

**Master Development Drainage Plan (MDDP) and Preliminary
Drainage Plan and Report for
Signature Point at Garden of the Gods Club Filing No. 1**

November, 2011

Prepared for:

Sunrise Company

Colorado Springs, CO 80904

Prepared by:

Rockwell Consulting, Inc.
1955 N. Union, Suite 200
Colorado Springs, CO 80909
475-2575

Project #07-076

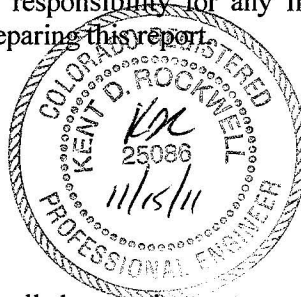
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DRAINAGE PLAN STATEMENTS

ENGINEER'S STATEMENT

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the City/County for drainage reports and said report is in conformity with the master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Kent D. Rockwell, P.E.
Kent D. Rockwell, P.E.



DEVELOPER'S STATEMENT

I, the developer, have read and will comply with all the requirements specified in this drainage report and plan.

Garden of the Gods Club LLC

BY: Dirk Gosda DATE 11/14/11
Dirk Gosda

TITLE: President, Sunrise GGC Management LLC, Manager

ADDRESS: 3310 Mesa Road, Suite #150
Colorado Springs, CO 80904

CITY OF COLORADO SPRINGS

Filed in accordance with Section 7-7-906 of the code of the City of Colorado Springs, 2001, as amended.

A.B. Kuehls
For: CITY ENGINEER DATE 11/21/11

**Master Development Drainage Plan (MDDP) and Preliminary
Drainage Plan and Report for
Signature Point at Garden of the Gods Club Filing No. 1**

GENERAL LOCATION AND DESCRIPTION

The Signature Point at Garden of the Gods Club Filing No. 1 comprises approximately 5.75 total acres just southeast of Kissing Camels Drive and west of the existing Kissing Camels Golf Course Clubhouse. Approximately 4.15 acres of this development consists of a previously developed area consisting of several small cottages. The other 1.60 acres consist of existing golf course areas which will be converted to single-family residential lots. Signature Point will consist of 17 lots with a street down the middle of the proposed lots.

The site is bound on the northwest by existing golf course holes and Kissing Camels Drive, on the east and southeast by additional golf holes and the existing clubhouse, and on the west and southwest by an existing patio home development. The site lies within the northwest quarter of Section 35, Township 13 South, Range 67 West of the 6th P.M., El Paso County, Colorado (see Figure 1).

Tributary areas consisting of existing golf course, existing residential homes and a few proposed residential homes lay to the northwest of this proposed development. Any potential future development anticipated within the upstream tributary areas is accounted for in this report to accommodate any increased flows across the subject Signature Point 2 development. The entire Signature Point site lies within the Mesa Drainage Basin and will be developed as single-family residential lots. Existing ground cover consists of native grasses and vegetation.

REFERENCES

1. Camp Creek Drainage Study (October, 1964), prepared by United Western Engineers, Colorado Springs, CO.
2. Preliminary and Final Drainage Study for Courtyards at Kissing Camels Estates Filing No. 1, Filing No. 2 and Filing No. 3, prepared by KLH Engineering, Inc., February, 1993.
3. Master Development Drainage Plan (MDDP) for Hill Properties, prepared by Rockwell Minchow Consultants, Inc., October, 1995.
4. Master Plan for Mesa Drainage Basin Planning Study, prepared by GMS, revised March, 1986.

SOILS

According to the US Department of Agriculture Soil Conservation Services Soil Survey of El Paso County, Garden of the Gods Club Estates Filing No. 2 is underlain by the Ascalon Series (Soil 3) which is classified as a Hydrologic Group "B" soil.

Hydrologic Group "B" was used for runoff calculation purposes.

FLOOD PLAIN STATEMENT

According to the Federal Emergency Management Agency (FEMA), as depicted on Flood Insurance Rate Map (FIRM) 08041CO513 F (March 1997), no portion of this site lies within a designated Flood Plain. See map in Appendix.

DRAINAGE DESIGN CRITERIA

The current City of Colorado Springs and El Paso County Drainage Criteria was used in the preparation of this report. The Rational Method was used to determine the runoff quantities affecting Signature Point, as required for basins containing less than 100 acres. Peak runoff was determined for both the 5 year and 100 year frequency storms.

The Master Development Drainage Plan for Hill Properties (Hill MDDP), prepared in October, 1995, was utilized as a guideline for the drainage analysis of the subject development. The Hill MDDP utilized the SCS Method for basins larger than 100 acres, therefore, flows rates may vary due to the different methodologies, but the drainage patterns remain basically the same. (The Rational Methodology typically results in higher flows.)

The proposed Signature Point area basically consists of the same area as the previously proposed Courtyards Phase III proposed development area with Signature Point being approximately 1 acre larger. The Courtyards Phase III drainage report, approved in March, 1993 was also utilized in the preparation of this report.

HISTORIC DRAINAGE ANALYSIS

The following is a description of the historic tributary areas affecting the proposed Signature Point development. Exhibits 1 and 2 depict these historic basins. These tributary areas are located to the northwest of the proposed Signature Point development. Several areas not tributary to the site are also described within this report to show those areas are not tributary to the proposed development, and therefore, do not affect the Signature Point site.

Historic Basin V-H1 consists mainly of the golf course area northwest of this parcel and includes the rear portion of lots along the golf course north of Kissing Camels Drive. This 25.28 acre basin generates flows of 14.8 cfs during the 5 year storm and 50.1 cfs during the 100 year storms. These flows reach an existing 28"x20" CMP under Kissing Camels Drive.

Basin V-H2 is located along the north side of Kissing Camels Drive. Runoff rates of $Q_5 = 3.8$ cfs and $Q_{100} = 14.0$ cfs are generated from this 4.23 acre basin. These flows along with the flows from Basin D-H5 flow within a roadside swale along the north side of Kissing Camels Drive to the existing 28"x20" CMP under Kissing Camels Drive.

Basin V-H3 consists of an existing subdivision called Fairways at Kissing Camels Filing No. 2. Approximately, 16 acres of the southern portion of this development drains southerly to an existing low point within the cul-de-sac at the south end of this development. Flow rates of $Q_5 = 17.3$ cfs and $Q_{100} = 39.4$ cfs are collected and piped within a 24" RCP onto the golf course. These flows combine with the flows generated from Basin V-H1, VH2 and D-H5.

Historic Basin D-H5, located along the north side of Kissing Camels Drive, consists of an additional 0.51 acres which generates additional flows of 0.7 cfs during the 5 year storm and 1.5 cfs during the 100 year storm.

Total flows rates of $Q_5 = 26.2$ cfs and $Q_{100} = 78.8$ cfs from Basins V-H1, V-H2, V-H3 and D-H5 reach the existing 28" x 20" CMP under Kissing Camels Drive (Design Point #1H). According to the Courtyards Final Drainage Report, "the inlet condition on the CMP pipe allows approximately 35 cfs to enter the pipe and the remaining flows cross the road onto this site...". That will remain the condition until such time that additional development is done upstream of this existing pipe at which time the tributary area reaching this pipe will be restudied.

Tributary W areas are located along the north side of Kissing Camels Drive and west of the subject parcel. These areas are not tributary to the proposed Garden of the Gods Estates Filing No. 2 parcel, but contribute flows to a system just southwest of the subject parcel which discharge flows downstream of Filing No. 2. The following descriptions of these basins are for information only to describe the routing of the flows generated from this area and to show flows are not contributing to the Garden of the Gods Estates Filing No. 2 site.

Two ponds exist within this Tributary W area. One is located approximately 2,100 feet north of Kissing Camels Drive and east of Hill Circle. A second existing detention is located just upstream of Kissing Camels Drive. Three lots may possible be developed in the future within this contributing area W. If so, the existing pond just north of Kissing Camels Drive may have to be modified to accommodate any future lot development.

Basin W-HO is a general existing drainage basin located along Hill Circle in the northwest area of Kissing Camels. Flows generated from this area reach the existing northerly detention pond. An existing 42" RCP outfall pipe acts as the outfall from this pond conveying approximate flows of 36 cfs during the 5 year storm and 73 cfs during the 100 year storm.

Historic Basin W-H1 consists of approximately 14.77 acres of golf course area and the rear portions of several existing lots abutting the golf course. This basin generates flows of 10.2 cfs during the 5 year storm and 37.4 cfs during the 100 year storm. These flows reach an existing detention pond just north of Kissing Camels Drive. Flow is released from this pond via an existing swale to the roadside swale along the north side of Kissing Camels Drive.

Basin W-H2 consists of 18.59 acres along both side of Lyda Lane. Runoff rates of $Q_5 = 20.1$ cfs and $Q_{100} = 47.0$ cfs generated from this basin flow southeasterly within Lyda Lane and enter a roadside swale along the northwest side of Kissing Camels Drive and reach an existing grated inlet along the north side of Kissing Camels Drive.

Basin W-H3 consists of an additional 2.69 acres northeast of Kissing Camels Drive. Flow rates of 2.4 cfs during the 5 year storm and 7.7 cfs during the 100 year storm are generated from this basin. These flows combine with the flows generated from Basin W-H2 also reaching the existing grated inlet.

All these flows reach an existing 35" x 24" pipe under Kissing Camels Drive. Flow rates of $Q_5 = 30.0$ cfs and $Q_{100} = 89.2$ cfs reach Design Point #2H from Basins W-H1, W-H2 and W-H3 (undetained flows). Any future increase in flows from this area due to the development of a few lots in this area will be accounted for by enlarging the existing detention pond when it is relocated to accommodate the proposed 3 residential lots. In the event, Parcel W is not developed, the

historic flows will remain as is. More detailed drainage reports will be provided when Parcel W is developed.

According to the Kissing Camels MDDP, flow rates of $Q_5 = 39$ cfs and $Q_{100} = 100$ cfs enter the southernmost of these 2 ponds. Release rates from this pond are 22 cfs during the 5 year storm and 64 cfs during the 100 year storm.

The subject parcel being developed into Signature Point, currently consists of the existing cottages just southeast of Kissing Camels Drive and additional acreage to the north of the existing cottages. The historic drainage basins for the area to be developed as Signature Point are designated as "U" basins.

Historic Basin U-H1 consists of 1.77 acres between Kissing Camels Drive and the existing cottages. Flow rates of $Q_5 = 1.9$ cfs and $Q_{100} = 5.8$ cfs are generated from this 1.77 acre basin. These flows reach the existing Stag Leap cul-de-sac and flow southeasterly as street flows.

Basin U-H2 generates additional flows of 1.3 cfs and 5.1 cfs during the 5 year and 100 year storms, respectively. These flows reach an existing swale along the west side of the existing cottages, also reaching the Stag Leap cul-de-sac.

Approximately 1.22 acres of the existing courtyard area comprises Basin U-H3. Runoff rates of $Q_5 = 2.9$ cfs and $Q_{100} = 6.5$ cfs generated from this basin reach Alder Point. These runoff rates flow within Alder Point southeasterly toward Stags Leap to two (2) existing sump inlets. This is consistent with the Preliminary and Final Drainage Reports for "Courtyards at Kissing Camels Estates Filing No. 1, Filing No. 2 and Filing No. 3." These flows currently combine with the flows generated from the historic "W" basins and are conveyed easterly within an existing 36" RCP. These flows discharge onto the golf course.

Historic Basin U-H4 consists of the existing golf course north of Parcel U and a few of the cottages. This 15.60 acre basin generates flows of 9.7 cfs during the 5 year storm and 24.1 cfs during the 100 year storm. These flows sheet flow across the golf course to the southeast.

X-H1 consists of the existing Courtyard Filing No. 1 and 2 and has been fully developed. Runoff rates of 9.9 cfs and 21.7 cfs are generated from this basin during the 5 and 100 year storms, respectively. These flows along with the flows from Basins W-H1, W-H2 and W-H3 are piped into the golf course via an existing 36" RCP. The flows reaching Design Point #3H are $Q_5 = 40.1$ cfs and $Q_{100} = 114.6$ cfs.

According to the Courtyards at Kissing Camels Estates Drainage Report, flows exiting this pipe are approximately $Q_5 = 50$ cfs and $Q_{100} = 100$ cfs.

Based on calculations in this report, the flows from Basins V-H1, V-H2, V-H3, D-H5, W-H1, W-H2, W-H3, U-H1, U-H2, U-H3, U-H4, and X-H1 are 83.8 cfs and 189 cfs during the 5 year and 100 year storms, respectively (Design Point #4H). These flows continue southerly within an existing shallow swale through the middle of the golf course.

DEVELOPED DRAINAGE ANALYSIS

Developed drainage basins affecting the Signature Point development are described below. These basins include the potential of additional development areas upstream of the subject site. Proposed drainage patterns and flows are shown on Exhibits 3 and 4. All proposed drainage facilities are approximate in size and may vary with actual layout and design.

Basin V-1 consists of 25.28 acres (same area as Basin V-H1 with 2 additional future lots) and generates developed flows will be $Q_5 = 14.9$ cfs and $Q_{100} = 49.7$ cfs. These flows will still be directed toward the existing 28"x20" CMP under Kissing Camels Drive.

Basin V-2 will generate developed flows of 4.1 cfs and 14.7 cfs during the 5 year and 100 year storms. These flows are again slightly higher than the historic flows by 0.5 cfs during the 5 year storm and 0.8 cfs during the 100 year storm.

Basin V-3 is identical to historic Basin V-H3 which consists of 15.93 acres and generates flows of 17.3 cfs during the 5 year storm and 39.4 cfs during the 100 year storm.

Basin D-7 is another basin contributing flows to the subject parcel, consisting of 0.52 acres generating 1.1 cfs during the 5 year storm and 1.6 cfs during the 100 year storm.

Total flows generated from Basins V-1, V-2, V-3 and D-7 which reach Design Point #1D are 26.5 cfs during the 5 year storm and 84.4 cfs during the 100 year storm.

As stated above, the proposed development of Parcel W is anticipated to include 3 residential lots, therefore, slight increases in flows are anticipated from these tributary basins. However, since the development of the lots include relocation of the existing detention pond, the pond capacity could be increased to accommodate the increase in flows. This will be studied in more detail if and when Parcel W is developed.

Basin W-HO is located along Hill Circle in the northwest area of Kissing Camels. As stated above, flows generated from this general drainage area reach an existing detention pond and an existing 42" RCP outfall pipe. Approximate flows of 36 cfs during the 5 year storm and 73 cfs during the 100 year storm are conveyed within the 42" RCP southerly.

Developed Basin W-1 consists of basically the same area as historic Basin W-H1 and generates runoff rates of $Q_5 = 12.0$ cfs and $Q_{100} = 40.5$ cfs. These flows along with the flows out of the northern detention pond reach the second detention pond just north of Kissing Camels Drive.

Likewise, Basin W-2 is the same as historic Basin W-H2. Flow rates of 20.1 cfs and 47.0 cfs flow southeasterly within Lyda Lane to Kissing Camels Drive and then southerly in a road side swale along Kissing Camels Drive.

Basin W-3 includes the development of one single-family residential lot in addition to what is there today. The developed flows from this basin are $Q_5 = 2.4$ cfs and $Q_{100} = 7.5$ cfs. These flows will continue to reach the existing grated inlet on the north side of Kissing Camels Drive.

Basin W-4 consists of a small area to the southwest of the grated inlet. Flow rates of 0.9 cfs and 2.0 cfs generated from this area will also flow directly to the existing grated inlet.

Basin W-5 consists of an additional 0.20 acres and generates flows of $Q_5 = 0.3$ cfs and $Q_{100} = 0.8$ cfs.

Total, non-detained flows at Design Point #3D from Basins W-1 through W-5 are 32.5 cfs during the 5 year storm and 96.0 cfs during the 100 year storm. This compares to the existing flows of 30.0 cfs and 89.2 cfs from the same area. If and when Parcel W is developed the two detention ponds and outfall structures will be re-analyzed to account for any increased flows due to the development of any additional lots.

The development basins for Signature Point (historic "U" areas) are described below as Basins U-1 through U-10. Flows reaching the existing 28"x20" CMP under Kissing Camels Drive will be directed north of the Garden of the Gods Filing No. 2 parcel as part of the Hole 9W golf reconstruction.

Developed Basin U-1 is within the existing golf course and consists of approximately 7.51 acres. Flow rates of 5.9 cfs and 16.6 cfs are generated from this basin. These flows are in addition to the flows reaching Design Point #1D from upstream areas.

Basin U-2 comprises an additional 1.31 acres of golf course along the northwest corner of the proposed development. Runoff rates of 1.1 cfs and 3.1 cfs during the 5 and 100 year storms respectively. These flows will also be directed around the northeast side of the proposed development.

Total flows reaching DP #2D are 30.9 cfs during the 5 year storm and 98.1 cfs during the 100 year storm. A swale will be constructed across the golf course as part of the new Hole 9W reconstruction to convey these flows around the north side of the proposed Signature Point development. The grading here is shown here as one potential solution and may vary with the actual Hole 9W final design. The swale will be approximately 20 feet wide and 1' deep to convey the 5 and 100 year flows from above. Side slopes of the swale will be gentle slopes to allow for golf play.

Approximately 1.30 acres of the existing golf course comprise Basin U-3. The runoff rates of 1.4 cfs and 3.9 cfs generated from this basin will sheet flow toward a proposed retention area along the east side of Hole #9W, just west of Lots 8 through 10 of Signature Point. The retention area of approximately 11,600 cubic feet is large enough to retain the 100 year storm flows. Flows will pond here and percolate into the soil.

Basin U-4A consists of additional golf course area just northwest of the proposed development. This 2.11 acre basin generates flows of 2.5 cfs and 8.6 cfs during the 5 and 100 year storms, respectively. These flows will also be directed toward a retention area just west of Lots 4 through 6 of Signature Point. This retention area has approximately 12,650 cubic feet of storage which is adequate storage to retain the 100 year storm flows from Basin U4-A.

Basin U-4B comprises an additional 0.90 acres of the golf course. Runoff rates of 1.2 cfs during the 5 year storm and 4.0 cfs during the 100 year storm generated from this basin will reach a 3rd retention area. This third retention area is approximately 7,000 cubic feet which is also adequate to store the 100 year flows from Basin U-4B,

In the event of each of these retention ponds becoming inundated with water, runoff will flow from north to south and eventually reach Signature Golf Point and continue as street flow to the low point within Signature Golf Point. The swale conveying flows from the low point of Signature Golf Point has been sized to convey the flows from Basin U-3, U-4A and U-4B in the event the retention areas are breached.

Total flow rates of 5.7 cfs and 17.0 cfs generated during the 5 and 100 year storms, respectively, would reach Design Point #4D if the retentions areas were to overtop.

Basin U-5 comprises 2.17 acres of proposed residential lots. Runoff rates of $Q_5 = 6.2$ cfs and $Q_{100} = 13.7$ cfs generated from Basin U-5 also reach Signature Golf Point and flow southerly toward to proposed low point of Signature Golf Point.

Additional flows reach this same low point from Basin U-6. Basin U-6 consists of 0.72 acres of golf course and residential lots and generates flows of 2.2 cfs during the 5 year storm and 4.5 cfs during the 100 year storm. These flows will reach Signature Golf Point and flow easterly to the proposed low point.

Approximately 0.53 acres of Signature Golf Point comprises Basin U-7. Runoff rates of 1.6 cfs and 3.3 cfs are generated from this basin during the 5 and 100 year storms, respectively. These flows will also reach the low point of Signature Golf Point.

Additional flows reach this same area from Basin U-8. Basin U-8 consists of the front portion of several lots along the Signature Point street. The runoff rates of $Q_5 = 2.8$ cfs and $Q_{100} = 5.5$ cfs generated from this basin reach the proposed low point of Basins U-7 and U-8.

Total flow rates of 13.2 cfs during the 5 year storm and 34.3 cfs during the 100 year storm will reach Design Point #5D from Basins U-3 through U-8 in the event the retention area does not retain the runoff. A proposed swale 1.5 deep with 3:1 side slopes will be constructed down stream of this low point to convey these flows easterly to the golf course. The channel depth will be 0.85 feet during the 5 year storm and 1.4 feet during the 100 year storm. An additional 1.5' high berm will be constructed on the south side of the swale for additional freeboard.

Basin U-9 comprises 2.03 acres of residential lots. Flow rates of 6.2 cfs during the 5 year storm and 13.7 cfs during the 100 year storm will flow easterly onto the golf course.

Basin U-10 consists of an additional 0.64 acres of future lots. The flow rates $Q_5 = 1.8$ cfs and $Q_{100} = 4.1$ cfs generated from this basin will also flow southeasterly onto the golf course.

Total runoff rates of $Q_5 = 73.6$ cfs and $Q_{100} = 197.2$ cfs will reach Design Point #6D from the tributary areas. This is compared to the historic rates of $Q_5 = 67.9$ cfs and $Q_{100} = 189$ cfs generated from basically the same drainage area (108 acres). This increase in flows also includes several proposed lots on the north side of Kissing Camels Drive. The downstream golf owner, Garden of the Gods Club, LLC, will accept these increased flows.

The Garden of the Gods Club Property Owners Association will maintain the streets and drainage swale within Signature Point.

Basinn X-1 is the same as Basin X-H1 consisting of the existing Courtyard Filing No. 1 and 2 which has been fully developed. Runoff rates of 9.9 cfs and 21.7 cfs are generated from this basin during the 5 and 100 year storms, respectively. These flows along with the flows from Basins W-H1, W-H2 and W-H3 are piped into the golf course via an existing 36" RCP. The flows reaching Design Point #3H are $Q_5 = 40.1$ cfs and $Q_{100} = 114.6$ cfs.

PROPOSED FACILITIES (Construction Cost Estimate):

Following is a cost estimate of the proposed drainage facilities required for the Signature Point development. All proposed public drainage facilities will be non-reimbursable, private facilities.

Signature Point at Garden of the Gods Club Filing No. 1:

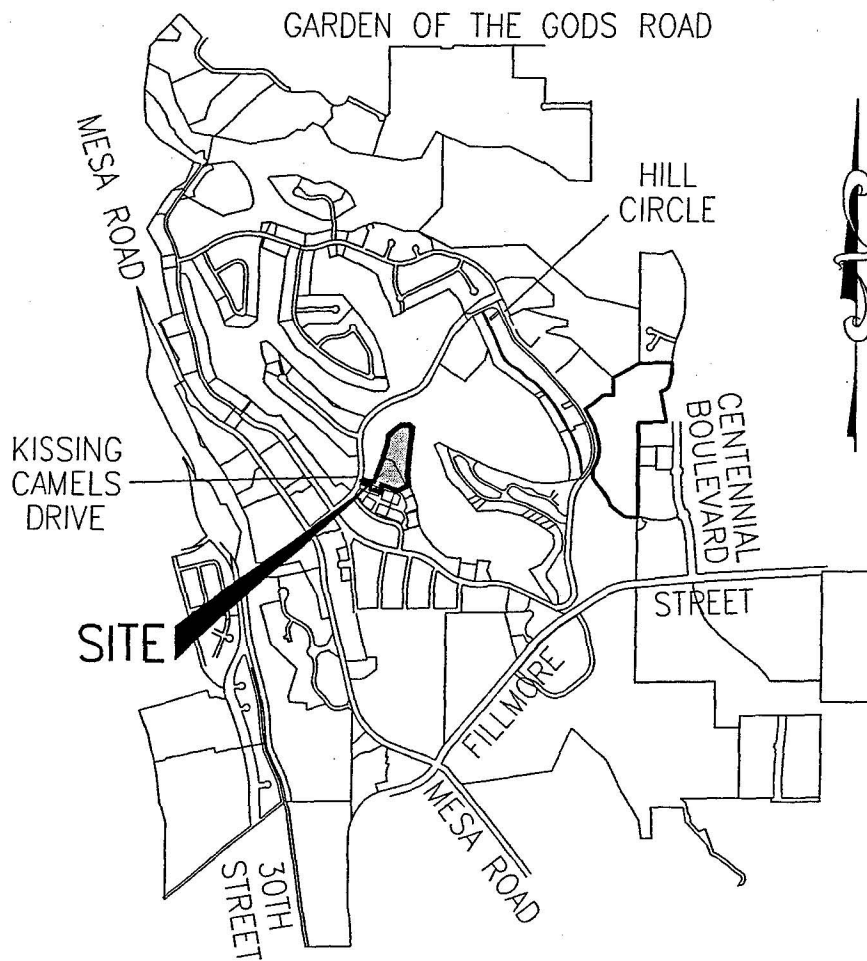
Earthen Swale	460 L.F. @ \$60.00/L.F.	\$ 27,600.00
Rip-Rap Pad	2 Ea. @ \$1,700/Ea	<u>\$ 3,400.00</u>
	Sub-total:	\$ 31,000.00
	15% Engineering & Contingency:	<u>\$ 4,650.00</u>
	TOTAL:	\$ 35,650.00

DRAINAGE FEES

Signature Point at Garden of the Gods Club Filing No. 1 is within the Mesa Drainage Basin and consists of a total of 5.746 acres. The proposed development area has previously been platted; therefore, no additional drainage fees are due.

CONCLUSIONS

The development of the Signature Point at Garden of the Gods Club Filing No. 1 is in general compliance with the on-going development of the overall Kissing Camels Master Development Drainage Plan. Although, the Signature Point Development is slightly larger (approximately 1.6 acres) than the original proposed Courtyards Filing No. 3 development, the drainage patterns and flows are similar. The original Courtyards development had more impervious area in a smaller overall area and Signature Point is a larger area with less density.



Vicinity Map

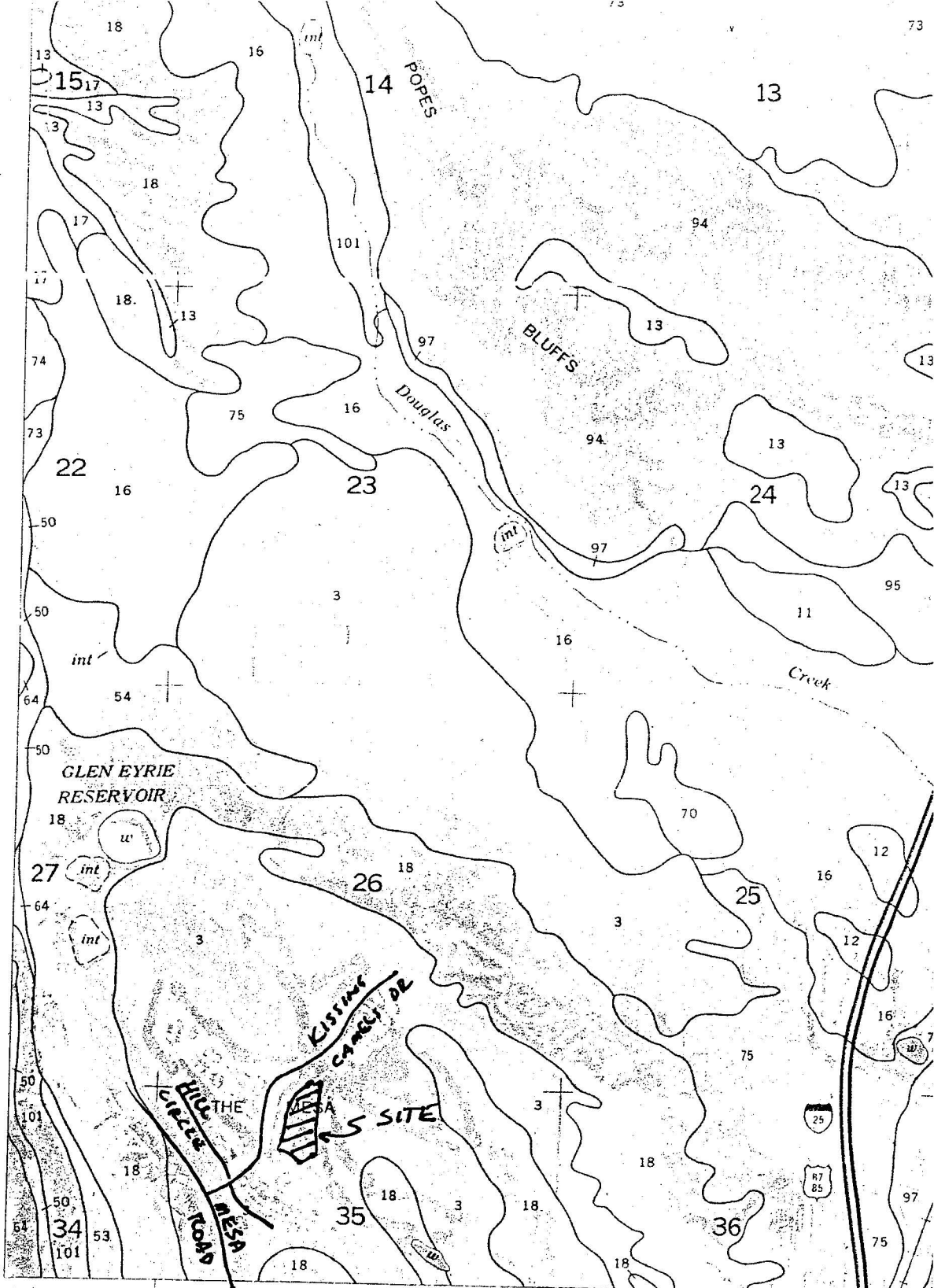
NOT TO SCALE

FIGURE 1

FILE: 07076DEV.DWG
DATE: 4/3/09

JOB NO. 07-076

	ROCKWELL CONSULTING, Inc.
	ENGINEERING • SURVEYING 1955 N. UNION BLVD., SUITE 200 COLORADO SPRINGS, CO 80909 (719) 475-2575 • FAX (719) 475-9223



NORTH
1" = 2000'

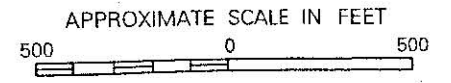


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1974 and 1975 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

FIGURE 2

to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE show
 this map to determine when actuarial rates apply to structures i
 s where elevations or depths have been established.

etermine if flood insurance is available, contact an insurance agent
 re National Flood Insurance Program at (800) 638-6620.



NATIONAL FLOOD INSURANCE PROG

FIRM
 FLOOD INSURANCE RATE M.

EL PASO COUNTY,
 COLORADO AND
 INCORPORATED ARE

PANEL 513 OF 1300
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SECTION
COLORADO SPRINGS, CITY OF	080060	0513	

MAP NUM
 08041C051

EFFECTIVE DATE
 MARCH 17, 1984



Federal Emergency Management Agency

38°52'30"
 104°52'30"

JOINS PANEL 0726

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	V-H1
AREA:	25.28
SOIL TYPE:	A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	16.82	0.30	0.55	66.53%
1/4 Ac. Residential	8.46	0.50	0.60	33.47%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	25.28			100%

COMPOSITE: C5= 0.37 C100= 0.57

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
				48.83		38.73
Tc Total:						

Intensity, I (inches/hr) from Fig 5-1

I5	I100
1.6 in/hr	3.5 in/hr

PEAK FLOW: Q-CIA in cfs

Q5	Q100
14.8 cfs	50.1 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	W-H1
AREA:	14.77
SOIL TYPE:	A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	10.54	0.30	0.55	71.36%
1/3 Ac. Residential	4.23	0.40	0.55	28.64%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	14.77			100%

COMPOSITE: C5= 0.33 C100= 0.55

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	4.5		28.80		19.80
Swale	1000	3.4	2.8	5.95	3	5.56
				34.75		25.35
Tc Total:						

Intensity, I (inches/hr) from Fig 5-1

I5	I100
2.1 in/hr	4.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5	Q100
10.2 cfs	37.4 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: W-H2
 AREA: 18.59
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
1/2 Acre Residential	18.59	0.45	0.55	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	18.59			100%

COMPOSITE: C5= 0.45 C100= 0.55

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	950	4.5		22.81		19.30
Street	1350	3.4	3.8	5.92	4	5.63
				<u>28.73</u>		<u>24.92</u>
Tc Total:				28.73		24.92

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>2.4 in/hr</u>	<u>4.6 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>20.1 cfs</u>	<u>47.0 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: W-H3
 AREA: 2.69
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.79	0.30	0.55	66.54%
Street	0.35	0.90	0.95	13.01%
1/2 Ac. Residential	0.55	0.35	0.45	20.45%
	0	0.00	0.00	0.00%
	2.69			100%

COMPOSITE: C5= 0.39 C100= 0.58

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	815	2.5		31.56		21.70
				31.56		21.70
Tc Total:				31.56		21.70

Intensity, I (inches/hr) from Fig 5-1

I5	I100
2.3 in/hr	4.9 in/hr

PEAK FLOW: Q-CIA in cfs

Q5	Q100
2.4 cfs	7.7 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-H1
 AREA: 1.77
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.37	0.30	0.55	77.40%
Street	0.40	0.90	0.95	22.60%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	1.77			100%

COMPOSITE: C5= 0.44 C100= 0.64

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	700	2.6		28.88		19.85
				<u>28.88</u>		<u>19.85</u>
Tc Total:				28.88		19.85

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
2.5 in/hr 5.1 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
1.9 cfs 5.8 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-H2
 AREA: 1.88
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.88	0.30	0.55	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	1.88			100%

COMPOSITE: C5= 0.30 C100= 0.55

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	760	2.2		31.79		21.86
				<u>31.79</u>		<u>21.86</u>
Tc Total:				31.79		21.86

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>2.3 in/hr</u>	<u>4.9 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>1.3 cfs</u>	<u>5.1 cfs</u>

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-H4
 AREA: 15.6
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Open Space	13.52	0.25	0.35	86.67%
1/8 Ac. Residential	2.08	0.60	0.70	13.33%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	15.60			100%

COMPOSITE: C5= 0.30 C100= 0.40

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	2.8		35.78		31.57
				<u>35.78</u>		<u>31.57</u>
Tc Total:				35.78		31.57

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>2.1 in/hr</u>	<u>3.9 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>9.7 cfs</u>	<u>24.1 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: X-H1
 AREA: 5.84
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
1/8 Acre Residential	5.84	0.50	0.60	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	5.84			100%

COMPOSITE: C5= 0.50 C100= 0.60

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	150	2		10.93		9.11
Street	650	2	2.8	3.87	3	3.61
				<u>14.80</u>		<u>12.72</u>
Tc Total:				14.80		12.72

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>3.4 in/hr</u>	<u>6.2 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>9.9 cfs</u>	<u>21.7 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP#1H
 AREA: 45.95
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
V-H1	25.28	0.37	0.57	55.02%
V-H2	4.23	0.30	0.55	9.21%
D-H5	0.51	0.38	0.47	1.11%
V-H3	15.93	0.35	0.45	34.67%
	0.00	0.00	0.00	0.00%
	0.00	0.00	0.00	0.00%
	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	45.95			100%

COMPOSITE: C5= 0.36 C100= 0.49

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
				<u>48.83</u>		<u>38.73</u>
Tc Total:				48.83		38.73

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>1.6 in/hr</u>	<u>3.5 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>26.2 cfs</u>	<u>78.8 cfs</u>

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP#2H
 AREA: 36.05
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
W-H1	14.77	0.33	0.55	40.97%
W-H2	18.59	0.45	0.55	51.57%
W-H3	2.69	0.39	0.58	7.46%
	0.00	0.00	0.00	0.00%
	0.00	0.00	0.00	0.00%
	0.00	0.00	0.00	0.00%
	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	36.05			100%

COMPOSITE: C5= 0.40 C100= 0.54

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	4.5		28.80		19.80
Swale	1000	3.4	2.8	5.95	3	5.56
				<u>34.75</u>		<u>25.35</u>
Tc Total:				34.75		25.35

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
2.1 in/hr 4.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
30.0 cfs 89.2 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP#3H
 AREA: 46.75
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
W-H1	14.77	0.33	0.55	31.59%
W-H2	18.59	0.45	0.55	39.76%
W-H3	2.69	0.39	0.58	5.75%
XH-1	5.83	0.50	0.60	12.47%
U-H1	1.77	0.44	0.64	3.79%
U-H2	1.88	0.30	0.55	4.02%
U-H3	1.22	0.60	0.70	2.61%
	46.75			100%

COMPOSITE: C5= 0.41 C100= 0.53

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	4.5		28.80		19.80
Swale	1000	3.4	2.8	5.95	3	5.56
Pipe	600	2	10		12	
Tc Total:				34.75		25.35

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>2.1 in/hr</u>	<u>4.6 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>40.5 cfs</u>	<u>114.9 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP#4H
 AREA: 108.3
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
DP#1H	45.95	0.36	0.49	42.43%
DP#3H	46.75	0.40	0.54	43.17%
				0.00%
				0.00%
				0.00%
U-H4	15.60	0.30	0.40	14.40%
				0.00%
				0.00%
	108.30			100%

COMPOSITE: C5= 0.37 C100= 0.50

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
Pipe	600	4	15	0.67	17	0.59
Tc Total:				49.49		39.32

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>1.7 in/hr</u>	<u>3.5 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>67.9 cfs</u>	<u>189.0 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: V-1
 AREA: 25.28
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	15.49	0.30	0.55	61.27%
1/4 Ac. Residential	8.46	0.50	0.60	33.47%
1/2 Ac. Residential	1.33	0.35	0.45	5.26%
	0	0.00	0.00	0.00%
	25.28			100%

COMPOSITE: C5= 0.37 C100= 0.56

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
				48.83		38.73
Tc Total:						

Intensity, I (inches/hr) from Fig 5-1

I5

1.6 in/hr

I100

3.5 in/hr

PEAK FLOW: Q-CIA in cfs

Q5

14.9 cfs

Q100

49.7 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	V-2
AREA:	4.53
SOIL TYPE:	A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	4.12	0.30	0.55	90.95%
1/2 Ac. Residential	0.41	0.35	0.45	9.05%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	4.53			100%

COMPOSITE: C5= 0.30 C100= 0.54

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	380	6.8		15.49		10.65
Swale	500	2.2	2.3	3.62	2.5	3.33
				<u>19.11</u>		<u>13.98</u>
Tc Total:				19.11		13.98

Intensity, I (inches/hr) from Fig 5-1

I5

I100

3.0 in/hr

6.0 in/hr

PEAK FLOW: Q-CIA in cfs

Q5

Q100

4.1 cfs

14.7 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: V-3
 AREA: 15.93
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Residential Lots	4.12	0.35	0.45	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	4.12			100%

COMPOSITE: C5= 0.35 C100= 0.45

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	150	3		11.95		10.36
Swale	1400	3.5	3.5	6.67	3.7	6.31
				<u>18.62</u>		<u>16.67</u>
Tc Total:				18.62		16.67

Intensity, I (inches/hr) from Fig 5-1

I5
I100
3.1 in/hr
5.5 in/hr

PEAK FLOW: Q-CIA in cfs

Q5
Q100
17.3 cfs
39.4 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: D-7
 AREA: 0.52
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	0.17	0.30	0.55	32.69%
1/4 Ac. Residential	0.23	0.50	0.60	44.23%
Street	0.12	0.90	0.95	23.08%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	0.52			100%

COMPOSITE: C5= 0.53 C100= 0.66

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	150	8		9.22		6.34
				<u>9.22</u>		<u>6.34</u>
Tc Total:				9.22		6.34

Intensity, I (inches/hr) from Fig 5-1

I5

4.1 in/hr

I100

4.8 in/hr

PEAK FLOW: Q-CIA in cfs

Q5

1.1 cfs

Q100

1.6 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: W-3
 AREA: 2.69
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.53	0.30	0.55	56.88%
Street	0.35	0.90	0.95	13.01%
1/2 Ac. Residential	0.81	0.35	0.45	30.11%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	2.69			100%

COMPOSITE: C5= 0.39 C100= 0.57

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	815	2.5		31.56		21.70
				<u>31.56</u>		<u>21.70</u>
Tc Total:				31.56		21.70

Intensity, I (inches/hr) from Fig 5-1

I5 2.3 in/hr I100 4.9 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 2.4 cfs Q100 7.5 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: W-4
 AREA: 0.37
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
1/3 Acre Residential	0.26	0.40	0.55	70.27%
Street	0.11	0.90	0.95	29.73%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	0.37			100%

COMPOSITE: C5= 0.55 C100= 0.67

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	85	3		8.40		6.60
				<u>8.40</u>		<u>6.60</u>
Tc Total:				8.40		6.60

Intensity, I (inches/hr) from Fig 5-1

I5 I100
4.3 in/hr 8.1 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 Q100
0.9 cfs 2.0 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: W-5
 AREA: 0.20
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Detention Pond	0.20	0.30	0.45	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	0.20			100%

COMPOSITE: C5= 0.30 C100= 0.45

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	30	4		5.19		4.21
				<u>5.19</u>		<u>4.21</u>
Tc Total:				5.19		4.21

Intensity, I (inches/hr) from Fig 5-1

I5 5.1 in/hr I100 9.0 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 0.3 cfs Q100 0.8 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-1
 AREA: 7.51
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	7.51	0.30	0.45	100.00%
Street	0	0.90	0.95	0.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>7.51</u>			<u>100%</u>

COMPOSITE: C5= 0.30 C100= 0.45

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	500	2		26.61		21.62
				<u>26.61</u>		<u>21.62</u>
Tc Total:				26.61		21.62

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
2.6 in/hr 4.9 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
5.9 cfs 16.6 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-2
 AREA: 1.31
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.31	0.30	0.45	100.00%
Street	0	0.90	0.95	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	1.31			100%

COMPOSITE: C5= 0.30 C100= 0.45

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	500	3		23.28		18.91
				<u>23.28</u>		<u>18.91</u>
Tc Total:				23.28		18.91

Intensity, I (inches/hr) from Fig 5-1

I5	I100
<u>2.7 in/hr</u>	<u>5.3 in/hr</u>

PEAK FLOW: Q-CIA in cfs

Q5	Q100
<u>1.1 cfs</u>	<u>3.1 cfs</u>

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-3
 AREA: 1.30
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.30	0.30	0.45	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	1.30			100%

COMPOSITE: C5= 0.30 C100= 0.45

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	300	6		14.35		11.66
Swale	0	2	2.1	0.00	2.3	0.00
				<u>14.35</u>		<u>11.66</u>
Tc Total:				14.35		11.66

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
3.5 in/hr 6.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
1.4 cfs 3.9 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-4A
 AREA: 2.11
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	1.97	0.30	0.55	93.36%
Street	0.14	0.90	0.95	6.64%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	2.11			100%

COMPOSITE: C5= 0.34 C100= 0.58

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	300	6		14.35		9.86
Swale	40	30	15	0.04	18	0.04
				<u>14.39</u>		<u>9.90</u>
Tc Total:				14.39		9.90

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
3.5 in/hr 7.1 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
2.5 cfs 8.6 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	U-4B
AREA:	0.90
SOIL TYPE:	A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	0.83	0.30	0.55	92.22%
Street	0.07	0.90	0.95	7.78%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	0.90			100%

COMPOSITE: C5= 0.35 C100= 0.58

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	200	6		11.71		8.05
Swale	0	30	15	0.00	18	0.00
				11.71		8.05
Tc Total:				11.71		8.05

Intensity, I (inches/hr) from Fig 5-1

I5	I100
3.9 in/hr	7.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5	Q100
1.2 cfs	4.0 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-6
 AREA: 0.72
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
1/8 Acre Residential	0.72	0.60	0.70	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0.72</u>			<u>100%</u>

COMPOSITE: C5= 0.60 C100= 0.70

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	130	10		4.99		3.99
Swale	0	2	2.2	0.00	2.4	0.00
				<u>4.99</u>		<u>3.99</u>
Tc Total:				4.99		3.99

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
5.2 in/hr 9.0 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
2.2 cfs 4.5 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-7
 AREA: 0.53
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
1/8 Acre Residential	0.53	0.60	0.70	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	0.53			100%

COMPOSITE: C5= 0.60 C100= 0.70

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	30	3		3.56		2.85
Street	460	4.4	4.3	1.78	4.5	1.70
				<u>5.35</u>		<u>4.55</u>
Tc Total:				5.35		4.55

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
5.1 in/hr 9.0 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
1.6 cfs 3.3 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-8
 AREA: 0.76
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	0.00	0.30	0.45	0.00%
Residential Lots	0.76	0.70	0.80	100.00%
Street	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	0.76			100%

COMPOSITE: C5= 0.70 C100= 0.80

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	30	2		3.26		2.44
Street	300	2	2.8	1.79	3	1.67
				<u>5.04</u>		<u>4.11</u>
Tc Total:				5.04		4.11

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
5.2 in/hr 9.0 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
2.8 cfs 5.5 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: U-9
 AREA: 2.03
 SOIL TYPE: A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Golf Course	0.25	0.30	0.45	12.32%
Residential Lots	1.78	0.70	0.80	87.68%
	0	0.00	0.00	0.00%
	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00%</u>
	2.03			100%

COMPOSITE: C5= 0.65 C100= 0.76

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	180	3		6.98		5.24
Street	0	2	2.8	0.00	3	0.00
				<u>6.98</u>		<u>5.24</u>
Tc Total:				6.98		5.24

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
4.7 in/hr 8.9 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
6.2 cfs 13.7 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	X-1
AREA:	5.84
SOIL TYPE:	A & B

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT	AREA	C5	C100	% AREA
1/8 Acre Residential	5.84	0.50	0.60	100.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	0	0.00	0.00	0.00%
	5.84			100%

COMPOSITE: C5= 0.50 C100= 0.60

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	150	2		10.93		9.11
Street	650	2	2.8	3.87	3	3.61
				14.80		12.72
Tc Total:						

Intensity, I (inches/hr) from Fig 5-1

I5	I100
3.4 in/hr	6.2 in/hr

PEAK FLOW: Q-CIA in cfs

Q5	Q100
9.9 cfs	21.7 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP #1D
 AREA: 46.26
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
D-7	0.52	0.53	0.66	1.12%
V-1	25.28	0.37	0.56	54.65%
V-2	4.53	0.30	0.54	9.79%
V-3	15.93	0.35	0.45	34.44%
	<u>0</u>	0.00	0.00	<u>0.00%</u>
	46.26			100%

COMPOSITE: C5= 0.36 C100= 0.52

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
				<u>48.83</u>		<u>38.73</u>
Tc Total:						

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
1.6 in/hr 3.5 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
26.5 cfs 84.4 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP #3D
AREA: 36.72
SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
W-1	14.87	0.39	0.59	40.50%
W-2	18.59	0.45	0.55	50.63%
W-3	2.69	0.39	0.57	7.33%
W-4	0.37	0.55	0.67	1.01%
W-5	<u>0.2</u>	0.30	0.45	<u>0.54%</u>
	36.72			100%

COMPOSITE: C5= 0.42 C100= 0.57

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	4.5		28.80		19.80
Swale	1000	3.4	2.8	5.95	3	5.56
				<u>34.75</u>		<u>25.35</u>
Tc Total:				34.75		25.35

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
2.1 in/hr 4.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
32.4 cfs 95.6 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN:	DP #4D
AREA:	4.88
SOIL TYPE:	C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
Basin U-3	1.30	0.30	0.45	26.64%
Basin U-4A	2.11	0.34	0.58	43.24%
Basin U-4B	0.90	0.35	0.58	18.44%
	0.37	0.55	0.67	7.58%
	<u>0.2</u>	0.30	0.45	<u>4.10%</u>
	4.88			100%

COMPOSITE: C5= 0.33 C100= 0.53

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	300	6		14.35		11.66
Swale	0	0	2.8	0.00	3	0.00
				<u>14.35</u>		<u>11.66</u>
Tc Total:				14.35		11.66

Intensity, I (inches/hr) from Fig 5-1

I5

3.5 in/hr

I100

6.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5

5.7 cfs

Q100

17.0 cfs

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP #5D
 AREA: 9.06
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
DP #4D	4.88	0.33	0.53	53.86%
U-5	2.17	0.70	0.80	23.95%
U-6	0.72	0.60	0.70	7.95%
U-7	0.53	0.60	0.70	5.85%
U-8	<u>0.76</u>	0.70	0.80	<u>8.39%</u>
	9.06			100%

COMPOSITE: C5= 0.43 C100= 0.57

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	300	6		14.35		11.66
Street	200	4	4.4	0.76	4.6	0.72
				<u>15.10</u>		<u>12.38</u>
Tc Total:				15.10		12.38

Intensity, I (inches/hr) from Fig 5-1

I5 I100
3.4 in/hr 6.6 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 Q100
13.2 cfs 34.3 cfs

HYDROLOGY

RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP #6D
 AREA: 109.37
 SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
DP#2D	55.08	0.35	0.51	50.36%
DP#3D	36.72	0.42	0.57	33.57%
DP#5D	9.06	0.43	0.57	8.28%
U-9	2.03	0.65	0.76	1.86%
U-10	0.64	0.70	0.80	0.59%
X-1	5.84	0.50	0.60	5.34%
	<u>109.37</u>			<u>100%</u>

COMPOSITE: C5= 0.40 C100= 0.55

TIME OF CONCENTRATION: Tc In Minutes:

Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		22.60
Swale	3830	1.5	3.1	20.59	3.3	19.34
Pipe	600	4	15	0.67	17	0.59
Tc Total:				49.07		42.53

Intensity, I (inches/hr) from Fig 5-1

I5 **I100**
1.7 in/hr 3.3 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
73.6 cfs 197.2 cfs

RATIONAL METHOD DETENTION POND

Basin U-3

DRAINAGE AREA=	1.3 Acres
5 YR RUNOFF COEFFICIENT	0.3
100 YR RUNOFF COEFFICIENT	0.45
5 YR HISTORIC RUNOFF	0.0
100 YR HISTORIC RUNOFF	0

DURATION (min)	5 YEAR INTENSITY (in/hr)	5 YEAR FLOOD PEAK RUNOFF	100 YEAR INTENSITY (in/hr)	100 YEAR FLOOD PEAK RUNOFF	5 YEAR REQ'D STORAGE VOLUME (C.F.)	100 YEAR REQ'D STORAGE VOLUME (C.F.)
5	5.2	2.0	9.0	5.3	608	1580
8	4.4	1.7	7.6	4.4	824	2134
10	4.1	1.6	7.0	4.1	959	2457
15	3.4	1.3	5.9	3.5	1193	3106
20	2.9	1.1	5.1	3.0	1357	3580
25	2.6	1.0	4.6	2.7	1521	4037
30	2.4	0.9	4.1	2.4	1685	4317
35	2.1	0.8	3.8	2.2	1720	4668
40	1.9	0.7	3.5	2.0	1778	4914
45	1.8	0.7	3.2	1.9	1895	5054
50	1.7	0.7	3.0	1.8	1989	5265
55	1.6	0.6	2.8	1.6	2059	5405
60	1.5	0.6	2.6	1.5	2106	5476
65	1.4	0.5	2.5	1.5	2129	5704
70	1.3	0.5	2.4	1.4	2129	5897

RATIONAL METHOD DETENTION POND

Basin U-4A

DRAINAGE AREA=	2.11 Acres
5 YR RUNOFF COEFFICIENT	0.34
100 YR RUNOFF COEFFICIENT	0.58
5 YR HISTORIC RUNOFF	0.0
100 YR HISTORIC RUNOFF	0

DURATION (min)	5 YEAR INTENSITY (in/hr)	5 YEAR FLOOD PEAK RUNOFF	100 YEAR INTENSITY (in/hr)	100 YEAR FLOOD PEAK RUNOFF	5 YEAR REQ'D STORAGE VOLUME (C.F.)	100 YEAR REQ'D STORAGE VOLUME (C.F.)
5	5.2	3.7	9.0	11.0	1119	3304
8	4.4	3.2	7.6	9.3	1515	4464
10	4.1	2.9	7.0	8.6	1765	5140
15	3.4	2.4	5.9	7.2	2195	6498
20	2.9	2.1	5.1	6.2	2497	7490
25	2.6	1.9	4.6	5.6	2798	8444
30	2.4	1.7	4.1	5.0	3099	9032
35	2.1	1.5	3.8	4.7	3164	9766
40	1.9	1.4	3.5	4.3	3271	10280
45	1.8	1.3	3.2	3.9	3487	10574
50	1.7	1.2	3.0	3.7	3659	11014
55	1.6	1.1	2.8	3.4	3788	11308
60	1.5	1.1	2.6	3.2	3874	11455
65	1.4	1.0	2.5	3.1	3917	11932
70	1.3	0.9	2.4	2.9	3917	12336
75	1.2	0.9	2.3	2.8	3874	12666
80	1.1	0.8	2.2	2.7	3788	12923
85	1	0.7	2.0	2.4	3659	12483

RATIONAL METHOD DETENTION POND

Basin U-4B

DRAINAGE AREA=	0.9 Acres
5 YR RUNOFF COEFFICIENT	0.35
100 YR RUNOFF COEFFICIENT	0.58
5 YR HISTORIC RUNOFF	0.0
100 YR HISTORIC RUNOFF	0

DURATION (min)	5 YEAR INTENSITY (in/hr)	5 YEAR FLOOD PEAK RUNOFF	100 YEAR INTENSITY (in/hr)	100 YEAR FLOOD PEAK RUNOFF	5 YEAR REQ'D STORAGE VOLUME (C.F.)	100 YEAR REQ'D STORAGE VOLUME (C.F.)
5	5.2	1.6	9.0	4.7	491	1409
8	4.4	1.4	7.6	4.0	665	1904
10	4.1	1.3	7.0	3.7	775	2192
15	3.4	1.1	5.9	3.1	964	2772
20	2.9	0.9	5.1	2.7	1096	3195
25	2.6	0.8	4.6	2.4	1229	3602
30	2.4	0.8	4.1	2.1	1361	3852
35	2.1	0.7	3.8	2.0	1389	4166
40	1.9	0.6	3.5	1.8	1436	4385
45	1.8	0.6	3.2	1.7	1531	4510
50	1.7	0.5	3.0	1.6	1607	4698
55	1.6	0.5	2.8	1.5	1663	4823
60	1.5	0.5	2.6	1.4	1701	4886
65	1.4	0.4	2.5	1.3	1720	5090
70	1.3	0.4	2.4	1.3	1720	5262
75	1.2	0.4	2.3	1.2	1701	5403
80	1.1	0.3	2.2	1.1	1663	5512
85	1	0.3	2.0	1.0	1607	5324

HYDROLOGY
RATIONAL METHODOLOGY

PROJECT: Kissing Camels Infill

BASIN: DP#4H
AREA: 108.3
SOIL TYPE: C & D

RUNOFF COEFFICIENT, C

ZONE/DEVELOPMENT TYPE	AREA	C5	C100	% AREA
DP#1H	45.95	0.36	0.49	42.43%
DP#3H	46.75	0.40	0.54	43.17%
				0.00%
				0.00%
				0.00%
U-H4	15.60	0.30	0.40	14.40%
				0.00%
				0.00%
	108.30			100%

COMPOSITE: C5= 0.37 C100= 0.50

TIME OF CONCENTRATION: Tc In Minutes:

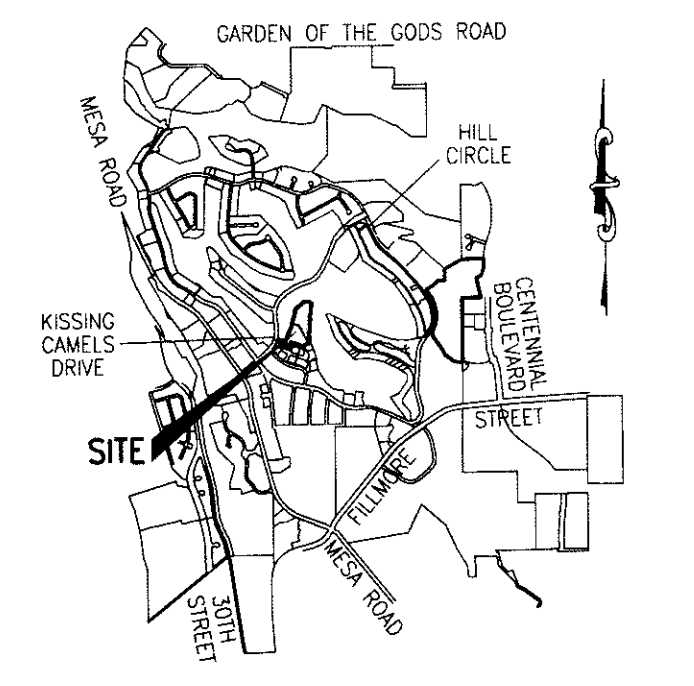
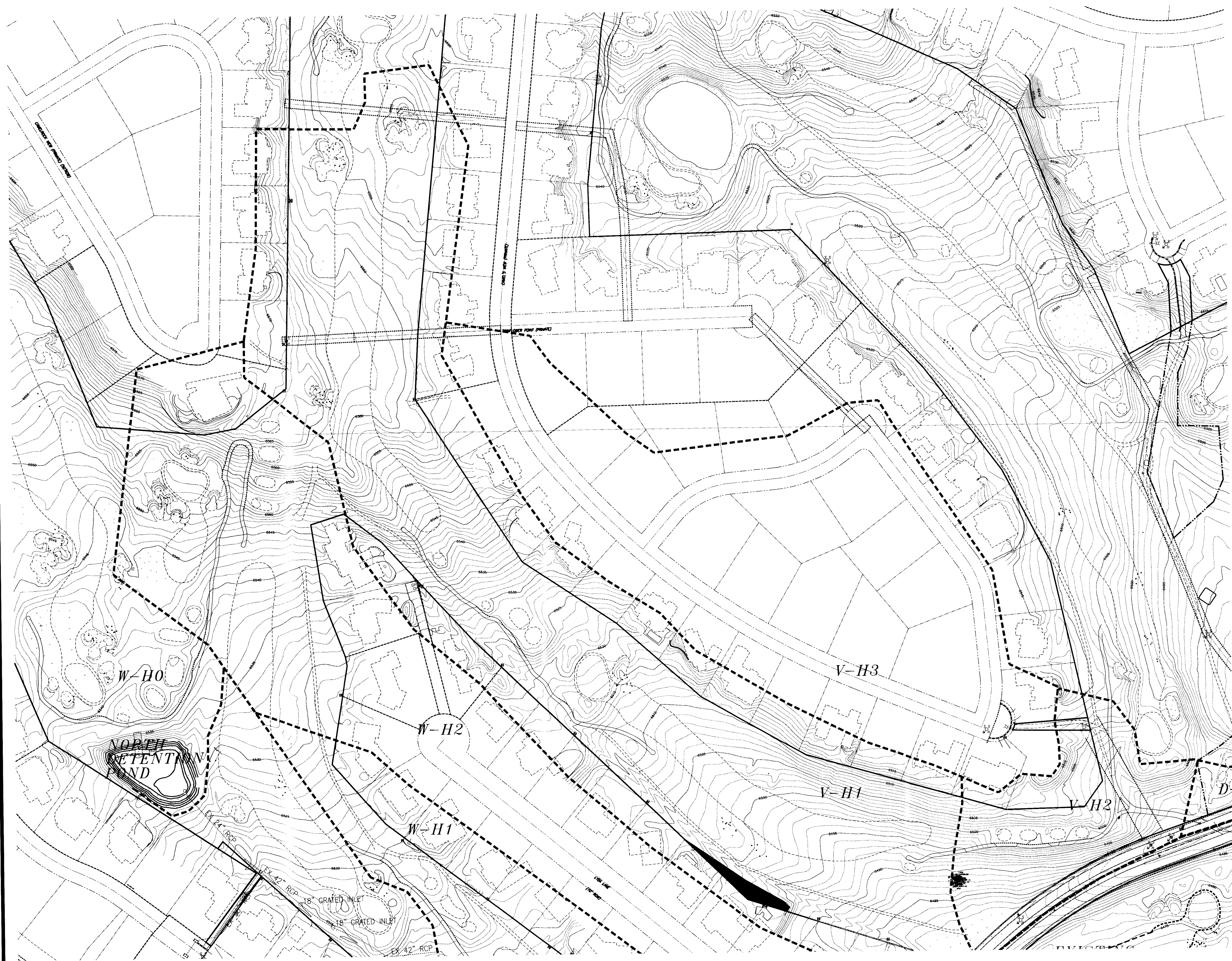
Travel Type	L	s %	v5 (fps)	Tc (5 year)	v100 (fps)	Tc (100 year)
Overland	1000	5		27.81		19.12
Swale	3530	1.4	2.8	21.01	3	19.61
Pipe	600	4	15	0.67	17	0.59
Tc Total:				49.49		39.32

Intensity, I (inches/hr) from Fig 5-1

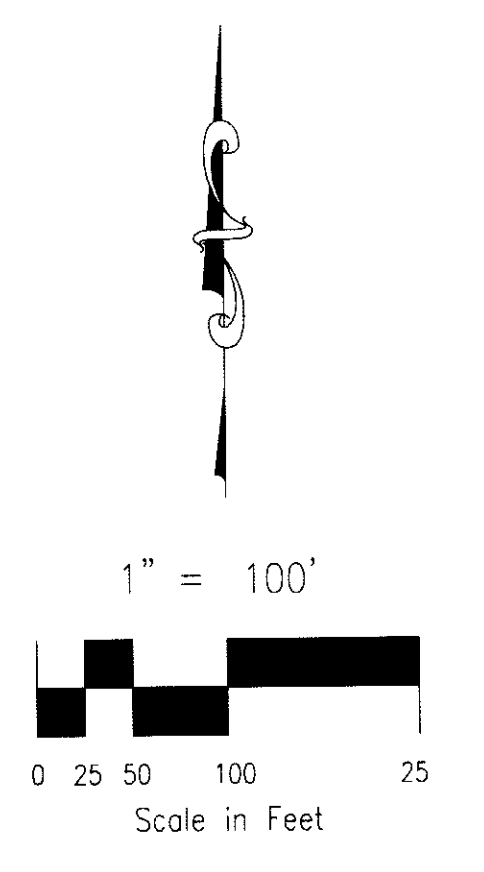
I5 **I100**
1.7 in/hr 3.5 in/hr

PEAK FLOW: Q-CIA in cfs

Q5 **Q100**
67.9 cfs 189.0 cfs



Vicinity Map
NOT TO SCALE



HISTORIC DRAINAGE BASIN TABLE

BASIN	AREA (Ac.)	Q ₂ (CFS)	Q ₁₀₀ (CFS)
V-H1	25.28	14.8	50.1
V-H2	4.23	3.8	14.0
V-H3	15.93	17.3	39.4
D-H5	0.51	0.7	1.5
W-H1	14.77	10.2	37.4
W-H2	18.59	20.1	47.0
W-H3	2.69	2.4	7.7
U-H1	1.77	1.9	5.8
U-H2	1.88	1.3	5.1
U-H3	1.22	2.9	6.5
U-H4	15.60	9.7	24.1
X-H1	5.84	9.9	21.7

HISTORIC DESIGN POINTS TABLE

BASIN	AREA (Ac.)	Q ₂ (CFS)	Q ₁₀₀ (CFS)
DP#1H	45.95	26.2	78.8
DP#2H	36.05	30.0	89.2
DP#3H	46.75	40.5	114.9
DP#4H	108.30	67.9	189.0

LEGEND

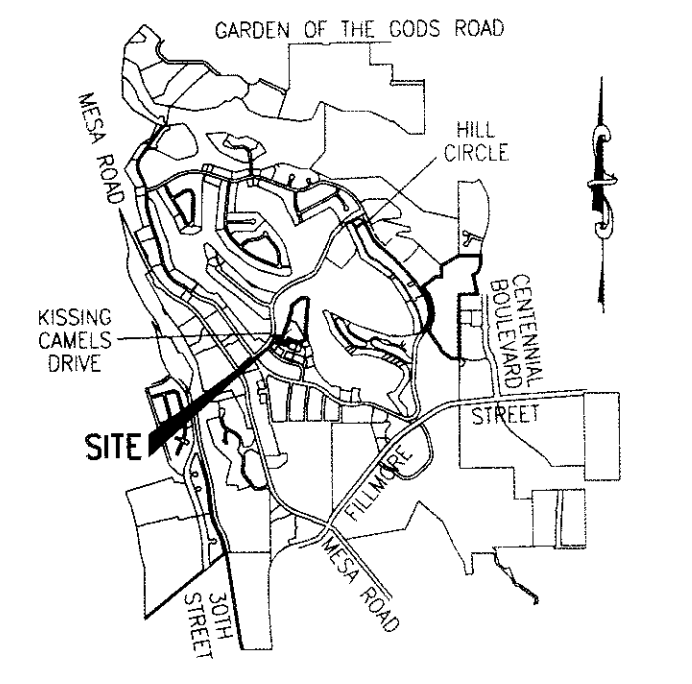
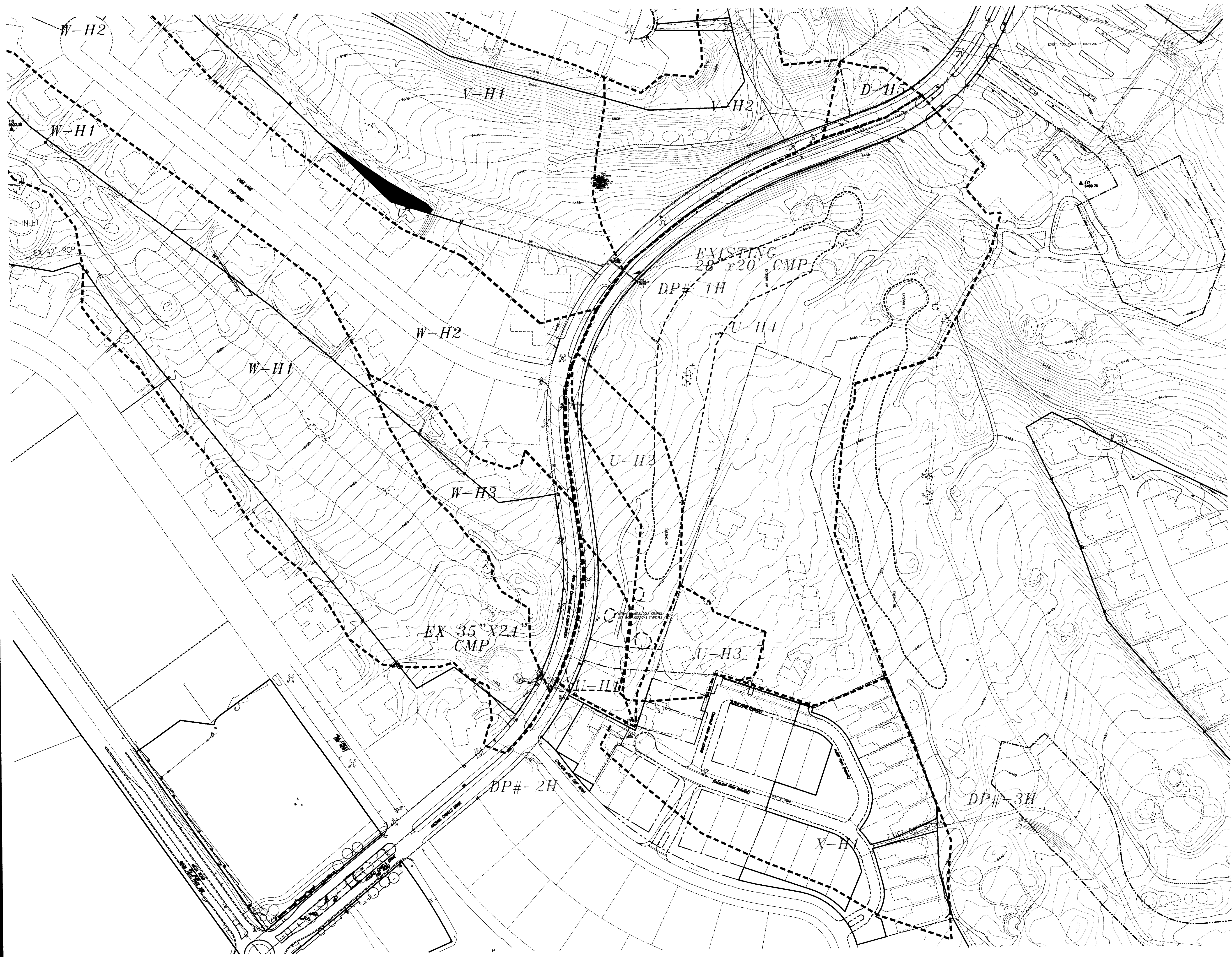
- 6450 EXISTING 1' CONTOUR
- BASIN BOUNDARIES
- BASIN DESIGNATOR
- DESIGN POINT
- DIRECTION OF FLOW

EXHIBIT 1
FILE: 07076-0P.DWG 11/15/11

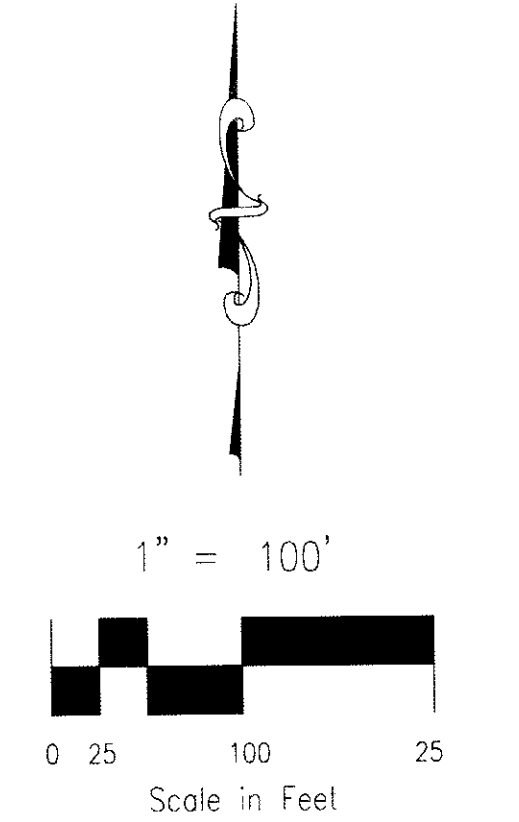
ENGINEERING - SURVEYING
1955 N. JAYNOB BLVD., SUITE 200
COLORADO SPRINGS, CO 80909
(719) 475-2515 • FAX (719) 475-9223

SIGNATURE POINT AT GARDEN OF THE GODS CLUB FILING NO. 1 - HISTORIC DRAINAGE

TITLE : 1"=100' DRAWN BY : KDR 07-076
DATE : 11/15/11 CHECKED BY : KDR JOB NO.



Vicinity Map
NOT TO SCALE



HISTORIC DRAINAGE BASIN TABLE

BASIN	AREA (Ac.)	Q _c (CFS)	Q ₁₀₀ (CFS)
V-H1	25.28	14.8	50.1
V-H2	4.23	3.8	14.0
V-H3	15.93	17.3	39.4
D-H5	0.51	0.7	1.5
W-H1	14.77	10.2	37.4
W-H2	18.59	20.1	47.0
W-H3	2.69	2.4	7.7
U-H1	1.77	1.9	5.8
U-H2	1.88	1.3	5.1
U-H3	1.22	2.9	6.5
U-H4	15.60	9.7	24.1
X-H1	5.84	9.9	21.7

HISTORIC DESIGN POINTS TABLE

BASIN	AREA (Ac.)	Q _c (CFS)	Q ₁₀₀ (CFS)
DP#1H	45.95	26.2	78.8
DP#2H	36.05	30.0	89.2
DP#3H	46.75	40.5	114.9
DP#4H	108.30	67.9	189.0

LEGEND

- 6450' EXISTING 1' CONTOUR
- BASIN BOUNDARIES
- BASIN DESIGNATOR
- DESIGN POINT
- DIRECTION OF FLOW

EXHIBIT 2
FILE: 07076-DP.DWG 11/15/11

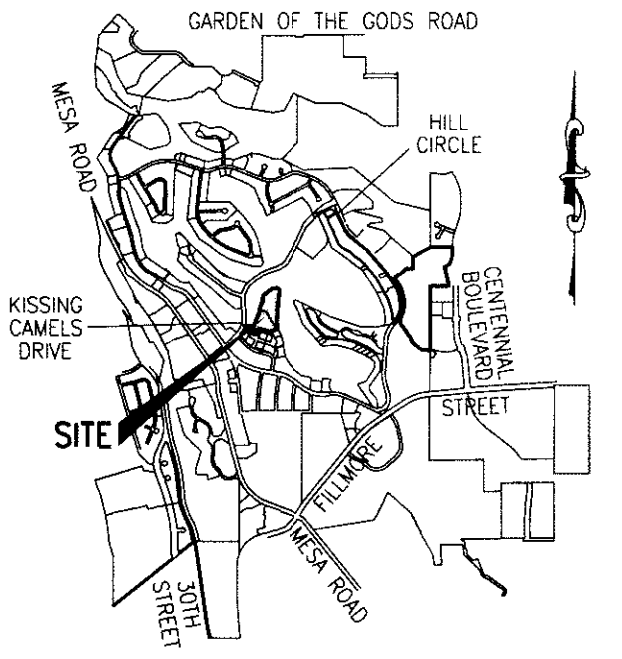
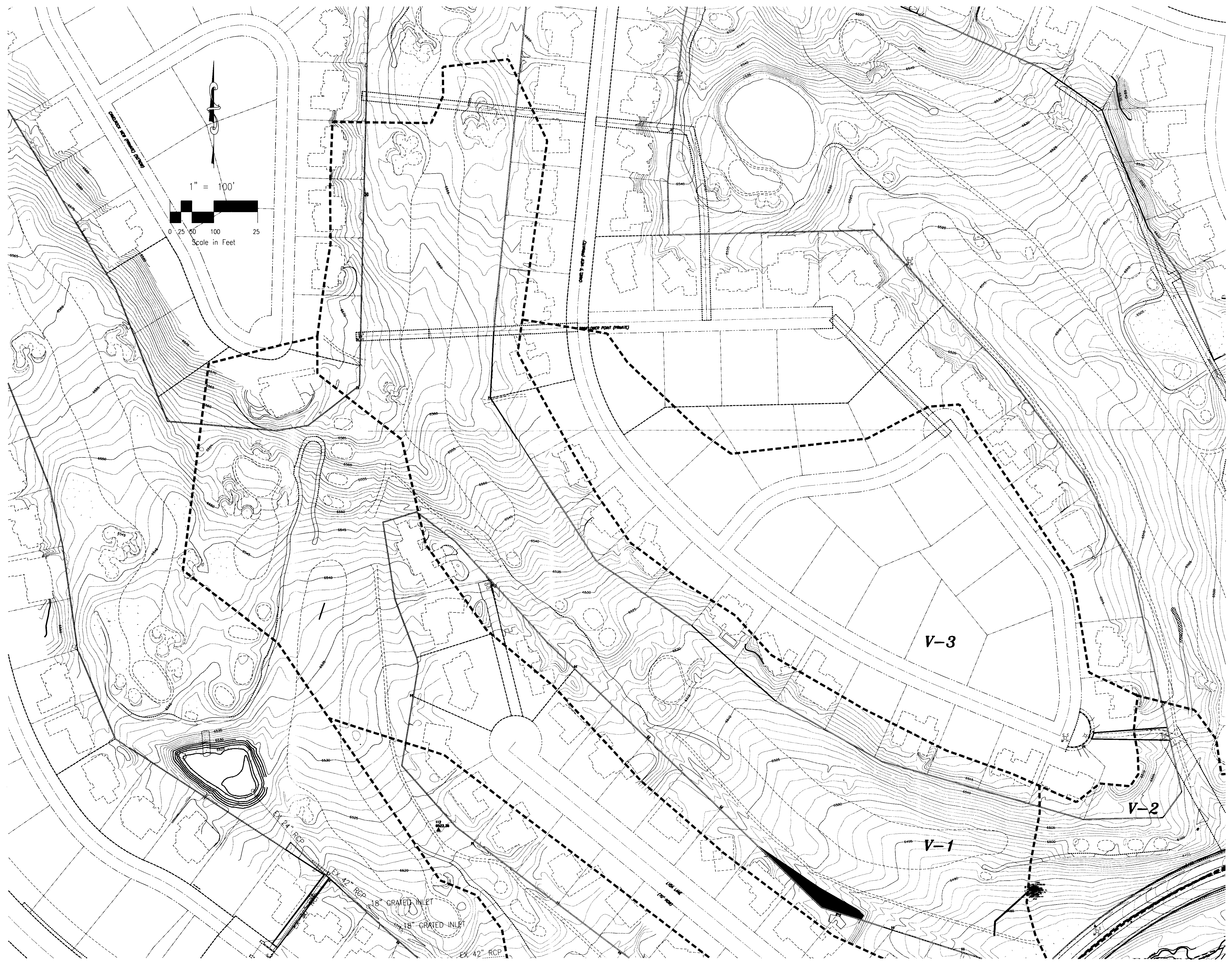
ENGINEERING - SURVEYING
1955 N. UNION BLVD., SUITE 200
COLORADO SPRINGS, CO 80909
(719) 415-2975 • FAX (719) 415-9233

SIGNATURE POINT AT GARDEN OF THE GODS CLUB FILING NO. 1 - HISTORIC DRAINAGE

TITLE :
SCALE : 1"=100'
DATE : 11/15/11

DRAWN BY : KDR
CHECKED BY : KDR

JOB NO. **07-076**



Vicinity Map
NOT TO SCALE

DEVELOPED DRAINAGE BASIN TABLE

BASIN	AREA (Ac.)	Q _s (CFS)	Q ₁₀₀ (CFS)
V-1	25.28	14.9	49.7
V-2	4.53	4.7	14.7
V-3	15.93	17.3	39.4
D-7	0.52	1.1	1.6
W-1	14.87	12.0	40.5
W-2	18.59	20.1	47.0
W-3	2.69	2.4	7.5
W-4	0.37	0.9	2.0
W-5	0.20	0.3	0.8
U-1	7.51	5.9	16.6
U-2	1.31	1.1	3.1
U-3	1.30	1.4	3.9
U-4A	2.11	2.5	8.6
U-4B	0.90	1.2	4.0
U-5	2.17	6.2	13.7
U-6	0.72	2.2	4.5
U-7	0.53	1.6	3.3
U-8	0.76	2.8	5.5
U-9	2.03	6.2	13.7
U-10	0.64	1.8	4.1
X-1	5.84	9.9	21.7

DEVELOPED DESIGN POINT TABLE

BASIN	AREA (Ac.)	Q _s (CFS)	Q ₁₀₀ (CFS)
DP#1D	46.26	26.5	84.4
DP#2D	55.08	30.9	98.1
DP#3D	36.72	32.4	95.6
DP#4D	4.88	5.7	17.0
DP#5D	9.06	13.2	34.3
DP#6D	109.37	73.6	197.2

LEGEND

- 6450 EXISTING 1' CONTOUR
- BASIN BOUNDARIES
- BASIN DESIGNATOR
- DESIGN POINT
- PROPOSED 1' CONTOURS
- DIRECTION OF FLOW

NOTES

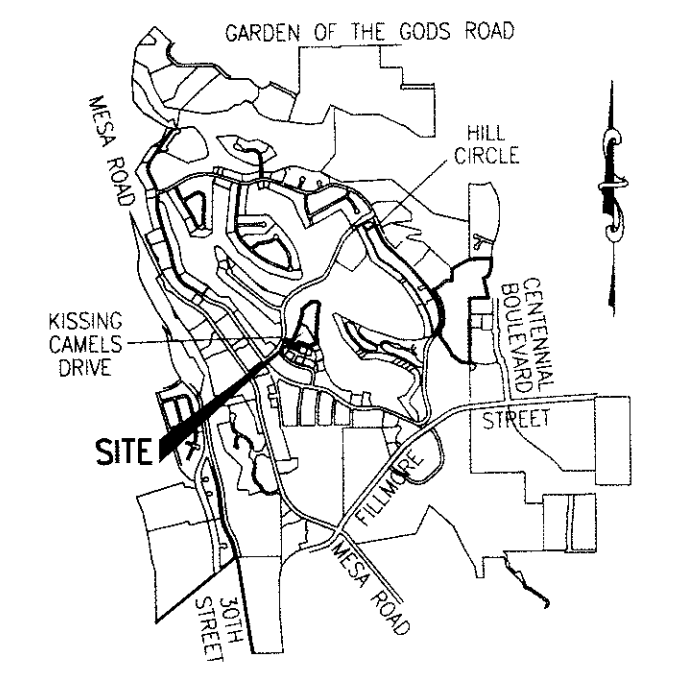
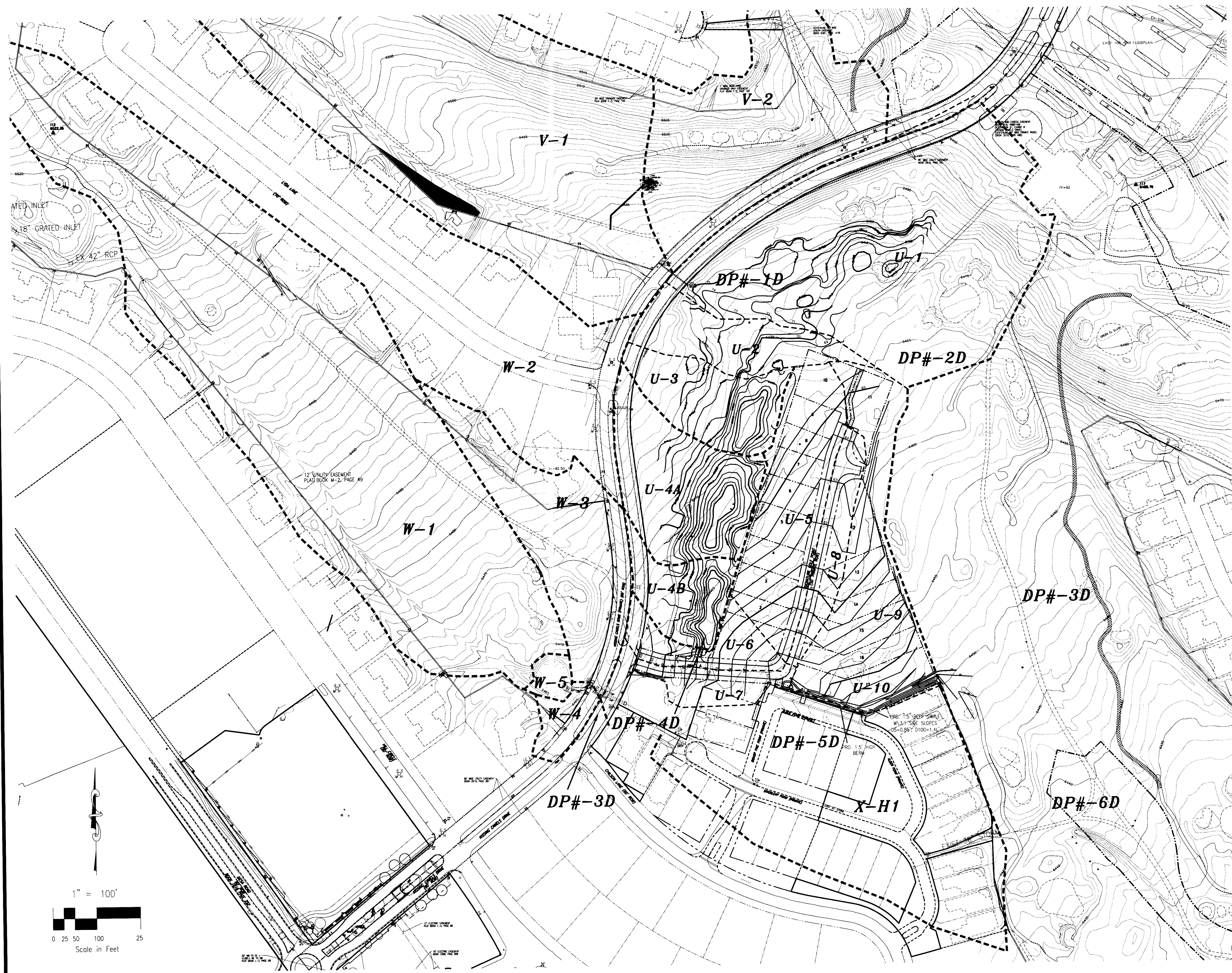
1. THIS IS A CONCEPT GRADING PLAN ONLY - NOT TO BE USED FOR CONSTRUCTION.
2. TOPSOIL TO BE STOCK PILED ON SITE AND REDISTRIBUTED AFTER OVER LOT GRADING IS COMPLETE.

APPROXIMATE FINISHED GRADING,
SUBJECT TO FINAL DESIGN

EXHIBIT 3
FILE: 07076-DP.DWG 11/15/11

ROCKWELL CONSULTING, Inc. ENGINEERING - SURVEYING
1955 N. UNION BLVD., SUITE 200
COLORADO SPRINGS, CO 80909
(719) 475-2575 • FAX (719) 475-9223

SIGNATURE POINT AT GARDEN OF THE GODS
TITLE: CLUB FILING NO. 1 - DEVELOPED DRAINAGE
SCALE: 1"=100' DRAWN BY: KDR 07-076
DATE: 11/15/11 CHECKED BY: KDR JOB NO.



Vicinity Map
NOT TO SCALE

DEVELOPED DRAINAGE BASIN TABLE

BASIN	AREA (Ac.)	Q ₅ (CFS)	Q ₁₀₀ (CFS)
V-1	25.28	14.9	49.7
V-2	4.53	4.1	14.7
V-3	15.93	17.3	39.4
D-7	0.52	1.1	1.6
W-1	14.87	12.0	40.5
W-2	18.59	20.1	47.0
W-3	2.69	2.4	7.5
W-4	0.37	0.9	2.0
W-5	0.20	0.3	0.8
U-1	7.51	5.9	16.6
U-2	1.31	1.1	3.1
U-3	1.30	1.4	3.9
U-4A	2.11	2.5	6.6
U-4B	0.90	1.2	4.0
U-5	2.17	6.2	13.7
U-6	0.72	2.2	4.5
U-7	0.53	1.6	3.3
U-8	0.76	2.8	5.5
U-9	2.03	6.2	13.7
U-10	0.64	1.8	4.1
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DEVELOPED DESIGN POINT TABLE

BASIN	AREA (Ac.)	Q ₅ (CFS)	Q ₁₀₀ (CFS)
DP#1D	46.26	26.5	84.4
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DP#3D	36.72	32.4	95.6
DP#4D	4.88	5.7	17.0
DP#5D	9.05	13.2	34.3
DP#6D	109.37	73.6	197.2

LEGEND

- EXISTING 1' CONTOUR
- BASIN BOUNDARIES
- BASIN DESIGNATOR
- DESIGN POINT
- PROPOSED 1' CONTOURS
- DIRECTION OF FLOW

NOTES

1. THIS IS A CONCEPT GRADING PLAN ONLY - NOT TO BE USED FOR CONSTRUCTION.
2. TOPSOIL TO BE STOCK PILED ON SITE AND REDISTRIBUTED AFTER OVER LOT GRADING IS COMPLETE.

APPROXIMATE FINISHED GRADING,
SUBJECT TO FINAL DESIGN

EXHIBIT 4
FILE: 07076-DP.DWG 11/15/11

ENGINEERING • SURVEYING
1850 N. UNION BLVD., SUITE 200
COLORADO SPRINGS, CO 80909
(719) 475-2575 • FAX (719) 475-9233

SIGNATURE POINT AT GARDEN OF THE GODS CLUB FILING NO. 1 - DEVELOPED DRAINAGE

SCALE: 1"=100' DRAWN BY: KDR 07-076
DATE: 11/15/11 CHECKED BY: KDR JOB NO.

