DRAINAGE REPORT
CLEAR CREEK ADDITION

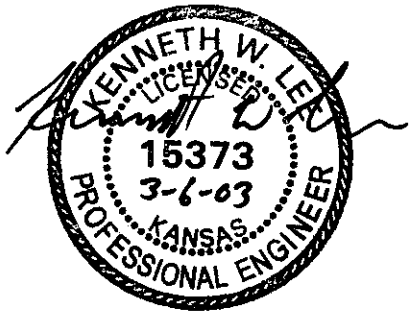
WICHITA, SEDGWICK COUNTY, KANSAS

February 2003

Revised March 6th, 2003

Ruggles & Bohm P.A.

Engineering, Surveying, Land Planning



DRAINAGE REPORT
CLEAR CREEK ADDITION

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Drainage Plan
Clear Creek Addition
Wichita, Sedgwick County, Kansas
March 6, 2003

Introduction

This report contains calculations and supporting documentation for the drainage plan for the proposed Clear Creek Addition to Wichita, Sedgwick County, Kansas. The existing site is approximately 85 acres with a combination of cultivated ground and trees. The majority of the site is cultivated.

There are three existing detention facilities that are either onsite or directly adjacent to the site. Two ponds are along the properties north line. These ponds were constructed with the Springdale Lakes Addition improvements. The third detention facility is a temporary facility installed by the City of Wichita to address drainage problems experienced by the addition to the south. The two existing ponds will be incorporated into the detention system for the proposed addition. The city's temporary detention area will be removed and replaced after the new detention pond is constructed and sufficient grading is performed to direct runoff to the pond.

Hydrologic calculations are included in the report to show that the maximum water surface of the existing ponds will not be exceeded with the proposed improvements. The outflow from the southeast pond will be restricted to an 18" RCP so that the combination of detained flow and undetained flow matches the amount that can be carried by the existing 24" RCP that drains the existing facility. The soil types on the property are predominantly Irwin, which is Hydrologic Soil Group D.

Pond Hydrology

The Army Corps of Engineers HEC-HMS (HEC-1) Hydrology Program was used to calculate runoff for the sizing of detention ponds. Stormwater runoff for the 100 year storm, 24 hour storm was evaluated for this site.

The proposed detention ponds will have 10:1 slopes above the static pool where grade allows and 3:1 slopes below the static pool. Bank slopes will be 6:1 in areas where existing grade does not permit the flatter slopes. The ponds will be constructed with a berm or high bank such that there is a minimum of 1.0' of free board above the 100 year water surface. A 24" RCP will be installed to provide outlet control on Pond 1 and Pond 2. Pond 3 will have an 18" RCP for outlet control. No modifications are proposed for the outlets of the existing ponds.

The existing ponds maximum water surfaces were obtained from the Storm drain plan prepared for the Spring Valley Estates Addition in 1980. Onsite ponds were sized to keep maximum water surfaces at or below the levels indicated in those plans. Also, the

ponds were oversized to allow perimeter drainage to runoff undetained and keep total developed runoff at or below predeveloped levels.

The pond that controls the drainage in the southeast portion was oversized to reduce runoff to a level that could be conveyed by the existing 24" RCP in the adjacent addition. See the Hydrology Data section of the Appendix for supporting data.

Hydraulics

Storm water runoff from the site will be calculated for the two and one hundred year return periods using the rational formula. Curb capacities will be checked for the capability of the street curbs to contain the initial (two year) storm, and that the design storm (100 year) is contained within the street right-of-way. Runoff factors for drainage areas are taken from Attachment A, Drainage Criteria Manual, City of Wichita, Kansas. A minimum time of concentration of 15 minutes will be used, except in the instance where a larger value can be calculated. The hydraulic properties of storm water sewer systems will be calculated with Haestead Methods StormCad software.

Runoff Coefficients

Runoff coefficients are taken from Attachment D, Drainage Criteria, City of Wichita, Kansas. Based on the type D soils, and a general lot size of ¼ acre, the following runoff factors for use in the Rational Equation will be used:

$C_2 = 0.50$ $C_{100} = 0.76$

Rainfall intensities for a 15-minute time of concentration are as follows:

$I_2 = 3.83$ inches/hour $I_{100} = 7.37$ inches/hour

Curb Capacity

To verify curb capacity for the initial storm, flows at critical sections were evaluated. Flow calculations done with Neenah Inlet Grate Capacity and Flow Rate Calculator.

Section 1: Curb slope = 0.5%, Transverse slope = 3.1% (typical)
At 0.3' Depth, Q = 3.3 cfs per side
At 0.5' Depth, Q = 12.8 cfs per side

Section 2: Curb slope = 1.0%,
At 0.3' Depth, Q = 4.6 cfs per side
At 0.5' Depth, Q = 17.8 cfs per side

Based on applying the above capacities to various critical points, full height curb should be used on Watson, from St. Andrews to the east line of Lot 27; Morris from the west

line of Lot 36 to the east line of Lot 34; and Twinlake from the west line of Lot 5 to the east line of Lot 8.

Runoff values for the basins indicated on the attached drainage plan for use in the sizing of the storm water sewer system are:

Basin Number	Tc (Min.)	Area (Acres)	C2	C100	I2 (in/hr)	I100 (in/hr)	Q2 (cfs)	Q100 (cfs)
A1	15.00	1.31	0.50	0.76	3.83	7.37	2.51	7.34
A2	15.00	1.42	0.50	0.76	3.83	7.37	2.72	7.95
B1	15.00	0.74	0.50	0.76	3.83	7.37	1.42	4.14
B2	15.00	1.53	0.50	0.76	3.83	7.37	2.93	8.57
C1	15.00	2.00	0.50	0.76	3.83	7.37	3.83	11.20
C2	15.00	4.36	0.50	0.76	3.83	7.37	8.35	24.42
D1	15.00	1.31	0.50	0.76	3.83	7.37	2.51	7.34
D2	15.00	0.51	0.50	0.76	3.83	7.37	0.98	2.86
D3	15.00	1.10	0.50	0.76	3.83	7.37	2.11	6.16
E1	15.00	3.16	0.50	0.76	3.83	7.37	6.05	17.70
E2	15.00	1.63	0.50	0.76	3.83	7.37	3.12	9.13
F1	15.00	3.07	0.50	0.76	3.83	7.37	5.88	17.20
F2	15.00	3.04	0.50	0.76	3.83	7.37	5.82	17.03
G1	15.00	1.65	0.50	0.76	3.83	7.37	3.16	9.24
G2	15.00	1.66	0.50	0.76	3.83	7.37	3.18	9.30
H1	15.00	3.20	0.50	0.76	3.83	7.37	6.13	17.92
H2	15.00	3.55	0.50	0.76	3.83	7.37	6.80	19.88
H3	15.00	3.41	0.50	0.76	3.83	7.37	6.53	19.10
I1	15.00	2.04	0.50	0.76	3.83	7.37	3.91	11.43

Storm Water Sewer System Design

The storm water sewers for the plat were designed to handle the 100 year storm in most cases. Storm sewer 100 is the one exception to this since its main purpose is to intercept water before entering the addition to the north, but 100 year overflow is readily available. The pipes were designed with a minimum of 0.50% slope with the tailwater set at the outfall ponds maximum water surface.

Inlets will be chosen at the time of design and additional yard inlets may be added at that time. When possible, viewout openings were set at an elevation that allows water to overtop curb or rear yards before reaching the viewout elevations. SWS 200 is the exception to this and additional inlet capacity should be considered at the time of final design.

The pipe that drains the Pond in Reserve B will be 24" RCP to match the downstream system. At this point in time, the developer is planning to use a weir and channel to convey Data for the storm sewer design can be found in Appendix B.

Perimeter Drainage

Drainage along the north line of the addition will be handled by creating swales to convey water to the adjacent detention ponds. The natural ground along each of these areas has an average slope of 0.8 percent, and new grading of drainage swales will be 1.0 percent minimum slope.

Perimeter drainage along the east line of the addition is proposed to sheet drain into the roadside ditches of 143rd Street North. This matches the natural drainage of the area and total runoff from the site has not been increased from predevelopment.

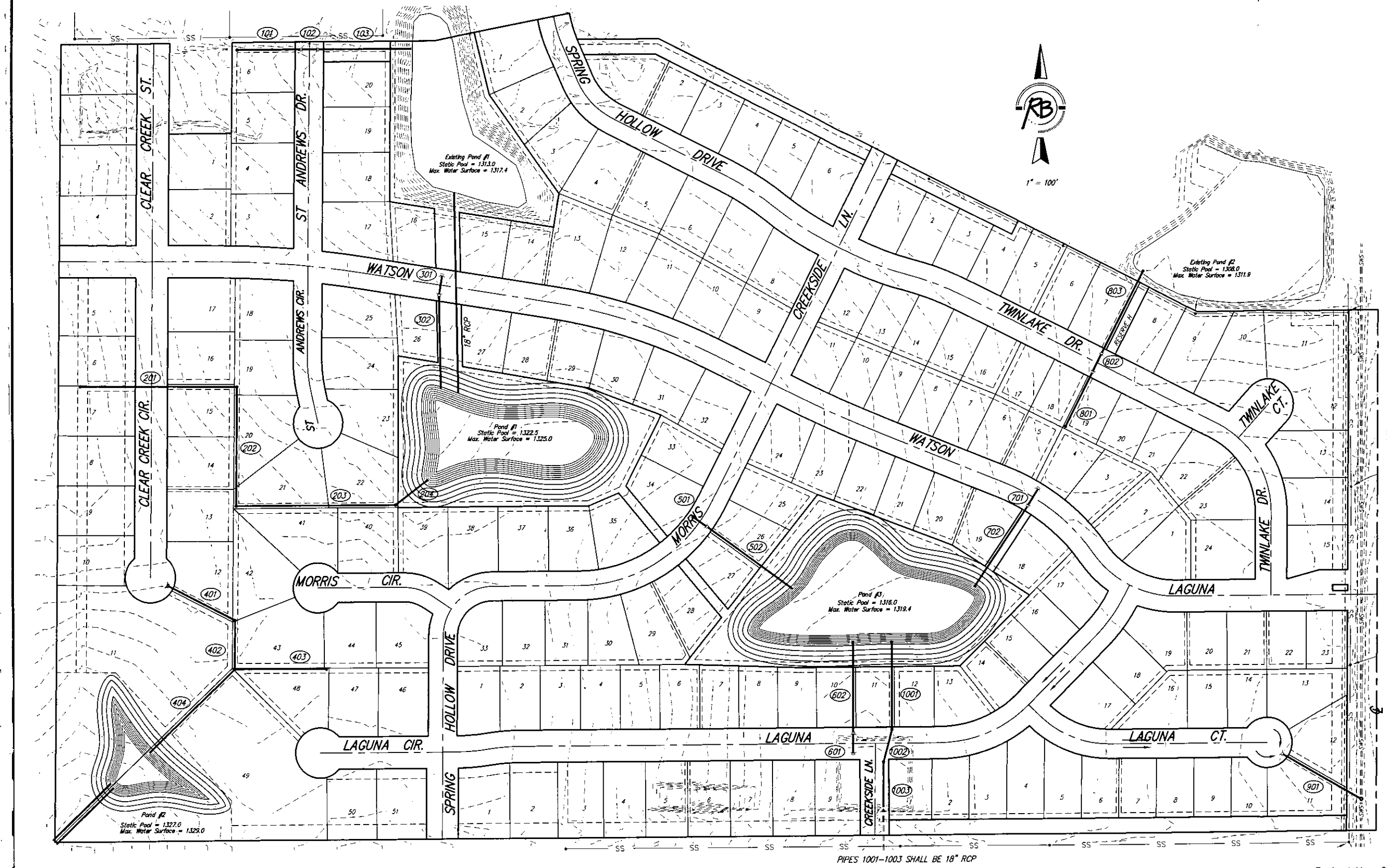
Drainage along the south line of the addition will grade to the pond in the southwest corner in the areas where that is the natural drainage. The remainder of the south side will sheet drain along the south side to the streets where it will be picked up by existing storm sewer. The proposed ponds are oversized to limit post-developed runoff to less than pre-developed levels.

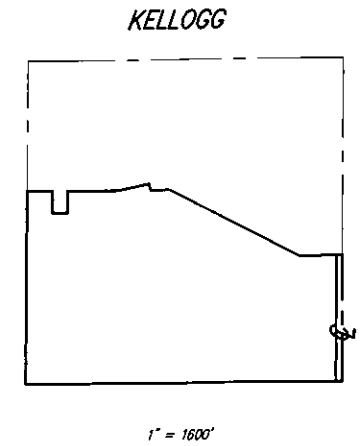
Conclusions

Proposed drainage on the site has been designed to either be below predeveloped levels as determined by HEC-HMS or has been designed to maintain maximum water levels on existing ponds at or below previously set maximum levels.

The storm sewer has been designed to handle the 100 year storm where necessary. The minimum pipe size shall be 15".

Perimeter drainage will be drained to ponds where possible and will be carried to streets or existing drainage ditches where pond drainage is not possible. Ponds will be oversized to compensated for undetained runoff.





PIPES 1001–1003 SHALL BE 18" RCP

NOTES:

ADDITIONAL INLETS MAY BE ADDED AT THE TIME OF DESIGN TO PROVIDE ADDITIONAL INLET CAPACITY.

SEE DRAINAGE PLAN FOR RUNOFF COEFFICIENTS AND VOLUMES FOR BASINS INDICATED ON THIS PLAN.

PROPOSED PONDS SHOWN ON THIS PLAN HAVE BEEN OVERSIZED TO ALLOW FOR UNDETAINED RUNOFF AT SITE'S PERIMETER.

Revised Mar. 6, 2003

CLEAR CREEK ADDITION
DRAINAGE PLAN
WICHITA, KANSAS

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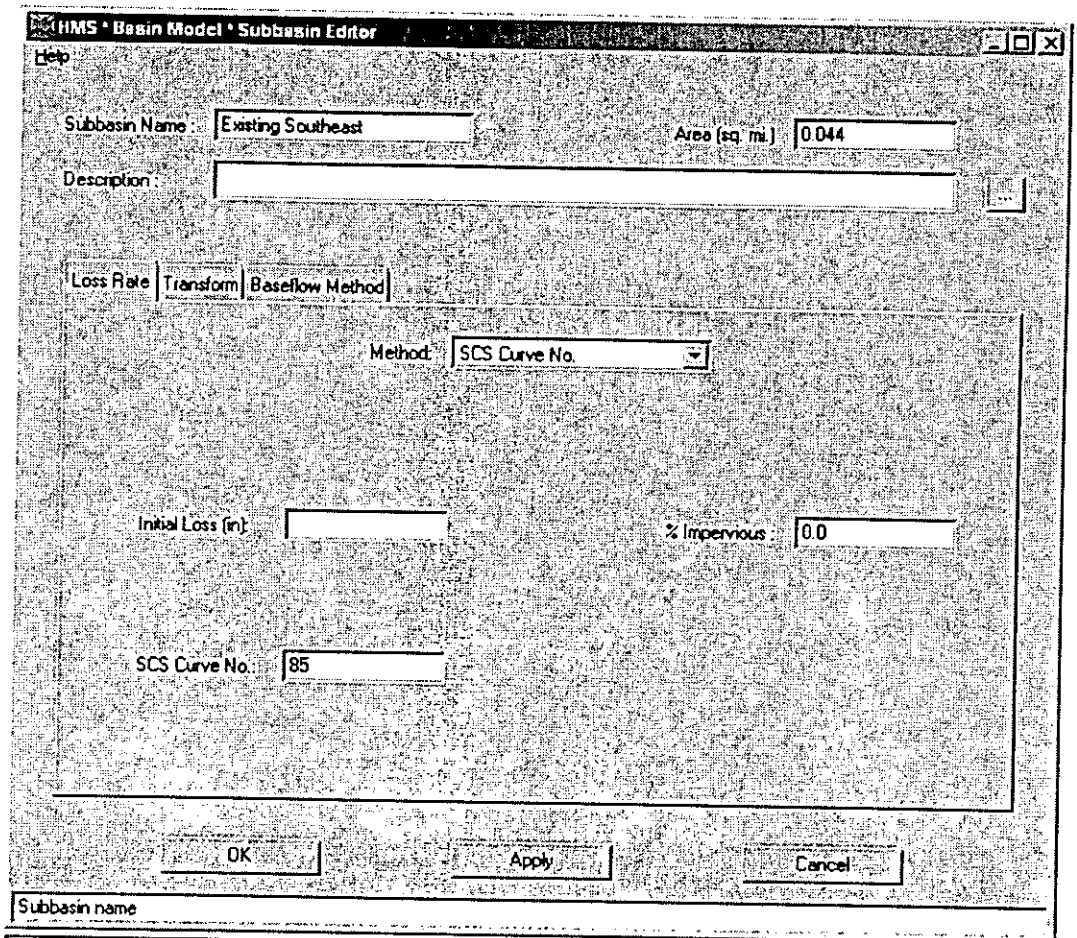
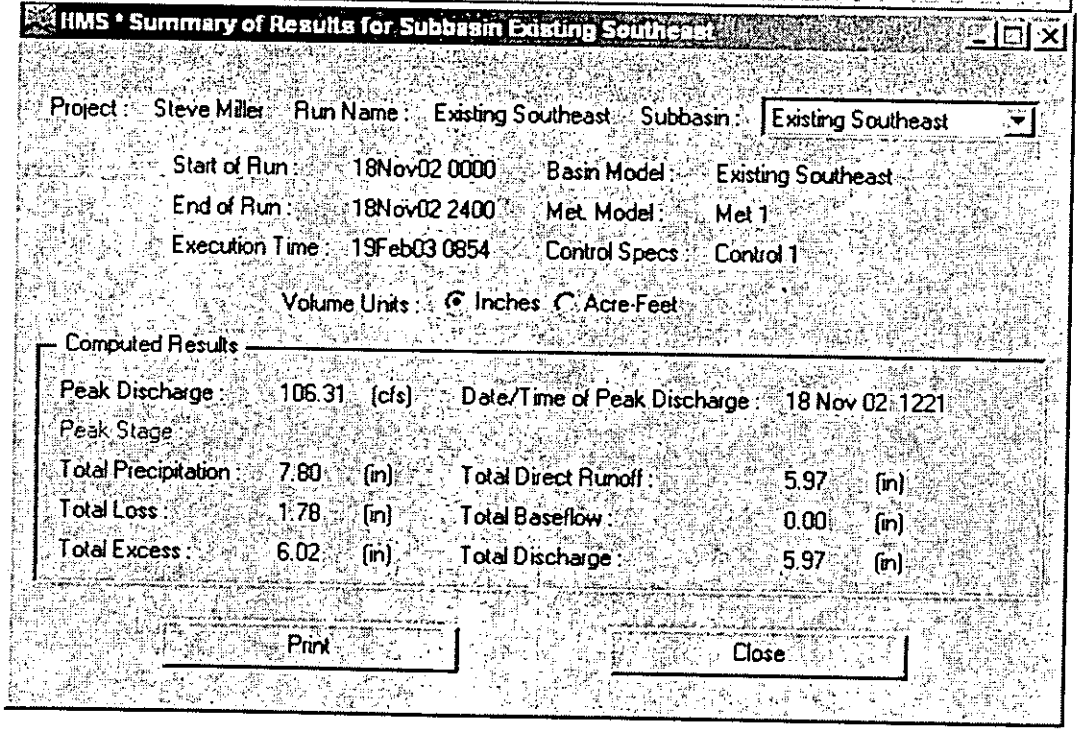
DESIGN KWL
DRAWN KWL
REVISED
UTILITY
DRAWING FILE GRADING PLAN
PROJECT NUMBER
DATE Feb. 21, 2003
SHEET 1 OF 1

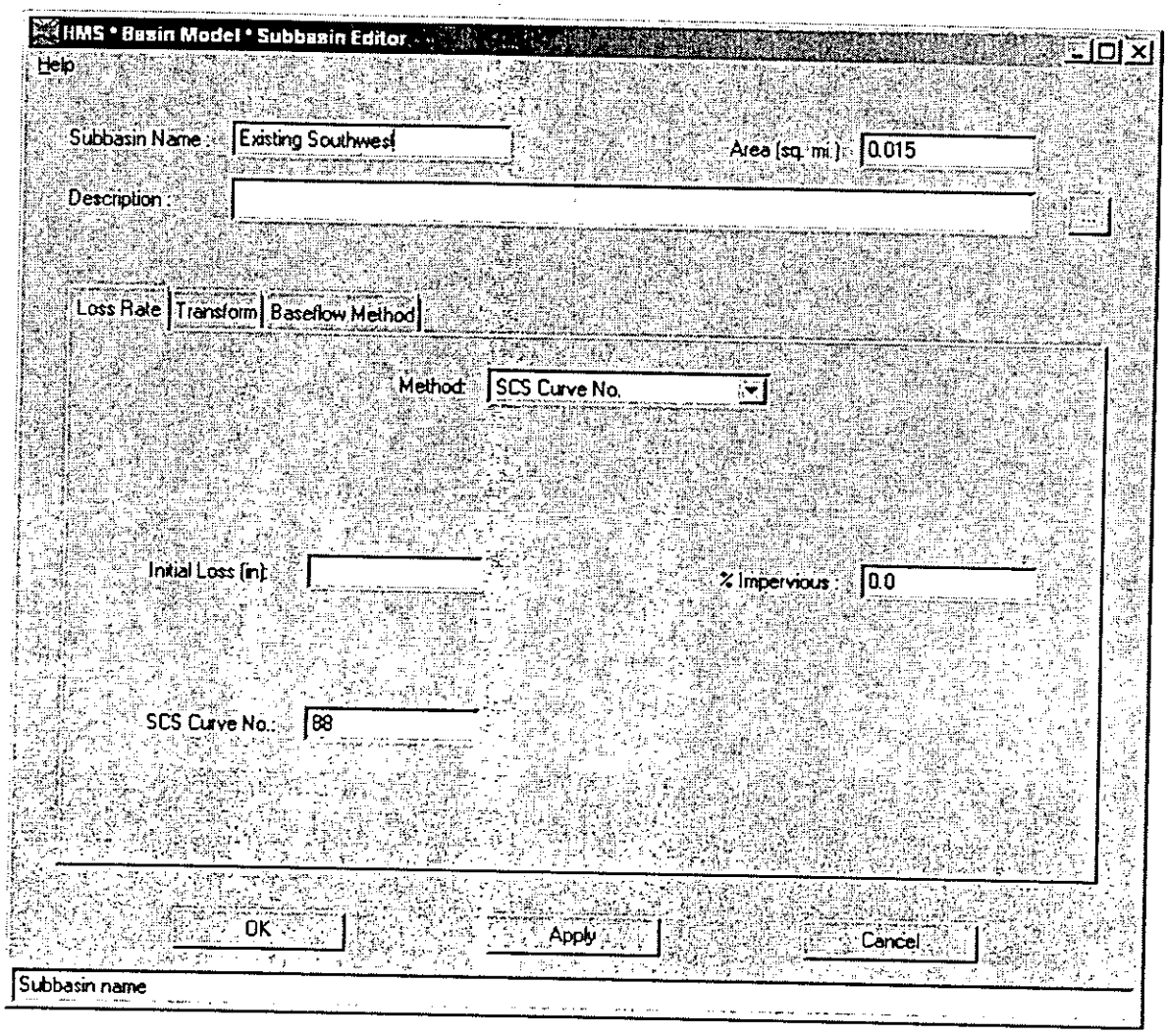
APPENDIX A
HYDROLOGIC DATA

Existing Southeast


HMS * Basin Model * Subbasin Editor
Help
Subbasin Name: Existing Southeast
Area (sq. mi.) 0.044
Description:
Loss Rate
Transform
Baseflow Method
Method: SCS Curve No.
Initial Loss (in):
% Impervious: 0.0
SCS Curve No.: 85
OK
Apply
Cancel
Subbasin name


HMS * Summary of Results for Subbasin Existing Southeast
Project: Steve Miller
Run Name: Existing Southeast
Subbasin: Existing Southeast
Start of Run: 18Nov02 0000
End of Run: 18Nov02 2400
Execution Time: 19Feb03 0854
Basin Model: Existing Southeast
Met. Model: Met 1
Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Discharge: 106.31 (cfs)
Date/Time of Peak Discharge: 18 Nov 02 1221
Peak Stage:
Total Precipitation: 7.80 (in)
Total Loss: 1.78 (in)
Total Excess: 6.02 (in)
Total Direct Runoff: 5.97 (in)
Total Baseflow: 0.00 (in)
Total Discharge: 5.97 (in)
Print
Close


Existing Southwest


HMS * Basin Model * Subbasin Editor
Help
Subbasin Name :
Existing Southwest
Area (sq. mi.) :
0.015
Description :
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious :
0.0
SCS Curve No.:
88
OK
Apply
Cancel
Subbasin name

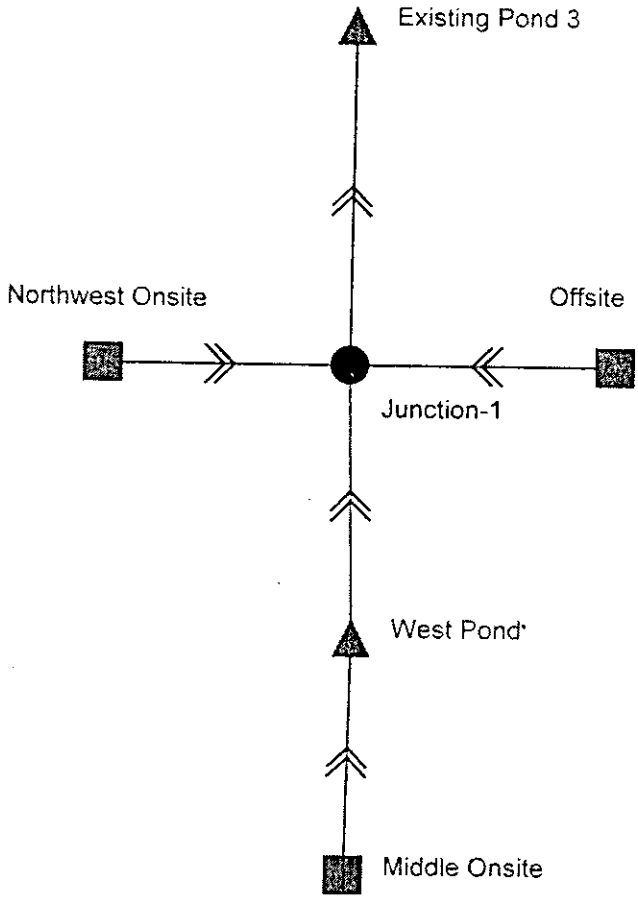
HMS * Summary of Results for Existing Southwest

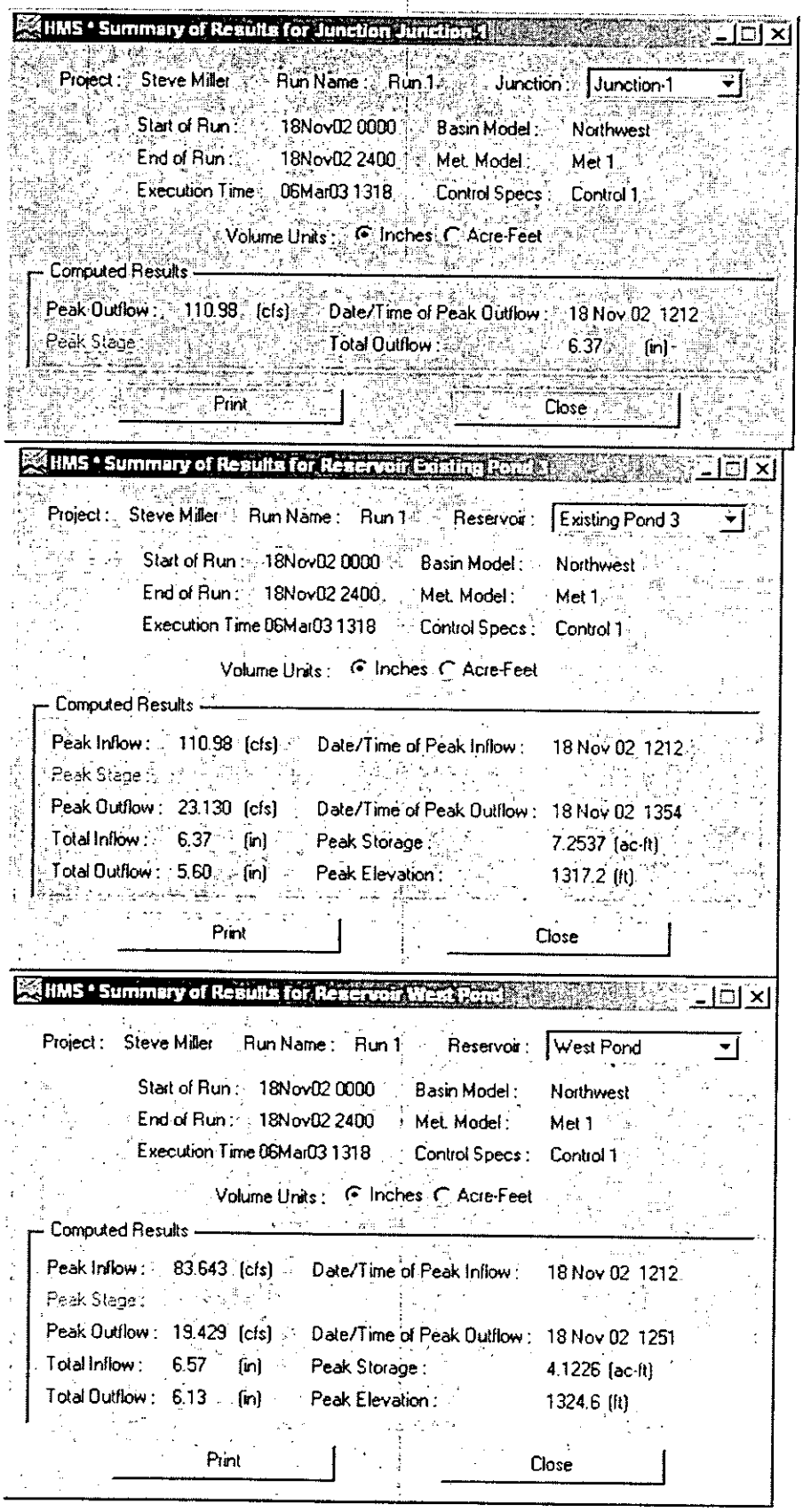
Project : Steve Miller Run Name : Existing Southwest

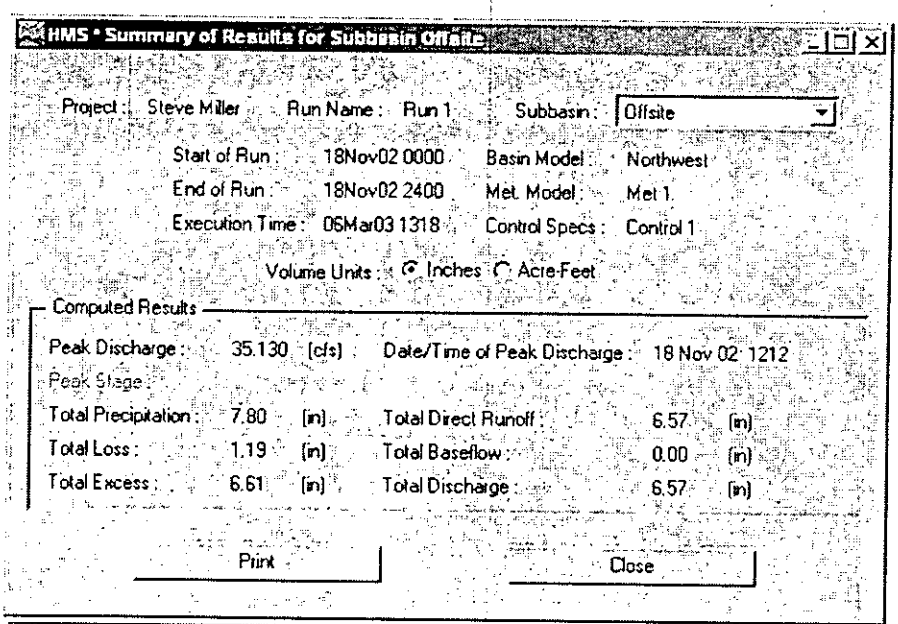
Start of Run	: 18Nov02 0000	Basin Model	: Existing Southwest
End of Run	: 18Nov02 2400	Met. Model	: Met 1
Execution Time	: 21Nov02 0829	Control Specs	: Control 1

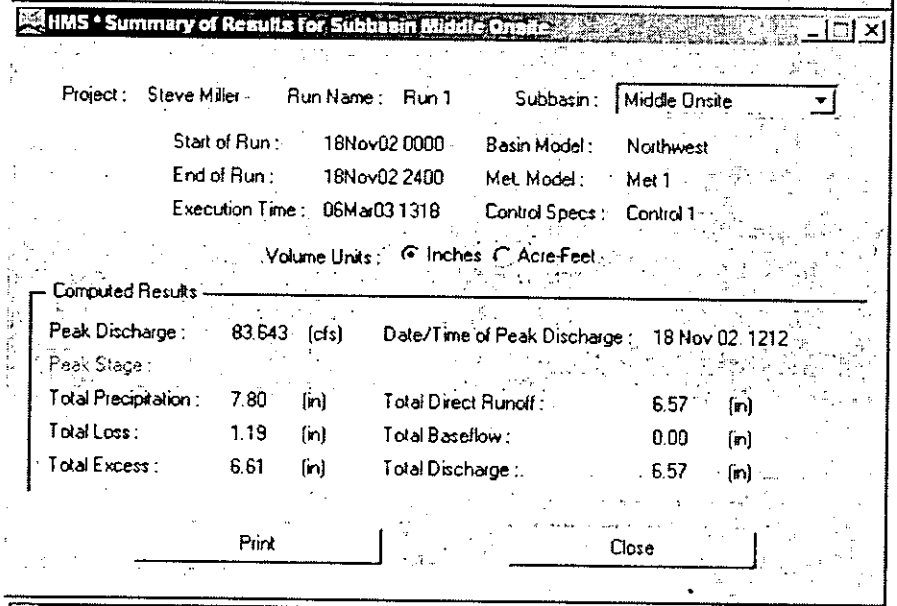
Computed Results

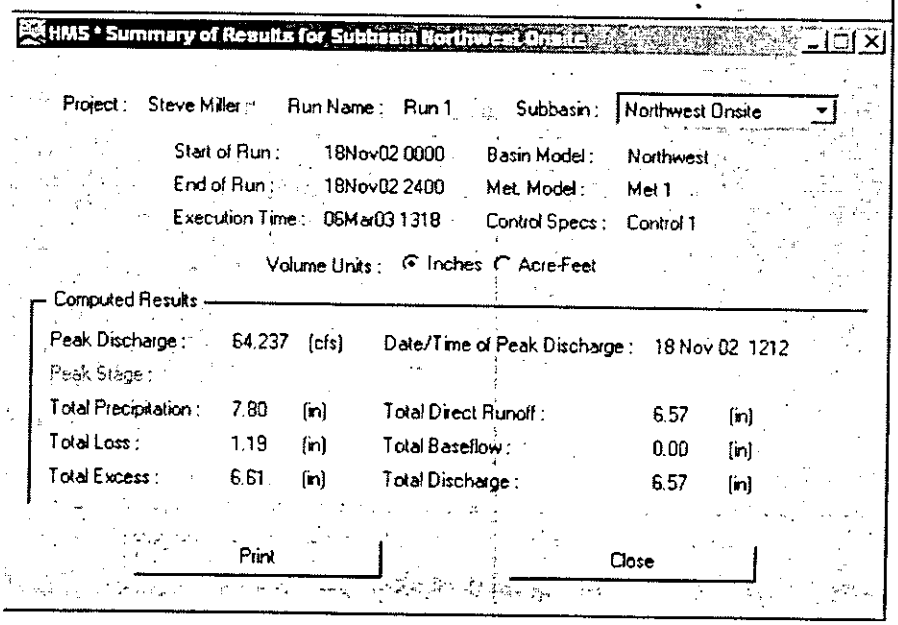
Peak Discharge	: 37.908 (cfs)	Date/Time of Peak Discharge	: 18 Nov 02 1221
Total Precipitation	: 7.80 (in)	Total Direct Runoff	: 6.32 (in)
Total Loss	: 1.43 (in)	Total Baseflow	: 0.00 (in)
Total Excess	: 6.37 (in)	Total Discharge	: 6.32 (in)

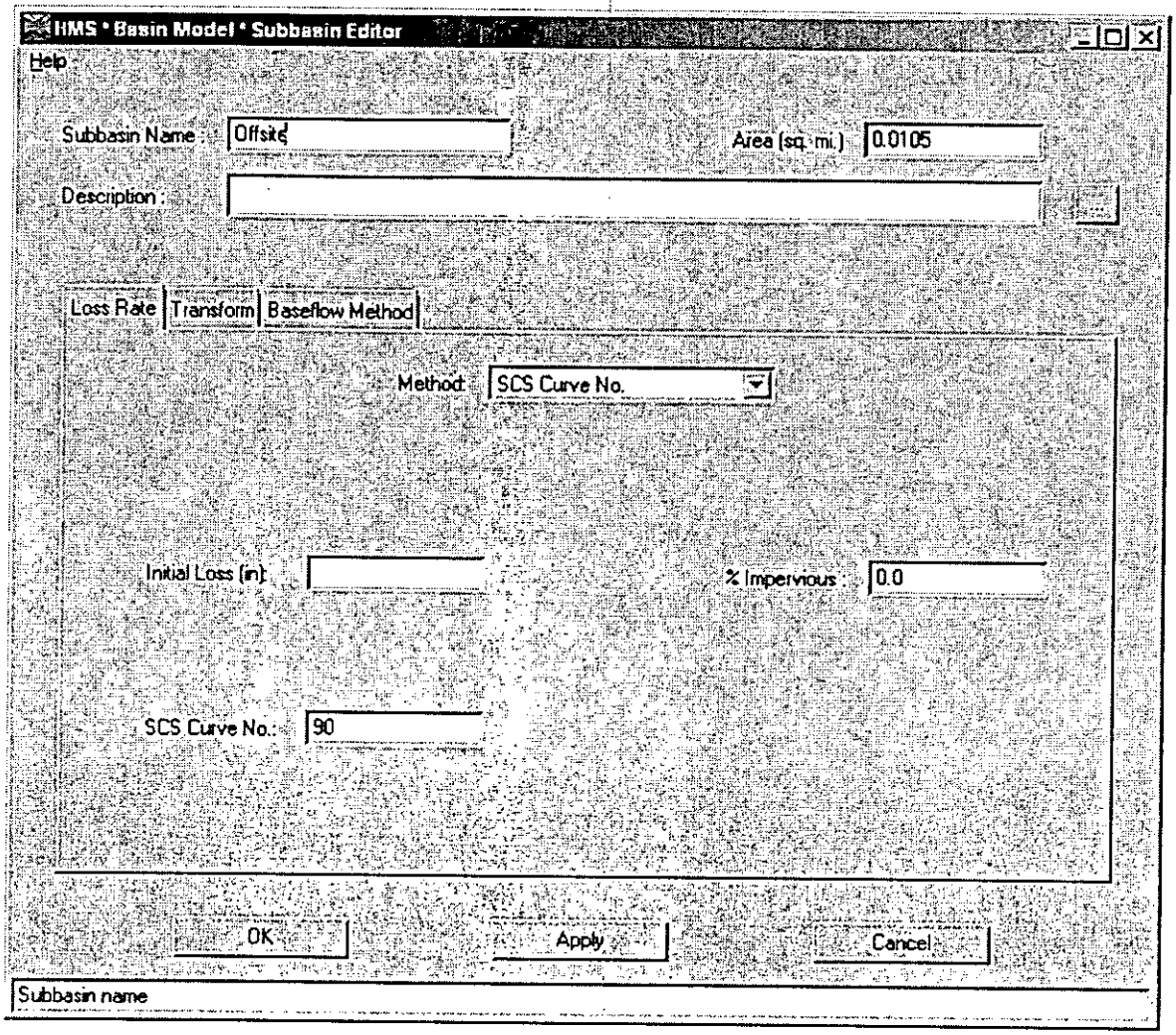

Existing Pond 3
Northwest Onsite
Offsite
Junction-1
West Pond
Middle Onsite

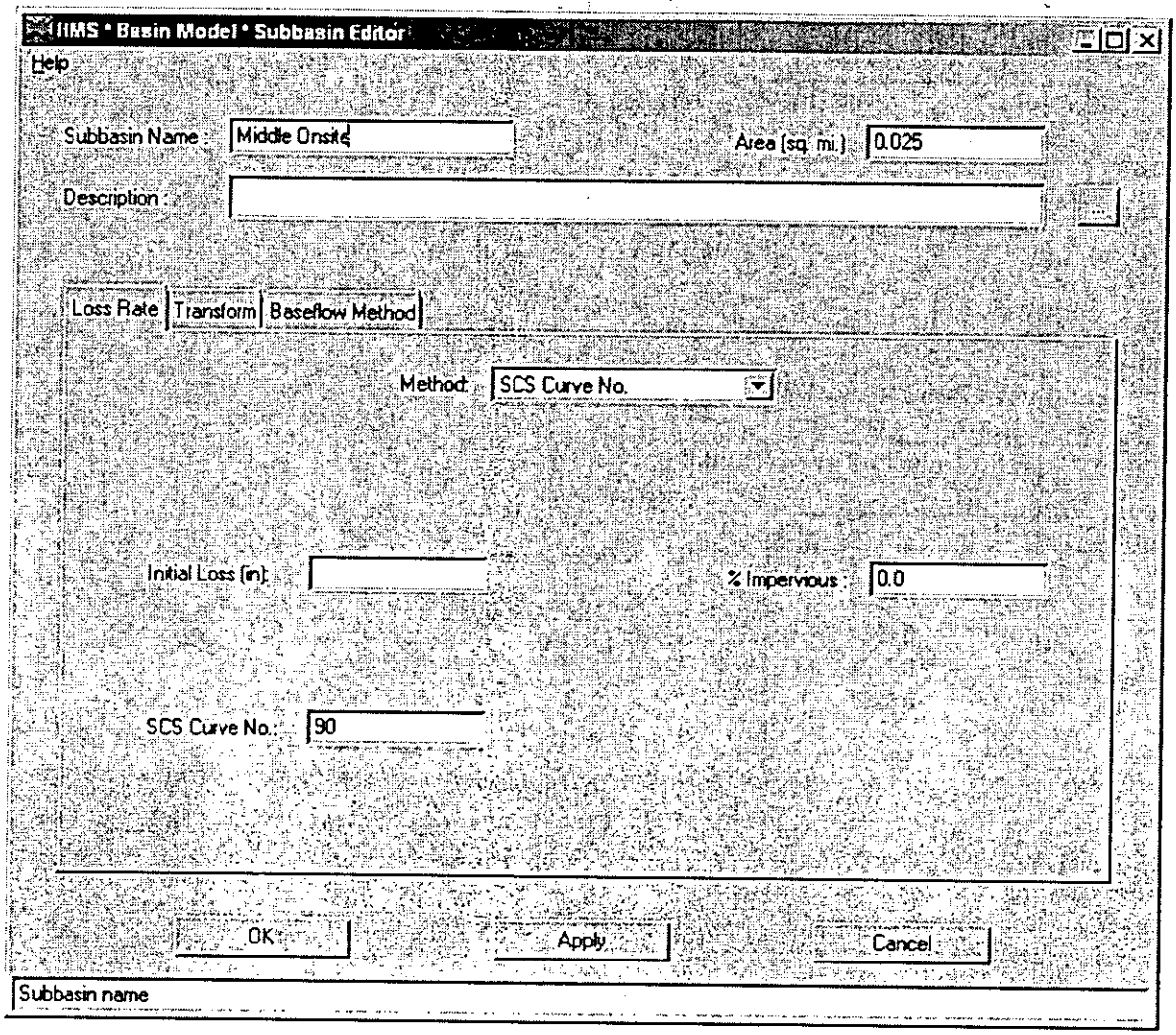

HMS * Summary of Results for Junction Junction-1
Project: Steve Miller Run Name: Run 1 Junction: Junction-1
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time: 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Outflow: 110.98 (cfs) Date/Time of Peak Outflow: 18 Nov 02 1212
Peak Stage: Total Outflow: 6.37 (in)
Print
Close
HMS * Summary of Results for Reservoir Existing Pond
Project: Steve Miller Run Name: Run 1 Reservoir: Existing Pond 3
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Inflow: 110.98 (cfs) Date/Time of Peak Inflow: 18 Nov 02 1212
Peak Stage:
Peak Outflow: 23.130 (cfs) Date/Time of Peak Outflow: 18 Nov 02 1354
Total Inflow: 6.37 (in) Peak Storage: 7.2537 (ac-ft)
Total Outflow: 5.60 (in) Peak Elevation: 1317.2 (ft)
Print
Close
HMS * Summary of Results for Reservoir West Pond
Project: Steve Miller Run Name: Run 1 Reservoir: West Pond
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Inflow: 83.643 (cfs) Date/Time of Peak Inflow: 18 Nov 02 1212
Peak Stage:
Peak Outflow: 19.429 (cfs) Date/Time of Peak Outflow: 18 Nov 02 1251
Total Inflow: 6.57 (in) Peak Storage: 4.1226 (ac-ft)
Total Outflow: 6.13 (in) Peak Elevation: 1324.6 (ft)
Print
Close

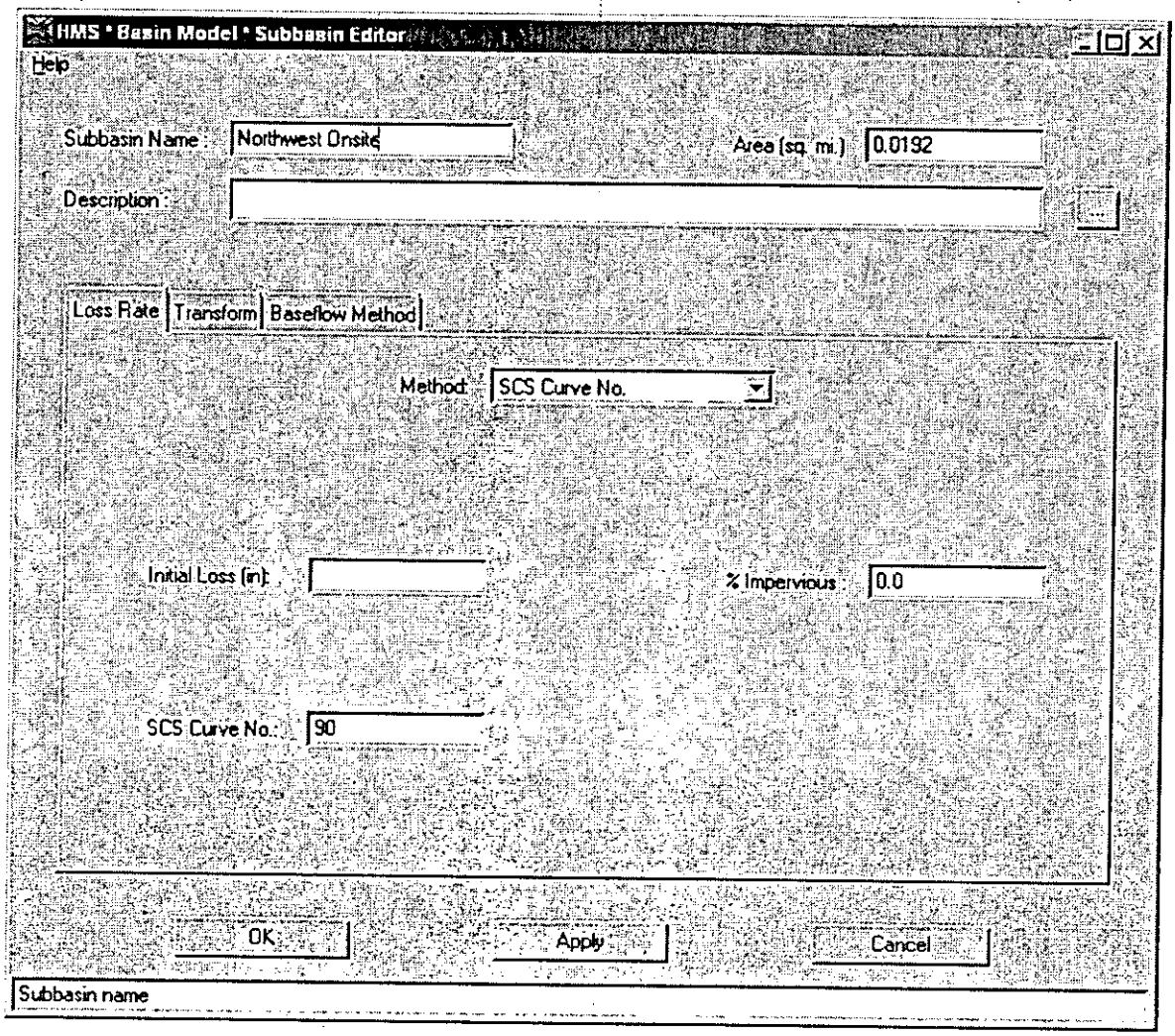

HMS * Summary of Results for Subbasin Offsite
Project: Steve Miller Run Name: Run 1 Subbasin: Offsite
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time: 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Discharge: 35.130 (cfs) Date/Time of Peak Discharge: 18 Nov 02 1212
Peak Stage:
Total Precipitation: 7.80 (in) Total Direct Runoff: 6.57 (in)
Total Loss: 1.19 (in) Total Baseflow: 0.00 (in)
Total Excess: 6.61 (in) Total Discharge: 6.57 (in)
Print
Close

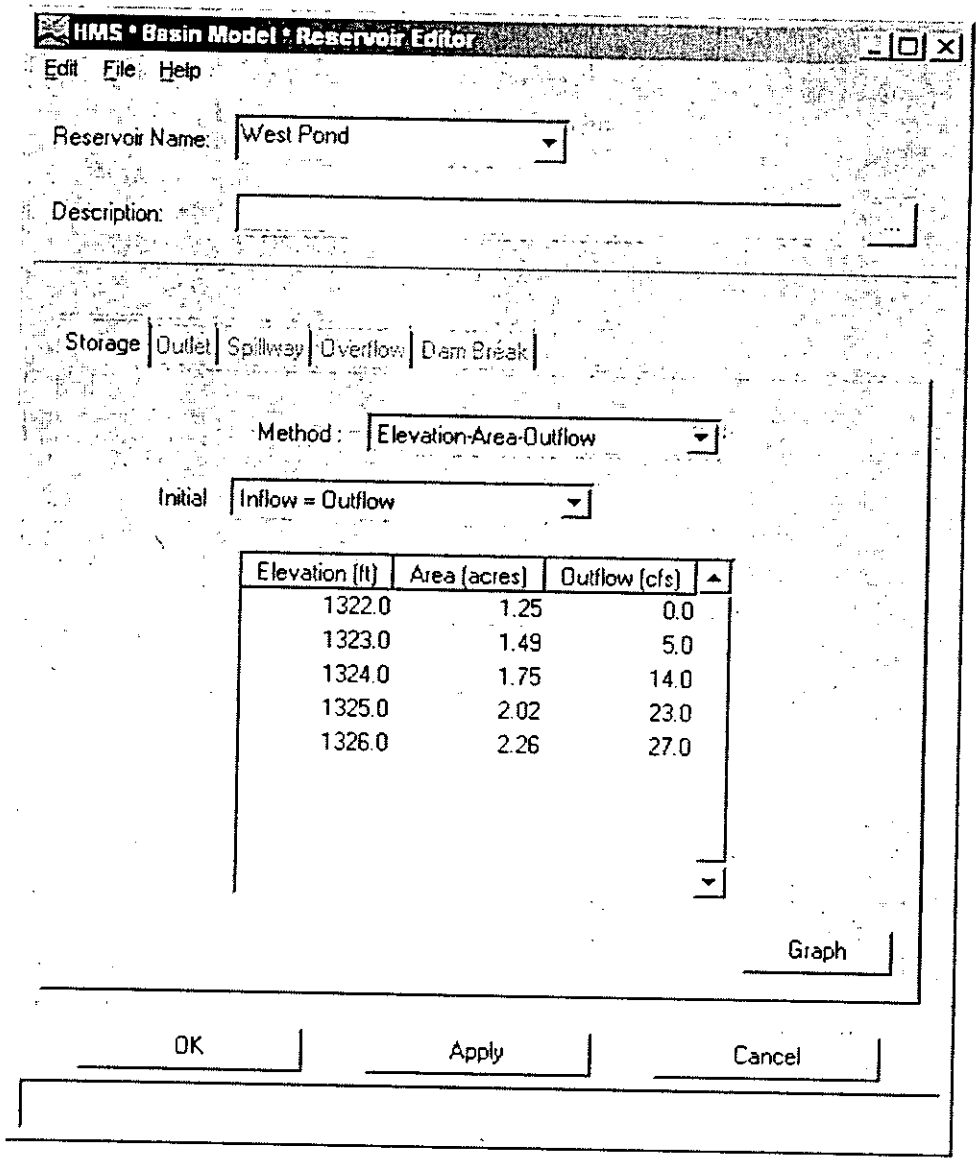

HMS * Summary of Results for Subbasin Middle Onsite
Project: Steve Miller Run Name: Run 1 Subbasin: Middle Onsite
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time: 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Discharge: 83.643 (cfs) Date/Time of Peak Discharge: 18 Nov 02 1212
Peak Stage:
Total Precipitation: 7.80 (in) Total Direct Runoff: 6.57 (in)
Total Loss: 1.19 (in) Total Baseflow: 0.00 (in)
Total Excess: 6.61 (in) Total Discharge: 6.57 (in)
Print
Close

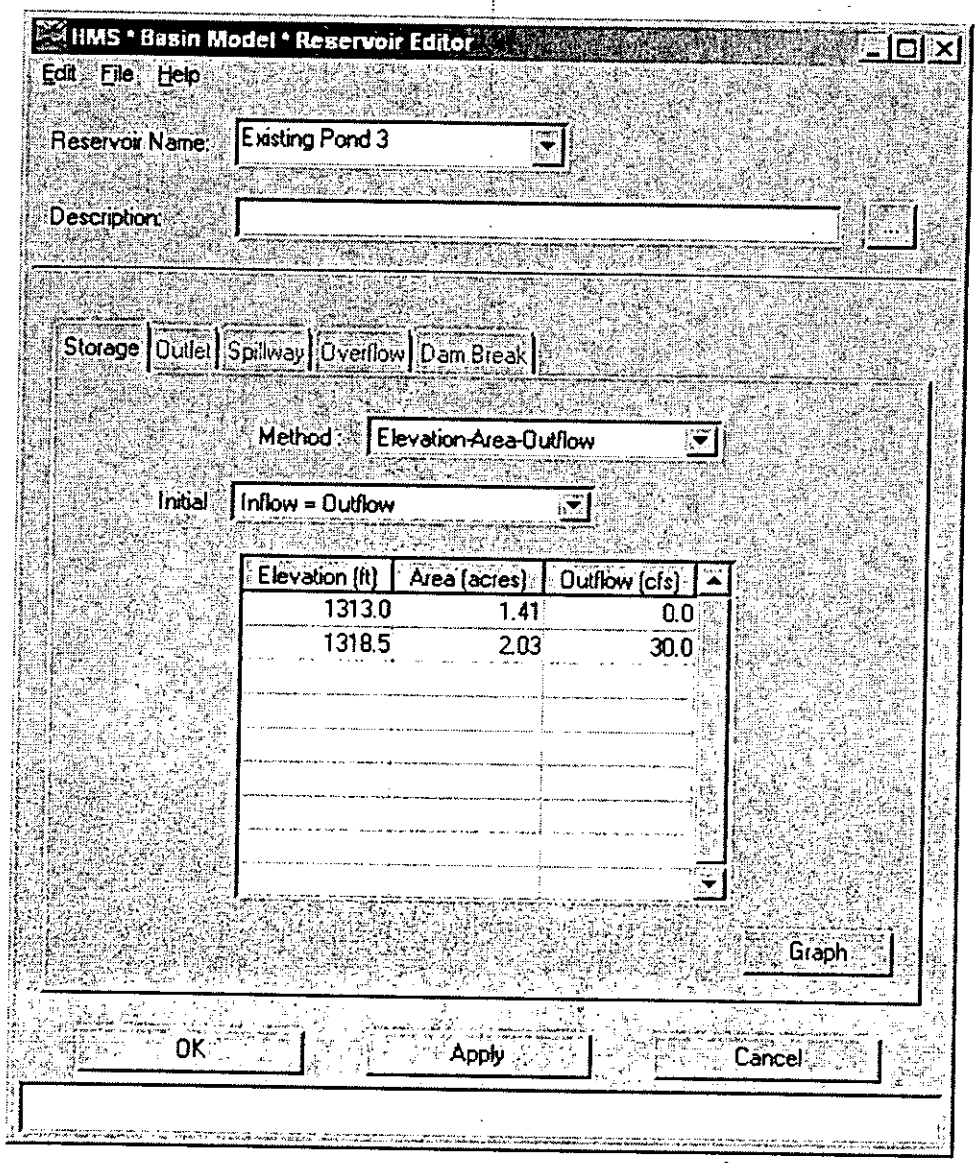

HMS * Summary of Results for Subbasin Northwest Onsite
Project: Steve Miller Run Name: Run 1 Subbasin: Northwest Onsite
Start of Run: 18Nov02 0000 Basin Model: Northwest
End of Run: 18Nov02 2400 Met. Model: Met 1
Execution Time: 06Mar03 1318 Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Discharge: 64.237 (cfs) Date/Time of Peak Discharge: 18 Nov 02 1212
Peak Stage:
Total Precipitation: 7.80 (in) Total Direct Runoff: 6.57 (in)
Total Loss: 1.19 (in) Total Baseflow: 0.00 (in)
Total Excess: 6.61 (in) Total Discharge: 6.57 (in)
Print
Close

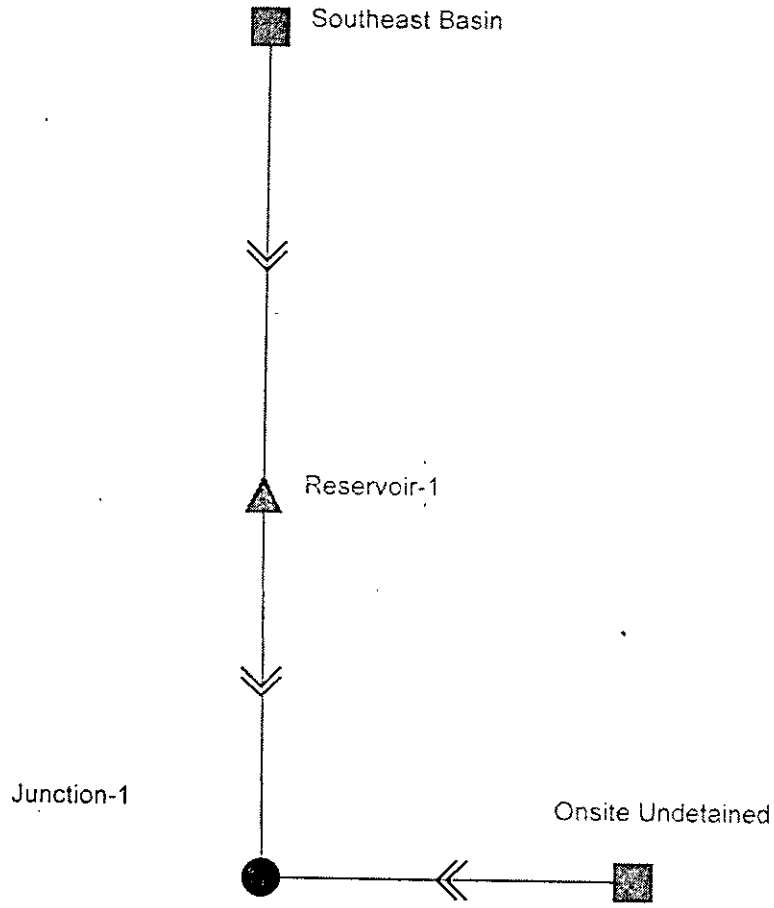

HMS * Basin Model * Subbasin Editor
Help
Subbasin Name :
Offsite
Area (sq. mi.)
0.0105
Description :
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious :
0.0
SCS Curve No.:
90
OK
Apply
Cancel
Subbasin name

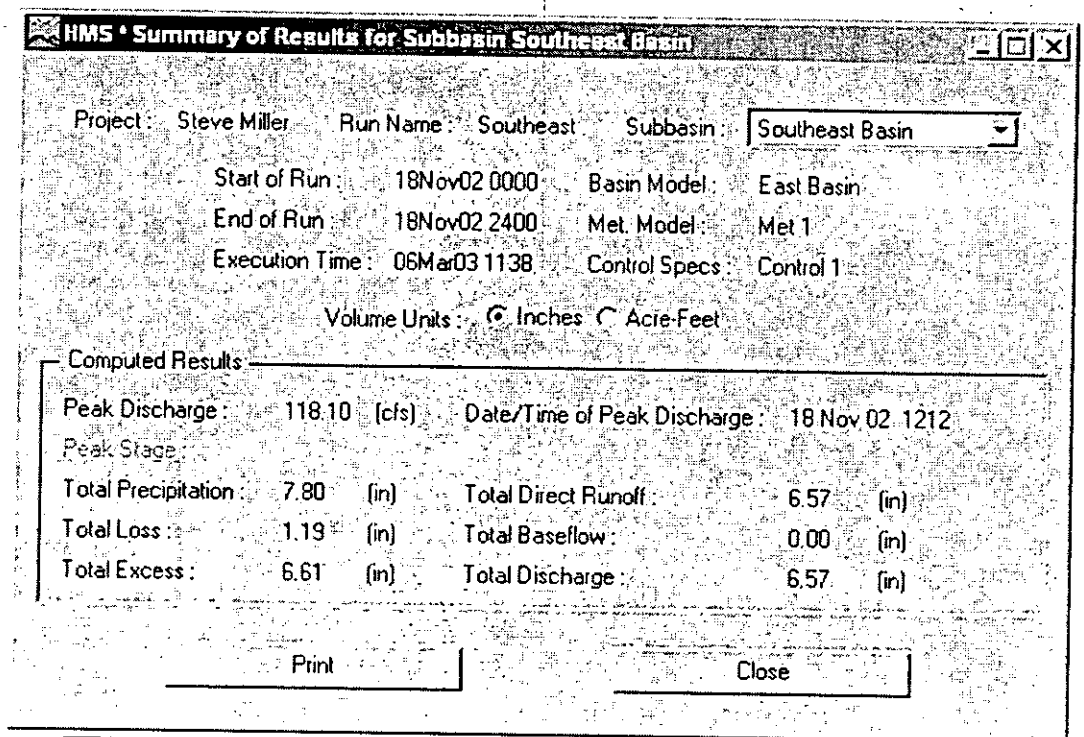

HMS * Basin Model * Subbasin Editor
Help
Subbasin Name:
Middle Onsite
Area (sq. mi.)
0.025
Description:
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious:
0.0
SCS Curve No.:
90
OK
Apply
Cancel
Subbasin name

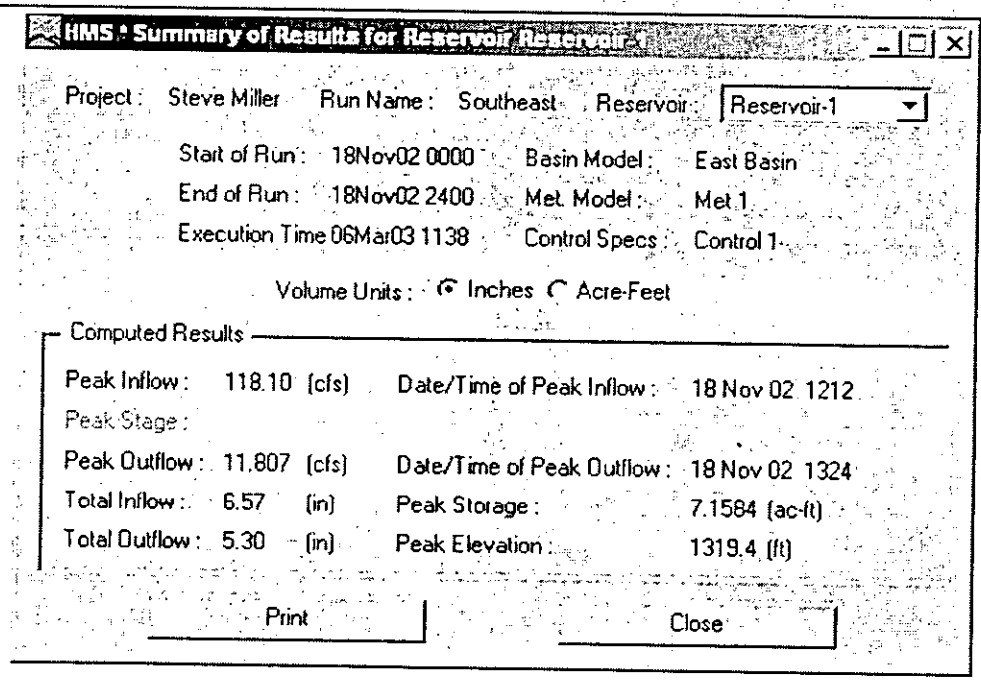

HMS * Basin Model * Subbasin Editor
Help
Subbasin Name:
Northwest Onsite
Area (sq. mi.)
0.0192
Description:
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious:
0.0
SCS Curve No.:
90
OK
Apply
Cancel
Subbasin name

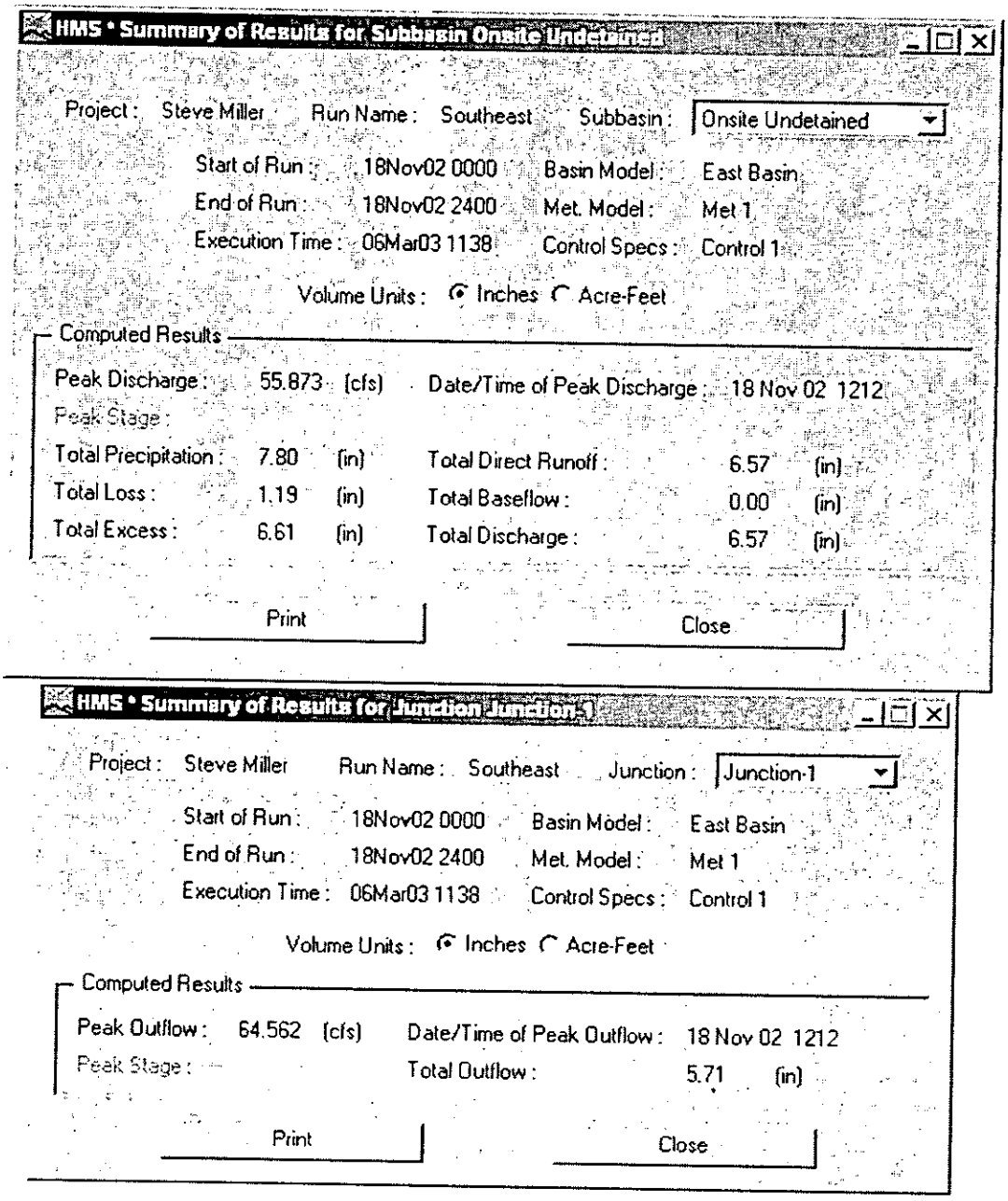

HMS * Basin Model * Reservoir Editor
Edit File Help
Reservoir Name: West Pond
Description:
Storage Outlet Spillway Overflow Dam Break
Method : Elevation-Area-Outflow
Initial Inflow = Outflow
Elevation (ft) Area (acres) Outflow (cfs)
1322.0 1.25 0.0
1323.0 1.49 5.0
1324.0 1.75 14.0
1325.0 2.02 23.0
1326.0 2.26 27.0
Graph
OK
Apply
Cancel

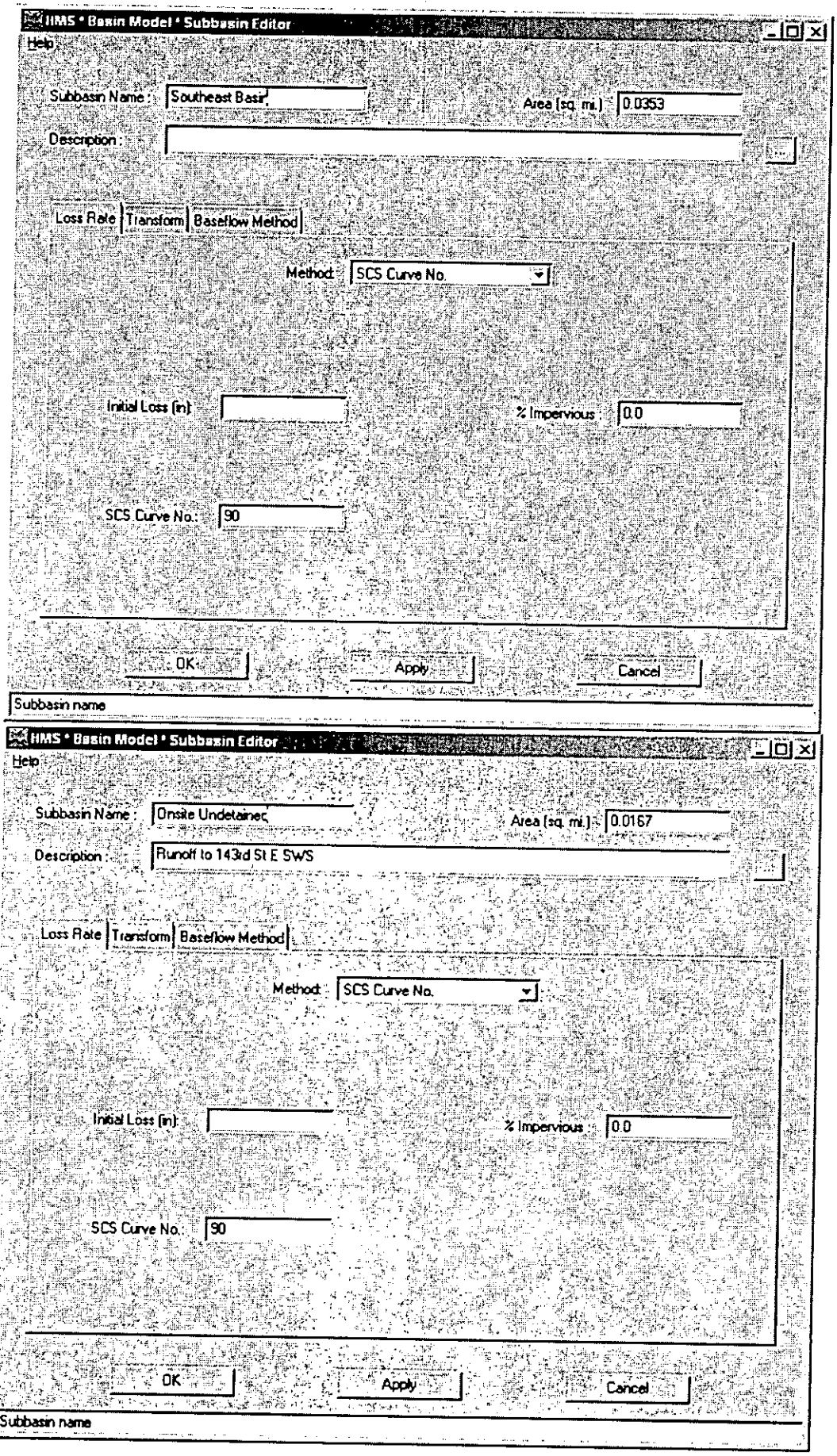

HMS * Basin Model * Reservoir Editor
Edit File Help
Reservoir Name: Existing Pond 3
Description:
Storage Outlet Spillway Overflow Dam Break
Method: Elevation-Area-Outflow
Initial: Inflow = Outflow
Elevation (ft) Area (acres) Outflow (cfs)
1313.0 1.41 0.0
1318.5 2.03 30.0
Graph
OK Apply Cancel

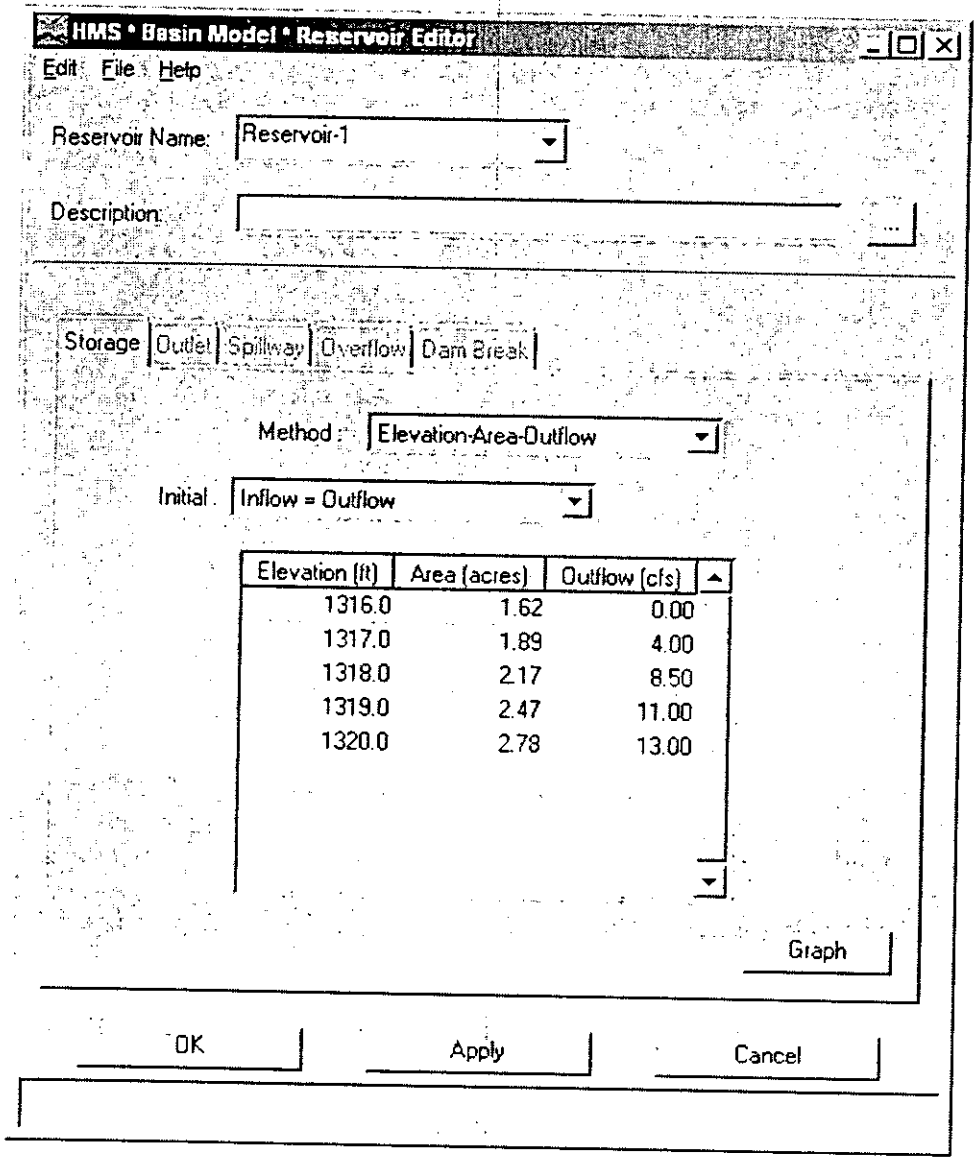

Southeast Basin
Reservoir-1
Junction-1
Onsite Undetained

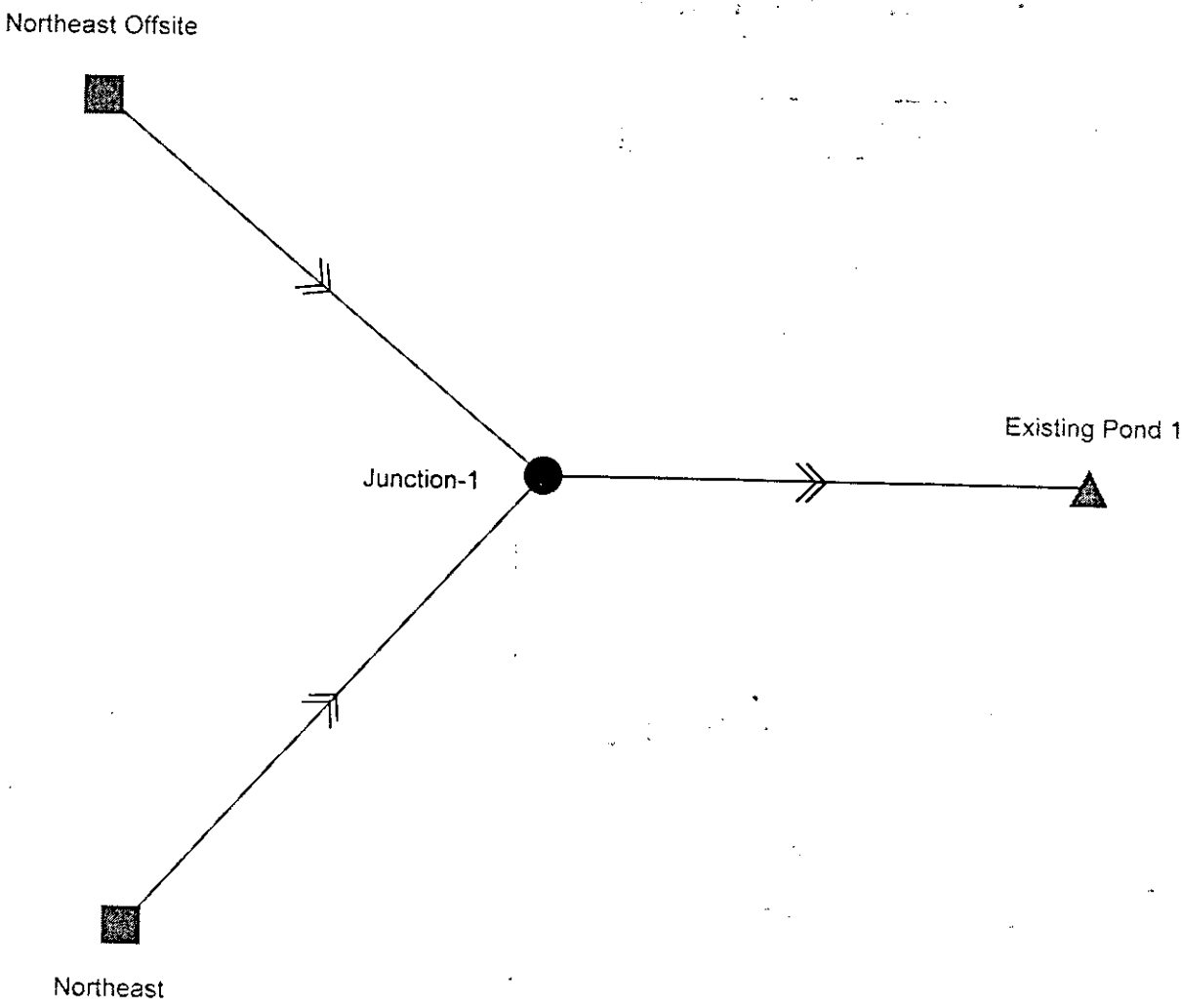

HMS - Summary of Results for Subbasin Southeast Basin
Project: Steve Miller
Run Name: Southeast
Subbasin: Southeast Basin
Start of Run: 18Nov02 0000
End of Run: 18Nov02 2400
Execution Time: 06Mar03 1138
Basin Model: East Basin
Met. Model: Met 1
Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Discharge: 118.10 (cfs)
Date/Time of Peak Discharge: 18 Nov 02 1212
Peak Stage:
Total Precipitation: 7.80 (in)
Total Loss: 1.19 (in)
Total Excess: 6.61 (in)
Total Direct Runoff: 6.57 (in)
Total Baseflow: 0.00 (in)
Total Discharge: 6.57 (in)
Print
Close

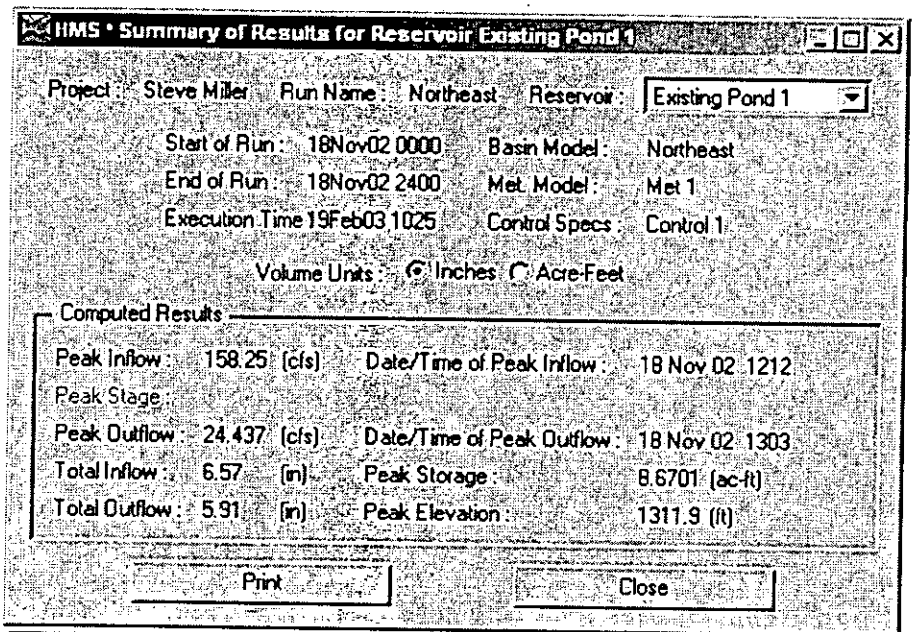

HMS - Summary of Results for Reservoir Reservoir
Project: Steve Miller
Run Name: Southeast
Reservoir: Reservoir-1
Start of Run: 18Nov02 0000
End of Run: 18Nov02 2400
Execution Time 06Mar03 1138
Basin Model: East Basin
Met. Model: Met 1
Control Specs: Control 1
Volume Units: Inches Acre-Feet
Computed Results
Peak Inflow: 118.10 (cfs)
Date/Time of Peak Inflow: 18 Nov 02 1212
Peak Stage:
Peak Outflow: 11.807 (cfs)
Date/Time of Peak Outflow: 18 Nov 02 1324
Total Inflow: 6.57 (in)
Peak Storage: 7.1584 (ac-ft)
Total Outflow: 5.30 (in)
Peak Elevation: 1319.4 (ft)
Print
Close

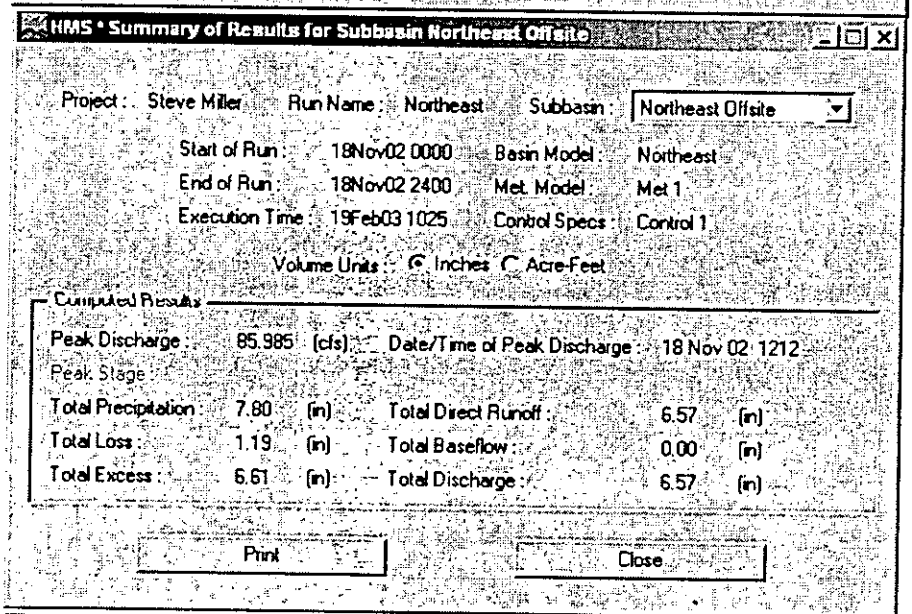

HMS * Summary of Results for Subbasin Onsite Undetained
Project : Steve Miller
Run Name : Southeast
Subbasin : Onsite Undetained
Start of Run : 18Nov02 0000
End of Run : 18Nov02 2400
Execution Time : 06Mar03 1138
Basin Model : East Basin
Met. Model : Met 1
Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Discharge : 55.873 (cfs)
Date/Time of Peak Discharge : 18 Nov 02 1212
Peak Stage :
Total Precipitation : 7.80 (in)
Total Loss : 1.19 (in)
Total Excess : 6.61 (in)
Total Direct Runoff : 6.57 (in)
Total Baseflow : 0.00 (in)
Total Discharge : 6.57 (in)
Print
Close
HMS * Summary of Results for Junction Junction-1
Project : Steve Miller
Run Name : Southeast
Junction : Junction-1
Start of Run : 18Nov02 0000
End of Run : 18Nov02 2400
Execution Time : 06Mar03 1138
Basin Model : East Basin
Met. Model : Met 1
Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Outflow : 64.562 (cfs)
Date/Time of Peak Outflow : 18 Nov 02 1212
Peak Stage :
Total Outflow : 5.71 (in)
Print
Close

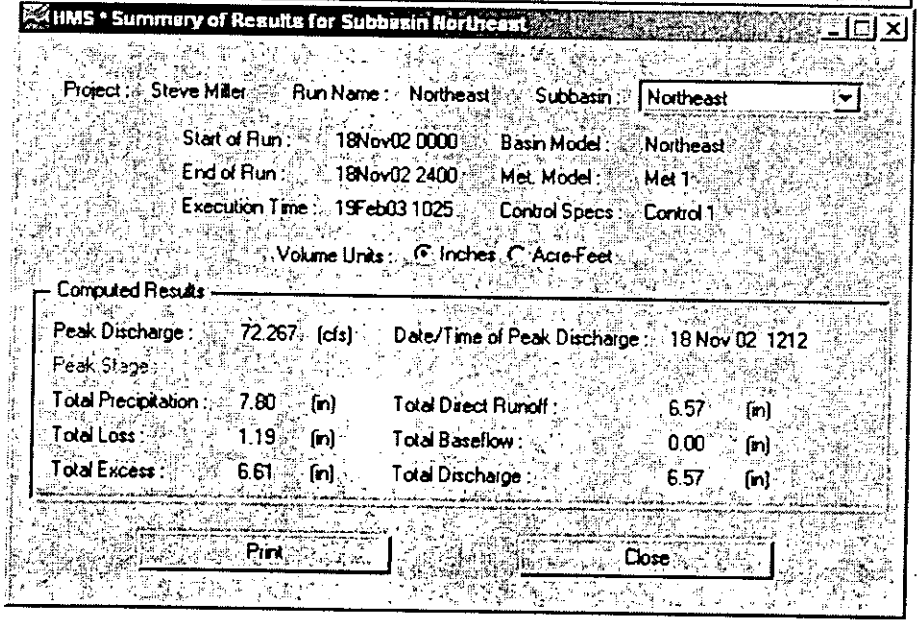

HMS • Basin Model • Subbasin Editor
Help
Subbasin Name :
Southeast Basi
Area (sq. mi.)
0.0353
Description :
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious:
0.0
SCS Curve No.:
90
OK
Apply
Cancel
Subbasin name
HMS • Basin Model • Subbasin Editor
Help
Subbasin Name :
Onsite Undetained
Area (sq. mi.)
0.0167
Description :
Runoff to 143rd St E SWS
Loss Rate
Transform
Baseflow Method
Method:
SCS Curve No.
Initial Loss (in):
% Impervious:
0.0
SCS Curve No.:
90
OK
Apply
Cancel
Subbasin name

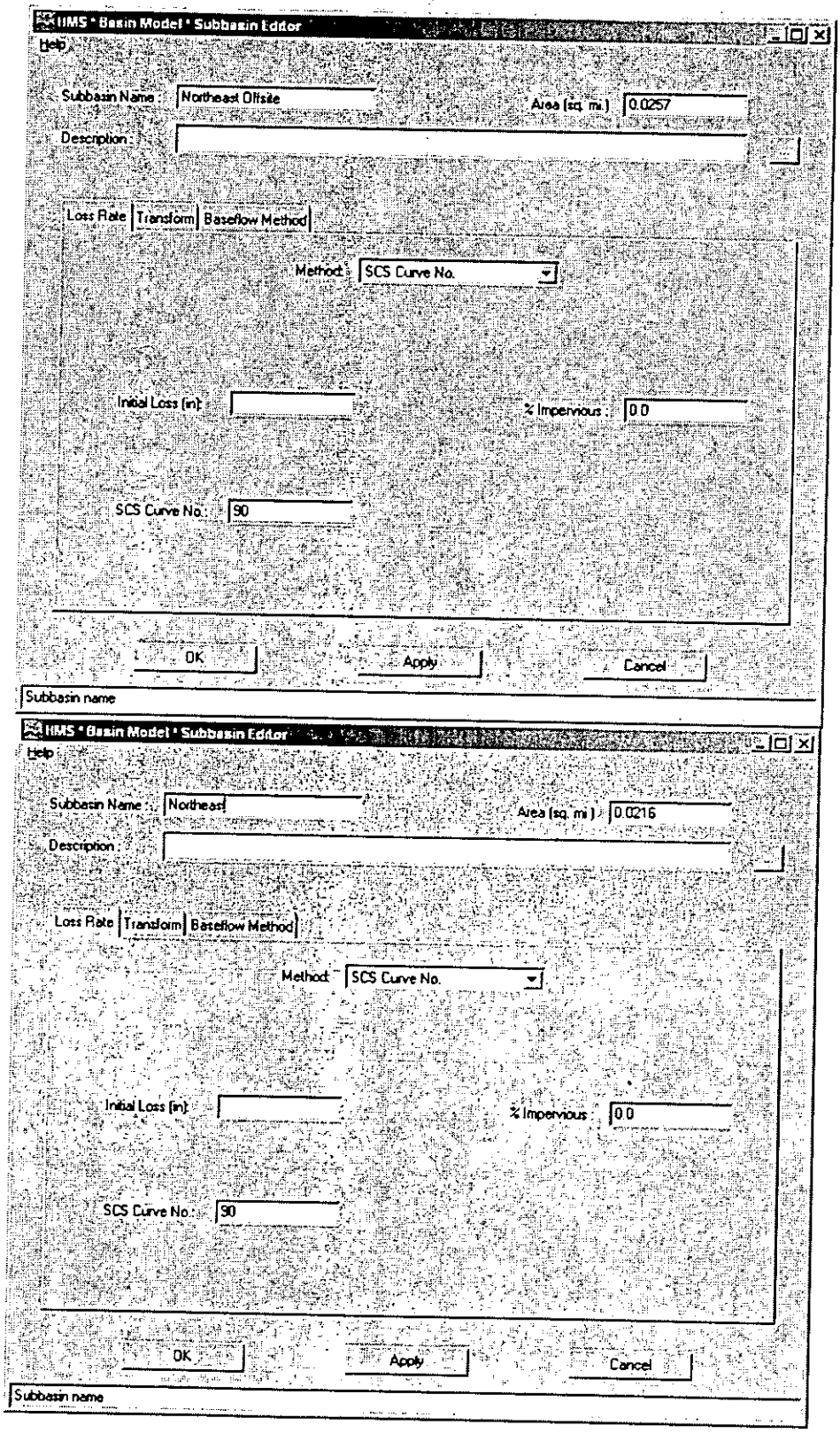

HMS * Basin Model * Reservoir Editor
Edit File Help
Reservoir Name: Reservoir-1
Description:
Storage Outlet Spillway Overflow Dam Break
Method: Elevation-Area-Outflow
Initial: Inflow = Outflow
Elevation (ft) Area (acres) Outflow (cfs)
1316.0 1.62 0.00
1317.0 1.89 4.00
1318.0 2.17 8.50
1319.0 2.47 11.00
1320.0 2.78 13.00
Graph
OK
Apply
Cancel

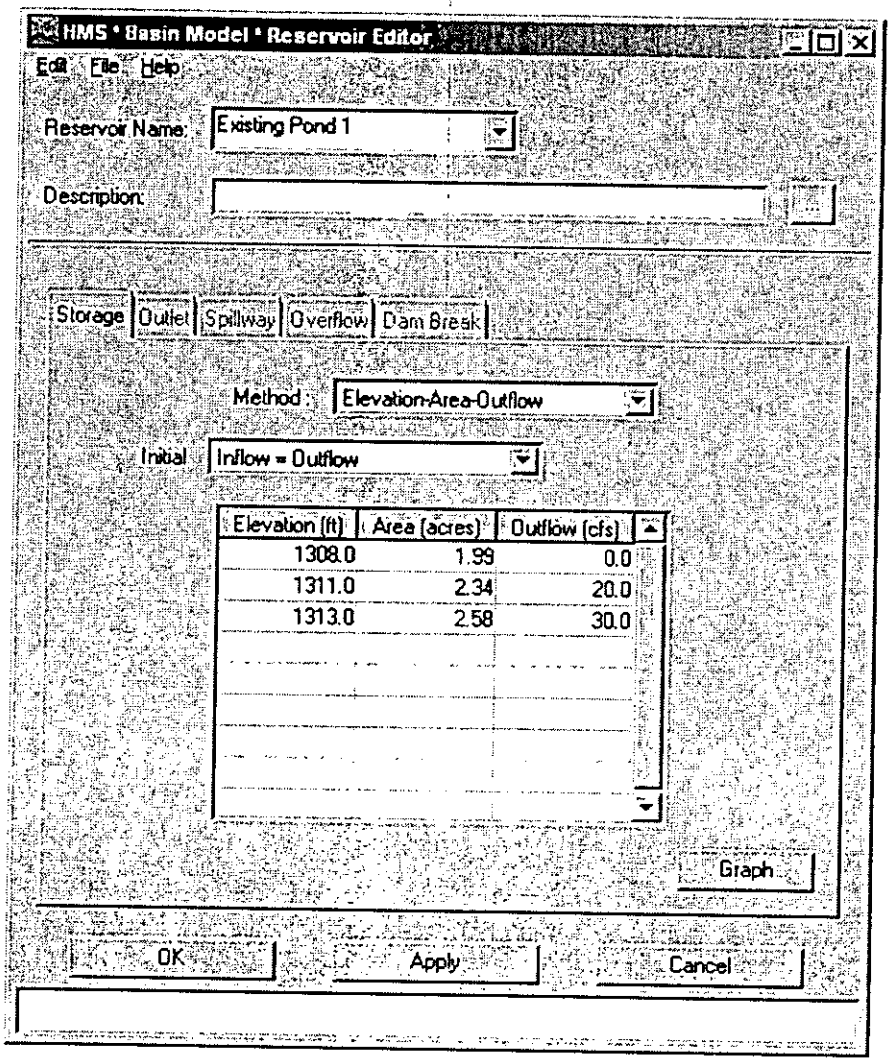

Northeast Offsite
Junction-1
Existing Pond 1
Northeast

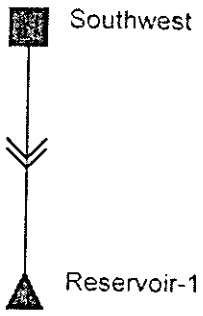

HMS * Summary of Results for Reservoir Existing Pond 1
Project : Steve Miller Run Name : Northeast Reservoir : Existing Pond 1
Start of Run : 18Nov02 0000 Basin Model : Northeast
End of Run : 18Nov02 2400 Met. Model : Met 1
Execution Time 19Feb03 1025 Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Inflow : 158.25 (cfs) Date/Time of Peak Inflow : 18 Nov 02 1212
Peak Stage :
Peak Outflow : 24.437 (cfs) Date/Time of Peak Outflow : 18 Nov 02 1303
Total Inflow : 6.57 (in) Peak Storage : 8.6701 (ac-ft)
Total Outflow : 5.91 (in) Peak Elevation : 1311.9 (ft)
Print
Close

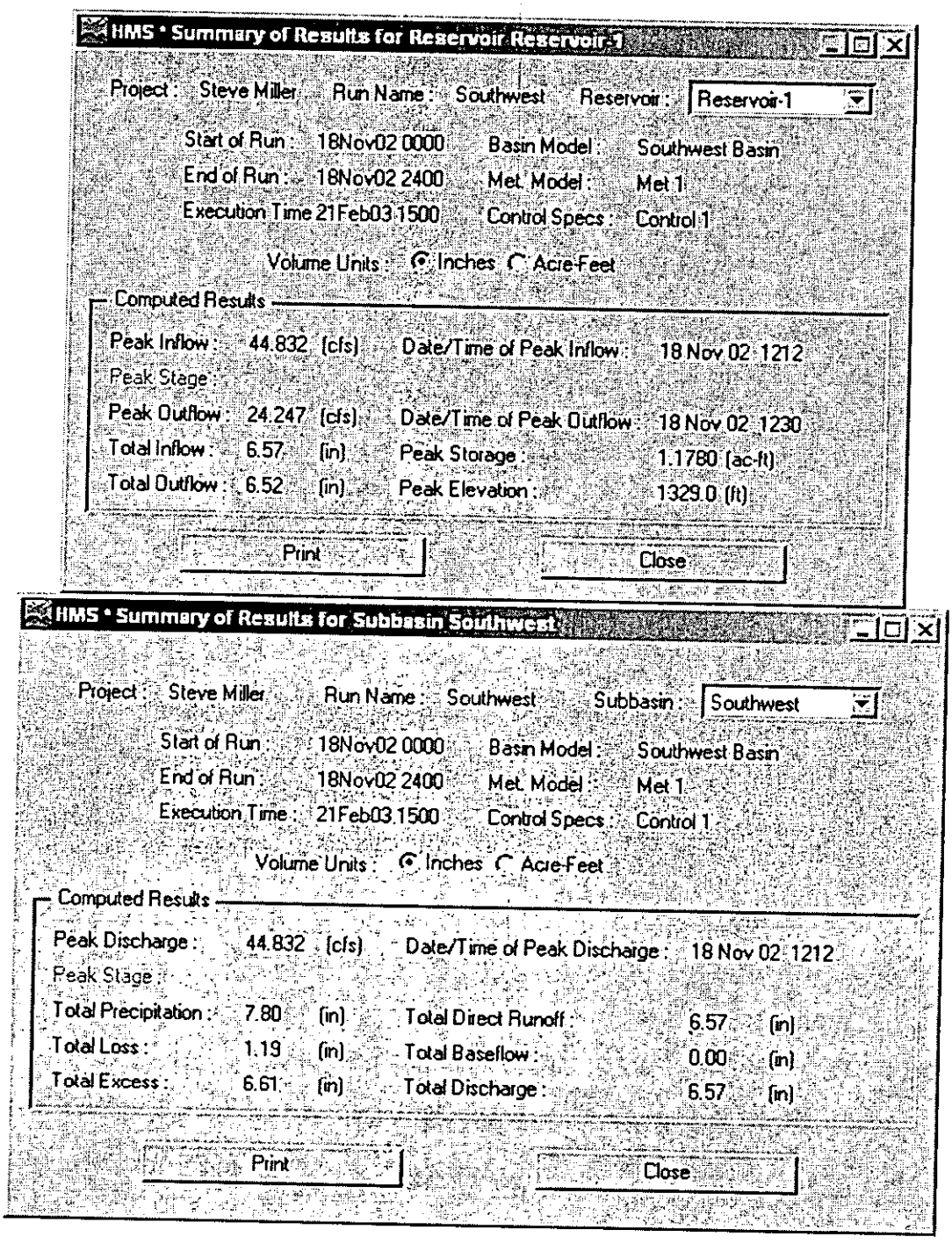

HMS * Summary of Results for Subbasin Northeast Offsite
Project : Steve Miller Run Name : Northeast Subbasin : Northeast Offsite
Start of Run : 18Nov02 0000 Basin Model : Northeast
End of Run : 18Nov02 2400 Met. Model : Met 1
Execution Time : 19Feb03 1025 Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Discharge : 85.985 (cfs) Date/Time of Peak Discharge : 18 Nov 02 1212
Peak Stage :
Total Precipitation : 7.80 (in) Total Direct Runoff : 6.57 (in)
Total Loss : 1.19 (in) Total Baseflow : 0.00 (in)
Total Excess : 6.61 (in) Total Discharge : 6.57 (in)
Print
Close

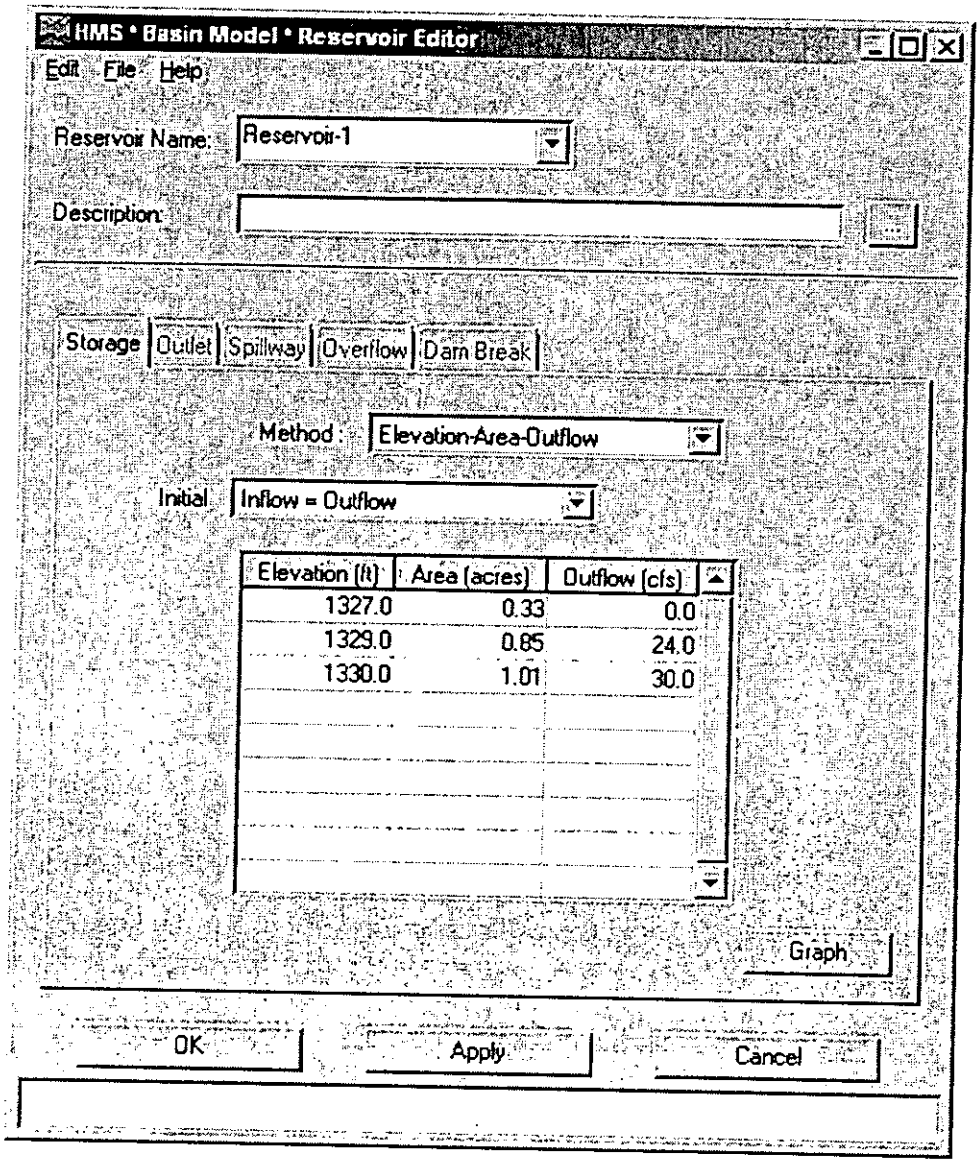

HMS * Summary of Results for Subbasin Northeast
Project : Steve Miller Run Name : Northeast Subbasin : Northeast
Start of Run : 18Nov02 0000 Basin Model : Northeast
End of Run : 18Nov02 2400 Met. Model : Met 1
Execution Time : 19Feb03 1025 Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Discharge : 72.267 (cfs) Date/Time of Peak Discharge : 18 Nov 02 1212
Peak Stage :
Total Precipitation : 7.80 (in) Total Direct Runoff : 6.57 (in)
Total Loss : 1.19 (in) Total Baseflow : 0.00 (in)
Total Excess : 6.61 (in) Total Discharge : 6.57 (in)
Print
Close


HMS - Basin Model - Subbasin Editor
Help
Subbasin Name :
Northeast Offsite
Area (sq. mi.)
0.0257
Description :
Loss Rate
Transform
Baseflow Method
Method :
SCS Curve No.
Initial Loss (in) :
% Impervious :
0.0
SCS Curve No. :
90
OK
Apply
Cancel
Subbasin name
HMS - Basin Model - Subbasin Editor
Help
Subbasin Name :
Northeast
Area (sq. mi.)
0.0216
Description :
Loss Rate
Transform
Baseflow Method
Method :
SCS Curve No.
Initial Loss (in) :
% Impervious :
0.0
SCS Curve No. :
90
OK
Apply
Cancel
Subbasin name


HMS * Basin Model * Reservoir Editor
Edit File Help
Reservoir Name: Existing Pond 1
Description:
Storage Outlet Spillway Overflow Dam Break
Method: Elevation-Area-Outflow
Initial: Inflow = Outflow
Elevation (ft) Area (acres) Outflow (cfs)
1308.0 1.99 0.0
1311.0 2.34 20.0
1313.0 2.58 30.0
Graph...
OK
Apply
Cancel

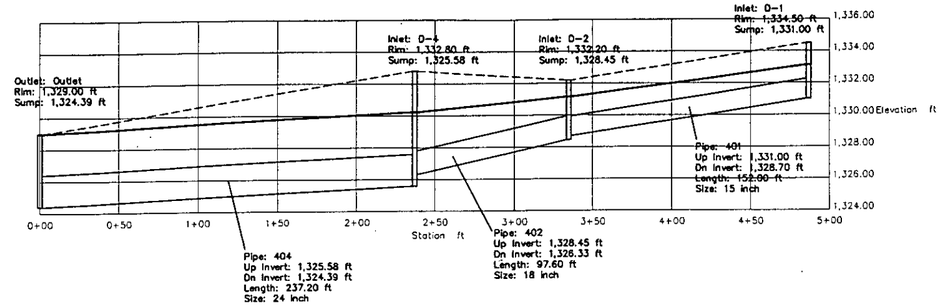

Southwest
Reservoir-1


HMS * Summary of Results for Reservoir Reservoir-1
Project : Steve Miller Run Name : Southwest Reservoir : Reservoir-1
Start of Run : 18Nov02 0000 Basin Model : Southwest Basin
End of Run : 18Nov02 2400 Met. Model : Met 1
Execution Time 21Feb03 1500 Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Inflow : 44.832 (cfs) Date/Time of Peak Inflow : 18 Nov 02 1212
Peak Stage :
Peak Outflow : 24.247 (cfs) Date/Time of Peak Outflow : 18 Nov 02 1230
Total Inflow : 6.57 (in) Peak Storage : 1.1780 (ac-ft)
Total Outflow : 6.52 (in) Peak Elevation : 1329.0 (ft)
Print
Close
HMS * Summary of Results for Subbasin Southwest
Project : Steve Miller Run Name : Southwest Subbasin : Southwest
Start of Run : 18Nov02 0000 Basin Model : Southwest Basin
End of Run : 18Nov02 2400 Met. Model : Met 1
Execution Time : 21Feb03 1500 Control Specs : Control 1
Volume Units : Inches Acre-Feet
Computed Results
Peak Discharge : 44.832 (cfs) Date/Time of Peak Discharge : 18 Nov 02 1212
Peak Stage :
Total Precipitation : 7.80 (in) Total Direct Runoff : 6.57 (in)
Total Loss : 1.19 (in) Total Baseflow : 0.00 (in)
Total Excess : 6.61 (in) Total Discharge : 6.57 (in)
Print
Close

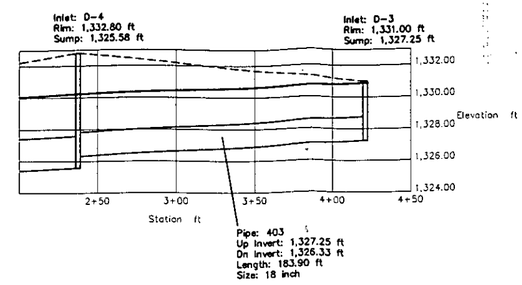

HMS * Basin Model * Reservoir Editor
Edit File Help
Reservoir Name: Reservoir-1
Description:
Storage Outlet Spillway Overflow Dam Break
Method : Elevation-Area-Outflow
Initial Inflow = Outflow
Elevation (ft) Area (acres) Outflow (cfs)
1327.0 0.33 0.0
1329.0 0.85 24.0
1330.0 1.01 30.0
Graph
OK
Apply
Cancel

APPENDIX B
HYDRAULIC DATA

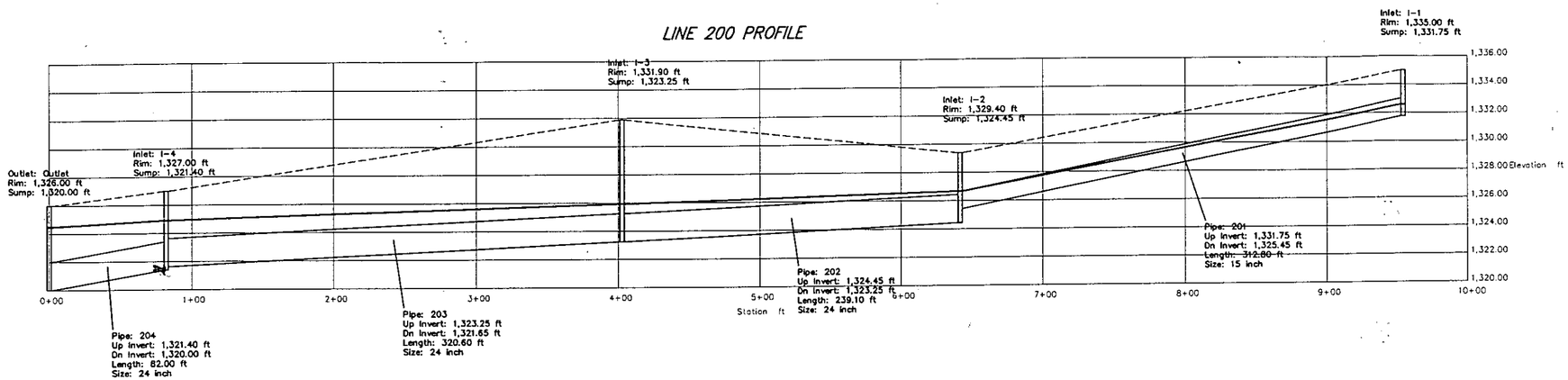
LINE 400 PROFILE



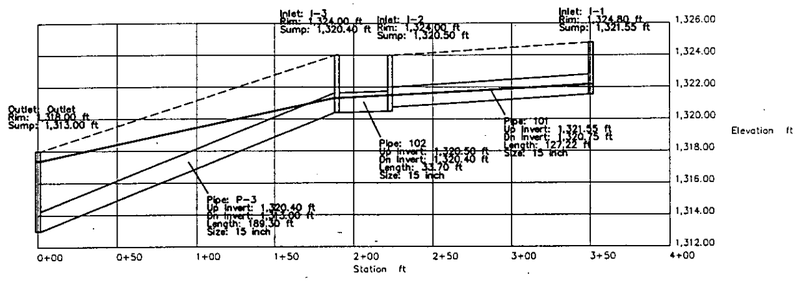
LINE 400 PROFILE (EAST LINE)



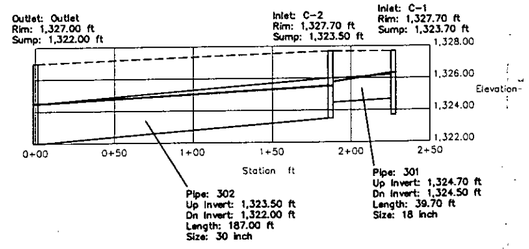
LINE 200 PROFILE



LINE 100 PROFILE



LINE 300 PROFILE



CLEAR CREEK ADDITION
SWS PROFILES

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Engineering, Surveying, Land Planning
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Wichita, Kansas 67203
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(316) 264-4821 fax
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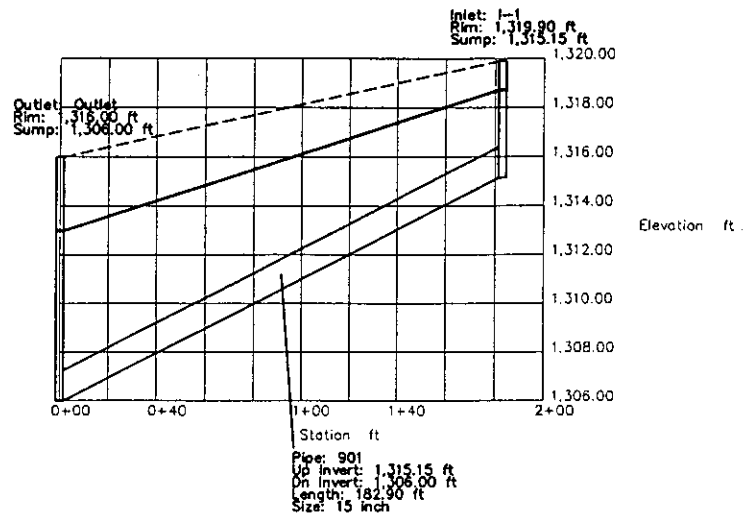
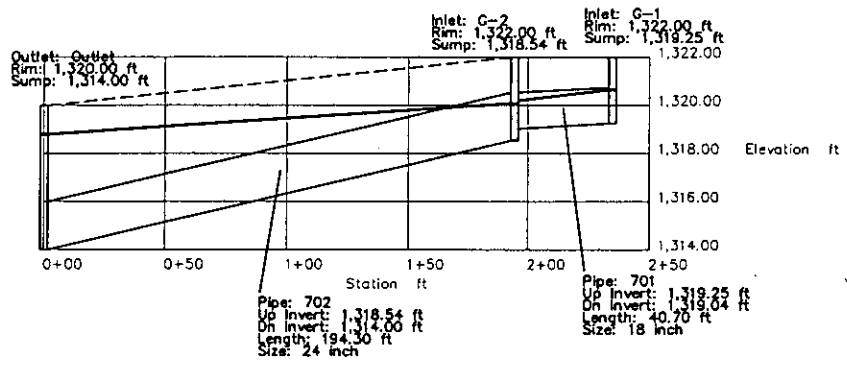
DESIGN	KWL
DRAWN	KWL
REVIEW	
UTILITY	
JOB #	
SHEET	
OF	
DRAWING FILE	Clear Creek SWS Profiles
PROJECT NUMBER	
DATE	Feb. 24, 2003

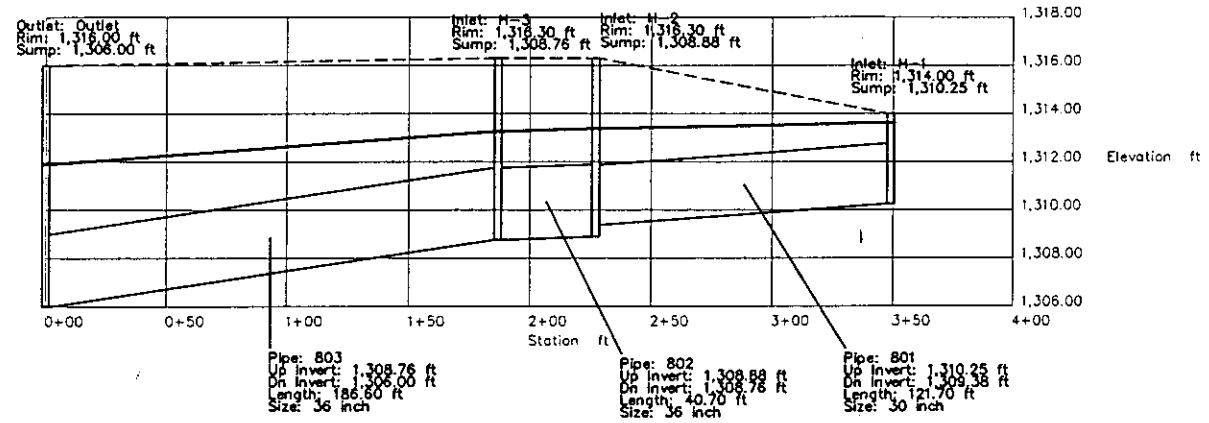
LINE 900 PROFILE



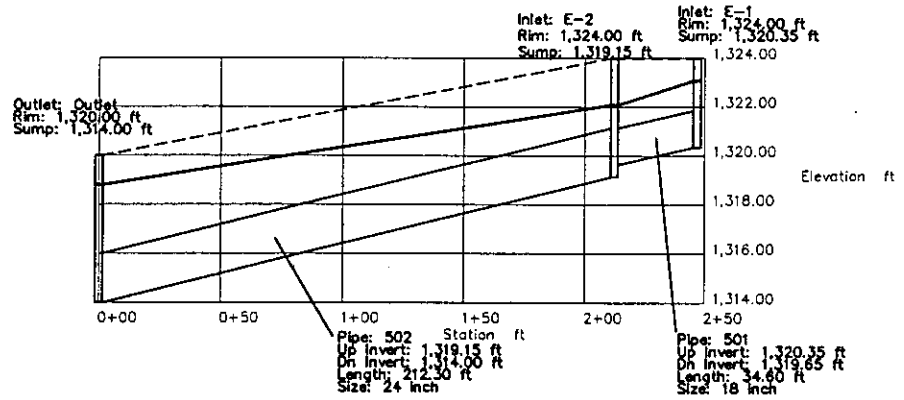
LINE 700 PROFILE



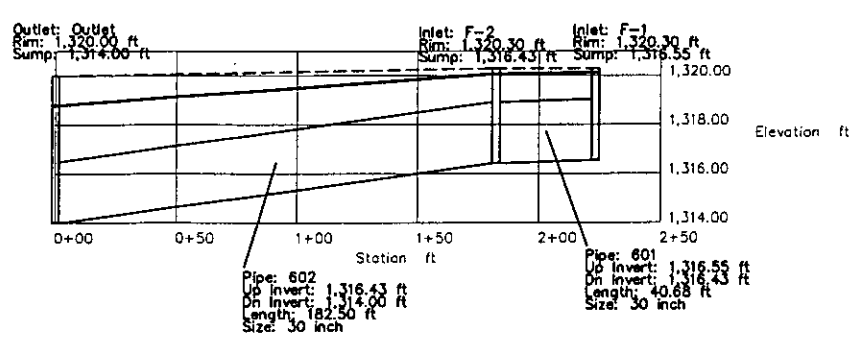
LINE 800 PROFILE



LINE 500 PROFILE



LINE 600 PROFILE



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DESIGN	KWL
DRAWN	KWL
REVIEW	
UTILITY	
DRAWING FILE	Clear Creek SWS Profiles
PROJECT NUMBER	
DATE	Feb. 24, 2003
FB/PG	
SHEET	of