THE WOLFE GROUP, L.L.C.
Land Planning, Consulting, & Civil Engineering

2401 W. Main Street, Suite 210
Battle Ground, WA 98604
(360) 687-2699

"SUNRISE TERRACE"

Preliminary Technical Information Report

July 2015

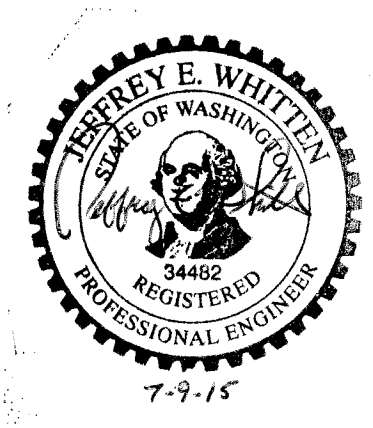


TABLE OF CONTENTS

Report:

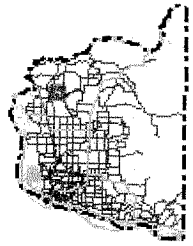
List of Tables:

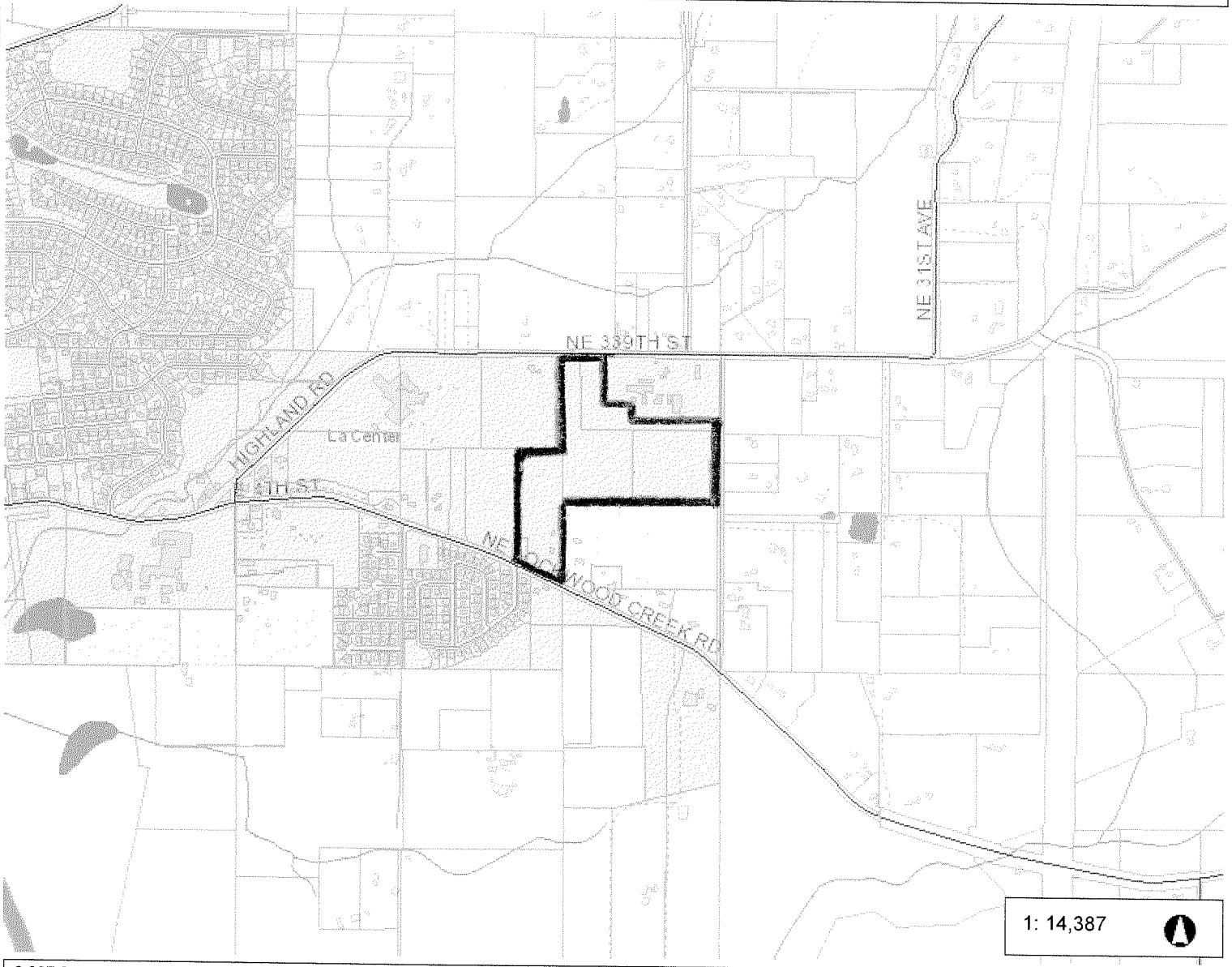
VICINITY MAPS

Vicinity Map

Soils Map

Vicinity Map





Legend

- Building Footprints
- Taxlots
- Cities Boundaries
- Urban Growth Boundaries

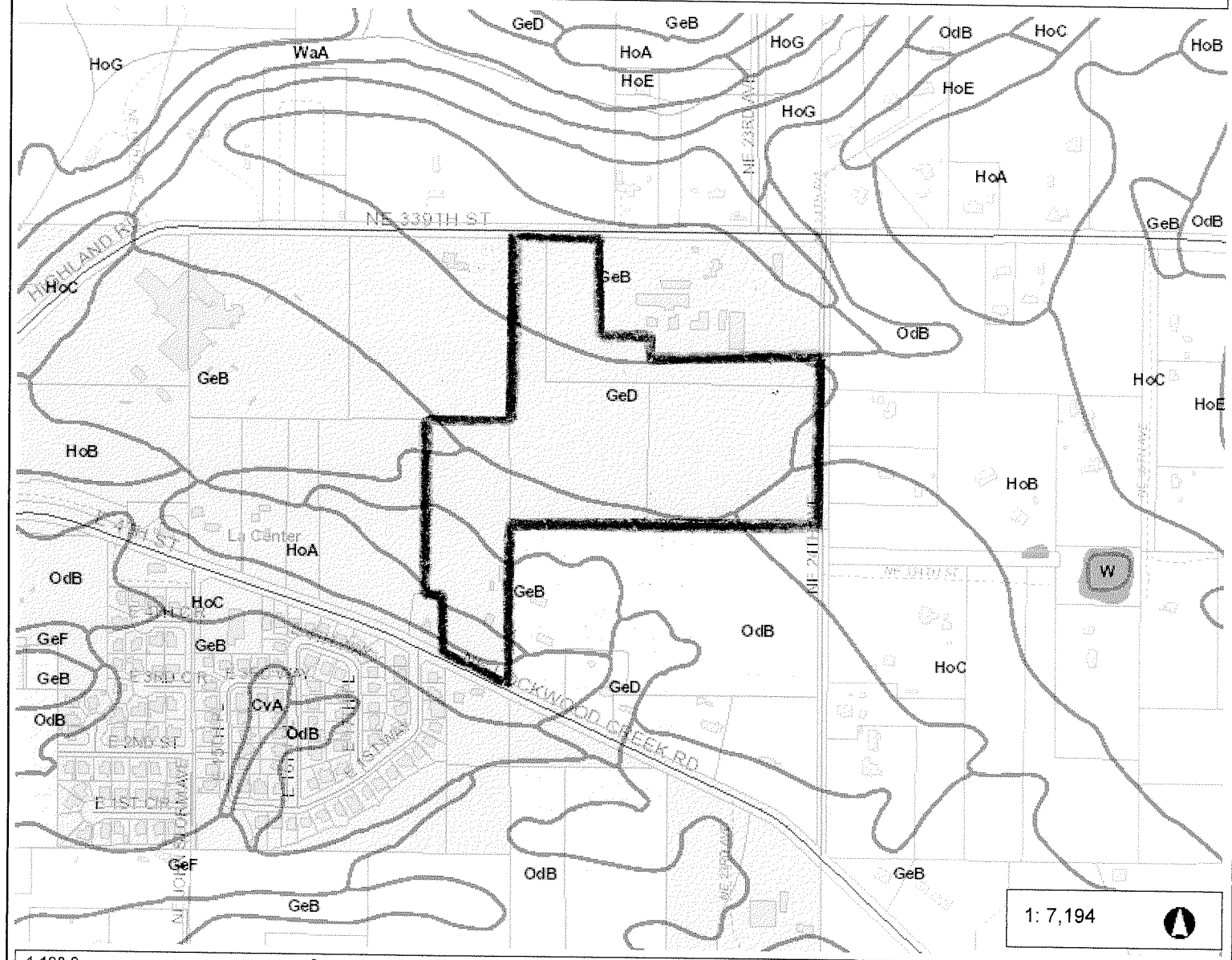
Notes:

1: 14,387

2,397.8 0 1,198.92 2,397.8 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Soils Map

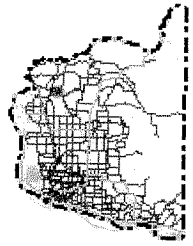


1: 7,194

1,198.9 0 599.46 1,198.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

This map was generated by Clark County's "MapsOnline" website. Clark County does not warrant the accuracy, reliability or timeliness of any information on this map, and shall not be held liable for losses caused by using this infromation.



Legend

- Soil Type
- Building Footprints
- Taxlots
- Cities Boundaries
- Urban Growth Boundaries

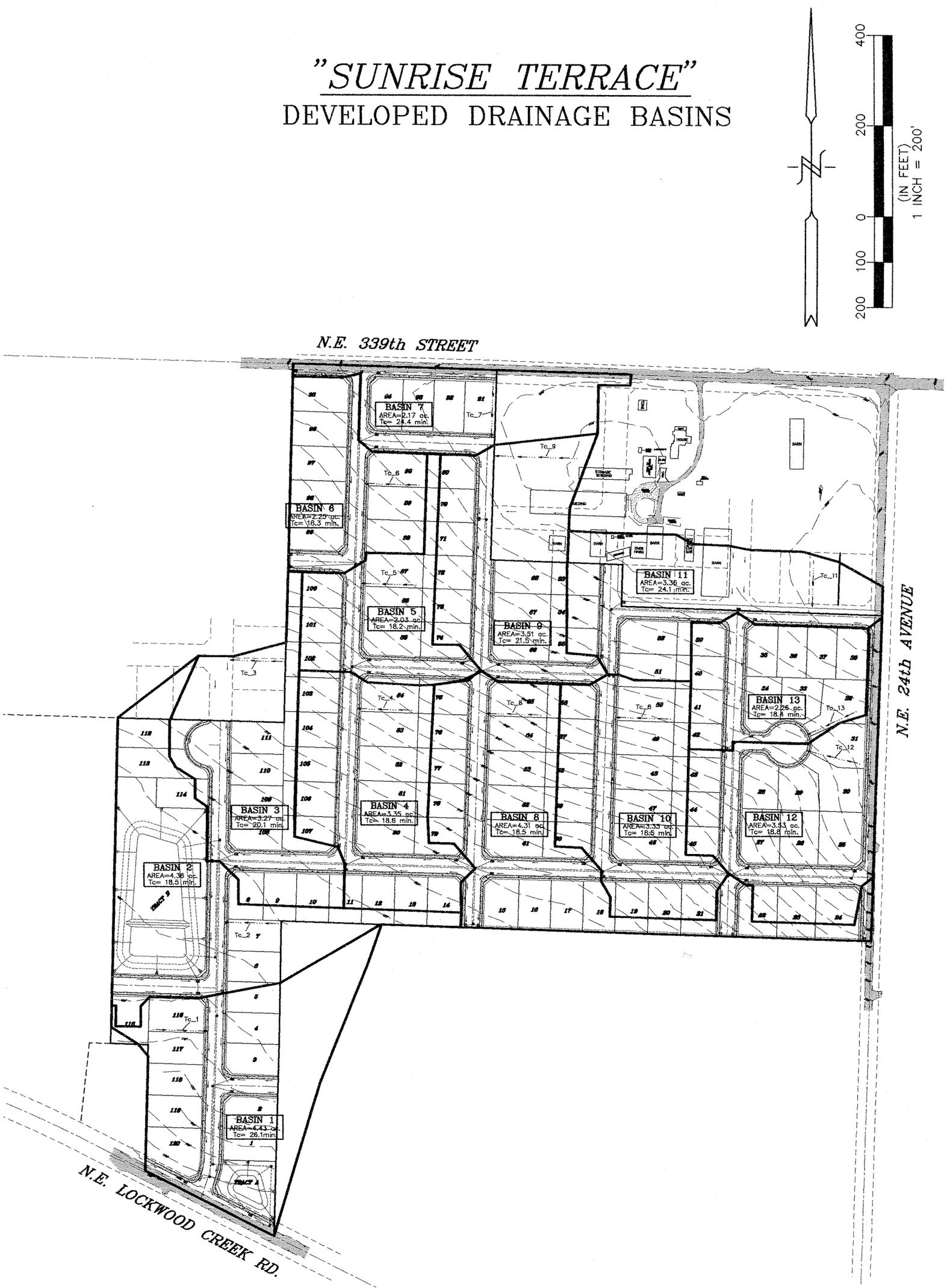
Notes:

DEVELOPMENT PLAN

Drainage Basins
Flow Routes

"SUNRISE TERRACE"

DEVELOPED DRAINAGE BASINS



SECTION A - PROJECT OVERVIEW

The project site consists of approximately 35.7 acres and lies west of N.E. 24th Avenue between N.E. 339th Street and N.E. Lockwood Creek Road. It is bordered on the west by three large undeveloped parcels. Much of the southern and eastern boundary of the project borders a large undeveloped parcel as well. The entire site is primarily in a field/pasture condition. The entire project site drains in a southwesterly manner toward N.E. Lockwood Creek Road. The stormwater from the property enters a roadside ditch along the north side of Lockwood Creek Road which drains eastward for a few hundred feet where it then crosses to the south side of the road and enters a vegetated ravine.

An onsite storm water detention facility along with two wetponds are proposed to treat and detain the stormwater runoff generated from the majority of the project site as well as portions of the future development of the Perrott and Manning properties. The proposed primary stormwater facility is preliminarily located along the western side of the proposed development. This facility will contain both a wetpond and a live detention pond. This primary stormwater facility will treat and detain the majority of stormwater generated from the developed site. A smaller wetpond is proposed at the southern end of the project adjacent to N.E. Lockwood Creek Road to treat the stormwater runoff generated south of the primary stormwater facility. No live detention is proposed at this smaller facility. The primary stormwater facility has been preliminarily designed to account for the direct release of stormwater runoff from that area south of the primary facility (Basin 1).

In summary, the proposed onsite storm water facilities are to provide treatment and detention for the runoff generated from the development site and portions of future development that may occur nearby.

SECTION B – APPROVAL CONDITIONS SUMMARY

Not applicable for this preliminary report as no conditions are issued at this time.

SECTION C – DOWNSTREAM ANALYSIS

A downstream analysis is to be prepared during the final design phase at which time detailed survey data will be obtained.

SECTION D – QUANTITY CONTROL ANALYSIS & DESIGN

In computing the runoff volume and discharges from the site, the Santa Barbara Urban Hydrograph computer program used by the King County Public Works Dept. was utilized. In using this program, some assumptions had to be made regarding the particular runoff curve numbers to use. Because the hydrological soil groups present at the site are a mix of group "B", "C" and "D" soils, pervious curve numbers ranging from 78 to 89 were determined to exist on the site. Pervious curve numbers from 83 to 88 have been used to represent the lawns, landscaped areas, and other open areas. A curve number of 98 is used for the

impervious surfaces which consist of the streets, sidewalks, driveways, and roofs. The pervious runoff curve numbers used to represent the existing condition of the site ranged from 84 to 85 (meadow or pasture). These curve numbers were obtained from Table III-1.3 of the Stormwater Management Manual for the Puget Sound Basin. The amounts of pervious and impervious acreage existing and predicted for the site are shown in **Tables 1 & 2.**

TABLE 1:

EXISTING AREA QUANTITIES (acres)

Drainage Basin:	Total Area:	Streets & Sidewalks:	Driveways:	Roofs:	Contrib. Impervious Area: (Roofs incl.):	Contrib. Impervious Area: (no Roofs):	Contrib. Pervious Area:
Basin A	23.73	0.09	0.11	0.08	0.28	0.20	23.45
Basin B	19.43	0.15	0.00	0.59	0.74	0.15	18.69
Basin C	1.53	0.17	0.00	0.00	0.17	0.17	1.36
TOTALS:	43.16			**TOTALS:**	1.02	0.52	43.50

TABLE 2:

DEVELOPED AREA QUANTITIES (acres)

Drainage Basin:	Total Area:	Streets & Sidewalks:	Driveways:	Roofs:	Contrib. Impervious Area: (Roofs incl.):	Contrib. Impervious Area: (no Roofs):	Contrib. Pervious Area:
Basin 1	4.43	0.74	0.12	0.57	1.43	0.86	3.00
Basin 2	4.36	0.50	0.04	1.09	1.63	0.54	2.73
Basin 3	3.27	0.78	0.14	0.69	1.61	0.92	1.66
Basin 4	3.35	0.68	0.16	0.80	1.64	0.84	1.71
Basin 5	2.03	0.47	0.07	0.34	0.88	0.54	1.15
Basin 6	2.25	0.48	0.09	0.46	1.03	0.57	1.22
Basin 7	2.17	0.77	0.05	0.23	1.05	0.82	1.12
Basin 8	4.31	1.00	0.16	0.80	1.96	1.16	2.35
Basin 9	3.51	0.88	0.11	0.57	1.56	0.99	1.95
Basin 10	3.33	0.67	0.15	0.75	1.57	0.82	1.76
Basin 11	3.36	0.90	0.16	0.80	1.86	1.06	1.50
Basin 12	3.53	1.00	0.15	0.75	1.90	1.15	1.63
Basin 13	2.26	0.40	0.13	0.63	1.16	0.53	1.10
TOTALS:	42.16			**TOTALS:**	19.28	10.80	22.88

Basin 2 roof area includes 0.80 ac. for pond surface (roofs=0.29 ac.)

The actual computer modeled runoff calculations are presented in appendix I. In **Tables 3 & 4**, the predicted and existing peak discharges from the project are tabulated by basin. The values presented in these tables have been obtained with the Santa Barbara Urban Hydrograph computer program by inputting those values listed in **Tables 1 & 2.**

TABLE 3: Developed Runoff Volumes/Discharge

DEVELOPED RUNOFF VOLUMES/DISCHARGE										
	66% 2-Yr, 24-hr. (6 month storm)		**2 yr., 24 hr. Storm**		**10 yr., 24 hr. Storm**		**25 yr., 24 hr. Storm**		**100 yr., 24 hr. Storm**	
Drainage Basin	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):
Basin 1	0.47	10,600	0.97	19,900	1.72	33,500	2.12	40,500	2.95	55,200
Basin 2	0.74	13,200	1.38	23,500	2.29	38,000	2.76	45,400	3.70	60,500
Basin 3	0.61	10,800	1.09	18,800	1.76	29,800	2.10	35,500	2.79	46,900
Basin 4	0.62	10,800	1.11	18,800	1.81	30,000	2.16	35,800	2.88	47,400
Basin 5	0.34	6,100	0.63	10,800	1.05	17,400	1.26	20,900	1.70	27,800
Basin 6	0.39	6,900	0.71	12,100	1.17	19,500	1.41	23,400	1.89	31,100
Basin 7	0.35	6,800	0.64	11,900	1.04	19,000	1.25	22,700	1.68	30,200
Basin 8	0.74	13,100	1.36	23,200	2.24	37,400	2.69	44,700	3.61	59,500
Basin 9	0.56	10,600	1.04	18,700	1.73	30,300	2.08	36,200	2.80	48,300
Basin 10	0.58	10,300	1.06	18,100	1.74	29,100	2.09	34,800	2.81	46,300
Basin 11	0.59	11,200	1.04	19,200	1.68	30,400	2.01	36,200	2.67	47,900
Basin 12	0.61	10,900	1.10	19,000	1.80	30,500	2.16	36,400	2.89	48,400
Basin 13	0.41	7,300	0.75	12,600	1.21	20,100	1.45	24,000	1.93	31,800
TOTALS:	7.01	128,600	12.88	226,600	21.24	365,000	25.54	436,500	34.30	581,300

TABLE 4: Existing Runoff Volumes/Discharge

EXISTING RUNOFF VOLUMES/DISCHARGE								
	2-Yr, 24-hr. Storm		**10 yr., 24 hr. Storm**		**25 yr., 24 hr. Storm**		**100 yr., 24 hr. Storm**	
Drainage Basin	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):
Basin A	3.89	85,300	7.96	155,600	10.15	193,000	14.69	269,900
Basin B	3.28	68,000	6.75	124,500	8.63	154,700	12.54	217,500
Basin C	0.33	6,080	0.62	10,700	0.78	13,200	1.11	18,200
TOTALS:	7.50	159,380	15.33	290,800	19.56	360,900	28.34	505,600

The detention facility proposed for the development consists of a proposed surface pond that will "stack" live storage volume above the permanent wet pool volume. The hydrographs for the various design storms for the site have been added together and routed through the proposed facility (see Appendix II). The results are shown in **Table 5**. The values shown in **Table 5** represent our final design values after the volume correction factor has been applied. The volume correction factor is based on the sites developed impervious cover and is calculated in Appendix II for the detention facility.

TABLE 5: PROPOSED DETENTION FACILITY PERFORMANCE

Storm Event:	Release Rate:	Allowable Release Rate:	Peak Storage:	Peak Stage:	% of allowable release rate:
2 yr., 24 hr.	2.69 cfs	6.20 cfs	62,140 ft^3	179.45'	43%
10 yr., 24 hr.	5.49 cfs	12.99 cfs	98,070 ft^3	180.23'	42%
25 yr., 24 hr.	8.65 cfs	16.66 cfs	106,980 ft^3	180.41'	52%
100 yr., 24 hr.	17.33 cfs	24.28 cfs	125,400 ft^3	180.79'	71%

Beginning stage elevation=178.0'

The stormwater facility locations and elevations are readily seen on the preliminary stormwater plan. All detailed information regarding the outlet structure and construction of the facility will be presented on the final engineering drawings.

SECTION E – CONVEYANCE SYSTEMS ANALYSIS & DESIGN

The stormwater conveyance system proposed for the project consists primarily of a series of inlets and storm piping that delivers the site stormwater runoff to the stormwater management facilities.

The capacity of each pipe will be analyzed during final design using Manning's Equation for pipe flow with a Manning's roughness coefficient of 0.012. Because of the project topography, there will be much slope within the storm conveyance system. Pipe sizes are expected to range from 12" to 24" in diameter.

SECTION F – WATER QUALITY DESIGN

Two wetponds are proposed to treat the runoff from the site. The primary wetpond will serve drainage basins 2-13 and is located along the western boundary of the project site. The 6-month, 24-hr. storm runoff volume that will be stored in this wetpond is approximately 118,000 cubic feet. This is the volume of developed runoff from drainage basins 2-13 during the 6-month, 24-hr storm event. The secondary wetpond is proposed to treat the developed runoff volume from drainage basin 1 and is located along the southern boundary of the site. It will treat a runoff volume of approximately 10,600 cubic feet

As can be seen, the treatment requirements of the City of La Center Stormwater Ordinance have been met for all runoff entering the proposed wetponds.

SECTION G- SOILS EVALUATION

The Soil Conservation Service maps the majority of soil on the site as Gee silt loam (GeB, GeD) of hydrological soil group "C". There are also areas of Hillsboro silt loam (HoA, HoC) of hydrologic soil group "B" and Odne silt loam (OdB) of hydrologic group "D". Due to the silty characteristics of all of the onsite soils, infiltration is not being proposed for this site. A geotechnical site investigation has been performed by Columbia West Engineering, Inc. Their study confirms the presence of the soils described above.

SECTION H - SPECIAL REPORTS AND STUDIES

A Geotechnical Site Investigation has been performed by Columbia West Engineering, Inc.

A Critical Areas Report has been prepared by Cascadia Ecological Services, Inc.

SECTION I - OTHER PERMITS

An NPDES Permit from the Washington State Department of Ecology is required for this project and shall be obtained prior to construction. In conjunction with the NPDES permit, a Stormwater Pollution Prevention Plan (SWPPP) will also be prepared.

SECTION J – GROUNDWATER MONITORING

Not applicable

SECTION K – MAINTENANCE & OPERATIONS MANUAL

The city of La Center shall maintain the proposed stormwater facilities. At a minimum, the following maintenance items need to be performed periodically to insure proper operation of the stormwater facilities.

Cleaning of debris/litter that may accumulate in or around stormwater facilities.
Inspection of outfall structure (orifice/riser) to prevent plugging or clogging.
Inspection of fences encompassing stormwater facilities to insure effectiveness.

SECTION L - TECHNICAL APPENDIX

Appendix I
Runoff Calculations
Existing Conditions Basin Map
Developed Conditions Basin Map

Appendix II
Detention Calculations

Appendix III
Water Quality Calculations

Appendix I

Runoff Calculations

Existing Conditions Basin Map

Developed Conditions Basin Map

Developed Condition

DEVELOPED RUNOFF VOLUMES/DISCHARGE										
	66% 2-Yr, 24-hr. storm (6 month storm)		**2 yr., 24 hr. storm**		**10 yr., 24 hr. storm**		**25 yr., 24 hr. storm**		**100 yr., 24 hr. storm**	
Drainage Basin	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):
Basin 1	0.47	10,600	0.97	19,900	1.72	33,500	2.12	40,500	2.95	55,200
Basin 2	0.74	13,200	1.38	23,500	2.29	38,000	2.76	45,400	3.70	60,500
Basin 3	0.61	10,800	1.09	18,800	1.76	29,800	2.10	35,500	2.79	46,900
Basin 4	0.62	10,800	1.11	18,800	1.81	30,000	2.16	35,800	2.88	47,400
Basin 5	0.34	6,100	0.63	10,800	1.05	17,400	1.26	20,900	1.70	27,800
Basin 6	0.39	6,900	0.71	12,100	1.17	19,500	1.41	23,400	1.89	31,100
Basin 7	0.35	6,800	0.64	11,900	1.04	19,000	1.25	22,700	1.68	30,200
Basin 8	0.74	13,100	1.36	23,200	2.24	37,400	2.69	44,700	3.61	59,500
Basin 9	0.56	10,600	1.04	18,700	1.73	30,300	2.08	36,200	2.80	48,300
Basin 10	0.58	10,300	1.06	18,100	1.74	29,100	2.09	34,800	2.81	46,300
Basin 11	0.59	11,200	1.04	19,200	1.68	30,400	2.01	36,200	2.67	47,900
Basin 12	0.61	10,900	1.10	19,000	1.80	30,500	2.16	36,400	2.89	48,400
Basin 13	0.41	7,300	0.75	12,600	1.21	20,100	1.45	24,000	1.93	31,800
TOTALS:	7.01	128,600	12.88	226,600	21.24	365,000	25.54	436,500	34.30	581,300

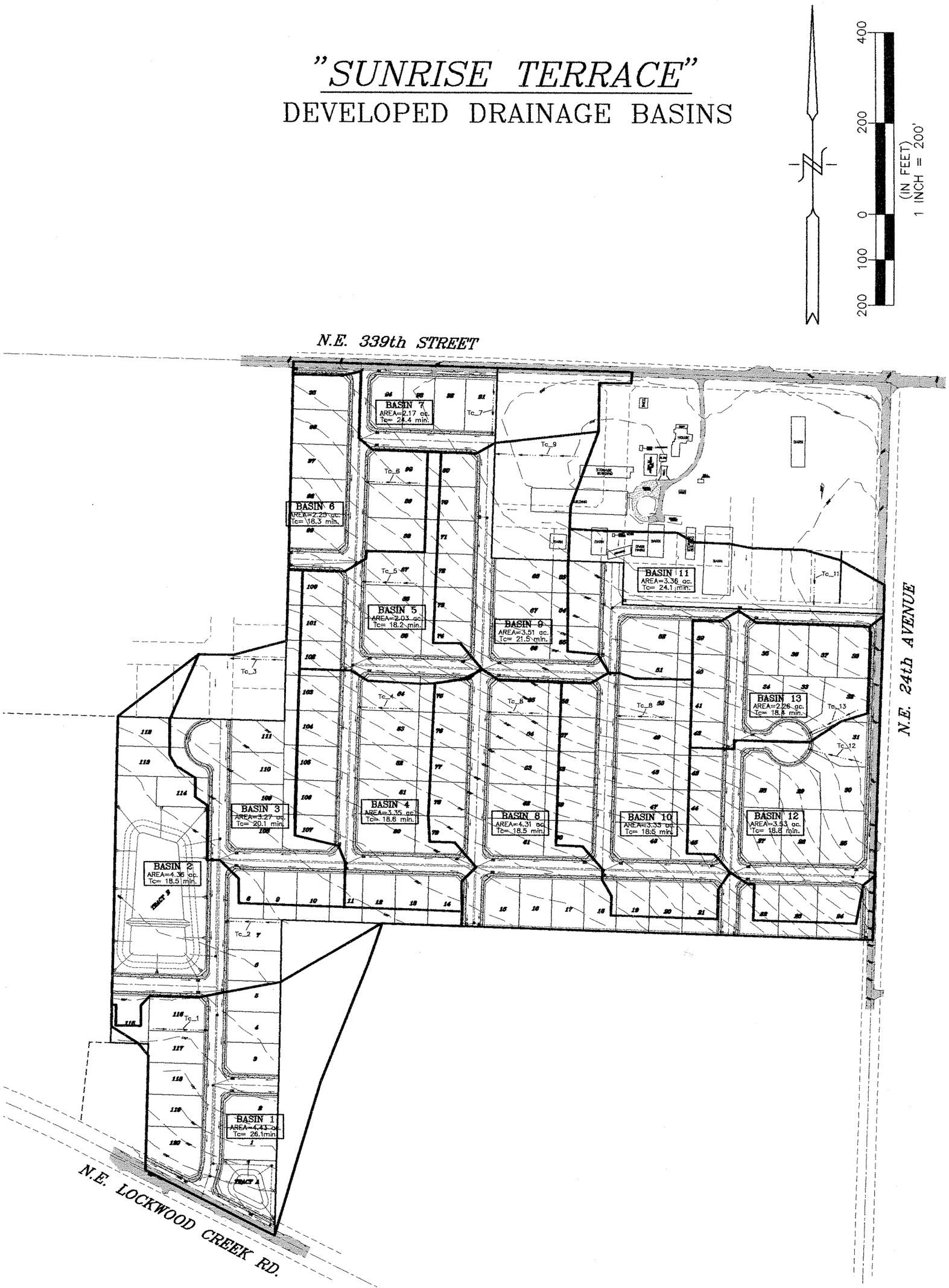
DEVELOPED AREA QUANTITIES (acres)								
Drainage Basin:	Total Area:	Streets & Sidewalks:	Driveways:	Roofs:	Contrib. Impervious Area: (Roofs incl.):	Contrib. Impervious Area: (no Roofs):	Contrib. Pervious Area:	
Basin 1	4.43	0.74	0.12	0.57	1.43	0.86	3.00	Comp. Perv. CN=83 (83.2)
Basin 2	4.36	0.50	0.04	1.09	1.63	0.54	2.73	Comp. Perv. CN=88 (88.2)
Basin 3	3.27	0.78	0.14	0.69	1.61	0.92	1.66	Comp. Perv. CN=88 (87.6)
Basin 4	3.35	0.68	0.16	0.80	1.64	0.84	1.71	Comp. Perv. CN=87 (86.7)
Basin 5	2.03	0.47	0.07	0.34	0.88	0.54	1.15	Perv. CN=86
Basin 6	2.25	0.48	0.09	0.46	1.03	0.57	1.22	Perv. CN=86
Basin 7	2.17	0.77	0.05	0.23	1.05	0.82	1.12	Perv. CN=86
Basin 8	4.31	1.00	0.16	0.80	1.96	1.16	2.35	Comp. Perv. CN=86 (85.7)
Basin 9	3.51	0.88	0.11	0.57	1.56	0.99	1.95	Perv. CN=86
Basin 10	3.33	0.67	0.15	0.75	1.57	0.82	1.76	Perv. CN=86
Basin 11	3.36	0.90	0.16	0.80	1.86	1.06	1.50	Perv. CN=86
Basin 12	3.53	1.00	0.15	0.75	1.90	1.15	1.63	Comp. Perv. CN=83
Basin 13	2.26	0.40	0.13	0.63	1.16	0.53	1.10	Perv. CN=86
TOTALS:	42.16			**TOTALS:**	19.28	10.80	22.88	

Basin 2 Roof Area includes 0.80 ac. for pond surface (roofs=0.29 ac.)

DEVELOPED TIME OF CONCENTRATION CALCULATIONS									
	Sheet Flow				Gutter Flow				
	2 yr., 24 hr. rainfall total (inches) = 2.25								
Drainage Basin:	Flow Length (ft.):	Average Slope (ft./ft.):	Rough. Coeff. (n):	Overland Flow Time (min.):	Flow Length (ft.):	Average Slope (ft./ft.):	Shallow Conc. Flow Time (min.):	Total Time of Conc. (min.)	Drainage Basin:
Basin 1	120	0.010	0.240	25.4	290	0.070	0.7	26.1	**Basin 1**
Basin 2	110	0.020	0.240	18.0	150	0.035	0.5	18.5	**Basin 2**
Basin 3	120	0.020	0.240	19.3	400	0.080	0.9	20.1	**Basin 3**
Basin 4	110	0.020	0.240	18.0	320	0.090	0.7	18.6	**Basin 4**
Basin 5	110	0.020	0.240	18.0	150	0.130	0.3	18.2	**Basin 5**
Basin 6	110	0.020	0.240	18.0	170	0.080	0.4	18.3	**Basin 6**
Basin 7	110	0.010	0.240	23.7	260	0.050	0.7	24.4	**Basin 7**
Basin 8	110	0.020	0.240	18.0	300	0.120	0.5	18.5	**Basin 8**
Basin 9	190	0.040	0.240	21.1	120	0.040	0.4	21.5	**Basin 9**
Basin 10	110	0.020	0.240	18.0	310	0.140	0.5	18.5	**Basin 10**
Basin 11	110	0.010	0.240	23.7	130	0.040	0.4	24.1	**Basin 11**
Basin 12	110	0.020	0.240	18.0	400	0.080	0.9	18.8	**Basin 12**
Basin 13	110	0.020	0.240	18.0	150	0.040	0.5	18.4	**Basin 13**

"SUNRISE TERRACE"

DEVELOPED DRAINAGE BASINS



Basin 1 (Developed)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3 83 1.43 98 26.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        3.0  83.0    1.4  98.0        26.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .47          7.83          10601

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST1_BIO


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3 83 1.43 98 26.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        3.0  83.0    1.4  98.0        26.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .97          7.83          19887

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST1_2


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3 83 1.43 98 26.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        3.0  83.0    1.4  98.0        26.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.72          7.83          33484

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST1_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3 83 1.43 98 26.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        3.0  83.0    1.4  98.0        26.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.12          7.83          40538

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST1_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3 83 1.43 98 26.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        3.0  83.0    1.4  98.0        26.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.95          7.83          55201

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST1_100
```

Basin 2 (Developed)

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.73 88 1.63 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        2.7  88.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .74           7.83           13158

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST2_BIO


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.73 88 1.63 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        2.7  88.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.38           7.83           23485

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST2_2


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.73 88 1.63 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        2.7  88.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      2.29           7.83           37971

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST2_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.73 88 1.63 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        2.7  88.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      2.76           7.83           45417

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST2_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.73 88 1.63 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.4        2.7  88.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      3.70           7.83           60540

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST2_100
```

Basin 3 (Developed)

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.66 88 1.61 98 20.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  88.0    1.6  98.0        20.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .61           7.83           10839

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST3_BIO


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.66 88 1.61 98 20.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  88.0    1.6  98.0        20.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.09           7.83           18800

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST3_2


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.66 88 1.61 98 20.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  88.0    1.6  98.0        20.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.76           7.83           29832

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST3_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.66 88 1.61 98 20.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  88.0    1.6  98.0        20.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.10          7.83          35474

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST3_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.66 88 1.61 98 20.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  88.0    1.6  98.0        20.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.79          7.83          46899

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST3_100
```

Basin 4 (Developed)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.71 87 1.64 98 18.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  87.0    1.6  98.0        18.6
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .62           7.83           10804

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST4_BIO


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.71 87 1.64 98 18.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  87.0    1.6  98.0        18.6
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.11           7.83           18837

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST4_2


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.71 87 1.64 98 18.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  87.0    1.6  98.0        18.6
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.81           7.83           30031

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST4_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.71 87 1.64 98 18.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  87.0    1.6  98.0        18.6
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.16          7.83          35772

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST4_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.71 87 1.64 98 18.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.7  87.0    1.6  98.0        18.6
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.88          7.83          47417

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST4_100
```

Basin 5 (Developed)

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.15 86 .88 98 18.2

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.0        1.1  86.0     .9  98.0        18.2
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .34           7.83           6064

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST5_BIO


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.15 86 .88 98 18.2

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.0        1.1  86.0     .9  98.0        18.2
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .63           7.83          10777

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST5_2


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.15 86 .88 98 18.2

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.0        1.1  86.0     .9  98.0        18.2
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.05           7.83          17428

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST5_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.15 86 .88 98 18.2

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.0        1.1   86.0     .9   98.0       18.2
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.26           7.83           20858

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST5_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.15 86 .88 98 18.2

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.0        1.1   86.0     .9   98.0       18.2
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.70           7.83           27841

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST5_100
```

Basin 6 (Developed)

```
--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.22 86 1.03 98 18.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.2  86.0    1.0  98.0        18.3
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .39           7.83           6876

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST6_BIO


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.22 86 1.03 98 18.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.2  86.0    1.0  98.0        18.3
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .71           7.83          12139

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST6_2


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.22 86 1.03 98 18.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.2  86.0    1.0  98.0        18.3
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.17           7.83          19542

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST6_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.22 86 1.03 98 18.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.2  86.0    1.0  98.0        18.3
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.41          7.83          23355

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST6_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.22 86 1.03 98 18.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.2  86.0    1.0  98.0        18.3
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.89          7.83          31110

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST6_100
```

Basin 7 (Developed)

```
--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.12 86 1.05 98 24.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.2        1.1  86.0    1.0  98.0        24.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .35          7.83           6789

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST7_BIO


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.12 86 1.05 98 24.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.2        1.1  86.0    1.0  98.0        24.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .64          7.83          11879

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST7_2


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.12 86 1.05 98 24.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.2        1.1  86.0    1.0  98.0        24.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.04          7.83          19036

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST7_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------ENTER:
A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.12 86 1.05 98 24.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.2        1.1  86.0    1.0  98.0        24.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.25          7.83          22718

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST7_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.12 86 1.05 98 24.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.2        1.1  86.0    1.0  98.0        24.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.68          7.83          30200

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST7_100
```

Basin 8 (Developed)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.35 86 1.96 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.3        2.3  86.0    2.0  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .74           7.83           13134

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST8_BIO


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.35 86 1.96 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.3        2.3  86.0    2.0  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.36           7.83           23206

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST8_2


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.35 86 1.96 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.3        2.3  86.0    2.0  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      2.24           7.83           37378

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST8_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.35 86 1.96 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.3        2.3  86.0    2.0  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      2.69           7.83           44678

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST8_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.35 86 1.96 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.3        2.3  86.0    2.0  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      3.61           7.83           59529

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST8_100
```

Basin 9 (Developed)

```
--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.95 86 1.56 98 21.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        2.0  86.0    1.6  98.0        21.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .56           7.83           10579

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST9_BIO


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.95 86 1.56 98 21.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        2.0  86.0    1.6  98.0        21.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.04           7.83           18747

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST9_2


--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.95 86 1.56 98 21.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        2.0  86.0    1.6  98.0        21.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.73           7.83           30256

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST9_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.95 86 1.56 98 21.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        2.0  86.0    1.6  98.0        21.5
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.08          7.83          36188

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST9_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.95 86 1.56 98 21.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        2.0  86.0    1.6  98.0        21.5
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.80          7.83          48260

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST9_100
```

Basin 10 (Developed)

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.76 86 1.57 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.8  86.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .58           7.83           10306

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST10_BIO


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.76 86 1.57 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.8  86.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.06           7.83           18127

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST10_2


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.76 86 1.57 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.8  86.0    1.6  98.0        18.5
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.74           7.83           29109

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST10_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.76 86 1.57 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.8   86.0   1.6   98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.09          7.83          34760

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST10_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.76 86 1.57 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.3        1.8   86.0   1.6   98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.81          7.83          46252

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST10_100
```

Basin 11 (Developed)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.50 86 1.86 98 24.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.4        1.5  86.0    1.9  98.0        24.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .59           7.83           11157

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST11_BIO


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.50 86 1.86 98 24.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.4        1.5  86.0    1.9  98.0        24.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.04           7.83           19228

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST11_2


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.50 86 1.86 98 24.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.4        1.5  86.0    1.9  98.0        24.1
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.68           7.83           30446

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST11_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.50 86 1.86 98 24.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN      A     CN
       3.4        1.5  86.0     1.9  98.0        24.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.01          7.83          36194

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST11_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.50 86 1.86 98 24.1

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN      A     CN
       3.4        1.5  86.0     1.9  98.0        24.1
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.67          7.83          47853

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST11_100
```

Basin 12 (Developed)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.63 83 1.90 98 18.8

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        1.6  83.0    1.9  98.0        18.8
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .61           7.83           10930

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST12_BIO


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.63 83 1.90 98 18.8

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        1.6  83.0    1.9  98.0        18.8
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.10           7.83           19038

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST12_2


--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.63 83 1.90 98 18.8

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        1.6  83.0    1.9  98.0        18.8
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.80           7.83           30478

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST12_10
```

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.63 83 1.90 98 18.8

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        1.6  83.0    1.9  98.0        18.8
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.16          7.83          36387

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST12_25


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.63 83 1.90 98 18.8

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5        1.6  83.0    1.9  98.0        18.8
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      2.89          7.83          48431

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST12_100
```

Basin 13 (Developed)

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
******* 6-MONTH  24-HOUR STORM  ****  1.49" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.10 86 1.16 98 18.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.1  86.0    1.2  98.0        18.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .41          7.83           7263

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST13_BIO


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.10 86 1.16 98 18.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.1  86.0    1.2  98.0        18.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .75          7.83          12638

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST13_2


------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.10 86 1.16 98 18.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.1  86.0    1.2  98.0        18.4
  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.21          7.83          20146

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST13_10
```

```
------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.10 86 1.16 98 18.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.1  86.0    1.2  98.0        18.4
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.45           7.83           24001

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST13_25


------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.10 86 1.16 98 18.4

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3        1.1  86.0    1.2  98.0        18.4
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.93           7.83           31830

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:ST13_100
```

Existing Condition

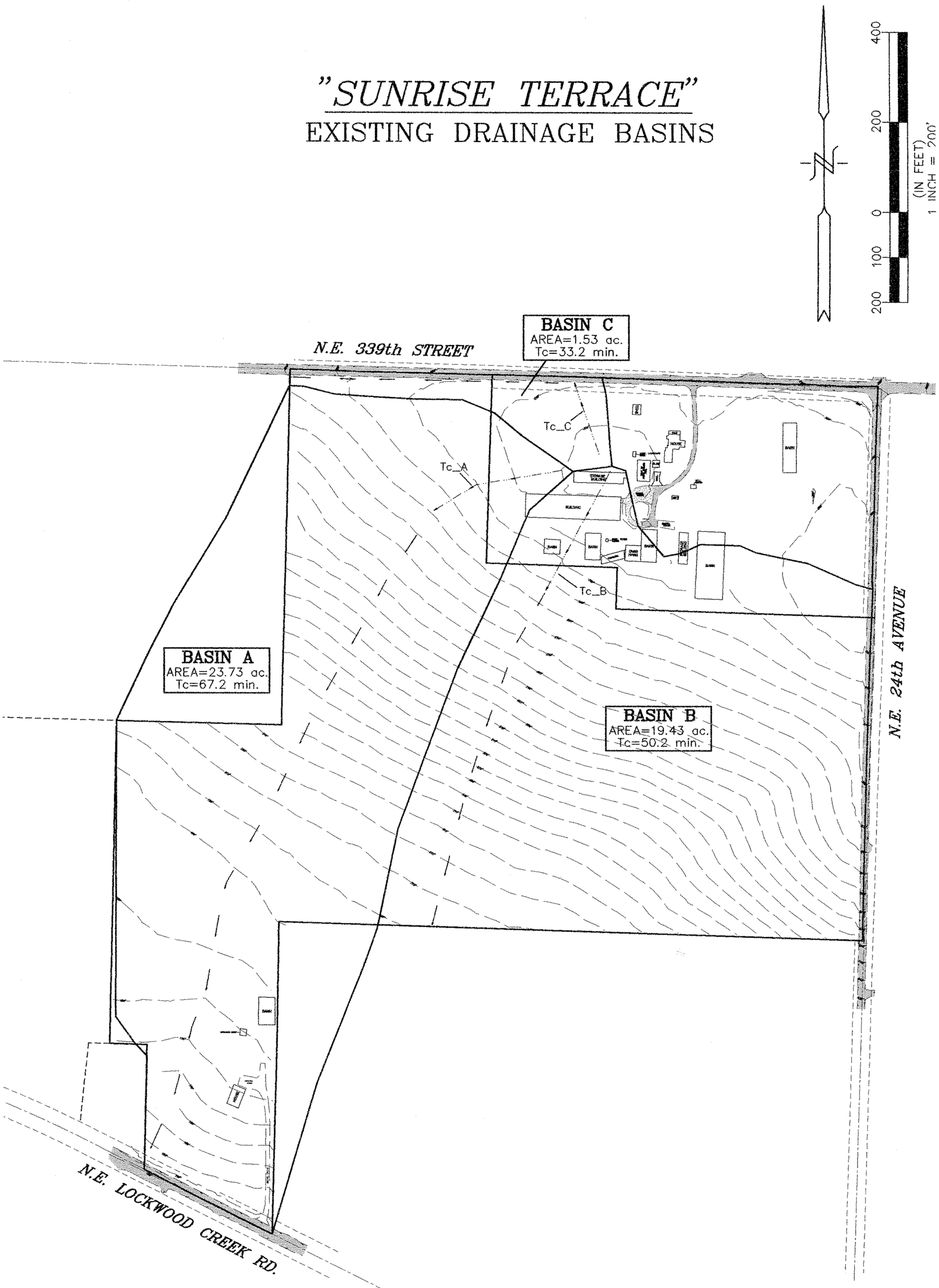
EXISTING RUNOFF VOLUMES/DISCHARGE								
	2-Yr, 24-hr. storm		10 yr., 24 hr. storm		25 yr., 24 hr. storm		100 yr., 24 hr. storm	
Drainage Basin	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):
Basin A	3.89	85,300	7.96	155,600	10.15	193,000	14.69	269,900
Basin B	3.28	68,000	6.75	124,500	8.63	154,700	12.54	217,500
Basin C	0.33	6,080	0.62	10,700	0.78	13,200	1.11	18,200
TOTALS:	7.50	159,380	15.33	290,800	19.56	360,900	28.34	505,600

EXISTING AREA QUANTITIES (acres)								
Drainage Basin:	Total Area:	Streets & Sidewalks:	Driveways:	Roofs:	Contrib. Impervious Area: (Roofs incl.):	Contrib. Impervious Area: (no Roofs):	Contrib. Pervious Area:	
Basin A	23.73	0.09	0.11	0.08	0.28	0.20	23.45	Perv. CN=85
Basin B	19.43	0.15	0.00	0.59	0.74	0.15	18.69	Perv. CN=84
Basin C	1.53	0.17	0.00	0.00	0.17	0.17	1.36	Perv. CN=85
TOTALS:	43.16			**TOTALS:**	1.02	0.52	43.50	

EXISTING TIME OF CONCENTRATION CALCULATIONS									
	Sheet Flow				Shallow Conc. Flow				
	2 yr., 24 hr. rainfall total (inches) = 2.25								
Drainage Basin:	Flow Length (ft.):	Average Slope (ft./ft.):	Rough. Coeff. (n):	Overland Flow Time (min.):	Flow Length (ft.):	Average Slope (ft./ft.):	Shallow Conc. Flow Time (min.):	Total Time of Conc. (min.)	Drainage Basin:
Basin A	300	0.066	0.150	17.1	1600	0.080	8.6	25.6	**Basin A**
Basin B	300	0.060	0.150	17.7	780	0.110	3.6	21.3	**Basin B**
Basin C	160	0.044	0.150	12.1	620	0.022	6.3	18.5	**Basin C**

"SUNRISE TERRACE"

EXISTING DRAINAGE BASINS



EXISTING BASIN A (Actual)

```
--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
23.45 85 .28 98 25.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      23.7       23.5  85.0     .3  98.0       25.6
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      3.89          7.83          85251

--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
23.45 85 .28 98 25.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      23.7       23.5  85.0     .3  98.0       25.6
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      7.96          7.83          155572

--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
23.45 85 .28 98 25.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      23.7       23.5  85.0     .3  98.0       25.6
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
     10.15          7.83          192990

--------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
23.45 85 .28 98 25.6

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      23.7       23.5  85.0     .3  98.0       25.6
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
     14.69          7.83          269942
```

EXISTING BASIN B (Actual)

```
--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
18.69 84 .74 98 21.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      19.4       18.7  84.0     .7  98.0       21.3
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      3.28          7.83          67992

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
18.69 84 .74 98 21.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      19.4       18.7  84.0     .7  98.0       21.3
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      6.75          7.83         124455

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
18.69 84 .74 98 21.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      19.4       18.7  84.0     .7  98.0       21.3
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      8.63          7.83         154706

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
18.69 84 .74 98 21.3

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS   TC(MINUTES)
                  A     CN     A     CN
      19.4       18.7  84.0     .7  98.0       21.3
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
     12.54          7.83         217549
```

EXISTING BASIN C (Actual)

```
--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 2-YEAR  24-HOUR STORM  ****  2.25" TOTAL PRECIP. *******
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.36 85 .17 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       1.5        1.4  85.0     .2  98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .33          7.83          6075

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.25" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.36 85 .17 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       1.5        1.4  85.0     .2  98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .62          7.83         10711

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  25-YEAR  24-HOUR STORM  ****  3.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.36 85 .17 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       1.5        1.4  85.0     .2  98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .78          7.83         13161

--------------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
********* 100-YEAR  24-HOUR STORM  ****  4.75" TOTAL PRECIP. *********
--------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.36 85 .17 98 18.5

DATA PRINT-OUT:
  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       1.5        1.4  85.0     .2  98.0        18.5
  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      1.11          7.83         18216
```

Appendix II
Detention Calculations

INITIAL DETENTION CALCULATION

ENTER: NUMBER OF ORIFICES, RISER-HEAD(ft), RISER-DIAMETER(in)
1 2 24

RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW = .72 FT

SPECIFY ITERATION DISPLAY: Y - YES, N - NO
N

SPECIFY: R - REVIEW/REVISE INPUT, C - CONTINUE
C

INITIAL STORAGE VALUE FOR ITERATION PURPOSES: 94281 CU-FT

SINGLE ORIFICE RESTRICTOR: DIA= 8.84"

PERFORMANCE:	INFLOW	TARGET-OUTFLOW	ACTUAL-OUTFLOW	PK-STAGE	STORAGE
DESIGN HYD:	11.91 (2-YR)	3.00	3.00	2.00	53005
TEST HYD 1:	19.52 (10-YR)	13.00	10.83	2.53	68410
TEST HYD 2:	23.42 (25-YR)	17.44	15.78	2.74	74830
TEST HYD 3:	31.35 (100-YR)	25.00	20.61	3.23	89960

AS CAN BE SEEN ABOVE, THE DESIGN AND STORAGE VOLUMES SHOWN PROVIDE MORE THAN ADEQUATE PEAK RELEASE RATES.

THE DEVELOPED SITE IS TO BECOME APPROX. 46% IMPERVIOUS ⇒ A VOLUME CORRECTION FACTOR OF 28% MUST BE APPLIED TO THE STORAGE VOLUMES (FROM FIGURE III-1.1 OF THE PUGETSOUND MANUAL)

⇒ REQUIRED STORAGE VOLUMES =

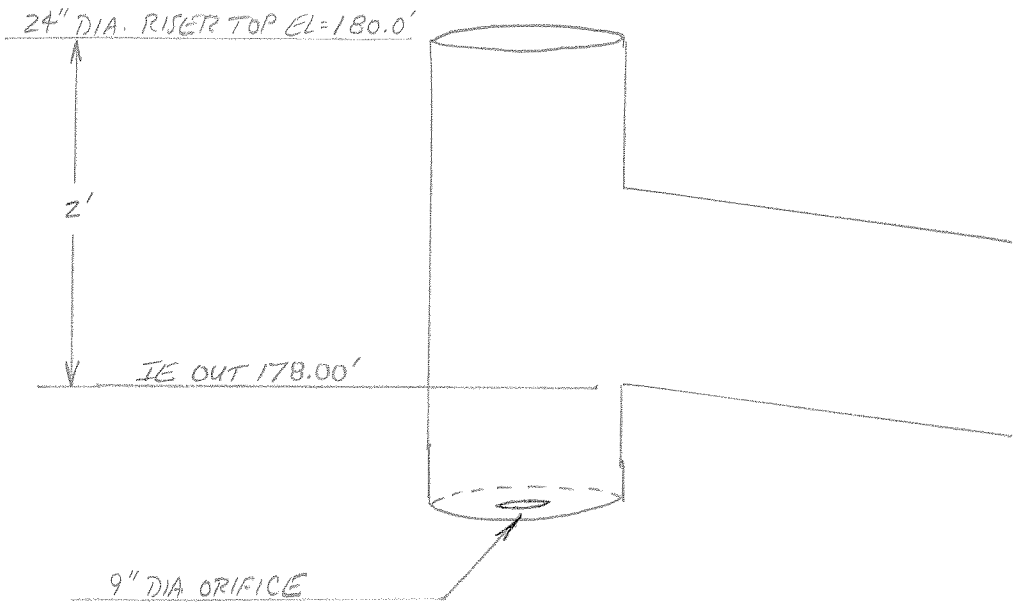
$(53{,}005\ FT^3)(1.28) = 67{,}850\ FT^3$ @ A STAGE OF 2.00' (2-YR)
$(68{,}410\ FT^3)(1.28) = 87{,}600\ FT^3$ @ A STAGE OF 2.53' (10-YR.)
$(74{,}830\ FT^3)(1.28) = 95{,}800\ FT^3$ @ A STAGE OF 2.74' (25-YR.)
$(89{,}960\ FT^3)(1.28) = 115{,}200\ FT^3$ @ A STAGE OF 3.23' (100-YR.)

*AS CAN BE SEEN IN THE STORM DETENTION ROUTING DATA ON THE FOLLOWING SHEET, THESE REQUIRED STORAGE VOLUMES ARE NOT ONLY MET BUT ARE GREATLY EXCEEDED.

STORM DETENTION ROUTING DATA

N	ELEV	STAGE (FT.):	9" DIA. ORIF. ADISC (CFS):	24" DIA. RISER BDISC (CFS):	STORAGE (CU.FT.):	PERC-AREA
1	178.00	.00	.00	.00	.0	.0
2	178.20	.20	1.00	.00	8100.0	.0
3	178.40	.40	1.41	.00	16300.0	.0
4	178.60	.60	1.73	.00	24700.0	.0
5	178.80	.80	2.00	.00	33300.0	.0
6	179.00	1.00	2.23	.00	42000.0	.0
7	179.20	1.20	2.45	.00	50700.0	.0
8	179.40	1.40	2.64	.00	59700.0	.0
9	179.60	1.60	2.83	.00	68700.0	.0
10	179.80	1.80	3.00	.00	78000.0	.0
11	180.00	2.00	3.16	.00	87300.0	.0
12	180.20	2.20	3.31	1.74	96800.0	.0
13	180.40	2.40	3.46	4.93	106400.0	.0
14	180.60	2.60	3.60	9.05	116200.0	.0
15	180.80	2.80	3.74	13.94	126100.0	.0
16	181.00	3.00	3.87	15.13	136200.0	.0
17	181.20	3.20	4.00	16.57	146400.0	.0
18	181.40	3.40	4.12	17.90	156700.0	.0
19	181.60	3.60	4.24	19.14	167200.0	.0
20	181.80	3.80	4.35	20.30	177800.0	.0
21	182.00	4.00	4.47	21.39	188600.0	.0

INITIAL STAGE ELEV = 178.00
AVERAGE PERC-RATE = .0
FILENAME: ST_DATA



2-YR., 24-HR. STORM ROUTE THROUGH DETENTION FACILITY

```
 RESERVOIR ROUTING ROUTINE W/SPLIT-OUTFLOW

 SPECIFY [d:][path]filename[.ext] OF ROUTING DATA
 ST_DATA
  DISPLAY ROUTING DATA (Y or N)?
 N

 ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:
 ST_2

 INFLOW/OUTFLOW ANALYSIS:

   PEAK-INFLOW(CFS)    PEAK-OUTFLOW(CFS)    OUTFLOW-VOL(CU-FT)
                            A       B            A           B
        11.91              2.69     .00        206933          0

   INITIAL-STAGE(FT)   TIME-OF-PEAK(HRS)    PEAK-STAGE-ELEV(FT)
       178.00              12.83                179.45

   REQUIRED STORAGE:     62140 CU-FT
```

$Q_p = 2.69$ CFS
ALLOWABLE = 6.20 CFS
⇒ O.K.

10-YR., 24-HR. STORM ROUTE THROUGH DETENTION FACILITY

```
RESERVOIR ROUTING ROUTINE W/SPLIT-OUTFLOW

SPECIFY [d:][path]filename[.ext] OF ROUTING DATA
ST_DATA
 DISPLAY ROUTING DATA (Y or N)?
N

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:
ST_10

INFLOW/OUTFLOW ANALYSIS:

  PEAK-INFLOW(CFS)    PEAK-OUTFLOW(CFS)    OUTFLOW-VOL(CU-FT)
                           A       B            A           B
       19.52              3.33    2.16        292651      38857

  INITIAL-STAGE(FT)   TIME-OF-PEAK(HRS)    PEAK-STAGE-ELEV(FT)
      178.00              10.67                180.23

  REQUIRED STORAGE:     98070 CU-FT
```

$Q_p = 5.49$ CFS
ALLOWABLE = 12.99 CFS
⇒ O.K.

25-YR., 24-HR. STORM ROUTE THROUGH DETENTION FACILITY

```
RESERVOIR ROUTING ROUTINE W/SPLIT-OUTFLOW

SPECIFY [d:][path]filename[.ext] OF ROUTING DATA
ST_DATA
 DISPLAY ROUTING DATA (Y or N)?
N

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:
ST_25

INFLOW/OUTFLOW ANALYSIS:

  PEAK-INFLOW(CFS)    PEAK-OUTFLOW(CFS)    OUTFLOW-VOL(CU-FT)
                          A       B            A          B
       23.42            3.47    5.18        310063     85491

  INITIAL-STAGE(FT)   TIME-OF-PEAK(HRS)    PEAK-STAGE-ELEV(FT)
      178.00               8.83                180.41

  REQUIRED STORAGE:    106980 CU-FT
```

Q_p = 8.65 CFS
ALLOWABLE ≈ 16.66 CFS
⇒ O.K.

100-YR., 24-HR. STORM ROUTE THROUGH DETENTION FACILITY

```
RESERVOIR ROUTING ROUTINE W/SPLIT-OUTFLOW

SPECIFY [d:][path]filename[.ext] OF ROUTING DATA
ST_DATA
 DISPLAY ROUTING DATA (Y or N)?
N

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:
ST_100

INFLOW/OUTFLOW ANALYSIS:

  PEAK-INFLOW(CFS)    PEAK-OUTFLOW(CFS)    OUTFLOW-VOL(CU-FT)
                          A       B            A          B
       31.35            3.73   13.60        327839     198118

  INITIAL-STAGE(FT)   TIME-OF-PEAK(HRS)    PEAK-STAGE-ELEV(FT)
      178.00               8.50                180.79

  REQUIRED STORAGE:    125400 CU-FT
```

Q_p = 17.33 CFS
ALLOWABLE ≈ 24.28 CFS
⇒ O.K.

Appendix III
Water Quality Calculations

DEVELOPED RUNOFF VOLUMES/DISCHARGE										
	66% 2-Yr, 24-hr. storm (6 month storm)		**2 yr., 24 hr. storm**		**10 yr., 24 hr. storm**		**25 yr., 24 hr. storm**		**100 yr., 24 hr. storm**	
Drainage Basin	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):	Peak Discharge (cfs):	Total Volume (ft3):
Basin 1	0.47	10,600	0.97	19,900	1.72	33,500	2.12	40,500	2.95	55,200
Basin 2	0.74	13,200	1.38	23,500	2.29	38,000	2.76	45,400	3.70	60,500
Basin 3	0.61	10,800	1.09	18,800	1.76	29,800	2.10	35,500	2.79	46,900
Basin 4	0.62	10,800	1.11	18,800	1.81	30,000	2.16	35,800	2.88	47,400
Basin 5	0.34	6,100	0.63	10,800	1.05	17,400	1.26	20,900	1.70	27,800
Basin 6	0.39	6,900	0.71	12,100	1.17	19,500	1.41	23,400	1.89	31,100
Basin 7	0.35	6,800	0.64	11,900	1.04	19,000	1.25	22,700	1.68	30,200
Basin 8	0.74	13,100	1.36	23,200	2.24	37,400	2.69	44,700	3.61	59,500
Basin 9	0.56	10,600	1.04	18,700	1.73	30,300	2.08	36,200	2.80	48,300
Basin 10	0.58	10,300	1.06	18,100	1.74	29,100	2.09	34,800	2.81	46,300
Basin 11	0.59	11,200	1.04	19,200	1.68	30,400	2.01	36,200	2.67	47,900
Basin 12	0.61	10,900	1.10	19,000	1.80	30,500	2.16	36,400	2.89	48,400
Basin 13	0.41	7,300	0.75	12,600	1.21	20,100	1.45	24,000	1.93	31,800
TOTALS:	7.01	128,600	12.88	226,600	21.24	365,000	25.54	436,500	34.30	581,300

- THE PRIMARY WETPOND ACCEPTS THE RUNOFF FROM DEVELOPED DRAINAGE BASINS 2-13. THE 6-MONTH, 24-HR STORM VOLUME FROM BASINS 2-13 IS 118,000 FT^3 => THIS VOLUME MUST BE PROVIDED AS "DEAD" STORAGE WITHIN THE WETPOND.

- THE SECONDARY WETPOND RECEIVES RUNOFF FROM BASIN 1. THE 6-MONTH, 24-HR. STORM VOLUME FROM BASIN 1 IS 10,600 FT^3 => THIS VOLUME MUST BE PROVIDED AS "DEAD" STORAGE WITHIN THE WETPOND.