****
COMPUTE NM HYD ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=3 CODE=1
*** Sub-BASIN D4 ****
COMPUTE NM HYD ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=4 CODE=1
*** Sub-BASIN D5 ****
COMPUTE NM HYD ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=5 CODE=1
*** Sub-BASIN D6 ****
COMPUTE NM HYD ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=6 CODE=1
*** Sub-BASIN D7 ****
COMPUTE NM HYD ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=7 CODE=1
*** Sub-BASIN D8 ****
COMPUTE NM HYD ID=8 HYD NO=LOT7 DA=0.002116 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1
*****
PRINT HYD ID=8 CODE=1
*
*S Flow at SW Intersection (D1 + D8)
ADD HYD ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD ID=20 CODE=1
*
*S Add D6 (D6 + D5)
ADD HYD ID=21 HYD NO=20SUMB IDS=6 AND 7
PRINT HYD ID=21 CODE=1
*
*S Add D5 (D5 + 20SUMB)
ADD HYD ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD ID=22 CODE=1

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*
*S Add D4 (D4 + 20SUMC)
ADD HYD          ID=23 HYD NO=20SUMD  IDS=22 AND 4
PRINT HYD        ID=23 CODE=1
*
*S Add D2 (D3 + 20SUME)
ADD HYD          ID=24 HYD NO=20SUME  IDS=23 AND 3
PRINT HYD        ID=24 CODE=1
*
*S Add D2 for Total Street Flow (D2 + 20SUME)
ADD HYD          ID=25 HYD NO=20SUME  IDS=24 AND 2
PRINT HYD        ID=25 CODE=1
*
*S Add East and West for Total Site Flow (20SUME + 20SUMA)
ADD HYD          ID=31 HYD NO=301SUMA  IDS=25 AND 20
PRINT HYD        ID=31 CODE=1
*
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
COMPUTE NM HYD   ID=9 HYD NO=CHURCH DA=0.013240 SQ MI
                  PER A=100 PER B=0 PER C=0 PER D=0
                  TP=-0.1333 HR MASS RAIN=-1
                  *****
PRINT HYD        ID=9 CODE=1
*
*S Add for Total pond Inflow (CHURCH + 100TOT)
ADD HYD          ID=30 HYD NO=PONDIN  IDS=9 AND 31
PRINT HYD        ID=30 CODE=1
*
*
*****
ROUTE RESERVOIR  ID=40  HYD NO=PONDOUT  INFLOW=30  CODE=1
                  OUTFLOW(CFS)  STORAGE(AC-FT)  ELEV
                  0.0           0.0000          9.00
                  0.01          0.48            9.25
                  0.01          0.97            9.5
                  0.02          1.48            9.75
                  2.48          2.00            10.0
                  4.22          2.53            10.25
                  5.42          3.08            10.5
                  50.0          5.0000          11.0*
*****
*PRINT HYD      ID=40 CODE=1

FINISH

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AHYMO SUMMARY

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1	NOTATION
START											TIME= .00
RAINFALL TYPE= 2											RAIN24= 2.660
COMPUTE NM HYD	LOTS89	-	1	.02222	58.47	2.686	2.26606	1.500	4.111	PER IMP=	90.00
COMPUTE NM HYD	LOT1	-	2	.00159	4.20	.192	2.26606	1.500	4.126	PER IMP=	90.00
COMPUTE NM HYD	LOT2	-	3	.00115	3.03	.139	2.26606	1.500	4.131	PER IMP=	90.00
COMPUTE NM HYD	LOT3	-	4	.00141	3.72	.170	2.26606	1.500	4.127	PER IMP=	90.00
COMPUTE NM HYD	LOT4	-	5	.00157	4.13	.189	2.26606	1.500	4.126	PER IMP=	90.00
COMPUTE NM HYD	LOT5	-	6	.00110	2.90	.133	2.26606	1.500	4.131	PER IMP=	90.00
COMPUTE NM HYD	LOT6	-	7	.00182	4.80	.220	2.26606	1.500	4.123	PER IMP=	90.00
COMPUTE NM HYD	LOT7	-	8	.00212	5.58	.256	2.26606	1.500	4.121	PER IMP=	90.00
*S Flow at SW Intersection (D1 + D8)											
ADD HYD	20SUMA	1& 8	20	.02434	64.06	2.942	2.26603	1.500	4.112		
*S Add D6 (D7 + D6)											
ADD HYD	20SUMB	6& 7	21	.00292	7.70	.352	2.26585	1.500	4.126		
*S Add D5 (D5 + 20SUMB)											
ADD HYD	20SUMC	21& 5	22	.00448	11.83	.542	2.26584	1.500	4.126		
*S Add D4 (D4 + 20SUMC)											
ADD HYD	20SUMD	22& 4	23	.00589	15.55	.712	2.26585	1.500	4.126		
*S Add D2 (D3 + 20SUME)											
ADD HYD	20SUME	23& 3	24	.00704	18.58	.850	2.26583	1.500	4.127		
*S Add D2 for Total Street Flow (D2 + 20SUME)											
ADD HYD	20SUME	24& 2	25	.00863	22.78	1.042	2.26584	1.500	4.127		
*S Add East and West for Total Site Flow (20TOT + 10TOT)											
ADD HYD	301SUMA	25&20	31	.03296	86.84	3.984	2.26599	1.500	4.116		
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****											
COMPUTE NM HYD	CHURCH	-	9	.01324	10.90	.310	.43936	1.500	1.286	PER IMP=	.00
*S Add for Total pond Inflow (CHURCH + 100TOT)											
ADD HYD	PONDIN	9&31	30	.04620	97.73	4.294	1.74256	1.500	3.305		
ROUTE RESERVOIR	PONDOUT	30	40	.04620	5.28	2.810	1.14036	2.300	.179	AC-FT=	3.016 FINISH

AHYMO OUPUT

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*
START      TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL   TYPE=2 RAIN QUARTER=0.0
            RAIN ONE=1.87 IN RAIN SIX=2.20 IN
            RAIN DAY=2.66 IN DT=0.05 HRS

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COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0025	.0050	.0076	.0103	.0131	.0160
.0190	.0222	.0254	.0289	.0324	.0362	.0401
.0443	.0487	.0534	.0584	.0637	.0695	.0758
.0837	.0924	.1176	.1773	.2798	.4384	.6668
.9790	1.2253	1.3366	1.4295	1.5109	1.5836	1.6495
1.7096	1.7648	1.8156	1.8624	1.9057	1.9458	1.9548
1.9631	1.9708	1.9780	1.9848	1.9912	1.9973	2.0031
2.0087	2.0140	2.0191	2.0240	2.0287	2.0333	2.0377
2.0420	2.0462	2.0502	2.0542	2.0580	2.0617	2.0653
2.0689	2.0724	2.0757	2.0791	2.0823	2.0855	2.0886
2.0916	2.0946	2.0976	2.1005	2.1033	2.1061	2.1088
2.1115	2.1142	2.1168	2.1193	2.1219	2.1244	2.1268
2.1293	2.1316	2.1340	2.1363	2.1386	2.1409	2.1431
2.1453	2.1475	2.1497	2.1518	2.1539	2.1560	2.1580
2.1601	2.1621	2.1641	2.1660	2.1680	2.1699	2.1718
2.1737	2.1756	2.1774	2.1793	2.1811	2.1829	2.1847
2.1864	2.1882	2.1899	2.1916	2.1933	2.1950	2.1967
2.1984	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020
2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990
2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893

2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

* *****
*

*** Sub-BASIN D1 ***

COMPUTE NM HYD ID=1 HYD NO=LOTS89 DA=0.0222234 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 78.965 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.8700
AREA = .020001 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = 5.9129 CFS UNIT VOLUME = .9991 B = 354.67 P60 = 1.8700
AREA = .002222 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA LOTS89

RUNOFF VOLUME = 2.26606 INCHES = 2.6858 ACRE-FEET
PEAK DISCHARGE RATE = 58.47 CFS AT 1.500 HOURS BASIN AREA = .0222 SQ. MI.

*
*** Sub-BASIN D2 ***

COMPUTE NM HYD ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.6461 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001430 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .42278 CFS UNIT VOLUME = .9701 B = 354.67 P60 = 1.8700
AREA = .000159 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA LOT1

RUNOFF VOLUME = 2.26606 INCHES = .1920 ACRE-FEET
PEAK DISCHARGE RATE = 4.20 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*

*** Sub-BASIN D3 ***

COMPUTE NM HYD ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.0791 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.8700
AREA = .001033 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .30545 CFS UNIT VOLUME = .9600 B = 354.67 P60 = 1.8700
AREA = .000115 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA LOT2

RUNOFF VOLUME = 2.26606 INCHES = .1387 ACRE-FEET
PEAK DISCHARGE RATE = 3.03 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*
*** Sub-BASIN D4 ***

COMPUTE NM HYD ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.9994 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001266 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .37436 CFS UNIT VOLUME = .9654 B = 354.67 P60 = 1.8700
AREA = .000141 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA LOT3

RUNOFF VOLUME = 2.26606 INCHES = .1700 ACRE-FEET
PEAK DISCHARGE RATE = 3.72 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*
*** Sub-BASIN D5 ***

COMPUTE NM HYD ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.5608 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001409 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .41640 CFS UNIT VOLUME = .9701 B = 354.67 P60 = 1.8700
AREA = .000157 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

```

*
*****
PRINT HYD          ID=5 CODE=1

                      HYDROGRAPH FROM AREA LOT4

RUNOFF VOLUME =      2.26606 INCHES      =      .1891 ACRE-FEET
PEAK DISCHARGE RATE =      4.13 CFS AT    1.500 HOURS    BASIN AREA =    .0016 SQ. MI.

*
*** Sub-BASIN D6 ****
COMPUTE NM HYD      ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
                    PER A=0 PER B=5 PER C=5 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1

K = .072649HR    TP = .133300HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.8979 CFS    UNIT VOLUME = .9966    B = 526.28    P60 = 1.8700
AREA = .000987 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR    TP = .133300HR    K/TP RATIO = .888442    SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .29188 CFS    UNIT VOLUME = .9600    B = 354.67    P60 = 1.8700
AREA = .000110 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*
*****
PRINT HYD          ID=6 CODE=1

                      HYDROGRAPH FROM AREA LOT5

RUNOFF VOLUME =      2.26606 INCHES      =      .1326 ACRE-FEET
PEAK DISCHARGE RATE =      2.90 CFS AT    1.500 HOURS    BASIN AREA =    .0011 SQ. MI.

*
*** Sub-BASIN D7 ****
COMPUTE NM HYD      ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
                    PER A=0 PER B=5 PER C=5 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1

K = .072649HR    TP = .133300HR    K/TP RATIO = .545000    SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.4634 CFS    UNIT VOLUME = .9975    B = 526.28    P60 = 1.8700
AREA = .001637 SQ MI    IA = .10000 INCHES    INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR    TP = .133300HR    K/TP RATIO = .888442    SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .48398 CFS    UNIT VOLUME = .9742    B = 354.67    P60 = 1.8700
AREA = .000182 SQ MI    IA = .42500 INCHES    INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*
*****
PRINT HYD          ID=7 CODE=1

                      HYDROGRAPH FROM AREA LOT6

RUNOFF VOLUME =      2.26606 INCHES      =      .2198 ACRE-FEET
PEAK DISCHARGE RATE =      4.80 CFS AT    1.500 HOURS    BASIN AREA =    .0018 SQ. MI.

*
*** Sub-BASIN D8 ****
COMPUTE NM HYD      ID=8 HYD NO=LOT7 DA=0.002116 SQ MI

```

Coors Pavilion Master Drainage Plan

PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.5187 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.8700
AREA = .001904 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .56300 CFS UNIT VOLUME = .9777 B = 354.67 P60 = 1.8700
AREA = .000212 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=8 CODE=1

HYDROGRAPH FROM AREA LOT7

RUNOFF VOLUME = 2.26606 INCHES = .2557 ACRE-FEET
PEAK DISCHARGE RATE = 5.58 CFS AT 1.500 HOURS BASIN AREA = .0021 SQ. MI.

*
*
*S Flow at SW Intersection (D1 + D8)
ADD HYD ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA 20SUMA

RUNOFF VOLUME = 2.26603 INCHES = 2.9415 ACRE-FEET
PEAK DISCHARGE RATE = 64.06 CFS AT 1.500 HOURS BASIN AREA = .0243 SQ. MI.

*
*S Add D6 (D7 + D6)
ADD HYD ID=21 HYD NO=20SUMB IDS=6 AND 7
PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA 20SUMB

RUNOFF VOLUME = 2.26585 INCHES = .3524 ACRE-FEET
PEAK DISCHARGE RATE = 7.70 CFS AT 1.500 HOURS BASIN AREA = .0029 SQ. MI.

*
*S Add D5 (D5 + 20SUMB)
ADD HYD ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD ID=22 CODE=1

HYDROGRAPH FROM AREA 20SUMC

RUNOFF VOLUME = 2.26584 INCHES = .5415 ACRE-FEET
PEAK DISCHARGE RATE = 11.83 CFS AT 1.500 HOURS BASIN AREA = .0045 SQ. MI.

*
*S Add D4 (D4 + 20SUMC)
ADD HYD ID=23 HYD NO=20SUMD IDS=22 AND 4
PRINT HYD ID=23 CODE=1

HYDROGRAPH FROM AREA 20SUMD

Coors Pavilion Master Drainage Plan

RUNOFF VOLUME = 2.26585 INCHES = .7115 ACRE-FEET
PEAK DISCHARGE RATE = 15.55 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*

*S Add D2 (D3 + 20SUME)
ADD HYD ID=24 HYD NO=20SUME IDS=23 AND 3
PRINT HYD ID=24 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26583 INCHES = .8503 ACRE-FEET
PEAK DISCHARGE RATE = 18.58 CFS AT 1.500 HOURS BASIN AREA = .0070 SQ. MI.

*

*S Add D2 for Total Street Flow (D2 + 20SUME)
ADD HYD ID=25 HYD NO=20SUME IDS=24 AND 2
PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26584 INCHES = 1.0423 ACRE-FEET
PEAK DISCHARGE RATE = 22.78 CFS AT 1.500 HOURS BASIN AREA = .0086 SQ. MI.

*

*S Add East and West for Total Site Flow (20TOT + 10TOT)
ADD HYD ID=31 HYD NO=301SUMA IDS=25 AND 20
PRINT HYD ID=31 CODE=1

HYDROGRAPH FROM AREA 301SUMA

RUNOFF VOLUME = 2.26599 INCHES = 3.9838 ACRE-FEET
PEAK DISCHARGE RATE = 86.84 CFS AT 1.500 HOURS BASIN AREA = .0330 SQ. MI.

*

*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
COMPUTE NM HYD ID=9 HYD NO=CHURCH DA=0.013240 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=-0.1333 HR MASS RAIN=-1

K = .163684HR TP = .133300HR K/TP RATIO = 1.227936 SHAPE CONSTANT, N = 2.899764
UNIT PEAK = 27.170 CFS UNIT VOLUME = .9978 B = 273.54 P60 = 1.8700
AREA = .013240 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*

PRINT HYD ID=9 CODE=1

HYDROGRAPH FROM AREA CHURCH

RUNOFF VOLUME = .43936 INCHES = .3102 ACRE-FEET
PEAK DISCHARGE RATE = 10.90 CFS AT 1.500 HOURS BASIN AREA = .0132 SQ. MI.

*

*S Add for Total pond Inflow (CHURCH + 100TOT)
ADD HYD ID=30 HYD NO=PONDIN IDS=9 AND 31

Coors Pavilion Master Drainage Plan

PRINT HYD

ID=30 CODE=1

HYDROGRAPH FROM AREA PONDIN

RUNOFF VOLUME = 1.74256 INCHES = 4.2940 ACRE-FEET
 PEAK DISCHARGE RATE = 97.73 CFS AT 1.500 HOURS BASIN AREA = .0462 SQ. MI.

```

*
*
*****
ROUTE RESERVOIR      ID=40  HYD NO=PONDOUT  INFLOW=30  CODE=1
                      OUTFLOW(CFS)    STORAGE(AC-FT)    ELEV
                      0.0            0.0000            9.00
                      0.01           0.48             9.25
                      0.01           0.97             9.5
                      0.02           1.48             9.75
                      2.48           2.00            10.0
                      4.22           2.53            10.25
                      5.42           3.08            10.5
                      50.0           5.0000            11.0
* * * * *
    
```

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	10.30	.000	.00
1.40	57.39	9.20	.383	.01
1.45	85.03	9.50	.970	.01
1.50	97.73	9.54	1.055	.01
1.55	86.48	9.73	1.436	.02
1.60	67.50	9.88	1.751	1.30
1.65	53.20	10.00	1.993	2.45
1.70	43.91	10.09	2.182	3.08
1.75	37.78	10.16	2.337	3.59
1.80	33.27	10.22	2.468	4.02
1.85	29.59	10.27	2.581	4.33
1.90	26.52	10.32	2.678	4.54
1.95	23.98	10.36	2.763	4.73
2.00	21.85	10.39	2.838	4.89
2.05	19.61	10.42	2.903	5.03
2.10	15.35	10.44	2.955	5.15
2.15	10.90	10.46	2.987	5.22
2.20	8.09	10.47	3.005	5.26
2.25	6.43	10.47	3.013	5.27
2.30	5.39	10.47	3.016	5.28
2.35	4.63	10.47	3.015	5.28
2.40	4.00	10.47	3.011	5.27
2.45	3.48	10.47	3.005	5.26
2.50	3.05	10.46	2.996	5.24
2.55	2.68	10.46	2.987	5.22
2.60	2.37	10.45	2.976	5.19
2.65	2.11	10.45	2.963	5.17
2.70	1.88	10.44	2.950	5.14
2.75	1.70	10.43	2.937	5.11
2.80	1.54	10.43	2.922	5.08
2.85	1.41	10.42	2.907	5.04
2.90	1.29	10.41	2.892	5.01
2.95	1.18	10.41	2.877	4.98
3.00	1.09	10.40	2.861	4.94
3.05	1.01	10.39	2.845	4.91
3.10	.94	10.39	2.829	4.87
3.15	.88	10.38	2.813	4.84
3.20	.84	10.37	2.796	4.80
3.25	.80	10.36	2.780	4.76
3.30	.75	10.36	2.763	4.73
3.35	.72	10.35	2.747	4.69
3.40	.69	10.34	2.731	4.66
3.45	.67	10.33	2.714	4.62

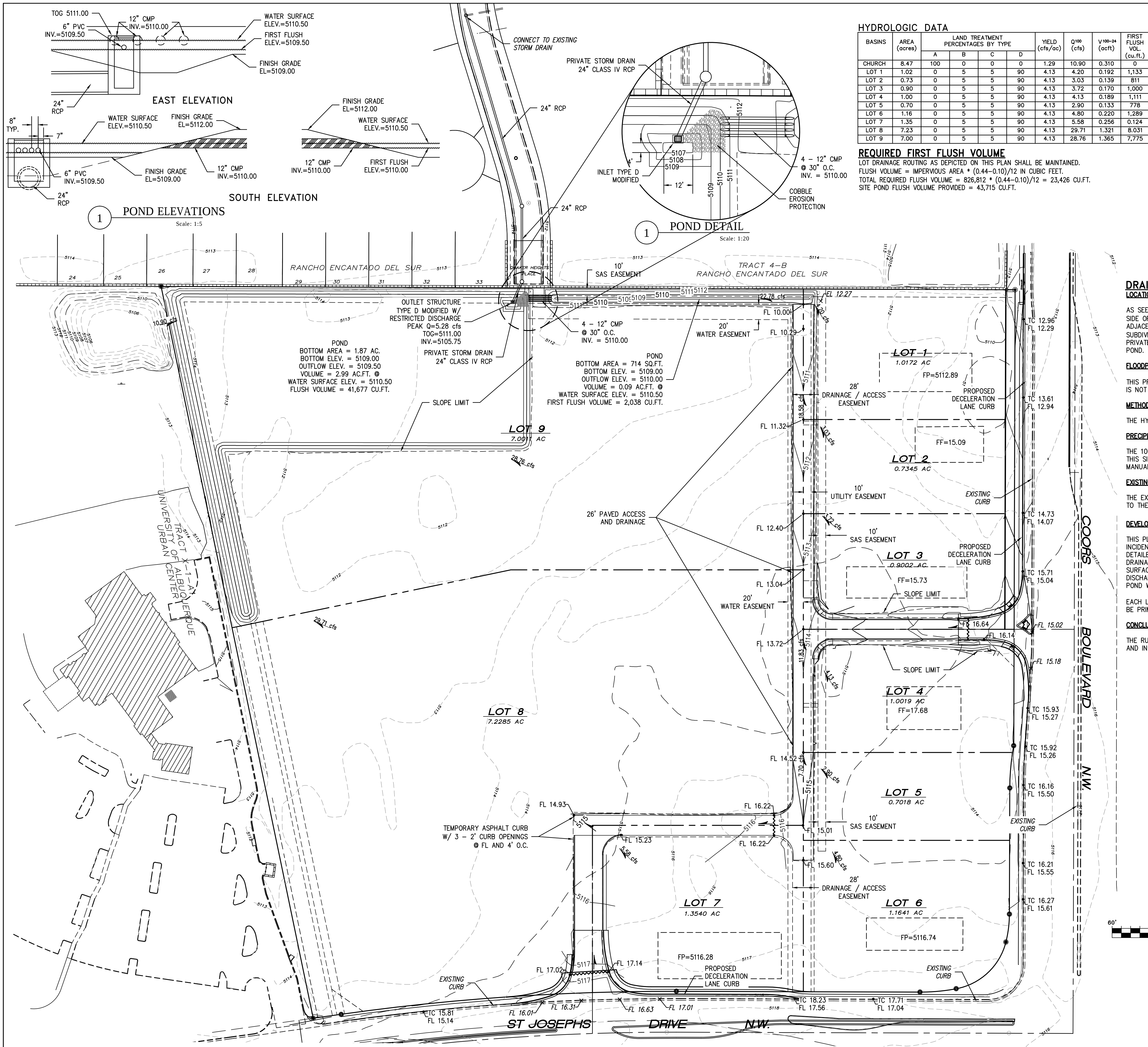
Coors Pavilion Master Drainage Plan

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
3.50	.64	10.33	2.698	4.59
3.55	.62	10.32	2.682	4.55
3.60	.60	10.31	2.665	4.52
3.65	.59	10.30	2.649	4.48
3.70	.58	10.30	2.633	4.45
3.75	.56	10.29	2.617	4.41
3.80	.55	10.28	2.601	4.38
3.85	.54	10.28	2.586	4.34
3.90	.53	10.27	2.570	4.31
3.95	.53	10.26	2.554	4.27
4.00	.52	10.25	2.539	4.24
4.05	.51	10.25	2.524	4.20
4.10	.51	10.24	2.509	4.15
4.15	.51	10.23	2.494	4.10
4.20	.50	10.23	2.479	4.05
4.25	.50	10.22	2.464	4.00
4.30	.49	10.21	2.450	3.96
4.35	.49	10.21	2.436	3.91
4.40	.49	10.20	2.422	3.86
4.45	.49	10.19	2.408	3.82
4.50	.49	10.19	2.394	3.77
4.55	.49	10.18	2.381	3.73
4.60	.49	10.17	2.367	3.69
4.65	.49	10.17	2.354	3.64
4.70	.50	10.16	2.341	3.60
4.75	.49	10.15	2.329	3.56
4.80	.49	10.15	2.316	3.52
4.85	.50	10.14	2.304	3.48
4.90	.50	10.14	2.291	3.44
4.95	.50	10.13	2.279	3.40
5.00	.51	10.13	2.267	3.36
5.05	.51	10.12	2.256	3.32
5.10	.51	10.12	2.244	3.28
5.15	.52	10.11	2.233	3.24
5.20	.52	10.10	2.222	3.21
16.20	.44	9.80	1.590	.54
16.25	.44	9.80	1.589	.54
16.30	.44	9.80	1.589	.54
16.35	.44	9.80	1.588	.53
16.40	.44	9.80	1.588	.53
16.45	.44	9.80	1.588	.53
16.50	.44	9.80	1.587	.53
16.55	.44	9.80	1.587	.53
16.60	.44	9.80	1.587	.52
16.65	.44	9.80	1.586	.52
16.70	.43	9.80	1.586	.52
16.75	.44	9.80	1.586	.52
16.80	.44	9.80	1.585	.52
16.85	.43	9.80	1.585	.52
16.90	.43	9.80	1.585	.51
16.95	.43	9.80	1.584	.51
17.00	.43	9.80	1.584	.51
17.05	.43	9.80	1.584	.51
17.10	.43	9.80	1.583	.51
17.15	.43	9.80	1.583	.51
17.20	.43	9.80	1.583	.51
17.25	.43	9.80	1.582	.50
17.30	.43	9.80	1.582	.50
17.35	.42	9.80	1.582	.50
17.40	.42	9.80	1.581	.50
17.45	.42	9.80	1.581	.50
17.50	.42	9.80	1.581	.50
17.55	.42	9.80	1.580	.50
17.60	.42	9.80	1.580	.49
17.65	.42	9.80	1.580	.49
17.70	.42	9.80	1.580	.49

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
17.75	.42	9.80	1.579	.49
17.80	.42	9.80	1.579	.49
17.85	.42	9.80	1.579	.49
17.90	.42	9.80	1.578	.49
17.95	.41	9.80	1.578	.48
18.00	.41	9.80	1.578	.48
24.00	.34	9.79	1.555	.37
25.00	.00	9.78	1.533	.27
26.00	.00	9.77	1.514	.18
27.00	.00	9.76	1.502	.12
28.00	.00	9.76	1.493	.08
29.00	.00	9.75	1.488	.06

PEAK DISCHARGE = 5.280 CFS - PEAK OCCURS AT HOUR 2.30
MAXIMUM WATER SURFACE ELEVATION = 10.471
MAXIMUM STORAGE = 3.0159 AC-FT INCREMENTAL TIME= .050000HRS

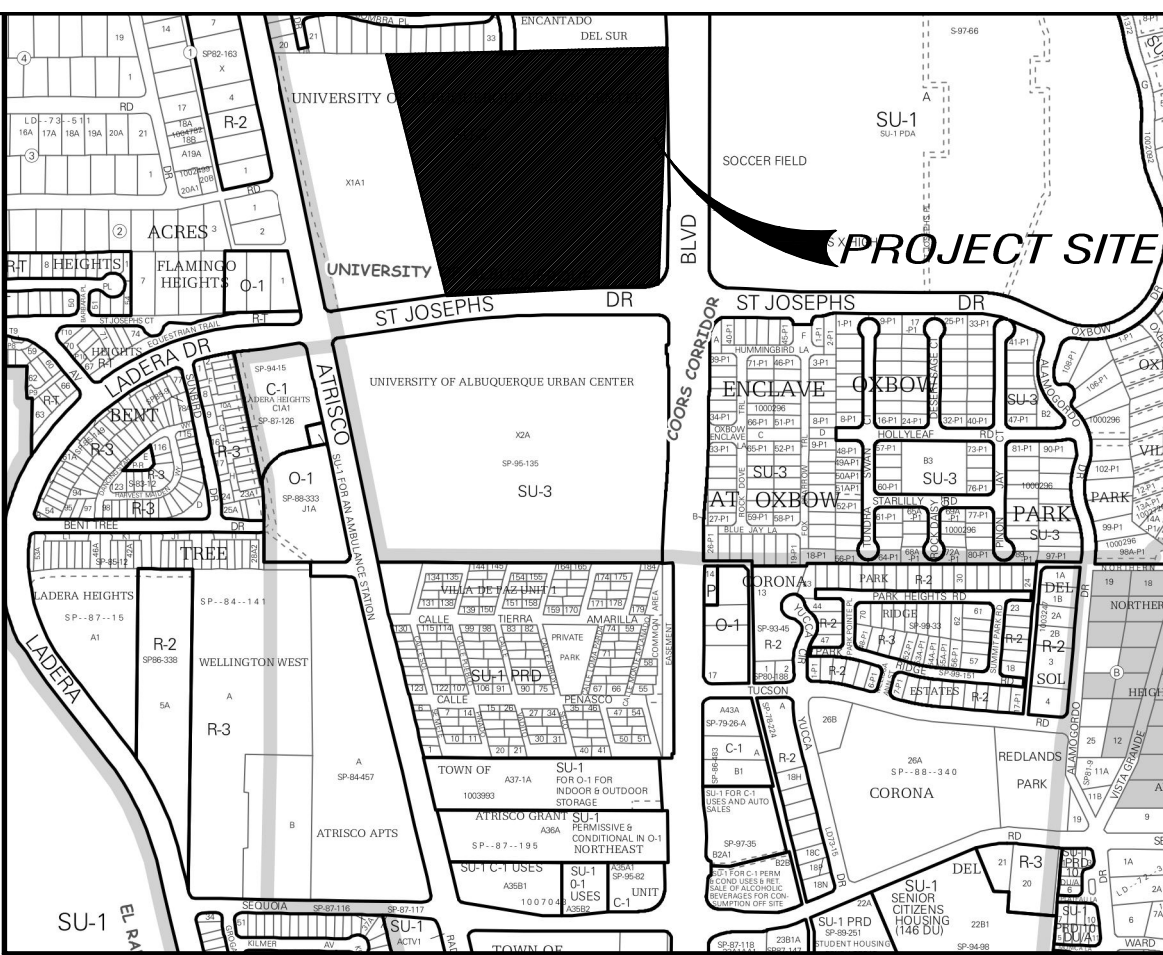
* *****
*PRINT HYD ID=40 CODE=1
*
*
*
FINISH



HYDROLOGIC DATA

BASINS	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/acre)	Q ₁₀₀ (cfs)	V ₁₀₀₋₂₄ (acft)	FIRST FLUSH VOL. (cu.ft.)
		A	B	C	D				
CHURCH	8.47	100	0	0	0	1.29	10.90	0.310	0
LOT 1	1.02	0	5	5	90	4.13	4.20	0.192	1,133
LOT 2	0.73	0	5	5	90	4.13	3.03	0.139	811
LOT 3	0.90	0	5	5	90	4.13	3.72	0.170	1,000
LOT 4	1.00	0	5	5	90	4.13	4.13	0.189	1,111
LOT 5	0.70	0	5	5	90	4.13	2.90	0.133	778
LOT 6	1.16	0	5	5	90	4.13	4.80	0.220	1,289
LOT 7	1.35	0	5	5	90	4.13	5.58	0.256	0,124
LOT 8	7.23	0	5	5	90	4.13	29.71	1.321	8,031
LOT 9	7.00	0	5	5	90	4.13	28.76	1.365	7,775

REQUIRED FIRST FLUSH VOLUME
LOT DRAINAGE ROUTING AS DEPICTED ON THIS PLAN SHALL BE MAINTAINED.
FLUSH VOLUME = IMPERVIOUS AREA * (0.44-0.10)/12 IN CUBIC FEET.
TOTAL REQUIRED FLUSH VOLUME = 826,812 * (0.44-0.10)/12 = 23,426 CU.FT.
SITE POND FLUSH VOLUME PROVIDED = 43,715 CU.FT.



DRAINAGE INFORMATION
LOCATION & DESCRIPTION

AS SEEN ON THE VICINITY MAP, THE PROPOSED SITE IS 21.22 ACRES LOCATED ON THE SOUTH SIDE OF ST JOSEPH'S DRIVE AND WEST OF COORS BLVD. THE SITE IS UNDEVELOPED. THE ADJACENT PROPERTY TO THE WEST IS A CHURCH AND TO THE NORTH IS A RESIDENTIAL SUBDIVISION. THE PROPOSED DEVELOPMENT WILL BE EIGHT (8) OFFICE AND COMMERCIAL LOTS WITH PRIVATE DRAINAGE FEATURES AND PUBLIC STORM DRAIN TO CONVEY FLOWS TO THE LADERA POND.

FLOODPLAIN STATUS

THIS PROJECT WITHIN FEMA'S FLOOD INSURANCE RATE MAP 35001C0142H, DATED APRIL 2, 2002 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN.

METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING AHYMO SOFTWARE.

PRECIPITATION

THE 100-YR 24-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 1 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

EXISTING DRAINAGE

THE EXISTING FLOW CONDITIONS FROM THE SITE DISCHARGE ARE DETAINED ONSITE WITH OVERFLOW TO THE NORTH OF THE SITE.

DEVELOPED CONDITION

THIS PLAN IS IN SUPPORT OF THE GRADING OF THE SUBDIVISION IMPROVEMENTS. ONLY GRADING INCIDENTAL TO THAT PURPOSE IS PROPOSED. GRADING PLANS FOR LOT DEVELOPMENT WILL BE DETAILED UNDER SEPARATE PLANS. THE SITE WILL BE DEVELOPED WITH AN ACCESS AND DRAINAGE EASEMENT TO INTERCEPT FLOW FROM LOT 1 THROUGH LOT 6. THE ASPHALT DRIVE SURFACE WILL CONVEY FLOW TO THE ONSITE DETENTION POND. LOT 7 THROUGH LOT 9 WILL DISCHARGE TO THE POND VIA SURFACE SHEET FLOW. THE RESTRICTED DISCHARGE FROM THE POND WILL HAVE MINIMAL IMPACT ON DOWNSTREAM FACILITIES.

EACH LOT WILL MAKE ACCOMMODATION FOR WATER QUALITY. HOWEVER, THE "FIRST FLUSH" WILL BE PRIMARILY RETAINED WITHIN THE VOLUME OF THE SUBDIVISION POND.

CONCLUSION

THE RUNOFF FROM THE SITE IS WITHIN THE DESIGN CAPACITY OF THE DOWNSTREAM FACILITIES AND IN COMPLIANCE WITH CITY REQUIREMENTS.

LEGEND

- 8.85 TOP OF CURB ELEVATION
- 9.38 BOTTOM OF CURB ELEVATION
- FLOW ARROW
- SLOPE ARROW
- EL=11.28 PROPOSED ELEVATION
- 66.33 EXISTING ELEVATION
- GRADE BREAK
- 5000 PROPOSED CONTOUR
- 5000 EXISTING CONTOUR
- PROPOSED EASEMENT
- EXISTING WALL
- PROP. LINE / BASIN BOUNDARY

GND, LLC

Albuquerque, NM 87114
Phone: (505) 364-0472

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP
COORS PAVILION
MASTER DRAINAGE PLAN
SITE GRADING & DRAINAGE

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	Mo./DAY/YR.	Mo./DAY/YR.
CITY PROJECT No.	ZONE MAP No.	SHEET	OF
	K-09-Z	1	1

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